EPA Region 5 Records Ctr

350980

FOCUSED SITE INSPECTION PRIORITIZATION
SITE EVALUATION REPORT

WASTE HAULING, INC
HILL ROAD, R R No 8, BOX 98
DECATUR, ILLINOIS

CERCLIS ID NO ILD000671073

Prepared for

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
SITE ASSESSMENT SECTION
77 West Jackson Boulevard
Chicago Illinois 60604

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Technical Direction Document	T05 9503 249
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1 INTRODUCTION

The Ecology and Environment Inc (E & E) Technical Assistance Team (TAT) was assigned by the United States Environmental Protection Agency (U S EPA) under Contract No 68 W0 0037 Technical Direction Document (TDD) T05-9503 249 to evaluate the Waste Hauling Inc site located in Decatur Macon County Illinois E & E performed Focused Site Inspection Prioritization (FSIP) activities to determine whether or to what extent the sites pose a threat to human health and the environment and has prepared this FSIP report This report presents the results of E & E s evaluation and summarizes site conditions and targets pertinent to the migration and exposure pathways associated with the site Background information was obtained from interviews with the site owner during the site reconnaissance visit of April 12 1995 (E & E 1995) an Illinois Environmental Protection Agency [IEPA] Site Inspection (SI) report (IEPA 1987) and a site reconnaissance and sampling effort performed by E & E TAT on August 1 1995 (E & E 1995a)

This report is organized into seven sections including this introduction Section 2 describes the site and provides a brief site history Section 3 provides information about previous investigations conducted at the site Section 4 provides a summary of the site reconnaissance Section 5 provides information about the four migration and exposure pathways (groundwater migration surface water migration soil exposure and air migration) Section 6 summarizes the FSIP References used to prepare this report are listed in Section 7

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2 SITE DESCRIPTION AND HISTORY

2 1 SITE DESCRIPTION

The Waste Hauling Inc site is an inactive landfill located on Cantrell Road Rural Route No 8 in Macon County Illinois (NW 1/4 NW 1/4 sec 26 T 16 N R 1 E) (IEPA 1990) The coordinates for the site are latitude 39°48 50 north and longitude 89°04 30 west (IEPA 1987) The site location is shown on Figure 2 1

The site is located in a rural and agricultural area southwest of Decatur Illinois which has a population of 98 081 (IEPA 1990) The site is bordered to the north and northwest by farmland owned by Mr Brad Brown of Waste Hauling Inc (Brown 1995) A wooded area is located adjacent to the west side of the site and a wooded area and an oxbow of the Sangamon River border the site to the north Farm land is also located approximately 0 5 mile east of the site The site is bordered to the south by West Rock Spring Road (E & E 1995a) Two residences are located on the northern side of West Rock Spring Road adjacent to the Waste Hauling Inc property to the east of the site driveway Three residences are located on the south side of West Rock Spring Road west of the site driveway Site features are shown on Figure 2 2

The approximately 40-acre site is composed of three inactive landfill areas (Areas 1 2 and 3) that were permitted for use as a landfill The landfill areas are located an a 400-acre property owned by Waste Hauling Inc The Sangamon River which is the nearest surface water body is located 0 25 mile north of the Area 2 Surface water runoff and groundwater generally flow north to northwest toward the Sangamon River The topography of the surrounding area is relatively flat with the exception of the elevation created by the three landfill areas (Brown 1995 E & E 1995)

Landfill Areas 1 and 2 were originally operated by Mr Paul McKinney of McKinn ey s Landfill Landfill Area 1 is approximately 5 5 acres is located south of landfill Area 2

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Landfill Area 2 is approximately 8 acres in size (See Appendix A Photograph 2) Landfill Areas 1 and 2 were constructed without a liner but a 15 foot-wide 5 to 7-foot clay lined cut-off trench was constructed in 1992 to surround the Areas 1 and 2 to act as a leachate collection system Areas 1 and 2 were officially closed according to RCRA specifications and covered with 6 inches of topsoil (Brown 1995) The exact date of closure is not documented is the state files

Landfill Area 3 is located west of the access road across from Areas 1 and 2 (See Appendix A Photographs 3 and 4) The approximately 14 acre area was constructed with a clay liner Mr Brown of Waste Hauling Inc reported that the landfill area is surrounded by a soil berm (Brown 1995) but the E & E site reconnaissance team did not observe a berm at the northern end of Area 3 (E & E 1995a) Landfill Area 3 is not officially closed but is covered with 6 inches of soil cover (Gerard and Joffery 1992) Despite the soil cover Area 3 the field team observed that the area was not well covered with vegetation Junked vehicles and debris were observed on the northern and southern sides of landfill Area 3 (E & E 1995a) (See Appendix A Photographs 12 through 14)

Erosion gullies were observed during the site reconnaissance that led to an excavated area in between Areas 1 and 3 The approximately 75 foot by 40-foot excavated area was filled with water and surrounded by leachate stained soils (See Appendix A Photographs 6 through 11) The water in the excavated area was not discolored at the time of the E & E TAT reconnaissance (E & E 1995a)

An intermittent drainage stream which drains into the Sangamon River oxbow at the northeast corner of the property originates southeast of the site at a septic system located at a nearby residence This stream drains into the excavated pond and flows northward to enter the Sangamon River (E & E 1995a)

According to Mr Brown monitoring wells are located north and south of landfill Area 3 and 26 piezometers are located around the landfill areas (Brown 1995) Neither the piezometers nor the southern monitoring well were observed at the time of the site reconnaissance (E & E 1995) The northern well was found adjacent to the northern border of Area 3 in the center (See Appendix A Photograph 15) A groundwater monitoring program exists on site and consists of only one well in the northwestern part of the site This well is 20 feet deep (Page 1987)

Access to the site is not restricted The landfills are located 0 25 miles north of the

West Rock Spring Road The entrance gate which is located just south of the landfill areas crosses the access road and remains locked However the landfill areas are neither fenced nor secured (E & E 1995a)

2 2 SITE HISTORY

Currently Waste Hauling Inc owns 400 acres of land in the vicinity of the site but only 40 acres were permitted for landfill use Ms Nita Noland a local resident formerly owned 320 acres of the 400-acre property owned by Waste Hauling Inc Ms Noland leased her property to Mr Paul McKinney of Decatur Illinois

In 1972 McKinney purchased Noland s land constructed landfill Areas 1 and 2 and began to operate McKinney s Landfill McKinney ceased dumping in landfill Areas 1 and 2 in 1979 and he opened landfill Area 3 in 1980 This area was created to accept special wastes such as sludges lubricants oils polyvinyl chloride (PVC) rubber wastes tires pathological hospital wastes such as tubing and used specimen containers Oil sludges were received from Firestone waste sludge was received from Caterpillar Tractor Co wastewater sludges were received from Quaker Oats and grinding sludge was received from York (IEPA 1987 Brown 1995)

Mr Jerry Camfield of Decatur Illinois purchased the rights to lease 80 of Noland s 320 acres in 1980 In 1988 Camfield purchased a separate 80 acre tract located southwest of the current landfill areas from an unidentified resident In 1990 Camfield purchased the rest of Noland s land and started a new company Waste Hauling Inc (Brown 1995)

Waste Hauling Inc has owned the landfill areas since 1980 and has only actively managed landfill Area 3 since Areas 1 and 2 were closed in 1980 Waste Hauling Inc operated until 1992 when a waste spill occurred Constituents of the spill were sampled and analytical results showed the presence of contaminants that were deemed to be hazardous (see Section 3 for details) The site has not accepted waste since 1992 (IEPA 1987)

According to a August 19 1998 letter by Lawrence Eastep of IEPA that in regards to the Waste Hauling Inc landfill the site is required to come into compliance with a Resource Conservation and Recovery Act (RCRA) Subtitle D permit for non hazardous landfills The site owners were required to submit a Form LPC PA21 for interim permit and demonstrate compliance with RCRA Subtitle D with IEPA by September 1 1993 (Eastep

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1993) According to Dustin Burger of IEPA the site is still attempting to be closed under RCRA Subtitle D Part 807 of IEPA regulations (Burger 1995)

Quadrangle Location

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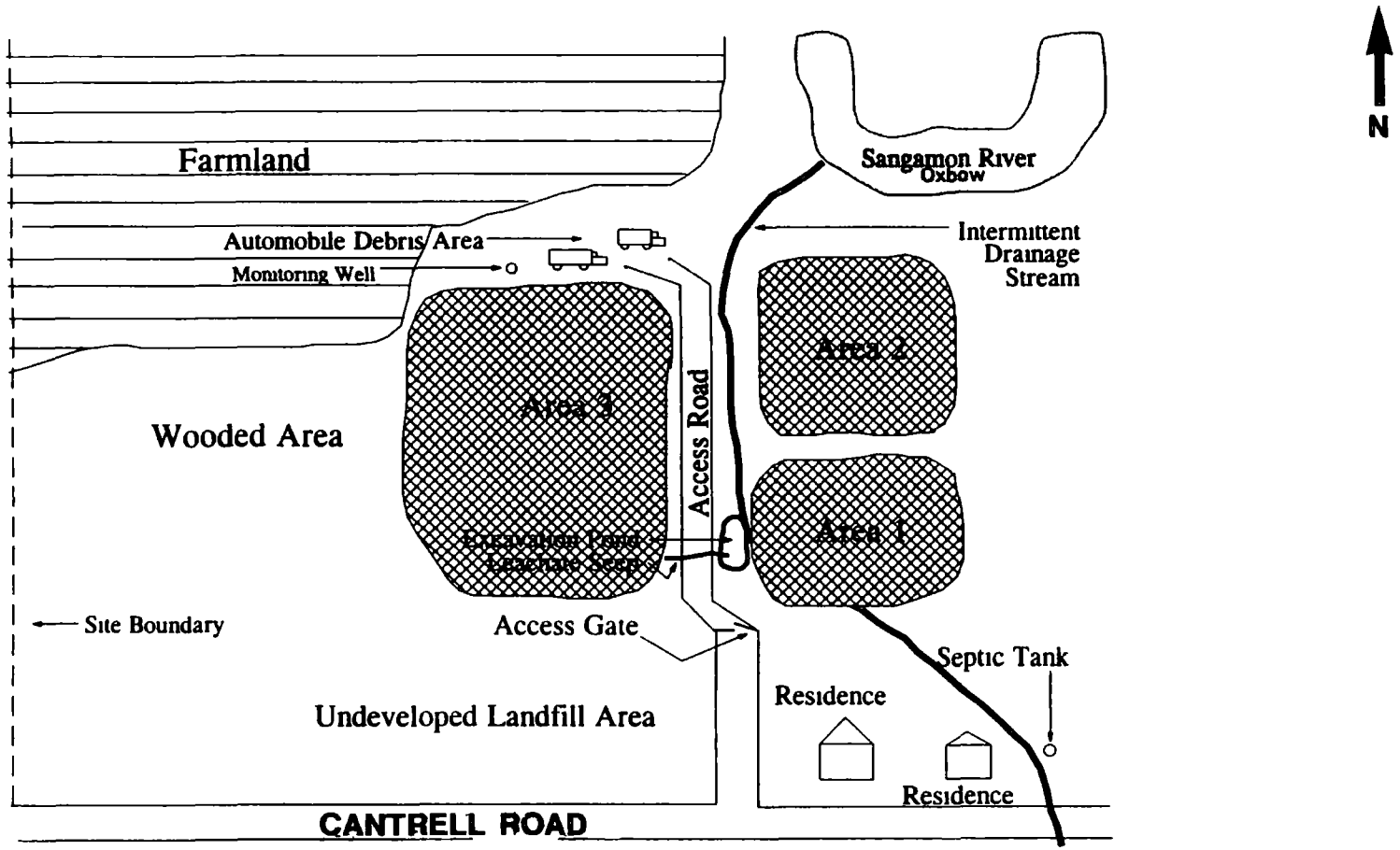
TITLE	Site Location Map	FIGURE #	2 1
SITE	Waste Hauling Inc	TDD#	T05-9503 249
CITY Decatur	STATE Illinois	SCALE	1 24,000
SOURCE	USGS Maps 7 5 Minute Series Decatur Il Quadrangle	DATE	1972
		REVISED	1995



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TITLE Site Features Map	FIGURE # 2 2
SITE Waste Hauling Inc	TDD# T05 9503-249
CITY Decatur STATE Illinois	SCALE Not to scale
SOURCE Ecology and Environment Inc	DATE 1995 REVISED ---

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3 PREVIOUS INVESTIGATIONS

According to IEPA state files IEPA began to investigate the Waste Hauling Inc site on February 9 1987 The site files identified 16 site inspections (SIs) that had occurred at the site from 1987 to 1995

Three citizen complaints were filed against the site ownership during the period from 1990 to 1991 The first complaint stated that the workers at Waste Hauling Inc were not covering the refuse over the weekend and garbage was exposed The second complaint stated that unidentified tanker trucks were entering the Waste Hauling Inc site (E & E 1995)

Approximately 40 acres were permitted for landfill use in the early 1970s under the ownership of McKinney When Camfield purchased the facility development of Area 3 had just started On August 10 1989 Camfield submitted a supplemental application for approval of the Closure/Postclosure Care Plans for Area 3 During the course of operation of Area 3 however the permitted height was exceeded by several feet and the plans were rejected on August 21 1989 (Anonymous 1991) During an IEPA inspection on April 26 1990 various RCRA violations were documented and Waste Hauling Inc was fined $2 500 (Turner 1991)

On June 16 1987 a Comprehensive Environmental Response Compensation and Liability Act (CERCLA) site inspection was performed at the Waste Hauling Inc site One on-site sediment sample (X101) one off-site sediment sample (X102) one surface water sample (S101) and one groundwater sample (G101) from the monitoring well in the northern portion of the site were collected and analyzed (Page 1987)

Analytical results for groundwater sample G101 indicated the presence of tetrachloro ethane at 3 micrograms per liter (μg/L) Results for surface water sample S101 indicated the presence of vinyl chloride at 24 μg/L 1 1 dichloroethane (1 1 DCA) at 5 μg/L trans 1 2 dichloroethene (1 2 DCE) at 6 μg/L trichloroethene (TCE) at 2 μg/L and benzene at 5 μg/L

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Results for sediment sample X101 indicated the presence of 2 4-dinitrophenol 4 nitrophenol 4-nitroaniline 4 6-dinitro 2-methylphenol and pentachlorophenol at 100 000 micrograms per kilogram (μg/kg) Off site sample X102 indicated the presence of toluene at 2 μg/kg 2-methylnaphthalene at 140 μg/kg phenanthrene at 470 μg/kg di n butylphthalate at 3 300 μg/kg and pyrene 270 μg/kg however this sample was collected near West Rock Springs Road and the contaminants detected are probably the result of automobile traffic All samples contained inorganic constituents The analytical results and sample locations are provided in Appendix B

On April 6 1992 the IEPA conducted an SI at the Waste Hauling Inc site during which two leachate samples were collected Sample L101 was collected from leachate in puddles found on the southern side of Area 3 Sample L102 was collected from the intermit tent drainage stream just upstream of its confluence with the Sangamon river Analytical results for sample L101 indicated the presence of gamma chlordane at 0 07 μg/L lindane at 0 37 μg/L 1 1 DCA at 70 μg/L 1 1 1 trichloroethane (1 1 1 TCA) at 93 μg/L TCE at 24 μg/L toluene at 81 μg/L ethylbenzene at 10 μg/L and total xylenes at 43 μg/L (IEPA 1992) Analytical results for sample L102 did not indicate the presence of TAL/TCL compounds at concentrations above detection limits Analytical results for the leachate sample analyses and sample locations are provided in Appendix C

On April 22 1992 under the ownership of Mr Camfield an IEPA inspection was conducted at the Waste Hauling Inc site under a criminal search warrant Allegations were made in July 1991 that the facility accepted hazardous waste The IEPA had referred this account of RCRA violations to the Attorney General s Office (AGO) (Gerard and Burger 1992) The purpose of the April 22 1992 IEPA investigation was to recover two groups of 55-gallon drums which were reportedly disposed of in landfill Area 3 Approximately 80 to 100 55 gallon drums were reportedly deposited in an area of Landfill 3 designated as Group 1 from April 7 and April 9 1992 The drums were reportedly dumped in the daily active area in the upper portion of landfill Area 3 Approximately 160 to 200 55-gallon drums were reportedly disposed of in another location in Area 3 in April 1992 These drums known as the Group 2 drums were similar to Group 1 drums in that they contained clear to multi colored liquids that smelled like paint thinner These drums were dumped at the base of a steep slope in the southwestern portion of landfill Area 3 (Zierath 1992)

The IEPA inspection team and the contractor hired to excavate the site during the inspection encountered 53 Group 1 drums (Gerard and Burger 1992 Zierath 1992) Seven of the 53 drums were sampled using the Toxicity Characteristic Leaching Procedure (TCLP) Analytical results for samples collected four of the seven drums indicated the presence of toxic concentrations of 2 butanone (MEK) and benzene

Seven drums and other wastes were observed being dumped by a Waste Hauling Inc truck near the Group 1 drums during the inspection The drums contained a black viscous liquid which did not contain much odor The driver of the truck stated that the waste was a permitted nonhazardous hydrocarbon waste from Firestone The drums that were found were excavated and removed (Zierath 1992)

The facility was inspected by IEPA throughout the summer and on September 22 1992 a final inspection concluded that the Waste Hauling facility showed full compliance with a court order to cease dumping clean up the site and provide cover in Area 3 Landfill Area 3 was covered with 6 inches of soil The AGO was impressed with the action taken by Waste Hauling Inc (Gerard and Jeffrey 1992)

On April 12 1995 E & E TAT performed a site reconnaissance of the site to obtain photodocumentation and information from the site owner and/or operator (E & E 1995) On August 1 1995 E & E TAT collected two sediment samples and one surface water sample Deviations from the work plan at the Waste Hauling Inc landfill are as follows

- The confluence of the supposed location of the intermittent stream and the Sangamon River where sediment sample S1 was to be collected was inaccessible due to the presence of a corn field and woods that prevented the E & E TAT sampling team from transport ing equipment to this location

- Surface water sample SW1 was collected at a location downstream of the confluence of the intermittent stream and the Sangamon River This is the same location where sample S1 was collected

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4 SITE RECONNAISSANCE AND SAMPLING

4 1 RECONNAISSANCE OBSERVATIONS

On August 1 1995 Linda Knorz and Alix Rauschman of E & E TAT conducted a reconnaissance visit at the Waste Hauling Inc landfill site and surrounding area According to the site work plan the purpose of the reconnaissance was to determine whether a release of vinyl chloride benzene contaminants to the Sangamon River and adjacent and downstream wetlands has occurred The site reconnaissance also allowed E & E to identify site condi tions

The Waste Hauling Inc site was visited by E & E at the time of the sampling visit E & E TAT was not brought into the landfill property but to the farm adjacent to the Sangamon River A background sediment sample also designated as a matrix spike/matrix spike duplicate (MS/MSD) was collected upstream of all three landfill sites The following observations were made during sampling

- The Sangamon River which flows along the northern edge of the landfill property is approximately 1 200 feet away from the landfill itself Only the oxbow which migrates north is within a few hundred yards of Area 2

- The water in the oxbow was relatively stagnant The water was murky and covered with duckweed

- The field northwest of landfill Area 3 contained corn that was almost harvestable The mound for Area 3 was visible above the field

- A small stand of trees is present due north of landfill Area 3 between the cornfield and Area 3 It could be not determined if the trees separated the cornfield from the landfill to the west

- The location of the landfill is remote Few houses are located within 0 25 mile of the site There are no access roads to the Sangamon River The only way to arrive at the Sangamon River is to drive

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around the west perimeter of the cornfield and follow the tractor route

4 2 SAMPLE COLLECTION AND DESCRIPTION

Samples were collected using a dedicated stainless steel trowel or spoon and stainless steel mixing bowl for each discrete location The sampling method for collecting the surface water sample is described as follows The samples were collected by inserting the sample container into the Sangamon River with the mouth of the container facing upstream The surface water sample was collected first because the collection of the sediment sample may have changed the water chemistry of the samples The volatile organic carbon (VOC) containers which were preserved with hydrochloric acid (HCL) were collected first The base neutral acids (BNAs) Pesticide/PCB and the metals and cyanide containers were filled in that order A trip blank was also collected from this location using a preserved VOC container

The sampling method for collecting the sediment sample is described as follows a stainless steel trowel was used to collect sediment from a depth of 0 to 6 inches below ground surface (BGS) and placed in the stainless steel mixing bowl The VOC containers were filled first using a stainless steel spoon Using the same spoon the sediment was homogenized The BNA the Pesticide/PCB and the metals and cyanide containers were filled in that order

The sediment and surface water sample were collected from a similar location approximately 200 feet downstream from the confluence of the intermittent stream and the Sangamon River Sediment sample S2 was located approximately 1 mile downstream of the confluence of the downstream end of the oxbow with the Sangamon River (E & E 1995a) An upstream sediment and surface water sample were collected approximately 2 to 3 miles downstream from the site approximately 0 25 miles downstream from the Wyckles Road bridge which crosses the Sanagmon River See Figure 4-1 for FSIP sample locations

4 3 ANALYTICAL RESULTS

Analytical results of sediment samples collected by E & E indicated the presence of acetone methylene chloride phenanthrene anthracene fluoranthene pyrene benzo(a)anthracene chrysene benzo(b)fluoranthene benzo(k)fluoranthene benzo(a)pyrene

indeno(1 2 3 cd)pyrene dibenzo(a h)anthracene and benzo(g h i)perylene Analytical results and a description of qualifiers associated with the 1995 FSIP are provided in Appendix D

Waste Hauling Inc sediment sample S1 (WHS1) and the sediment sample duplicate (WHS1D) indicated the presence of the following contaminants methylene chloride at 18 μg/kg phenanthrene at 108 μg/kg anthracene at 40 μg/kg fluoranthene at 420 μg/kg pyrene at 415 μg/kg benzo(a)anthracene at 380 μg/kg chrysene at 345 μg/kg benzo(b)fluoranthene at 270 μg/kg benzo(k)fluoranthene at 370 μg/kg benzo(a)pyrene at 420 μg/kg indeno(1 2 3-cd)pyrene at 230 μg/kg dibenzo(a h)anthracene at 61 μg/kg and benzo(g h i)perylene at 225 μg/kg These concentrations are an average of the WHS1 sample and the duplicate WHS1D Sediment sample S2 (WHS2) indicated the presence of methylene chloride at 17 μg/kg

Chemical analysis of surface water sample SW1 (WHSW1) and the surface water sample duplicate (WHSW1D) indicated the presence of the following contaminants acetone at 8 μg/L in WHSW1D 1 2 dichloroethene at 3 μg/L in WHSW1 and WHSW1D 2 butanone at 11 μg/L in WHSW1D bromodichloromethane at 1 μg/L in WHSW1 and bis(2 ethylhexyl)phthalate at 3 μg/L in WHSW1D Analytical results for surface water blank WHW1 indicated the presence of the following contaminants toluene at 1 μg/L and total xylenes at 4 μg/L

The following inorganics were detected in both sediment and surface water samples aluminum arsenic barium calcium chromium cobalt copper iron lead magnesium manganese nickel potassium sodium vanadium and zinc

The upstream sediment sample S1 a matrix spike/matix spike duplicate (MS/MSD) sample contained acetone at 42 μg/kg methylene chloride at 16 μg/kg toluene at 7 μg/kg pyrene at 22 μg/kg arsenic at 12 7 mg/kg and iron at 26 900 mg/kg Other inorganic compounds were also present The upstream surface water sample contained acetone at 10 μg/L chloroform at 20 μg/L bromodichloromethane at 14 μg/L dibromochloromethane at 8 μg/L and the following inorganics aluminum barium calcium chromium cobalt copper iron lead magnesium manganese nickel potassium vanadium and zinc Inorganics detected in the Waste Hauling Inc samples were similar to those found in the upstream background samples and all contaminants were detected at concentrations less than three times the background concentration (E & E 1995a) See Table 4 1 for a summary of analytical results

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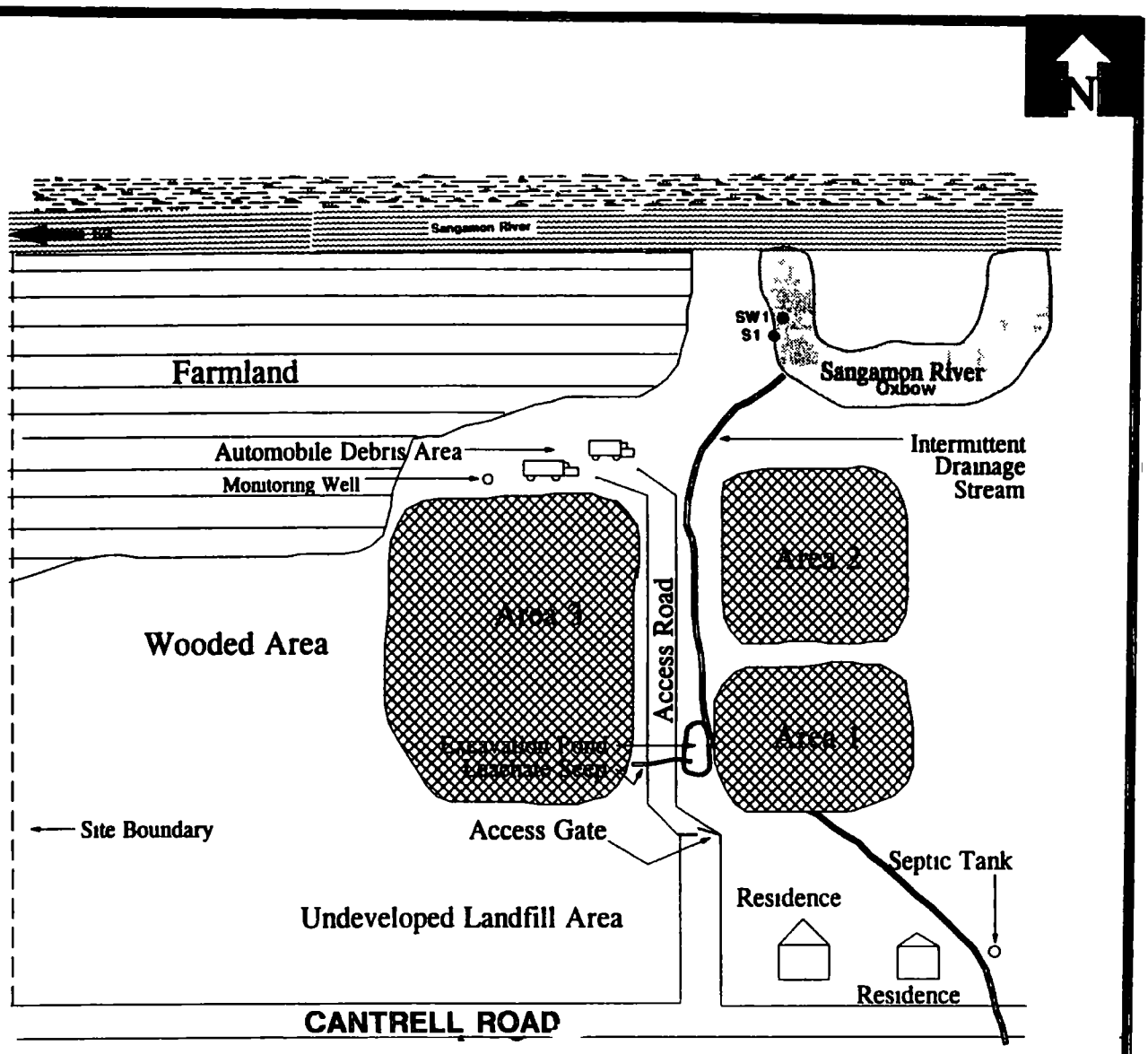

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TITLE FSIP SAMPLE LOCATIONS	FIGURE # 4 1
SITE Waste Hauling, Inc	TDD# T05-9501-249
CITY Decatur STATE Illinois	SCALE 1 24,000
SOURCE USGS Maps 7 5 Minute Series Decatur, Il Quadrangle	DATE 1972 REVISED 1995

TABLE 4-1

Waste Hauling Inc Analytical Data

SURFACE WATER SAMPLES
Volatile Organic Compounds (UG/L)

QL	VOC	WHSW1	Q	WHSW1D	Q	WHW1	Q
	Sample Number	WHSW1		WHSW1D		WHW1	
	Date Collected	8/1/95	Q	8/1/95	Q	8/1/95	Q
	CLP QTR #	ETC04	U	EAFR1	U	EAFR3	U
			A		A		A
			L		L		L
10	Chloromethane		U		U		U
10	Bromomethane		U		U		U
10	Vinyl chloride		U		U		U
10	Chloroethane		U		U		U
10	Methylene chloride		U		U		U
10	Acetone		U	8	J		U
10	Carbon disulfide		U		U		U
10	1,1-Dichloroethene		U		U		U
10	1,1-Dichloroethane		U		U		U
10	1,2-Dichloroethene (total)	3	J	3	J		U
10	Chloroform		U		U		U
10	1,2-Dichloroethane		U		U		U
10	2-Butanone		U	11			U
10	1,1 1 Trichloroethane		U		U		U
10	Carbon Tetrachloride		U		U		U
10	Bromodichloromethane	1	J		U		U
10	1,2-Dichloropropane		U		U		U
10	cis-1,3-dichloropropene		U		U		U
10	Trichloroethene		U		U		U
10	Dibromochloromethane		U		U		U
10	1,1,2 Trichloroethane		U		U		U
10	Benzene		U		U		U
10	trans-1 3-dichloropropene		U		U		U
10	Bromoform		U		U		U
10	4-Methyl 2-pentanone		U		U		U
10	2-Hexanone		U		U		U
10	Tetrachloroethene		U		U		U
10	Toluene		U		U	1	J
10	1,1 2 2 Tetrachloroethane		U		U		U
10	Chlorobenzene		U		U		U
10	Ethylbenzene		U		U		U
10	Styrene		U		U		U
10	Total xylenes	2	J		U	4	J

QL Quantitation L mits e base val es see complete data package for sample specific quantitation l m ts

U Not Detected
J Est mated Value

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Waste Hauling Inc Analytical Data

SURFACE WATER SAMPLES
Semivolatiles (UG/L)

	Sample Number	WHSW1		WHSW1D																		
	Date Collected	8/1/95	Q	8/1/95	Q		Q		Q		Q		Q		Q		Q		Q		Q	
	CLP OTR#	ETC04	U	EAFR1	U		U		U		U		U		U		U		U		U	
			A		A		A		A		A		A		A		A		A		A	
			L		L		L		L		L		L		L		L		L		L	
QL	BNAs																					
10	Phenol		U		U																	
10	Bis(2-Chloroethyl)ether		U		U																	
10	2-Chlorophenol		U		U																	
10	1 3-Dichlorobenze e		U		U																	
10	1,4-Dichlorobenzene		U		U																	
10	1,2-Dichlorobenzene		U		U																	
10	2-Methylphenol		U		U																	
10	2,2'-oxybis(1-Chloropropane)		U		U																	
10	4-Methylphenol		U		U																	
10	N-Nitroso-di-n-propylamine		U		U																	
10	Hexachloroethane		U		U																	
10	Nitrobenzene		U		U																	
10	Isophorone		U		U																	
10	2-Nitrophenol		U		U																	
10	2,4-Dimethylphenol		U		U																	
10	Bis(2-Chloroethoxy)methan		U		U																	
10	2,4-Dichlorophenol		U		U																	
10	1,2,4 Trichlorobenzene		U		U																	
10	Naphthalene		U		U																	
10	4-Chloroaniline		U		U																	
10	Hexachlorobutadiene		U		U																	
10	4-Chloro-3-methylphenol		U		U																	
10	2-Methylnaphthalene		U		U																	
10	Hexachlorocyclopentadien		U		U																	
10	2,4 6-Trichlorophenol		U		U																	
50	2,4,5-Trichlorophenol		U		U																	
10	2-Chloronaphthalene		U		U																	
50	2-Nitroaniline		U		U																	
10	Dimethylphthalate		U		U																	
10	Acenaphthylene		U		U																	
10	2,6-Dinitrotolue		U		U																	
50	3-Nitroaniline		U		U																	
10	Acenaphthene		U		U																	
50	2 4-Dinitrophenol		U		U																	

Waste Hauling Inc Analytical Data

SURFACE WATER SAMPLES
S ml olatiles (UG/L)

QL	BNAs	Sample Numbe	WHSW1		WHSW1D																	
		Date Collected	8/1/95	Q	8/1/95	Q		Q		Q		Q		Q		Q		Q		Q		Q
		CLP OTR#	ETC04	U	EAFR1	U		U		U		U		U		U		U		U		U
				A		A		A		A		A		A		A		A		A		A
				L		L		L		L		L		L		L		L		L		L
50	4-Nitrophenol			U		U																
10	Dibe zofuran			U		U																
10	2,4-Dinitrotoluene			U		U																
10	Diethylphthalate			U		U																
10	4-Chlorophenyl-phe yl ether			U		U																
10	Fluorene			U		U																
25	4 Nitroa ill			U		U																
25	4 6-Dinitro-2-methylphenol			U		U																
10	N-Nitrosodiph nylamine			U		U																
10	4-Bromophenyl-phenyl ether			U		U																
10	He a hlorobenzene			U		U																
25	Pentachlorophenol			U		U																
10	Phe anthrene			U		U																
10	Anthrace e			U		U																
10	Carbazole			U		U																
10	Di-n-butylphthalate			U		U																
10	Fluoranthene			U		U																
10	Pyrene			U		U																
10	Butylbenzylphthalate			U		U																
10	3,3 Dichlorobenzidine			U		U																
10	Benzo(a)anthrace			U		U																
10	Chrys			U		U																
10	Bis(2-ethylhexyl)phthalate			U	3	J																
10	Di-n-octylphthalate			U		U																
10	Benzo(b)fluoranthene			U		U																
10	Benzo(k)fluora th			U		U																
10	Benzo(a)pyre			U		U																
10	Indeno(1 2,3-cd)py			U		U																
10	Dibe zo(a,h) thra			U		U																
10	B o(ghi)p ryl e			U		U																

QL Q antitatio L mits a e b val mpl te data package fo sample p cif q titati l mits

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SURFACE WATER SAMPLES
Pesticides/PCBs (UG/L)

	Sample Number	WHSW1		WHSW1D																		
	Date Collected	8/1/95	Q	8/1/95	Q		Q		Q		Q		Q		Q		Q		Q		Q	
	CLP OTR #	ETC04	U	EAFR1	U		U		U		U		U		U		U		U		U	
			A		A		A		A		A		A		A		A		A		A	
			L		L		L		L		L		L		L		L		L		L	
QL	Pesticides/PCBs																					
0 05	alpha-BHC		U		U																	
0 05	beta-BHC		U		U																	
0 05	delta-BHC		U		U																	
0 05	gamma-BHC (Lindane)		U		U																	
0 05	Heptachlor		U		U																	
0 05	Aldrin		U		U																	
0 05	Heptachlor epoxide		U		U																	
0 05	Endosulfan I		U		U																	
0 1	Dieldrin		U		U																	
0 1	4 4 -DDE		U		U																	
0 1	Endrin		U		U																	
0 1	Endosulfan II		U		U																	
0 1	4 4 -DDD		U		U																	
0 1	Endosulfan sulfate		U		U																	
0 1	4,4 -DDT		U		U																	
0 5	Methoxychlor		U		U																	
0 1	Endrin Ketone		U		U																	
0 1	Endrin Aldehyde		U		U																	
0 05	Alpha-Chlordane		U		U																	
0 05	Gamma-Chlordane		U		U																	
5	Toxaphene		U		U																	
1	Aroclor 1016		U		U																	
1	Aroclor 1221		U		U																	
2	Aroclor 1232		U		U																	
1	Aroclor 1242		U		U																	
1	Aroclor 1248		U		U																	
1	Aroclor 1254		U		U																	
1	Aroclor 1260		U		U																	

QL Q titati n L m ts are base al see complete data package for sample specif c q ant tatio I m ts

U Not Detected

Waste Hauling Inc Analytical Data

SURFACE WATER SAMPLES
Total Metals (UG/L)

	Sample Number	WHSW1		WHSW1D	
	Date Collected	8/1/95	Qual	8/1/95	Qual
	CRL ITR#	MEWH70		MEWH71	
QL	Metals				
200	Aluminum	672	J	472	J
60	Antimony		U		U
10	Arsenic	3 3	B	3 4	B
200	Barium	68 3	B	65	B
5	Beryllium		U		U
5	Cadmium		U		U
5000	Calcium	68800		69500	
10	Chromium	1.4	B	1.4	B
50	Cobalt	1 5	B	1 1	B
25	Copper	6.2	B	7.9	B
100	Iron	1150	J	735	J
3	Lead	4		2.9	B
5000	Magnesium	32700		33100	
15	Manganese	491		441	
0 2	Mercury		U		U
40	Nickel	12 2	B	12	B
5000	Potassium	8690		8570	
5	Selenium		U		U
10	Silver		U		U
5000	Sodium	61300	JE	61900	JE
10	Thallium		U		U
50	Vanadium	2 9	B	2 8	B
20	Zinc	17 1	B	16	B
10	Cyanide		U		U

QL Quantitation Lim ts are base values see complete data package for sample quantitation limits

U Not Detected
J Estimated Value
B Value s less than the CRDL but greater than the IDL
E Value is estimated due to Interferences

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TABLE 4-1

Waste Hauling Inc Analytical Data

SURFACE SEDIMENT SAMPLES
Volatile Organic Compounds (UG/KG)

QL	VOC	Sample Number	WHS1		WHS1D		WHS2															
		Date Collected	8/1/95	Q	8/1/95	Q	8/1/95	Q		Q		Q		Q		Q		Q		Q		Q
		CLP OTR #	EAFK9	U	ETC02	U	ETC03	U		U		U		U		U		U		U		U
				A		A		A		A		A		A		A		A		A		A
				L		L		L		L		L		L		L		L		L		L
10	Chloromethane			U		U		U														
10	Bromomethane			U		U		U														
10	Vinyl chloride			U		U		U														
10	Chloroethane			U		U		U														
10	Methylene chloride		18		18		17															
10	Acetone		22		19			U														
10	Carbon disulfide			U		U		U														
10	1 1-Dichloroethene			U		U		U														
10	1 1-Dichloroethane			U		U		U														
10	1 2-Dichloroethene (total)			U		U		U														
10	Chloroform			U		U		U														
10	1,2-Dichloroethane			U		U		U														
10	2-Butanone			U		U		U														
10	1,1,1 Trichloroethane			U		U		U														
10	Carbon Tetrachloride			U		U		U														
10	Bromodichloromethane			U		U		U														
10	1,2-Dichloropropane			U		U		U														
10	cis-1,3-dichloropropene			U		U		U														
10	Trichloroethene			U		U		U														
10	Dibromochloromethane			U		U		U														
10	1,1,2 Trichloroethane			U		U		U														
10	Benzene			U		U		U														
10	trans-1 3-dichloropropene			U		U		U														
10	Bromoform			U		U		U														
10	4-Methyl 2-pentanone			U		U		U														
10	2 Hexanone			U		U		U														
10	Tetrachloroethene			U		U		U														
10	Toluene			U		U		U														
10	1 1 2 2 Tetrachloroethane			U		U		U														
10	Chlorobenzene			U		U		U														
10	Ethylbenzene			U		U		U														
10	Styrene			U		U		U														
10	Total xylenes			U		U		U														

QL Q a t tat o L m ts are base values see complete data package fo sample specific qua titati I m ts

U Not Dete t d

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Waste Hauling Inc Analytical Data

SURFACE SEDIMENT SAMPLES
Semivolatiles (UG/KG)

	Sample Number	WHS1		WHS1D		WHS2															
	Date Collected	8/1/95	Q	8/1/95	Q	8/1/95	Q		Q		Q		Q		Q		Q		Q		Q
	CLP OTR#	EAFK9	U	ETC02	U	ETC03	U		U		U		U		U		U		U		U
			A		A		A		A		A		A		A		A		A		A
			L		L		L		L		L		L		L		L		L		L
QL	BNAs																				
330	Phenol		U		U		U														
330	Bis(2-Chloroethyl)ether		U		U		U														
330	2-Chlorophenol		U		U		U														
330	1 3-Dichlorobenze e		U		U		U														
330	1,4-Dichlorobenzene		U		U		U														
330	1 2-Dichlorobenzene		U		U		U														
330	2-Methylphenol		U		U		U														
330	2,2'-oxybis(1-Chlo opropane)		U		U		U														
330	4-Methylphenol		U		U		U														
330	N-Nitroso-di-n-propylamine		U		U		U														
330	Hexachloroethane		U		U		U														
330	Nitrobenzene		U		U		U														
330	Isophorone		U		U		U														
330	2-Nitrophenol		U		U		U														
330	2,4-Dimethylphenol		U		U		U														
330	Bis(2-Chloroethoxy)methane		U		U		U														
330	2,4-Dichlorophenol		U		U		U														
330	1,2,4-Trichlorobenzene		U		U		U														
330	Naphthalene		U		U		U														
330	4-Chloroaniline		U		U		U														
330	Hexachlorobutadiene		U		U		U														
330	4-Chloro-3-methylphe ol		U		U		U														
330	2-Methylnaphthalene		U		U		U														
330	H xachlorocyclopentadi n		U		U		U														
330	2,4,6-Trichloroph nol		U		U		U														
1700	2,4 5 Trichlorophenol		U		U		U														
330	2-Chloronaphthale e		U		U		U														
1700	2 Nitroaniline		U		U		U														
330	Di m thylphthalate		U		U		U														
330	Acenaphthyl		U		U		U														
330	2,6 Dinitrotoluen		U		U		U														
1700	3 Nitroaniline		U		U		U														
330	Ac naphthene		U		U		U														
1700	2 4 Di itrophenol		U		U		U														

Waste Hauling Inc Analytical Data

SURFACE SEDIMENT SAMPLES
Semivolatiles (UG/KG)

	Sample Number	WHS1		WHS1D		WHS2															
	Date Collected	8/1/95	Q	8/1/95	Q	8/1/95	Q		Q		Q		Q		Q		Q		Q		Q
	CLP OTR#	EAFK9	U	ETC02	U	ETC03	U		U		U		U		U		U		U		U
			A		A		A		A		A		A		A		A		A		A
			L		L		L		L		L		L		L		L		L		L
QL	BNAs																				
1700	4-Nitrophenol		U		U		U														
330	Dibenzof ran		U		U		U														
330	2 4-Dinitrotoluene		U		U		U														
330	Diethylphthalate		U		U		U														
330	4-Chlorophenyl-phenyl ether		U		U		U														
330	Fluoren		U		U		U														
1700	4-Nitroanili e		U		U		U														
1700	4,6-Dinitro-2-methylph nol		U		U		U														
330	N-Nitrosodiphenylamine		U		U		U														
330	4-Bromoph nyl-phenyl ether		U		U		U														
330	Hexachlorobenze e		U		U		U														
1700	Pentachlorophe ol		U		U		U														
330	Ph nanthrene	55	J	160	J		U														
330	Anthracene	50	J	30	J		U														
330	Carbazole		U		U		U														
330	Di-n-butylphthalat	40	J		U		U														
330	Fluoranthene	520		320	J		U														
330	Pyrene	550		280	J		U														
330	Butylbenzylphthalate		U		U		U														
330	3,3'Dichlorobenzidine		U		U		U														
330	Benzo(a)anthrace e	590		170	J		U														
330	Chrysen	520		170	J		U														
330	Bis(2-ethylh xyl)phthalate		U		U		U														
330	Di-n-octylphthalate		U		U		U														
330	Benzo(b)fluoranthene	390	J	150	J		U														
330	Benzo(k)fl ora th	670		170	J		U														
330	Benzo(a)py en	650		190	J		U														
330	I de o(1 2,3-cd)py	320	J	140	J		U														
330	Dibenzo(a,h)anthra	83	J	38	J		U														
330	Benzo(ghi)perylene	320	J	130	J		U														

QL Q antitation Limits a e b se val es see complete data package fo sample specific quantitatio limits

U N t D t t d
J Estim ted V l

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Waste Hauling Inc Analytical Data

SURFACE SEDIMENT SAMPLES
P sticides/PCB (UG/KG)

	Sample Number	WHS1		WHS1D		WHS2															
	Date Collected	8/1/95	Q	8/1/95	Q	8/1/95	Q		Q		Q		Q		Q		Q		Q		Q
	CLP OTR #	EAFK9	U	ETC02	U	ETC03	U		U		U		U		U		U		U		U
			A		A		A		A		A		A		A		A		A		A
			L		L		L		L		L		L		L		L		L		L
QL	Pesticides/PCBs																				
17	alpha-BHC		U		U		U														
17	beta-BHC		U		U		U														
17	delta-BHC		U		U		U														
17	gamma-BHC (Lindane)		U		U		U														
17	Heptachlor		U		U		U														
17	Aldrin		U		U		U														
17	Heptachlor epo ide		U		U		U														
17	Endosulfan I		U		U		U														
33	Dieldrin		U		U		U														
33	4,4 -DDE		U		U		U														
33	E drin		U		U		U														
33	Endosulfan II		U		U		U														
33	4,4 -DDD		U		U		U														
33	Endosulfan sulfate		U		U		U														
33	4,4 -DDT		U		U		U														
17	Methoxychlor		U		U		U														
33	Endrin Ketone		U		U		U														
33	Endrin Aldehyde		U		U		U														
17	Alpha-Chlordane		U		U		U														
17	Gamma-Chlordane		U		U		U														
170	To aphe e		U		U		U														
33	Aroclor 1016		U		U		U														
67	Aroclor 1221		U		U		U														
33	Aroclor 1232		U		U		U														
33	Aroclor 1242		U		U		U														
33	Aroclor 1248		U		U		U														
33	Aroclor 1254		U		U		U														
33	Aroclor 1260		U		U		U														

QL Q antitatio Limits are base val es see complete data package for sample specific quantitation limits

U N t D tected

Waste Hauling Inc Analytical Data

SURFACE SEDIMENT SAMPLES
Total Metals (MG/KG)

	Sample Number	WHS1		WHS1D		WHS2	
	Date Collected	8/1/95	Q	8/1/95	Q	8/1/95	Q
	CRL ITR#	MEWH67	U	MEWH68	U	MEWH69	U
			A		A		A
			L		L		L
QL	Metals						
200	Aluminum	1550	J*	1670	J	687	J*
60	Antimony		U		U		U
10	Arsenic	1 1	BJ*	0 91	B		U
200	Barium	15 9	BJ*	19 5	B	6 8	BJ*
5	Beryllium		U		U		U
5	Cadmium		U		U		U
5000	Calcium	7510	J	7670	J*	5170	J*
10	Chromium	4.8		4.8		2 7	
50	Cobalt	2.4	BJE	2.5	BJE	1.5	BJE
25	Copper	4.5	BJ*	6 6	BJ*	1 3	BJ*
100	Iron	4410	J*	4340	J*	2110	J*
3	Lead	6.5	J*	7 6	J	2 6	J*
5000	Magnesium	3750	J	3780	J	2330	J*
15	Manganese	125	J*	145	J	55 7	J*
0 2	Mercury		U		U		U
40	Nickel	4.8	B	5 3	B	2 6	B
5000	Potassium	239	BJE	257	BJE	114	BJE
5	Selenium		U		U		U
10	Silver		U		U		U
5000	Sodium	74 6	B	81 2	B	79 8	B
10	Thallium		U		U		U
50	Vanadium	6 7	B	6	B	3.5	B
20	Zinc	24.2	JN	25 4	JN	8 6	JN
10	Cyanide		U		U		U

QL Quantitation Limits are base values see complete data package for sample quantitation limits

U Not Detected
J Estimated Val e
Duplicate Not Within Control Limits
B Value is less than the CRDL but greater than the IDL
E Value is estimated due to interferences
Spike Recovery is not within the Control Limits

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5 MIGRATION AND EXPOSURE PATHWAYS

This section describes the four migration and exposure pathways associated with the Waste Hauling Inc landfill site Section 5 1 discusses the groundwater migration pathway Section 5 2 discusses the surface water migration pathway Section 5 3 discusses the soil exposure pathway and Section 5 4 discusses the air migration pathway

5 1 GROUNDWATER MIGRATION PATHWAY

This section discusses regional geology and soils groundwater releases and targets associated with the groundwater migration pathway at the site

5 1 1 Geology and Soils

The area surrounding the Waste Hauling Inc site is located on unconsolidated Pleistocene age glacial deposits overlying upon Pennsylvanian age bedrock consisting of limestone shale and sandstone (Student *et al* 1981) The Pleistocene age deposits consist of stratified clay gravel and sand varying in depth from 100 to 200 feet below ground surface (BGS) (Student *et al* 1981 Kempton Morse and Visocky 1982)

The Waste Hauling Inc site is bordered to the north by the Sangamon River soils to the north and south of the site consist of Cahokia Alluvium (Lineback 1979) The Cahokia Alluvium is composed of deposits located in floodplains and channels of rivers and streams and consist mostly of poorly-sorted sand silt or clay containing local deposits of sandy gravel

The Pleistocene age glacial deposits underlying the Waste Hauling Inc site may be part of the Piatt Till Member of the Wedron Formation The Piatt Till is a sandy and silty clay till that oxidizes to an olive brown Well logs in the area suggest that the overburden in

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the area consists of a thin layer (one to three feet in thickness) of top soil overlying a glacial till layer composed of clayey silts with some sand and gravel which may further overly a blue clay down to the bedrock These strata are discontinuous within the soil profile and range in thicknesses from 3 feet to over 50 feet The lateral extent of these clay layers is unknown but they are believed to be hydraulically connected (Lineback 1979)

Thirty four private wells were located in the vicinity of site at the time of the IEPA 1987 SI one of which is within 100 feet of the site The wells are set at a depth between 50 and 70 feet BGS in the sand and gravel aquifer that underlies the site and constitutes the aquifer of being evaluated at depths that vary within the soil profile (IEPA 1987)

The regional groundwater flow in the area of the site appears to follow the topogra phy of the site and generally flows north toward the Sangamon River Surface water drains to the northwest and enters the Sangamon River directly north of Area 3 (E & E 1995) The Sangamon river flows to the southwest at approximately 683 cubic feet per second (IEPA 1990) No surface water intakes are within 15 miles downstream of the site (B & V 1993)

Approximately 993 persons obtain drinking water from private residential wells The city of Decatur obtains water primarily from Lake Decatur located approximately four miles upstream (northeast) from the site and serves a population of approximately 98 081 persons Two drift wells are used to supplement the water supply These wells are drilled to a depth of 244 to 255 feet BGS and are located approximately 18 miles northeast of the site (IEPA 1990) The town of Harristown Illinois utilizes one auxiliary well located 2 miles northwest of the site between the towns of Niantic and Harristown The depth of the auxiliary well is unknown Harristown also utilizes water from the Decatur water wells (Tucker 1995)

5 1 2 Groundwater Releases

Currently one monitoring well is located in the northwestern portion of the site This well was tested by IEPA in 1987 Tetrachloroethene and bis(2-ethylhexyl)phthalate (a typical laboratory contaminant) were encountered at low concentrations Since operations on site have ceased for three years a release of hazardous substances from the Waste Hauling Inc site to groundwater is unlikely Although landfill Areas 1 and 2 are unlined and the underlying soils are highly permeable a clay-lined leachate collection system is now present around these landfill areas Evidence of on site hazardous waste disposal has not been documented for these two areas In 1992 one incident of hazardous waste disposal occurred

in Area 3 but this area is lined with clay (Brown 1995) Leachate sample L101 collected by IEPA in 1992 however contained petroleum related compounds and pesticides at low concentrations (IEPA 1992)

An engineered clay liner exists beneath Area 3 and an engineered clay liner leachate collection system exists around the perimeter of Areas 1 and 2 Based upon the groundwater sampling results tetrachloroethene and bis(2 ethylhexyl)phthalate exist at low concentrations The concentration of tetrachlorethane was below U S Environmental Protection Agency [U S EPA] Maximum Contaminant Levels (MCLs) (U S EPA 1994) The Waste Hauling Inc site is underlain by permeable sands gravels and till soils that allow for infiltration however the engineered liner systems present underneath Area 3 and around Areas 1 and 2 are designed to prevent and/or decrease the amount of potential contaminant leaching

5 1 3 Targets

Approximately 993 persons within a 4 mile radius of the site obtain drinking water from private residential wells (B & V 1993) The 98 081 residents of Decatur utilize surface water from Lake Decatur which is located approximately 6 six miles northeast of the Waste Hauling Inc site (IEPA 1990) The town of Harristown receives water from an auxiliary well located approximately 2 miles northwest of the site Harristown also receives water drawn from Decatur s municipal wells (Tucker 1995) It is unknown what water systems are used to feed livestock and to water agricultural lands

5 2 SURFACE WATER MIGRATION PATHWAY

A release of hazardous substances to the Sangamon River is likely Leachate was observed in the intermittent drainage stream during both the 1987 IEPA SI and the E & E 1995 site reconnaissance visit (IEPA 1987 E & E 1995a) Samples collected from the monitoring well and intermittent stream in 1987 contained TAL/TCL compounds however the landfill area from which these contaminants originated is unknown Contaminants encountered in the E & E 1995 sediment and surface water samples did not contain the same chemical constituents as those encountered in IEPA 1992 leachate samples or in groundwater and on site soil samples During the IEPA 1992 SI and the E & E 1995 site reconnaissance however leachate seeps were identified at various points on the eastern side of Area 3 and

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leachate was observed flowing into the excavated area that drains into the intermittent stream (IEPA 1992 E & E 1995)

The Sangamon River is a state recognized fishery and potential contamination targets include persons who use the Sangamon River for fishing (Illinois Department of Conservation [IDOC] 1994) No drinking water intakes are known to exist along the Sangamon River within 15 miles downstream of the site

The Lincoln Trail Homestead State Park is located 2 miles downstream of the site and palustrine forested wetlands exist adjacent to the Sangamon River 0 25 mile north of the Waste Hauling Inc site and continue along the river front downstream of the site (U S Department of Interior [USDI] 1988) Threatened and endangered species that potentially live in Macon County could be exposed to contaminants via dermal contact and incidental ingestion of surface water/sediments in the vicinity of the site See Appendix E for a listing of threatened and endangered species in Macon County (IEPA 1994)

5 3 SOIL EXPOSURE PATHWAY

A release of hazardous substance to on site soils is likely based on site conditions The site however is inactive and analytical results of sediments sample collected from the IEPA 1987 SI contained TAL/TCL chemicals During the E & E 1995 site reconnaissance inspection leachate stained soils were observed leading into an excavated pond area between Areas 1 and 3 but the water in the ditch was not discolored (E & E 1995a) Although the Waste Hauling Inc site is not fenced the main gate across the site driveway is closed and locked The driveway extends approximately 0 25 mile east from Cantrell Road Residents adjacent to the site are not subject to on-site contamination because the landfill areas are excavated below the elevation of the residences The site in the past has been cleaned up and covered therefore on site workers which attend to the site for on-site maintenance are not likely to be subject to hazardous contamination The site itself is located in a very remote area Trespassers would be required to travel across extensive agricultural fields wooded areas or residential backyards in order to reach the site The landfill areas are covered with a required six inches of topsoil which is partially covered with indigenous vegetation and no signs of trespassing were documented during the E & E 1995 site reconnaissance inspection (E & E 1995) Wetlands and forests are the sensitive environments that exist in the vicinity of the site that could be affected by on site soil contamination Threatened and endangered

species that potentially exist in Macon County could come into contact with on site soils and be exposed to contaminants via dermal contact and incidental ingestion (IDEC 1992 IEPA 1994) See Appendix E for a listing of threatened and endangered species in Macon County

5 4 AIR MIGRATION PATHWAY

A release of hazardous substances to air is unlikely Although general methane type odors were observed during the E & E 1995 site reconnaissance inspection air monitoring using an Organic Vapor Analyzer (OVA) during the inspection did not indicate the presence of volatile organic compounds (VOCs) in the soil (E & E 1995a) Surrounding residents had filed complaints of odors with regulatory agencies in the past however no recent complaints have been submitted regarding the landfill in its current condition (E & E 1995) A few workers occasionally visit the site to maintain the landfill areas (Brown 1995) No engineering controls to monitor air emissions have been documented in the literature and since the site is closed no air related releases have been documented (Brown 1995)

The population surrounding the site is approximately 100 persons (E & E 1995a)

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6 SUMMARY

The Waste Hauling Inc site served as a landfill from 1972 until 1992 Landfill Areas 1 and 2 were closed in 1980 when the site was owned by Mr Paul McKinney Landfill Area 3 is not yet closed but it has been inactive since 1992 On site sediment and surface water samples collected by IEPA in 1987 and leachate samples collected by IEPA in 1992 indicated the presence of contamination suggesting that the intermittent stream that runs north from the Waste Hauling Inc landfill areas could serve as a migration route into the Sangamon River An observed release into the Sangamon River was documented during the IEPA site sampling visits in 1987 and 1992

A release to groundwater is likely however the population that utilizes private wells within a mile is small The on site groundwater sample collected during the IEPA 1987 SI did not contain constituents that were also encountered in the surface water sample thereby demonstrating that the downward migration of surface contaminants to the groundwater table was not occurring (IEPA 1987) The five residents located south of the Waste Hauling Inc site have private residential wells but area groundwater flows northwest towards the Sangamon River (IEPA 1990) No sampling was conducted at these wells during the 1987 or 1992 sampling efforts therefore groundwater contamination has not been documented

Both the cities of Decatur and Harristown are located upstream of the site Decatur residents obtain drinking water from Lake Decatur and municipal wells Harristown residents obtain drinking water from Decatur municipal wells and from an auxiliary well located approximately two miles northwest of the site (Tucker 1995)

A release of hazardous substances to surface water was documented because leachate was observed to flow from Area 3 towards an excavation pond adjacent to Areas 1 and 3 No distinct surface water barriers exist around landfill Area 3 but a clay lined leachate collection

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system is present around Landfill Areas 1 and 2 However current contaminant loading into the Sangamon River is unlikely because the on site stream is intermittent and does not flow to the Sangamon River year round and the Waste Hauling Inc site is inactive

Leachate seeps currently flow into the excavation pond area but it is difficult to ascertain the volume of water that enters the intermittent stream frcm the pond and whether these petroleum related compounds are present in high concentrations by the time they enter the intermittent stream Laboratory analysis of the leachate by IEPA in 1992 demonstrated that the contaminant concentrations of all petroleum constituents are low Polynuclear aromatic hydrocarbons (PAHs) such as phenanthrene anthracene fluoranthene pyrene benzo(a)anthracene and benzo(g h i)perylene were encountered in sediment sample WHS1 located downstream of the confluence of the intermittent stream and the oxbow to the Sangamon River The surface water WHSW1 collected at this location contain 1 2 dichloroethene (1 2 DCE) 2 butanone bromodichloromethane and bis(2 ethylhexyl)phthalate 1 2 DCE bis(2 ethylhexyl)phthalate phenanthrene and pyrene were encountered in IEPA groundwater sample G101

The Lincoln Trail Homestead State Park is approximately 2 miles southwest of the Waste Hauling Inc site (B & V 1993) However because of the park s potential distance from the Sangamon River this terrestrial area may not be affected by contamination encountered in the Sangamon River Wetlands located north and downstream of the site were sampled and analytical results indicated the presence of contaminant constituents that were also encountered in groundwater samples Therefore sensitive environments could potentially be affected by on site contaminants

Wetlands and forests exist along the Sangamon River Threatened and endangered species which potentially exist in Macon County could be exposed to contaminants via dermal contact or incidental ingestion of contaminants in surface water and/or sediments of the Sangamon River (IDEC 1992 IEPA 1994)

A release of hazardous substances to on site soils is likely based on past site conditions due to leachate flows out of landfill Area 3 The Waste Hauling Inc site is not fenced but a locked gate is present in the access driveway located north of West Rock Springs Road The nearest residences are southwest adjacent to the site however the elevation of the site is lower than that of the surrounding residential area On site workers and trespassers could be exposed to on site contaminants via dermal sol exposure and

incidental soil ingestion On site soil samples were not collected during the E & E TAT 1995 site reconnaissance and sampling effort to document the presence of contamination in the soil media Leachate samples however contained petroleum related compounds that have stained the soil and therefore provide an exposed contaminant soil surface area Only a few workers visit the site occasionally in order to perform maintenance duties at the site The site is also located in a remote rural area whereby few potential trespassers would pass the site Wetlands and forests exist along the Sangamon River Threatened and endangered species which potentially exist in Macon County may be exposed to contaminants via dermal contact or incidental ingestion of contaminants in surface water and/or sediments of the Sangamon River (IDEC 1992 IEPA 1994)

A release of hazardous substances to air is unlikely A few workers are currently visiting the site however the site itself is closed There is no past or current documentation of an air release of on site contaminants into the environment that could affect the wetlands that exist in the vicinity of the site No other defined sensitive environments or endangered species exist within the vicinity of the site (IEPA 1994)

The Waste Hauling Inc site is inactive and therefore does not provide a source that could continue to contaminate soils sediments surface water and groundwater at the site A small population utilizes groundwater from the aquifer underlying the site however the majority of surrounding residents obtain drinking water from sources 4 to 6 miles upstream of the site One terrestrial state park exists within 2 miles downstream of the site and wetlands exist due north and downstream of the site along the Sangamon River (B & V 1993 USDI 1988)

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7 REFERENCES

References not included in Appendix F documents that are currently available within U S EPA files copyrighted documents that are currently available in E & E s library maps produced by either the United States Geological Survey or the Illinois State Geological Survey and documents that are created by the various state agencies for public use

Anonymous 1991 Addendum to Form LPC PA15 Waste Hauling Landfill Site No 1158010001 March 1991

B & V Waste Science and Technology Corp (B & V) 1993 Screening Site Inspection Final Report for Rueben Murrell Site Chicago Illinois

Brown B 1995 Waste Hauling Inc telephone conversation contacted by Alix Rauschman of E & E April 26 and April 27 1995

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_____ 1995a site sampling and reconnaissance performed by Alix Rauschman and Linda Knorz of the Waste Hauling Inc site on August 1 1995

Gerard R and Burger D 1992 Enforcement Referral Memorandum written to the Land Enforcement Decision Group June 19 1992

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_____ 1992 Landfill Inspection Report Narrative Springfield Illinois

_____ 1990 CERCLA Preliminary Assessment Report EPA ILD NO 980901540 Springfield Illinois

_____ 1987 *Site Inspection Report Waste Hauling Inc* EPA ID NO ILD000671073 Springfield Illinois

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Kempton J P W J Morse and A P Visocky June 1982 Hydrogeological Evaluation of Sand and Gravel Aquifers for Municipal Groundwater Supplies in East Central Illinois, Illinois State Geological Survey, Champaign, Illinois

Page K 1987 Memorandum of the June 16 1987 Site Inspection of the Waste Hauling Landfill IEPA Division File June 16 1987

Student J D R Piskin L J Withers and J Dickman 1981 Aquifers of Illinois Underground Sources of Drinking Water and Non Drinking Water IEPA Springfield Illinois

United States Environmental Protection Agency (U S EPA) 1994 Superfund Chemical Data Matrix Office of Solid Waste and Emergency Response EPA 540-R-94-009 Washington D C

Tucker L 1995 Harristown City Hall telephone conversation contacted by Alix Rauschman of E & E on May 8 1995

Turner J 1991 IEPA Inspection Update written on October 15 1991

Zierath W E 1992 Memorandum to the Land Division in regards to the Waste Hauling Inc Landfill April 22 1992

APPENDIX A

SITE PHOTOGRAPHS

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Date: 4/12/95 Time: 14:00 Direction: SW
Site Name: Waste Hauling, Inc. 2
Comments: Area 1 on left; Area 3 on right.

Date: 4/12/95 Time: 14:15 Direction: NNE
Site Name: Waste Hauling, Inc. 1
Comments: Point of entry of drainage stream to the Sangamon River oxbow.

Date: 4/12/95 Time: 14:20 Direction: SW
Site Name: Waste Hauling, Inc. 4
Comments: Area 3.

Date: 4/12/95 Time: 14:36 Direction: NNW
Site Name: Waste Hauling, Inc. 3
Comments: Southern face of Area 3.

Date: 4/12/95 Time: 14:35 Direction: NW
Site Name: Waste Hauling, Inc. 6
Comments: Source of leachate on eastern side of Area 3.

Date: 4/12/95 Time: 14:15 Direction:NNW
Site Name: Waste Hauling, Inc. 5
Comments: Drainage stream leading to oxbow of Sangamon River.

Date: 4/12/95 Time: 14:35 Direction: E
Site Name: Waste Hauling, Inc. 8

Date: 4/12/95 Time: 14:35 Direction: NW
Site Name: Waste Hauling, Inc. 7

Date: 4/12/95 Time: 14:35 Direction: NW
Site Name: Waste Hauling, Inc. 10
Comments: Point of entry where leachate from Area 3 enters the pond from road.

Date: 4/12/95 Time: 14:25 Direction: N
Site Name: Waste Hauling, Inc. 9
Comments: Road with leachate between Area 3 and ponded area next to Area 1 on right.

Date: 4/12/95 Time: 14:05 Direction: N
Site Name: Waste Hauling, Inc. 12
Comments: Southern edge of Area 3.

Date: 4/12/95 Time: 14:35 Direction: NE
Site Name: Waste Hauling, Inc. 11
Comments: Ponded area with Areas 1 and 2 in the background.

Date: 4/12/95 Time: 14:05 Direction: NE
Site Name: Waste Hauling, Inc. 14
Comments: Southern edge of Area 3.

Date: 4/12/95 Time: 14:15 Direction: W
Site Name: Waste Hauling, Inc. 13
Comments: Area 3 with farmland west.

4-12-95 roll #2, Frame #4
@ 1435
Waste Hauling
ESIP program
- Facing East
- Showing leachate stained erosion
channel entering the pond/excavation
from the Eastern side of main
Fill area.

Date: 4/12/95 Time: 14:06 Direction: W
Site Name: Waste Hauling, Inc. 15

APPENDIX B

1987 IEPA SI SAMPLING ANALYTICAL RESULTS

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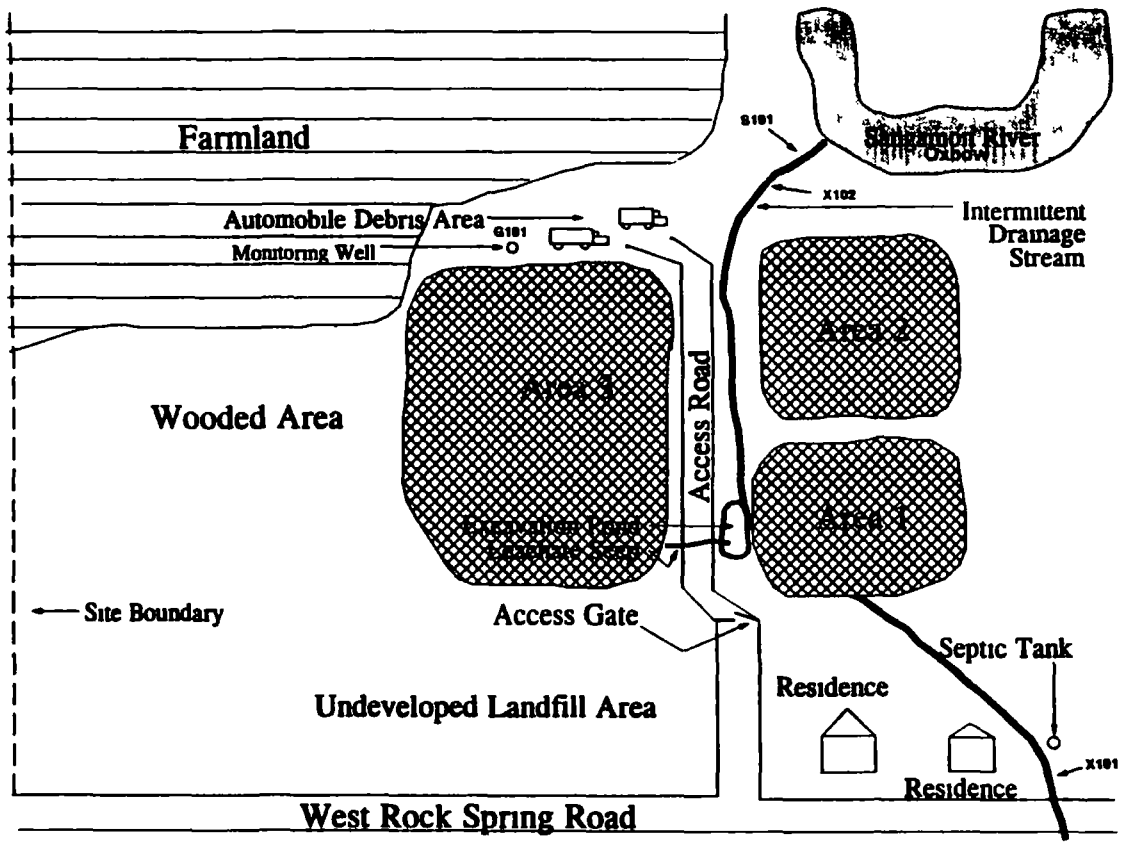

ecology and environment, inc
Technical Assistance Team
Region V

TITLE Sediment/surface water locations	FIGURE # NA
SITE Waste Hauling Inc	TDD# T05 9503-249
CITY Decatur STATE Illinois	SCALE Not to scale
SOURCE Ecology and Environment Inc	DATE 1995 REVISED ---

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Organics Analysis Data Sheet
(Page 1)

Sample Number MB01

Laboratory Name ENVIRODYNE
Lab Sample ID No FRMB6414
Sample Matrix WATER
Data Release Authorized By

Case No 00014
QC Report No —
Contract No —
Date Sample Received —

Volatile Compounds

Concentration LOW
Date Extracted/Prepared
Date Analyzed 6-29-87
Conc/Dil Factor 1

CAS No		ug/l	CAS No		ug/l
74 87 3	Chloromethane	10 U	78 87 5	1 2 Dichloropropane	5 U
74 83 9	Bromomethane	10 U	10061 02 6	trans 1 3 Dichloropropene	5 U
75 01 4	Vinyl Chloride	10 U	79 01 6	Trichloroethene	5 U
75 00 3	Chloroethane	10 U	124 48 1	Dibromochloromethane	5 U
75 09 2	Methylene Chloride	12 B	79 00 5	1 1 2 Trichloroethane	5 U
67 64 1	Acetone	20 B	71 43 2	Benzene	5 U
75 15 0	Carbon Disulfide	5 U	10061 01 5	cis 1 3 Dichloropropene	5 U
75 35 4	1 1 Dichloroethene	5 U	110 75 8	2 Chloroethylvinylether	10 U
75 34-3	1 1 Dichloroethane	5 U	75 25 2	Bromoform	5 U
156 60 5	trans 1 2 Dichloroethene	5 U	108 10 1	4 Methyl 2 pentanone	10 U
67 66-3	Chloroform	5 U	591 78 6	2 Hexanone	10 U
107 06 2	1 2 Dichloroethane	5 U	127 18 4	Tetrachloroethene	5 U
78 93 3	2 Butanone	10 U	79 34 5	1 1 2 2 Tetrachloroethane	5 U
71 55 6	1 1 1 Trichloroethane	5 U	108 88 3	Toluene	5 U
56 23 5	Carbon Tetrachloride	5 U	108 90 7	Chlorobenzene	5 U
108 05 4	Vinyl Acetate	10 U	100 41 4	Ethylbenzene	5 U
75 27 4	Bromodichloromethane	5 U	100 42 5	Styrene	5 U
				Total Xylenes	5 U

Data Reporting Qualifiers

VALUE
If the result is a value greater than or equal to the detection limit report the value

U
Indicates compound was analyzed for but not detected Report the minimum detection limit for the sample with the U (eg 10U) based on necessary concent /dilution action (This is not necessarily the instrument detection limit) The footnote should read U Compound was analyzed for but not detected The number is the minimum attainable detection limit for the sample

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

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

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

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

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Laboratory Name ENVIRODYNE
Case No 00016

Sample Number MB01

Organics Analysis Data Sheet
(Page 2)

Semivolatile Compounds

Concentration LOW
Date Extracted/Prepared 6-18-87
Date Analyzed 7-1-87
Conc/Dil Factor 1
Percent Moisture (decanted) 0

GPC Cleanup NO
Sep Funnel Extraction YES NO (circle one)
Contin Liq -Liq Ext YES NO (circle one)

CAS No		ug/kg	CAS No		ug/kg
108 95 2	Phenol	330 U	83 32 9	Acenaphthene	330 U
111 44 4	bis (2 Chloroethyl)ether	330 U	51 28 5	2 4 Dinitrophenol	1600 U
95 57 8	2 Chlorophenol	330 U	100 02 7	4 Nitrophenol	1600 U
541 73 1	1 3 Dichlorobenzene	330 U	132 64 9	Dibenzofuran	330 U
106 46 7	1 4 Dichlorobenzene	330 U	121 14 2	2 4 Dinitrotoluene	330 U
100 51 6	Benzyl Alcohol	330 U	606 20 2	2 6 Dinitrotoluene	330 U
95 50 1	1 2 Dichlorobenzene	330 U	84 66 2	Diethyl phthalate	330 U
95 48 7	2 Methylphenol	330 U	7005 72 3	4 Chlorophenyl phenyl ether	330
39638 32 9	bis (2 Chloroisopropyl)ether	330 U	86 73 7	Fluorene	
106 44 5	4 Methylphenol	330 U	100 01 6	4 Nitroaniline	
621 64 7	N nitroso Di n propylamine	330 U	534 52 1	4 6 Dinitro 2 Methylphenol	1600 U
67 72 1	Hexachloroethane	330 U	86 30 6	N nitrosodiphenylamine (1)	330 U
98 95 3	Nitrobenzene	330 U	101 55 3	4 Bromophenyl phenyl ether	330 U
78 59 1	Isophorone	330 U	118-74 1	Hexachlorobenzene	330 U
88 75 5	2 Nitrophenol	330 U	87 86-5	Pentachlorophenol	1600 U
105 67 9	2 4 Dimethylphenol	330 U	85 01-8	Phenanthrene	330 U
65 85 0	Benzoic Acid	1600 U	120-12 7	Anthracene	330 U
111 91 1	bis-(Chloroethoxy)Methane	330 U	84 74 2	Di n butyl phthalate	330 U
120 83 2	2 4 Dichlorophenol	330 U	206 44 0	Fluoranthene	330 U
120 82 1	1 2 4 Trichlorobenzene	330 U	129 00 0	Pyrene	330 U
91 20 3	Naphthalene	330 U	85 68 7	Butyl benzyl phthalate	330 U
106 47 8	4 Chloroaniline	330 U	91 94-1	3 3 Dichlorobenzidine	660 U
87 68 3	Hexachlorobutadiene	330 U	56 55 3	Benzo(a)anthracene	330 U
59 50 7	4 Chloro 3 methylphenol	330 U	117 81 7	bis (2 Ethylhexyl)phthalate	330 U
91 57 6	2 Methylnaphthalene	330 U	218 01 9	Chrysene	330 U
77-47 4	Hexachlorocyclopentadiene	330 U	117 84 0	Di n octyl phthalate	330 U
88 06 2	2 4 6 Trichlorophenol	330 U	205 99 2	Benzo(b)fluoranthene	330 U
95 95 4	2 4 5 Trichlorophenol	1600 U	207 08 9	Benzo(k)fluoranthene	330 U
91 58 7	2 Chloronaphthalene	330 U	50 32 8	Benzo(a)pyrene	330 U
88 74 4	2 Nitroaniline	1600 U	193 39 5	Indeno(1 2 3 cd)pyrene	330 U
131 11 3	Dimethyl phthalate	330 U	53 70 3	Dibenzo(a h)anthracene	330 U
208 96 8	Acenapthylene	330 U	191 24 2	Benzo(ghi)perylene	330 U
99 09 2	3 Nitroaniline	1600 U			

(1)-Cannot be separated from diphenylamine

000003

FORM 1

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
Contract Laboratory Services

LAB
NAME : Envirodyne Engineers, Inc.

CASE # : 3132-00016

SAMPLE NUMBER
1MB01

ORGANICS ANALYSIS DATA SHEET
SOIL SAMPLES
Tentatively Identified Compounds

	CAS NUMBER	COMPOUND NAME	FRACTION	RT (min.)	ESTIMATED CONC. (ug/kg)
1	96480	2(3H)-Furanone, dihydro-	BNA	6.95	7352
2		Unknown	BNA	7.23	11334
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

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Laboratory Name ENVIRODYNE
Case No 00016

| Sample Number MB01 |

Organics Analysis Data Sheet
(Page 3)

Pesticides & PCB s

Concentration LOW
Date Extracted/Prepared
Date Analyzed
Conc/Dil Factor 1

GPC Cleanup NO
Sep Funnel Extraction YES NO (circle one)
Contin Liq -Liq Ext YES NO (circle one)

CAS No		ug/l
319 84 6	Alpha BHC	0 05 U
319 85 7	Beta BHC	0 05 U
319 86 8	Delta BHC	0 05 U
58 89 9	Gamma BHC (Lindane)	0 05 U
76 44 8	Heptachlor	0 05 U
309 00 2	Aldrin	0 05 U
1024 57 3	Heptachlor Epoxide	0 05 U
959-98 0	Endosulfan I	0 05 U
60 57 1	Dieldrin	0 10 U
72 55 9	4 4 -DDE	0 10 U
72 20 8	Endrin	0 10 U
33213 65 9	Endosulfan II	0 10 U
72 54 8	4 4 DDD	0 10 U
1031 07 8	Endosulfan Sulfate	0 10 U
50 29 3	4 4 DDT	0 10 U
72 43 5	Methoxychlor	0 50 U
53494 70-5	Endrin Ketone	0 10 U
57 74-9	Chlordane	0 50 U
8001-35-2	Toxaphene	1 0 U
12674 11-2	Aroclor 1016	0 50 U
11104 28 2	Aroclor 1221	0 50 U
53469 21 9	Aroclor 1232	0 50 U
53469 21 9	Aroclor 1242	0 50 U
12672 19 6	Aroclor 1248	0 50 U
11097 69 1	Aroclor 1254	1 0 U
11096 82 5	Aroclor 1260	1 0 U

Vi = Volume of extract injected (ul)
Vs Volume of water extracted (ml)
Vt = Volume of total extract (ul)

Vs = 1 000 ml Vt = 10 000 ul Vi = 2 0

FORM 1

Organics Analysis Data Sheet
(Page 1)

Sample Number MB01

Laboratory Name ENVIRODYNE
Lab Sample ID No FRNB6424
Sample Matrix SOIL
Data Release Authorized By

Case No 00816
QC Report No —
Contract No —
Date Sample Received —

Volatile Compounds

Concentration LOW
Date Extracted/Prepared 0
Date Analyzed 6-27-87
Conc/Dil Factor 1
Percent Moisture (not decanted) 0

CAS No		ug/kg	CAS No		ug/kg
74 87-3	Chloromethane	10 U	78 87 5	1 2 Dichloropropane	5 U
74 83 9	Bromomethane	10 U	10061 02 6	trans 1 3 Dichloropropene	5 U
75 01 4	Vinyl Chloride	10 U	79 01 6	Trichloroethene	5 U
75 00 3	Chloroethane	10 U	124 48 1	Dibromochloromethane	5 U
75 09 2	Methylene Chloride	2 BJ	79 00 5	1 1 2 Trichloroethane	5 U
67 64 1	Acetone	10 U	71 43 2	Benzene	5 U
75 15 0	Carbon Disulfide	5 U	10061 01 5	cis 1 3 Dichloropropene	5 U
75 35 4	1 1 Dichloroethene	5 U	110 75 8	2 Chloroethylvinylether	10 U
75 34 3	1 1 Dichloroethane	5 U	75 25 2	Bromoform	5 U
156 60 5	trans 1 2 Dichloroethene	5 U	108 10 1	4 Methyl 2 pentanone	10 U
67 66 3	Chloroform	5 U	591 78 6	2 Hexanone	10 U
107 06-2	1 2 Dichloroethane	5 U	127-18 4	Tetrachloroethene	5 U
78 93 3	2 Butanone	10 U	79 34 5	1 1 2 2 Tetrachloroethane	5 U
71 55 6	1 1 1 Trichloroethane	5 U	108 88 3	Toluene	5 U
56-23 5	Carbon Tetrachloride	5 U	108 90 7	Chlorobenzene	5 U
108 05 4	Vinyl Acetate	10 U	100 41 4	Ethylbenzene	5 U
75 27 4	Bromodichloromethane	5 U	100 42 5	Styrene	5 U
				Total Xylenes	5 U

Data Reporting Qualifiers

VALUE
If the result is a value greater than or equal to the detection limit report the value

U
Indicates compound was analyzed for but not detected Report the minimum detection limit for the sample with the U (eg 10U) based on necessary concent /dilution action (This is not necessarily the instrument detection limit) The footnote should read U Compound was analyzed for but not detected The number is the minimum attainable detection limit for the sample

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

C
This flag applies to pesticide parameters where the identific tion was confirmed by GC/MS Single component pesticides) 10 ng/ul in the final extract should be confirmed by GC/MS

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

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

000012

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ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
Contract Laboratory Services

LAB NAME Envirodyne Engineers, Inc

CASE # 3132-16

SAMPLE NUMBER
[illegible]03

ORGANICS ANALYSIS DATA SHEET
SOIL SAMPLES
Tentatively Identified Compounds

	CAS NUMBER	COMPOUND NAME	FRACTION	RT (min)	ESTIMATED CONC (ug/kg)
1		No peaks for t S	VOA		
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
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19					
20					
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22					
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25					
26					
27					
28					
29					
30					

Laboratory Name ENVIRODYNE
Case No 00016

Sample Number MB02

Organics Analysis Data Sheet
(Page 2)

Semivolatile Compounds

Concentration MEDIUM
Date Extracted/Prepared 6-18-87
Date Analyzed 7-1-87
Conc/Dil Factor 1
Percent Moisture (decanted) 0

GPC Cleanup NO
Sep Funnel Extraction YES NO (circle one)
Contin Liq -Liq Ext YES NO (circle one)

CAS No		ug/kg	CAS No		ug/kg
108 95 2	Phenol	20000 U	83 32 9	Acenaphthene	20000
111 44 4	bis (2 Chloroethylether	20000 U	51 28 5	2 4 Dinitrophenol	96000
95 57 8	2 Chlorophenol	20000 U	100 02 7	4 Nitrophenol	96000
541 73 1	1 3 Dichlorobenzene	20000 U	132 64 9	Dibenzofuran	20000
106 46 7	1 4 Dichlorobenzene	20000 U	121 14 2	2 4 Dinitrotoluene	20000
100 51 6	Benzyl Alcohol	20000 U	606 20 2	2 6 Dinitrotoluene	20000
95 50 1	1 2 Dichlorobenzene	20000 U	84 66 2	Diethyl phthalate	20000
95 48 7	2 Methylphenol	20000 U	7005 72 3	4 Chlorophenyl phenyl ether	20000
39638 32 9	bis (2 Chloroisopropyl)ether	20000 U	86 73 7	Fluorene	20000
106 44 5	4 Methylphenol	20000 U	100 01 6	4 Nitroaniline	96000
621 64 7	N nitroso Di n propylamine	20000 U	534 52 1	4 6 Dinitro 2 Methylphenol	96000
67 72 1	Hexachloroethane	20000 U	86 30 6	N nitrosodiphenylamine (1)	20000
98 95 3	Nitrobenzene	20000 U	101 55 3	4 Bromophenyl phenyl ether	20000
78 59 1	Isophorone	20000 U	118 74 1	Hexachlorobenzene	20000
88 75 5	2 Nitrophenol	20000 U	87 86 5	Pentachlorophenol	96000
105 67 9	2 4 Dimethylphenol	20000 U	85 01 8	Phenanthrene	20000
65 85 0	Benzoic Acid	96000 U	120 12 7	Anthracene	20000
111 91 1	bis (Chloroethoxy)Methane	20000 U	84 74 2	Di n butyl phthalate	20000
120 83 2	2 4 Dichlorophenol	20000 U	206-44 0	Fluoranthene	20000
120 82 1	1 2 4 Trichlorobenzene	20000 U	129 00 0	Pyrene	20000
91 20 3	Naphthalene	20000 U	85 68 7	Butyl benzyl phthalate	20000
106 47 8	4-Chloroaniline	20000 U	91 94 1	3 3 Dichlorobenzidine	40000
87 68 3	Hexachlorobutadiene	20000 U	56 55 3	Benzo(a)anthracene	20000
59 50 7	4 Chloro 3 methylphenol	20000 U	117 81 7	bis (2 Ethylhexyl)phthalate	140 B
91 57 6	2 Methylnaphthalene	20000 U	218 01 9	Chrysene	20000
77 47 4	Hexachlorocyclopentadiene	20000 U	117 84 0	Di n octyl phthalate	20000
88 06 2	2 4 6 Trichlorophenol	20000 U	205 99 2	Benzo(b)fluoranthene	20000
95 95 4	2 4 5 Trichlorophenol	96000 U	207 08 9	Benzo(k)fluoranthene	20000
91 58 7	2 Chloronaphthalene	20000 U	50 32 8	Benzo(a)pyrene	20000
88 74 4	2 Nitroaniline	96000 U	193 39 5	Indeno(1 2 3 cd)pyrene	20000
131 11 3	Dimethyl phthalate	20000 U	53 70 3	Dibenzo(a h)anthracene	20000
208 96 8	Acenaphthylene	20000 U	191 24 2	Benzo(ghi)perylene	20000
99 09 2	3 Nitroaniline	96000 U			

(1)-Cannot be separated from diphenylamine

00001

FORM 1

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ecology and n ıro nment

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
Contract Laboratory Services

LAB NAME : Envirodyne Engineers, Inc.

CASE # :

SAMPLE NUMBER
IMB02

ORGANICS ANALYSIS DATA SHEET
SOIL SAMPLES
Tentatively Identified Compounds

	CAS NUMBER	COMPOUND NAME	FRACTION	RT (min.)	ESTIMATED CONC. (ug/kg)
1	96480	2(3H)-Furanone, dihydro-	BNA	7 22	574
2		Unknown	BNA	7 32	946
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
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30					

Laboratory Name ENVIRODYNE
Case No 00016

Sample Number MB62

Organics Analysis Data Sheet
(Page 3)

Pesticides & PCB's

Concentration MEDIUM
Date Extracted/Prepared
Date Analyzed
Conc/Dil Factor 1
Percent Moisture (decanted) 0

GPC Cleanup NO
Sep Funnel Extraction YES NO (circle one)
Contin Liq -Liq Ext YES NO (circle one)

CAS No		ug/kg	
319 84 6	Alpha BHC	120 U	
319 85 7	Beta BHC	120 U	
319 86 8	Delta BHC	120 U	
58 89 9	Gamma BHC (Lindane)	120 U	
76 44 8	Heptachlor	120 U	
309 00 2	Aldrin	120 U	
1024 57 3	Heptachlor Epoxide	120 U	
959 98 8	Endosulfan I	120 U	
60 57 1	Dieldrin	240 U	
72 55 9	4 4 DDE	240 U	
72 20 8	Endrin	240 U	
33213 65 9	Endosulfan II	240 U	
72 54 8	4 4 DDD	240 U	
1031 07 8	Endosulfan Sulfate	240 U	
50 29 3	4 4 DDT	240 U	
72 43 5	Methoxychlor	1200	U
53494 70-5	Endrin Ketone	240 U	
57 74 9	Chlordane	1200	U
8001 35 2	Toxaphene	2400	U
12674 11 2	Aroclor 1016	1200	U
11104 28 2	Aroclor 1221	1200	U
53469 21 9	Aroclor 1232	1200	U
53469 21 9	Aroclor 1242	1200	U
12672 29 6	Aroclor 1248	1200	U
11097 69 1	Aroclor 1254	2400	U
11096 82 5	Aroclor 1260	2400	U

Vi Volume of extract injected (ul)
Ws Weight of sample extracted (g)
Vt = Volume of total extract (ul)

Ws 1 g Vt = 10 000 ul Vi = 000010

FORM 1

Laboratory Name ENVIRODYNE
Case No 00016

Sample Number MB03

Organics Analysis Data Sheet
(Page 2)

Semivolatile Compounds

Concentration LOW
Date Extracted/Prepared 6-18-87
Date Analyzed 7-3-87
Conc/Dil Factor 1

GPC Cleanup NO
Sep Funnel Extraction YES NO (circle one)
Contin Liq -Liq Ext YES NO (circle one)

CAS No		ug/l	CAS No		ug/l
108-95 2	Phenol	10 U	83 32 9	Acenaphthene	10 U
111 44 4	bis (2 Chloroethyl)ether	10 U	51 28 5	2 4 Dinitrophenol	50 U
95 57 8	2 Chlorophenol	10 U	100 02 7	4 Nitrophenol	50 U
541 73 1	1 3 Dichlorobenzene	10 U	132 64 9	Dibenzofuran	10 U
106 46 7	1 4 Dichlorobenzene	10 U	121 14 2	2 4 Dinitrotoluene	10 U
100 51 6	Benzyl Alcohol	10 U	606 20 2	2 6 Dinitrotoluene	10 U
95 50 1	1 2 Dichlorobenzene	10 U	84 66 2	Diethyl phthalate	10 U
95 48 7	2 Methylphenol	10 U	7005 72 3	4 Chlorophenyl phenyl ether	10 U
39638 32 9	bis (2 Chloroisopropyl)ether	10 U	86 73 7	Fluorene	10 U
106 44 5	4 Methylphenol	10 U	100 01 6	4 Nitroaniline	*
621-64 7	N nitroso Di n propylamine	10 U	534 52 1	4 6 Dinitro 2 Methylphenol	
67 72 1	Hexachloroethane	10 U	86 30 6	N nitrosodiphenylamine (1)	10 U
98 95 3	Nitrobenzene	10 U	101 55 3	4 Bromophenyl phenyl ether	10 U
78 59 1	Isophorone	10 U	118 74 1	Hexachlorobenzene	10 U
88 75 5	2 Nitrophenol	10 U	87 86-5	Pentachlorophenol	50 U
105 67 9	2 4 Dimethylphenol	10 U	85 01 8	Phenanthrene	10 U
65 85 0	Benzoic Acid	50 U	120 12-7	Anthracene	10 U
111 91-1	bis (Chloroethoxy)Methane	10 U	84 74 2	Di n butyl phthalate	10 U
120-83 2	2 4 Dichlorophenol	10 U	206 44 0	Fluoranthene	10 U
120 82 1	1 2 4-Trichlorobenzene	10 U	129 00 0	Pyrene	10 U
91 20 3	Naphthalene	10 U	85 68 7	Butyl benzyl phthalate	10 U
106 47 8	4 Chloroaniline	10 U	91 94 1	3 3 Dichlorobenzidine	20 U
87 68 3	Hexachlorobutadiene	10 U	56 55-3	Benzo(a)anthracene	10 U
59 50 7	4 Chloro-3 methylphenol	10 U	117-81 7	bis (2 Ethylhexyl)phthalate	10 U
91 57 6	2 Methylnaphthalene	10 U	218 01 9	Chrysene	10 U
77 47 4	Hexachlorocyclopentadiene	10 U	117 84 0	Di n octyl phthalate	10 U
88 06 2	2 4 6 Trichlorophenol	10 U	205 99 2	Benzo(b)fluoranthene	10 U
95 95 4	2 4 5 Trichlorophenol	50 U	207 08 9	Benzo(k)fluoranthene	10 U
91 58 7	2 Chloronaphthalene	10 U	50 32 8	Benzo(a)pyrene	10 U
88 74 4	2 Nitroaniline	50 U	193 39 5	Indeno(1 2 3 cd)pyrene	10 U
131 11 3	Dimethyl phthalate	10 U	53 70 3	Dibenzo(a h)anthracene	10 U
208 96 8	Acenapthylene	10 U	191 24 2	Benzo(ghi)perylene	10 U
99 09 2	3 Nitroaniline	50 U			

(1)-Cannot be separated from diphenylamine

000017

FORM 1

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
Contract Laboratory Services

LAB NAME : Envirodyne Engineers, Inc.

CASE # : 3132-00016

SAMPLE NUMBER
IN003

ORGANICS ANALYSIS DATA SHEET
WATER SAMPLES
Tentatively Identified Compounds

	CAS NUMBER	COMPOUND NAME	FRACTION	RT (min.)	ESTIMATED CONC. (ug/l)
1		No peaks for L.S.	BNA		
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
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17					
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ec logy and environment

Laboratory Name ENVIRODYNE
Case No 00016

| Sample Number MB03 |

Organics Analysis Data Sheet
(Page 3)

Pesticides & PCB s

Concentration LOW
Date Extracted/Prepared
Date Analyzed
Conc/Dil Factor 1
Percent Moisture (decanted) 0

GPC Cleanup NO
Sep Funnel Extraction YES NO (circle one)
Contin Liq -Liq Ext YES NO (circle one)

CAS No		ugkg
319 84 6	Alpha BHC	8 0 U
319 85 7	Beta BHC	8 0 U
319 86 8	Delta BHC	8 0 U
58 89 9	Gamma BHC (Lindane)	8 0 U
76 44 8	Heptachlor	8 0 U
309 00 2	Aldrin	8 0 U
1024 57 3	Heptachlor Epoxide	8 0 U
959-98 8	Endosulfan I	8 0 U
60 57 1	Dieldrin	16 U
72-55 9	4 4 DDE	16 U
72 20 8	Endrin	16 U
33213 65 9	Endosulfan II	16 U
72 54 0	4 4 DDD	16 U
1031 07 8	Endosulfan Sulfate	16 U
50 29 3	4 4 DDT	16 U
72 43-5	Methoxychlor	80 U
53494 70 5	Endrin Ketone	16 U
57 74-9	Chlordane	80 U
8001 35-2	Toxaphene	160 U
12674 11 2	Aroclor 1016	80 U
11104 28 2	Aroclor 1221	80 U
53469 21 9	Aroclor 1232	80 U
53469 21-9	Aroclor 1242	80 U
12672 29 6	Aroclor 1248	80 U
11097 69 1	Aroclor 1254	160 U
11096 82 5	Aroclor 1260	160 U

Vi = Volume of extract injected (ul)
Ws Weight of sample extracted (g)
Vt = Volume of total extract (ul)

000019

Ws = 30 g Vt = 20 000 ul Vi = 2 0 ul

FORM 1

Organics Analysis Data Sheet
(Page 1)

Sample Number	TRAVEL BLK

Laboratory Name ENVIRODYNE
Lab Sample ID No 07003073
Sample Matrix WATER
Data Release Authorized By

Case No 00014
QC Report No —
Contract No —
Date Sample Received 6/17/87

Volatile Compounds

Concentration LOW
Date Extracted/Prepared
Date Analyzed 6-29-87
Conc/Dil Factor 1

CAS No		ug/l	CAS No		ug/l
74 87 3	Chloromethane	10 U	78 87 5	1 2 Dichloropropane	5 U
74 83 9	Bromomethane	10 U	10061 02 6	trans 1 3 Dichloropropene	5 U
75 01 4	Vinyl Chloride	10 U	79 01 6	Trichloroethene	5 U
75 00 3	Chloroethane	10 U	124 48 1	Dibromochloromethane	5 U
75 09 2	Methylene Chloride	12 B	79 00 5	1 1 2 Trichloroethane	5 U
67 64 1	Acetone	10 U	71 43 2	Benzene	5 U
75 15 0	Carbon Disulfide	5 U	10061 01 5	cis 1 3 Dichloropropene	5 U
75 35 4	1 1 Dichloroethene	5 U	110 75 8	2 Chloroethylvinylether	10 U
75 34 3	1 1 Dichloroethane	5 U	75 25 2	Bromoform	5 U
156 60 5	trans 1 2 Dichloroethene	5 U	108 10 1	4 Methyl 2 pentanone	10 U
67 66 3	Chloroform	5 U	591 78 6	2 Hexanone	10 U
107 06 2	1 2 Dichloroethane	5 U	127 18 4	Tetrachloroethene	5 U
78 93 3	2 Butanone	10 U	79 34-5	1 1 2 2 Tetrachloroethane	5 U
71 55 6	1 1 1 Trichloroethane	5 U	108 88 3	Toluene	1 J
56 23 5	Carbon Tetrachloride	5 U	108 90 7	Chlorobenzene	5 U
108 05 4	Vinyl Acetate	10 U	100 41 4	Ethylbenzene	5 U
75 27 4	Bromodichloromethane	5 U	100 42 5	Styrene	5 U
				Total Xylenes	5 U

Data Reporting Qualifiers

000020

VALUE
If the result is a value greater than or equal to the detection limit report the value

U
Indicates compound was analyzed for but not detected Report the minimum detection limit for the sample with the U (eg 10U) based on necessary concent /dilution action (This is not necessarily the instrument detection limit) The footnote should read U Compound was analyzed for but not detected The number is the minimum attainable detection limit for the sample

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

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

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

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

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
Contract Laboratory Services

LAB NAME: Envirodyne Engineers, Inc

CASE #: 3132-00014

SAMPLE NUMBER: TRAVEL BLK

ORGANICS ANALYSIS DATA SHEET
WATER SAMPLES
Tentatively Identified Compounds

	CAS NUMBER	COMPOUND NAME	FRACTION	RT (min)	ESTIMATED CONC (ug/l)
1		No peaks for I S	VOA		
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
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17					
18					
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29					
30					

000021

Organics Analysis Data Sheet
(Page 1)

Sample Number G101

Laboratory Name ENVIRODYNE
Lab Sample ID No 87003069
Sample Matrix WATER
Data Release Authorized By JJC

Case No 00016
QC Report No —
Contract No —
Date Sample Received 6/17/87

Volatile Compounds

Concentration LOW
Date Extracted/Prepared
Date Analyzed 6-29-87
Conc/Dil Factor 1

CAS No		ug/l	CAS No		ug/l
74 87 3	Chloromethane	10 U	78 87 5	1 2 Dichloropropane	5 U
74 83 9	Bromomethane	10 U	10061 02 6	trans 1 3 Dichloropropene	5 U
75 01 4	Vinyl Chloride	10 U	79 01 6	Trichloroethene	5 U
75 00 3	Chloroethane	10 U	124 48 1	Dibromochloromethane	5 U
75 09 2	Methylene Chloride	28 B	79 00 5	1 1 2 Trichloroethane	5 U
67 64 1	Acetone	40 B	71 43 2	Benzene	5 U
75 15 0	Carbon Disulfide	5 U	10061 01 5	cis 1 3 Dichloropropene	5 U
75 35 4	1 1 Dichloroethene	5 U	110 75 8	2 Chloroethylvinylether	10 U
75 34 3	1 1 Dichloroethane	5 U	75 25-2	Bromoform	5 U
156 60 5	trans 1 2 Dichloroethene	5 U	108 10 1	4 Methyl 2 pentanone	10 U
67 66 3	Chloroform	5 U	591 78 6	2 Hexanone	10 U
107 06 2	1 2 Dichloroethane	5 U	127 18 4	Tetrachloroethene	8 J
78 93 3	2 Butanone	10 U	79 34 5	1 1 2 2 Tetrachloroethane	5 U
71 55 6	1 1 1 Trichloroethane	5 U	108 88-3	Toluene	5 U
56 23 5	Carbon Tetrachloride	5 U	108 90 7	Chlorobenzene	5 U
108 05 4	Vinyl Acetate	10 U	100 41 4	Ethylbenzene	5 U
75 27 4	Bromodichloromethane	5 U	100 42 5	Styrene	5 U
				Total Xylenes	5 U

Data Reporting Qualifiers

VALUE
If the result is a value greater than or equal to the detection limit report the value

U
Indicates compound was analyzed for but not detected Report the minimum detection limit for the sample with the U (eg 10U) based on necessary concent /dilution action (This is not necessarily the instrument detection limit) The footnote should read U Compound was analyzed for but not detected The number is the minimum attainable detection limit for the sample

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

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

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

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

000022

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ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
Contract Laboratory Services

LAB NAME: Envirodyne Engineers, Inc

CASE #: 9132-08016

SAMPLE NUMBER: 16101

ORGANICS ANALYSIS DATA SHEET
WATER SAMPLES
Tentatively Identified Compounds

	CAS NUMBER	COMPOUND NAME	FRACTION	RT (min)	ESTIMATED CONC (ug/l)
1		No peaks for L S	VOA		
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
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28					
29					
30					

Laboratory Name ENVIRODYNE
Case No 00014

Sample Number G101

Organics Analysis Data Sheet
(Page 2)

Semivolatile Compounds

Concentration LOW
Date Extracted/Prepared 6-18-87
Date Analyzed 7-3-87
Conc/Dil Factor 1

GPC Cleanup NO
Sep Funnel Extraction YES NO (circle one)
Contin Liq -Liq Ext YES NO (circle one)

CAS No		ug/l
108 95 2	Phenol	10 U
111 44 4	bis (2 Chloroethyl)ether	10 U
95 57 8	2 Chlorophenol	10 U
541 73 1	1 3 Dichlorobenzene	10 U
106 46 7	1 4 Dichlorobenzene	10 U
100 51 6	Benzyl Alcohol	10 U
95 50 1	1 2 Dichlorobenzene	10 U
95 48 7	2 Methylphenol	10 U
39638 32 9	bis (2 Chloroisopropyl)ether	10 U
106 44 5	4 Methylphenol	10 U
621 64 7	N nitroso Di n propylamine	10 U
67 72 1	Hexachloroethane	10 U
98 95 3	Nitrobenzene	10 U
78 59 1	Isophorone	10 U
88 75 5	2 Nitrophenol	10 U
105 67 9	2 4 Dimethylphenol	10 U
65 85 0	Benzoic Acid	50 U
111 91-1	bis (Chloroethoxy)Methane	10 U
120 83 2	2 4 Dichlorophenol	10 U
120 82-1	1 2 4 Trichlorobenzene	10 U
91 20 3	Naphthalene	10 U
106 47 8	4 Chloroaniline	10 U
87 68 3	Hexachlorobutadiene	10 U
59 50 7	4-Chloro 3 methylphenol	10 U
91 57 6	2 Methylnaphthalene	10 U
77 47 4	Hexachlorocyclopentadiene	10 U
88 06 2	2 4 6 Trichlorophenol	10 U
95 95 4	2 4 5 Trichlorophenol	50 U
91 58 7	2 Chloronaphthalene	10 U
88 74 4	2 Nitroaniline	50 U
131 11 3	Dimethyl phthalate	10 U
208 96 8	Acenapthylene	10 U
99 09 2	3 Nitroaniline	50 U

CAS No		ug/l
83 32 9	Acenaphthene	10 U
51 28 5	2 4 Dinitrophenol	50 U
100 02-7	4 Nitrophenol	50 U
132 64 9	Dibenzofuran	10 U
121 14-2	2 4 Dinitrotoluene	10 U
606 20 2	2 6 Dinitrotoluene	10 U
84 66 2	Diethyl phthalate	10 U
7005 72 3	4 Chlorophenyl phenyl ether	10 U
86 73 7	Fluorene	10 U
100 01 6	4 Nitroaniline	50 U
534 52 1	4 6 Dinitro 2 Methylphenol	50 U
86 30 6	N nitrosodiphenylamine (1)	10 U
101 55-3	4 Bromophenyl phenyl ether	10 U
118 74 1	Hexachlorobenzene	10 U
87 86 5	Pentachlorophenol	50 U
85 01 0	Phenanthrene	10 U
120 12 7	Anthracene	10 U
84 74 2	Di n butyl phthalate	10 U
206 44 0	Fluoranthene	10 U
129 00 0	Pyrene	10 U
85 68 7	Butyl benzyl phthalate	10 U
91 94 1	3 3 Dichlorobenzidine	20 U
56 55 3	Benzo(a)anthracene	10 U
117 81 7	bis-(2 Ethylhexyl)phthalate	5 J
218 01 9	Chrysene	10 U
117 84 0	Di n octyl phthalate	10 U
205 99-2	Benzo(b)fluoranthene	10 U
207 08 9	Benzo(k)fluoranthene	10 U
50 32 8	Benzo(a)pyrene	10 U
193 39 5	Indeno(1 2 3 cd)pyrene	10 U
53 70 3	Dibenzo(a h)anthracene	10 U
191 24 2	Benzo(ghi)perylene	10 U

(1)-Cannot be separated from diphenylamine

00002

FORM 1

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cology and Environment

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
Contract Laboratory Services

LAB NAME : Envirodyne Engineers, Inc

CASE # : 3132-00016

SAMPLE NUMBER
16101

ORGANICS ANALYSIS DATA SHEET
WATER SAMPLES
Tentatively Identified Compounds

	CAS NUMBER	COMPOUND NAME	FRACTION	RT (min.)	ESTIMATED CONC. (ug/l)
1	60322	Hexanoic acid, 6-amino-	BNA	14 38	32
2		Unknown	BNA	20 25	11
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
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29					
30					

Laboratory Name ENVIRODYNE
Case No 00016

Sample Number G101

Organics Analysis Data Sheet
(Page 3)

Pesticides & PCB s

Concentration LOW
Date Extracted/Prepared
Date Analysed
Conc/Dil Factor 1

GPC Cleanup NO
Sep Funnel Extraction YES NO (circle one)
Contin Liq -Liq Ext YES NO (circle one)

CAS No		ug/l
319 84 6	Alpha BHC	0 05 U
319 85 7	Beta BHC	0 05 U
319 86 8	Delta BHC	0 05 U
58 89 9	Gamma BHC (Lindane)	0 05 U
76 44 8	Heptachlor	0 05 U
309 00 2	Aldrin	0 05 U
1024 57 3	Heptachlor Epoxide	0 05 U
959 98 8	Endosulfan I	0 05 U
60 57 1	Dieldrin	0 10 U
72 55 9	4 4 DDE	0 10 U
72 20 8	Endrin	0 10 U
33213 65 9	Endosulfan II	0 10 U
72 54 8	4 4 DDD	0 10 U
1031 07 8	Endosulfan Sulfate	0 10 U
50 29 3	4 4 DDT	0 10 U
72 43 5	Methoxychlor	0 50 U
53494 70 5	Endrin Ketone	0 10 U
57 74 9	Chlordane	0 50 U
8001-35-2	Toxaphene	1 0 U
12674 11 2	Aroclor 1016	0 50 U
11104 28 2	Aroclor 1221	0 50 U
53469 21 9	Aroclor 1232	0 50 U
53469 21 9	Aroclor 1242	0 50 U
12672 29 6	Aroclor 1248	0 50 U
11097 69 1	Aroclor 1254	1 0 U
11096 82 5	Aroclor 1260	1 0 U

Vi = Volume of extract injected (ul)
Vs Volume of water extracted (ml)
Vt = Volume of total extract (ul)

Vs = 1 000 ml Vt = 10 000 ul Vi = 2 0 ul

000020

FORM 1

Organics Analysis Data Sheet
(Page 1)

Sample Number S101

Laboratory Name ENVIRODYNE
Lab Sample ID No 87003070
Sample Matrix WATER
Data Release Authorized By MC

Case No 00016
QC Report No —
Contract No —
Date Sample Received 6/17/87

Volatile Compounds

Concentration LOW
Date Extracted/Prepared
Date Analyzed 6-29-87
Conc/Dil Factor 1

CAS No		ug/l
74 87 3	Chloromethane	10 U
74 83 9	Bromomethane	10 U
75 01 4	Vinyl Chloride	84
75 00 3	Chloroethane	10 U
75 09 2	Methylene Chloride	7 B
67 64 1	Acetone	10 U
75 15 0	Carbon Disulfide	5 U
75 35 4	1 1 Dichloroethene	5 U
75 34 3	1 1 Dichloroethane	70 J
156 60 5	trans 1 2 Dichloroethene	69
67 66 3	Chloroform	5 U
107 06-2	1 2 Dichloroethane	5 U
78 93 3	2 Butanone	10 U
71 55 6	1 1 1 Trichloroethane	5 U
56 23 5	Carbon Tetrachloride	5 U
108 05 4	Vinyl Acetate	10 U
75 27 4	Bromodichloromethane	5 U

CAS No		ug/l
78 87 5	1 2 Dichloropropane	5 U
10061 02 6	trans 1 3 Dichloropropene	5 U
79 01 6	Trichloroethene	2 J
124 48 1	Dibromochloromethane	5 U
79 00 5	1 1 2 Trichloroethane	5 U
71 43-2	Benzene	3 J
10061 01 5	cis 1 3 Dichloropropene	5 U
110 75 8	2 Chloroethylvinylether	
75 25-2	Bromoform	5 U
108 10 1	4 Methyl 2 pentanone	10 U
591 78 6	2 Hexanone	10 U
127 18 4	Tetrachloroethene	5 U
79 34-5	1 1 2 2 Tetrachloroethane	5 U
108 88 3	Toluene	5 U
108 90 7	Chlorobenzene	5 U
100 41 4	Ethylbenzene	5 U
100 42 5	Styrene	5 U
	Total Xylenes	5 U

Data Reporting Qualifiers

VALUE
If the result is a value greater than or equal to the detection limit report the value

U
Indicates compound was analyzed for but not detected Report the minimum detection limit for the sample with the U (eg 10U) based on necessary concent /dilution action (This is not necessarily the instrument detection limit) The footnote should read U Compound was analyzed for but not detected The number is the minimum attainable detection limit for the sample

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

C
This flag applies to pesticide parameters where the identification was confirmed by GC/MS Single component pesticides) 10 ng/ul in the final extract should be confirmed by GC/MS

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

OTHER
Other flags and footnotes may be required to properly define the results If used they must be fully described in a description attached to the data summary

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
Contract Laboratory Services

LAB NAME: Envirodyne Engineers, Inc

CASE #: 3132-00016

SAMPLE NUMBER: 18101

ORGANICS ANALYSIS DATA SHEET
WATER SAMPLES
Tentatively Identified Compounds

	CAS NUMBER	COMPOUND NAME	FRACTION	RT (min)	ESTIMATED CONC (ug/l)
1	60297	Ethane 1 1 oxybis	VOA	13 46	11
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
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21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

000026

Laboratory Name ENVIRODYNE
Case No 00016

Sample Number S101

Organics Analysis Data Sheet
(Page 2)

Semivolatile Compounds

Concentration LOW
Date Extracted/Prepared 6-18-87
Date Analysed 7-3-87
Conc/Dil Factor 1

GPC Cleanup NO
Sep Funnel Extraction YES NO (circle one)
Contin Liq -Liq Ext YES NO (circle one)

CAS No		ugl
108 95 2	Phenol	10 U
111 44 4	bis (2 Chloroethyl)ether	10 U
95 57 8	2 Chlorophenol	10 U
541 73 1	1 3 Dichlorobenzene	10 U
106 46 7	1 4 Dichlorobenzene	10 U
100 51 6	Benzyl Alcohol	10 U
95 50 1	1 2 Dichlorobenzene	10 U
95 48 7	2 Methylphenol	10 U
39638 32 9	bis (2 Chloroisopropyl)ether	10 U
106 44 5	4 Methylphenol	10 U
621 64 7	N nitroso Di n propylamine	10 U
67 72 1	Hexachloroethane	10 U
98 95 3	Nitrobenzene	10 U
78 59 1	Isophorone	10 U
88 75 5	2 Nitrophenol	10 U
105 67 9	2 4 Dimethylphenol	10 U
65 85 0	Benzoic Acid	50 U
111 91 1	bis (Chloroethoxy)Methane	10 U
120 83 2	2 4 Dichlorophenol	10 U
120 82 1	1 2 4 Trichlorobenzene	10 U
91 20 3	Naphthalene	10 U
106 47 8	4 Chloroaniline	10 U
87 68 3	Hexachlorobutadiene	10 U
59 50 7	4-Chloro 3 methylphenol	10 U
91 57 6	2 Methylnaphthalene	10 U
77 47 4	Hexachlorocyclopentadiene	10 U
88 06 2	2 4 6 Trichlorophenol	10 U
95 95 4	2 4 5 Trichlorophenol	50 U
91 58 7	2 Chloronaphthalene	10 U
88 74 4	2 Nitroaniline	50 U
131 11 3	Dimethyl phthalate	10 U
208 96 8	Acenapthylene	10 U
99 09 2	3 Nitroaniline	50 U

CAS No		ugl
83 32-9	Acenaphthene	10 U
51 28 5	2 4 Dinitrophenol	50 U
100 02 7	4 Nitrophenol	50 U
132 64 9	Dibenzofuran	10 U
121 14 2	2 4 Dinitrotoluene	10 U
606 20 2	2 6 Dinitrotoluene	10 U
84 66 2	Diethyl phthalate	2 J
7005 72 3	4 Chlorophenyl phenyl ether	10 U
86 73 7	Fluorene	10 U
100 01 6	4 Nitroaniline	U
534 52 1	4 6 Dinitro 2 Methylphenol	J
86 30-6	N nitrosodiphenylamine (1)	10 U
101 55 3	4 Bromophenyl phenyl ether	10 U
118 74 1	Hexachlorobenzene	10 U
87 86 5	Pentachlorophenol	50 U
85 01 8	Phenanthrene	10 U
120 12-7	Anthracene	10 U
84 74 2	Di n butyl phthalate	1 J
206 44 0	Fluoranthene	10 U
129 00 0	Pyrene	10 U
85 68 7	Butyl benzyl phthalate	10 U
91 94 1	3 3 Dichlorobenzidine	20 U
56 55-3	Benzo(a)anthracene	10 U
117 81-7	bis (2 Ethylhexyl)phthalate	7 J
218 01 9	Chrysene	10 U
117 84 0	Di n octyl phthalate	10 U
205 99 2	Benzo(b)fluoranthene	10 U
207 08 9	Benzo(k)fluoranthene	10 U
50 32 8	Benzo(a)pyrene	10 U
193 39 5	Indeno(1 2 3 cd)pyrene	10 U
53 70 3	Dibenzo(a h)anthracene	10 U
191 24 2	Benzo(ghi)perylene	10 U

(1)-Cannot be separated from diphenylamine

FORM 1

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
Contract Laboratory Services

LAB NAME : Envirodyne Engineers, Inc

CASE # : 3132-00016

SAMPLE NUMBER
IS101

ORGANICS ANALYSIS DATA SHEET
WATER SAMPLES
Tentatively Identified Compounds

CAS NUMBER	COMPOUND NAME	FRACTION	RT (min.)	ESTIMATED CONC. (ug/l)
	Unknown	BNA	9 44	21
	Unknown	BNA	14 85	20
	Unknown	BNA	14 97	11
	Unknown	BNA	15.2	26
	Unknown	BNA	15.51	47
3774525	Thiocyanic acid, 4-hydroxyphenyl ester	BNA	21 74	283

000030

Laboratory Name ENVIRODYNE
Case No 00016

Sample Number S101

Organics Analysis Data Sheet
(Page 3)

Pesticides & PCBs

Concentration LOW
Date Extracted/Prepared
Date Analysed
Conc/Dil Factor 1

GPC Cleanup NO
Sep Funnel Extraction YES NO (circle one)
Contin Liq -Liq Ext YES NO (circle one)

CAS No		ug/l
319 84 6	Alpha BHC	0 05 U
319 85 7	Beta BHC	0 05 U
319 86 8	Delta BHC	0 05 U
58 89 9	Gamma BHC (Lindane)	0 05 U
76 44 8	Heptachlor	0 05 U
309 00 2	Aldrin	0 05 U
1024 57 3	Heptachlor Epoxide	0 05 U
959 98 8	Endosulfan I	0 05 U
60 57 1	Dieldrin	0 10 U
72 55 9	4 4 DDE	0 10 U
72 20 8	Endrin	0 10 U
33213 65 9	Endosulfan II	0 10 U
72 54 8	4 4 DDD	0 10 U
1031 07 8	Endosulfan Sulfate	0 10 U
50 29 3	4 4 DDT	0 10 U
72 43 5	Methoxychlor	0 50 U
53494 70 5	Endrin Ketone	0 10 U
57 74 9	Chlordane	0 50 U
8001 35 2	Toxaphene	1 0 U
12674 11 2	Aroclor 1016	0 50 U
11104 28 2	Aroclor 1221	0 50 U
53469 21 9	Aroclor 1232	0 50 U
53469 21 9	Aroclor 1242	0 50 U
12672 29 6	Aroclor 1248	0 50 U
11097 69 1	Aroclor 1254	1 0 U
11096 82 5	Aroclor 1260	1 0 U

Vi - Volume of extract injected (ul)
Vs Volume of water extracted (ml)
Vt Volume of total extract (ul)

Vs = 1 000 ml Vt 10 000 ul Vi - 2 0 ul

FORM 1

Organics Analysis Data Sheet
(Page 1)

Sample Number X101

Laboratory Name ENVIRODYNE
Lab Sample ID No 87003071
Sample Matrix SOIL
Data Release Authorized By

Case No 00016
QC Report No —
Contract No —
Date Sample Received 6/17/87

Volatile Compounds

Concentration LOW
Date Extracted/Prepared 6-27-87
Date Analyzed 6-27-87
Conc/Dil Factor 1
Percent Moisture (not decanted) 8 1

CAS No		ug/kg	CAS No		ug/kg
74 87 3	Chloromethane	11 U	78 87 5	1 2 Dichloropropane	5 U
74 83 9	Bromomethane	11 U	10061 02 6	trans 1 3 Dichloropropene	5 U
75 01 4	Vinyl Chloride	11 U	79 01 6	Trichloroethene	5 U
75 00 3	Chloroethane	11 U	124 48 1	Dibromochloromethane	5 U
75 09 2	Methylene Chloride	49 B	79 00 5	1 1 2 Trichloroethane	5 U
67 64 1	Acetone	24 U	71 43 2	Benzene	5 U
75 15 0	Carbon Disulfide	5 U	10061 01 5	cis 1 3 Dichloropropene	5 U
75 35 4	1 1 Dichloroethene	5 U	110 75 8	2 Chloroethylvinylether	11 U
75 34 3	1 1 Dichloroethane	5 U	75 25 2	Bromoform	5 U
156 60 5	trans-1 2 Dichloroethene	5 U	108 10 1	4 Methyl 2 pentanone	11 U
67 66 3	Chloroform	5 U	591 78 6	2 Hexanone	11 U
107 06 2	1 2 Dichloroethane	5 U	127 18 4	Tetrachloroethene	5 U
78 93 3	2 Butanone	11 U	79 34 5	1 1 2 2 Tetrachloroethane	5 U
71 55 6	1 1 1 Trichloroethane	5 U	108 88 3	Toluene	5 U
56 23 5	Carbon Tetrachloride	5 U	108 90 7	Chlorobenzene	5 U
108 05 4	Vinyl Acetate	11 U	100 41 4	Ethylbenzene	5 U
75 27 4	Bromodichloromethane	5 U	100 42 5	Styrene	5 U
				Total Xylenes	5 U

000032

Data Reporting Qualifiers

VALUE
If the result is a value greater than or equal to the detection limit report the value

U
Indicates compound was analyzed for but not detected Report the minimum detection limit for the sample with the U (eg 10U) based on necessary concent /dilution action (This is not necessarily the instrument detection limit) The footnote should read U Compound was analyzed for but not detected The number is the minimum attainable detection limit for the sample

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

C
This flag applies to pesticide parameters where the identific tion was confirmed by GC/MS Single component pesticides) 10 ng/ul in the final extract should be confirmed by GC/MS

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

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

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
Contract Laboratory Services

LAB NAME Envirodyne Engineers, Inc

CASE # 3132-16

SAMPLE NUMBER
1X101

ORGANICS ANALYSIS DATA SHEET
SOIL SAMPLES
Tentatively Identified Compounds

	CAS NUMBER	COMPOUND NAME	FRACTION	RT (min)	ESTIMATED CONC (ug/kg)
1		No peaks for 1 S	VOA		
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
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23					
24					
25					
26					
27					
28					
29					
30					

000033

Laboratory Name ENVIRODYNE
Case No 00016

| Sample Number X101 |

Organics Analysis Data Sheet
(Page 2)

Semivolatile Compounds

Concentration MEDIUM
Date Extracted/Prepared 6-18-87
Date Analyzed 7-1-87
Conc/Dil Factor 1
Percent Moisture (decanted) 8 2

GPC Cleanup NO
Sep Funnel Extraction YES NO (circle one)
Contin Liq -Liq Ext YES NO (circle one)

CAS No		ug/kg	CAS No		ug/kg
108 95 2	Phenol	22000 U	83 32 9	Acenaphthene	22000
111 44 4	bis (2 Chloroethyl)ether	22000 U	51 28 5	2 4 Dinitrophenol	10000
95 57 8	2 Chlorophenol	22000 U	100 02 7	4 Nitrophenol	10000
541 73 1	1 3 Dichlorobenzene	22000 U	132 64 9	Dibenzofuran	22000
106 46 7	1 4 Dichlorobenzene	22000 U	121 14 2	2 4 Dinitrotoluene	22000
100 51 6	Benzyl Alcohol	22000 U	606 20 2	2 6 Dinitrotoluene	22000
95 50 1	1 2 Dichlorobenzene	22000 U	84-66 2	Diethyl phthalate	22000
95 48 7	2 Methylphenol	22000 U	7005 72 3	4 Chlorophenyl phenyl ether	22000
39638 32 9	bis (2 Chloroisopropyl)ether	22000 U	86 73 7	Fluorene	22000
106 44 5	4 Methylphenol	22000 U	100 01 6	4 Nitroaniline	10000
621 64 7	N nitroso Di n propylamine	22000 U	534 52 1	4 6 Dinitro 2 Methylphenol	10000
67 72 1	Hexachloroethane	22000 U	86 30 6	N nitrosodiphenylamine (1)	22000
98 95 3	Nitrobenzene	22000 U	101 55 3	4 Bromophenyl phenyl ether	22000
78 59 1	Isophorone	22000 U	118 74 1	Hexachlorobenzene	22000
88 75 5	2 Nitrophenol	22000 U	87 86 5	Pentachlorophenol	10000
105 67-9	2 4 Dimethylphenol	22000 U	85 01 8	Phenanthrene	22000
65 85 0	Benzoic Acid	100000 U	120 12 7	Anthracene	22000
111 91 1	bis (Chloroethoxy)Methane	22000 U	84 74 2	Di n butyl phthalate	22000
120 83 2	2 4-Dichlorophenol	22000 U	206 44 0	Fluoranthene	22000
120 82 1	1 2 4 Trichlorobenzene	22000 U	129 00 0	Pyrene	22000
91 20 3	Naphthalene	22000 U	85 68 7	Butyl benzyl phthalate	22000
106 47 8	4 Chloroaniline	22000 U	91 94 1	3 3 Dichlorobenzidine	43000
87 68 3	Hexachlorobutadiene	22000 U	56 55 3	Benzo(a)anthracene	22000
59 50 7	4 Chloro 3 methylphenol	22000 U	117 81 7	bis (2 Ethylhexyl)phthalate	22000
91 57 6	2 Methylnaphthalene	22000 U	218 01 9	Chrysene	22000
77-47 4	Hexachlorocyclopentadiene	22000 U	117 84 0	Di n octyl phthalate	22000
88 06 2	2 4 6 Trichlorophenol	22000 U	205 99 2	Benzo(b)fluoranthene	22000
95 95 4	2 4 5 Trichlorophenol	100000 U	207 08 9	Benzo(k)fluoranthene	22000
91 58 7	2 Chloronaphthalene	22000 U	50 32 8	Benzo(a)pyrene	22000
88 74 4	2 Nitroaniline	100000 U	193 39 5	Indeno(1 2 3 cd)pyrene	22000
131 11 3	Dimethyl phthalate	22000 U	53 70 3	Dibenzo(a h)anthracene	22000
208 96 8	Acenaphthylene	22000 U	191 24 2	Benzo(ghi)perylene	22000
99 09 2	3 Nitroaniline	100000 U			

(1)-Cannot be separated from diphenylamine

FORM 1

00003

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
Contract Laboratory Services

LAB NAME : Envirodyne Engineers, Inc

CASE # : 3132-00016

SAMPLE NUMBER
IX101

ORGANICS ANALYSIS DATA SHEET
SOIL SAMPLES
Tentatively Identified Compounds

	CAS NUMBER	COMPOUND NAME	FRACTION	RT (min.)	ESTIMATED CONC. (ug/kg)
1	96480	2(3H)-Furanone, dihydro-	BNA	7	18023
2		Unknown	BNA	7 26	14643
3	123284	Propanoic acid, 3,3-thiobis-, didodecyl ester	BNA	32.61	41515
4	123284	Propanoic acid, 3,3-thiobis-, didodecyl ester	BNA	32.81	36175
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
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26					
27					
28					
29					

Laboratory Name ENVIRODYNE
Case No 00016

| Sample Number X101 |

Organics Analysis Data Sheet
(Page 3)

Pesticides & PCB s

Concentration MEDIUM
Date Extracted/Prepared
Date Analysed
Conc/Dil Factor 1
Percent Moisture (decanted) 8 2

GPC Cleanup NO
Sep Funnel Extraction YES NO (circle one)
Contin Liq -Liq Ext YES NO (circle one)

CAS No		ugkg	
319 84 6	Alpha BHC	130	U
319 85 7	Beta BHC	130	U
319 86 8	Delta BHC	130	U
58 89 9	Gamma BHC (Lindane)	130	U
76 44 8	Heptachlor	130	U
309 00 2	Aldrin	130	U
1024 57 3	Heptachlor Epoxide	130	U
959 98 8	Endosulfan I	130	U
60 57 1	Dieldrin	260	U
72 55 9	4 4 DDE	260	U
72 20 8	Endrin	260	U
33213 65 9	Endosulfan II	260	U
72 54 8	4 4 DDD	260	U
1031 07 8	Endosulfan Sulfate	260	U
50 29 3	4 4 DDT	260	U
72 43 5	Methoxychlor	1300	U
53494 70 5	Endrin Ketone	260	U
57 74 9	Chlordane	1300	U
8001 35 2	Toxaphene	2600	U
12674-11 2	Aroclor 1016	1300	U
11104 28 2	Aroclor 1221	1300	U
53469 21 9	Aroclor 1232	1300	U
53469 21 9	Aroclor 1242	1300	U
12672 29 6	Aroclor 1248	1300	U
11097 69 1	Aroclor 1254	2600	U
11096 82 5	Aroclor 1260	2600	U

000036

Vi = Volume of extract injected (ul)
Ws Weight of sample extracted (g)
Vt = Volume of total extract (ul)

Ws 1 g Vt = 10 000 ul Vi 2 0 ul

FORM 1

Organics Analysis Data Sheet
(Page 1)

Sample Number	X102

Laboratory Name ENVIRODYNE
Lab Sample ID No 87003072
Sample Matrix SOIL
Data Release Authorized By

Case No 00816
QC Report No —
Contract No —
Date Sample Received 6/17/87

Volatile Compounds

Concentration LOW
Date Extracted/Prepared 0
Date Analyzed 6-27-87
Conc/Dil Factor 1
Percent Moisture (not decanted) 35 58

CAS No		ug/kg	CAS No		ug/kg
74 87 3	Chloromethane	16 U	78 87 5	1 2 Dichloropropane	8 U
74 83 9	Bromomethane	16 U	10061 02 6	trans 1 3 Dichloropropene	8 U
75 01 4	Vinyl Chloride	16 U	79 01 6	Trichloroethene	8 U
75 00 3	Chloroethane	16 U	124 48 1	Dibromochloromethane	8 U
75 09 2	Methylene Chloride	44 B	79 00 5	1 1 2 Trichloroethane	8 U
67 64 1	Acetone	16 U	71 43 2	Benzene	8 U
75-15 0	Carbon Disulfide	8 U	10061 01 5	cis 1 3 Dichloropropene	7
75 35 4	1 1 Dichloroethene	8 U	110 75 8	2 Chloroethylvinylether	16
75 34 3	1 1 Dichloroethane	8 U	75 25 2	Bromoform	8 U
156 60 5	trans 1 2 Dichloroethene	8 U	108 10 1	4 Methyl 2 pentanone	16 U
67-66 3	Chloroform	8 U	591 78 6	2 Hexanone	16 U
107 06 2	1 2 Dichloroethane	8 U	127 18 4	Tetrachloroethene	8 U
78 93 3	2 Butanone	16 U	79 34 5	1 1 2 2 Tetrachloroethane	8 U
71 55 6	1 1 1 Trichloroethane	8 U	108 88 3	Toluene	1 J
56 23 5	Carbon Tetrachloride	8 U	108 90 7	Chlorobenzene	8 U
108 05 4	Vinyl Acetate	16 U	100 41 4	Ethylbenzene	8 U
75 27-4	Bromodichloromethane	8 U	100 42 5	Styrene	8 U
				Total Xylenes	8 U

Data Reporting Qualifiers

000037

VALUE
If the result is a value greater than or equal to the detection limit report the value

U
Indicates compound was analyzed for but not detected Report the minimum detection limit for the sample with the U (eg 10U) based on necessary concent /dilution action (This is not necessarily the instrument detection limit) The footnote should read U Compound was analyzed for but not detected The number is the minimum attainable detection limit for the sample

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

C
This flag applies to pesticide parameters where the identifica tion was confirmed by GC/MS Single component pesticides) 10 ng/ul in the final extract should be confirmed by GC/MS

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

OTHER
Other flags and footnotes may be required to properly def the results If used they must be fully described and su description attached to the data summary report

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
Contract Laboratory Services

LAB NAME Envirodyne Engineers Inc

CASE # 3132-16

SAMPLE NUMBER
IX102

ORGANICS ANALYSIS DATA SHEET
SOIL SAMPLES
Tentatively Identified Compounds

	CAS NUMBER	COMPOUND NAME	FRACTION	RT (min)	ESTIMATED CONC (ug/kg)
1		Unknown	VOA	16 03	4
2		Hexane	VOA	20 69	7
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
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23					
24					
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26					
27					
28					
29					
30					

000036

recycled paper

ecology and environment

Laboratory Name ENVIRODYNE
Case No 00016

Sample Number Z102

Organics Analysis Data Sheet
(Page 2)

Semivolatile Compounds

Concentration LOW
Date Extracted/Prepared 6-18-87
Date Analyzed 7-3-87
Conc/Dil Factor 1
Percent Moisture (decanted) 35 58

GPC Cleanup NO
Sep Funnel Extraction YES NO (circle one)
Contin Liq -Liq Ext YES NO (circle one)

CAS No		ug/kg	CAS No		ug/kg
108 95 2	Phenol	510 U	83 32 9	Acenaphthene	510 U
111 44 4	bis (2 Chloroethyl)ether	510 U	51 28 5	2 4 Dinitrophenol	2500 U
95 57 8	2 Chlorophenol	510 U	100 02 7	4 Nitrophenol	2500 U
541 73 1	1 3 Dichlorobenzene	510 U	132 64 9	Dibenzofuran	510 U
106 46 7	1 4 Dichlorobenzene	510 U	121 14 2	2 4 Dinitrotoluene	510 U
100 51 6	Benzyl Alcohol	510 U	606 20 2	2 6 Dinitrotoluene	510 U
95 50 1	1 2 Dichlorobenzene	510 U	84 66 2	Diethyl phthalate	510 U
95 48 7	2 Methylphenol	510 U	7005 72 3	4 Chlorophenyl phenyl ether	510 U
39638 32 9	bis (2 Chloroisopropyl)ether	510 U	86 73 7	Fluorene	51[illegible]
106 44 5	4 Methylphenol	510 U	100 01 6	4 Nitroaniline	25[illegible]
621 64 7	N nitroso Di n propylamine	510 U	534 52 1	4 6 Dinitro 2 Methylphenol	2500 U
67 72 1	Hexachloroethane	510 U	86 30 6	N nitrosodiphenylamine (1)	510 U
98 95 3	Nitrobenzene	510 U	101 55 3	4 Bromophenyl phenyl ether	510 U
78 59 1	Isophorone	510 U	118 74 1	Hexachlorobenzene	510 U
80 75 5	2 Nitrophenol	510 U	87 86 5	Pentachlorophenol	2500 U
105 67 9	2 4 Dimethylphenol	510 U	85 01 8	Phenanthrene	470 J
65 85 0	Benzoic Acid	2500 U	120 12 7	Anthracene	510 U
111 91 1	bis (Chloroethoxy)Methane	510 U	84 74 2	Di n butyl phthalate	3300
120 83 2	2 4-Dichlorophenol	510 U	206 44 0	Fluoranthene	510 U
120 82 1	1 2 4 Trichlorobenzene	510 U	129 00 0	Pyrene	270 J
91 20 3	Naphthalene	510 U	85 68 7	Butyl-benzyl phthalate	140 J
106 47 8	4 Chloroaniline	510 U	91 94 1	3 3 Dichlorobenzidine	1000 U
87 68 3	Hexachlorobutadiene	510 U	56 55 3	Benzo(a)anthracene	510 U
59 50 7	4 Chloro 3 methylphenol	510 U	117 81 7	bis (2 Ethylhexyl)phthalate	4900 B
91 57 6	2 Methylnaphthalene	140 J	218 01 9	Chrysene	510 U
77 47 4	Hexachlorocyclopentadiene	510 U	117 84 0	Di n octyl phthalate	100 J
88 06 2	2 4 6 Trichlorophenol	510 U	205 99 2	Benzo(b)fluoranthene	510 U
95 95 4	2 4 5 Trichlorophenol	2500 U	207 08 9	Benzo(k)fluoranthene	510 U
91 58 7	2 Chloronaphthalene	510 U	50 32 8	Benzo(a)pyrene	510 U
88 74 4	2 Nitroaniline	2500 U	193 39 5	Indeno(1 2 3 cd)pyrene	510 U
131 11 3	Dimethyl phthalate	510 U	53 70 3	Dibenzo(a h)anthracene	510 U
208 96 8	Acenaphthylene	510 U	191 24 2	Benzo(ghi)perylene	510 U
99 09 2	3 Nitroaniline	2500 U			

(1)-Cannot be separated from diphenylamine

00003

FORM 1

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
Contract Laboratory Services

LAB NAME : Envirodyne Engineers, Inc

CASE # :

SAMPLE NUMBER
IX102

ORGANICS ANALYSIS DATA SHEET
SOIL SAMPLES
Tentatively Identified Compounds

	CAS NUMBER	COMPOUND NAME	FRACTION	RT (min.)	ESTIMATED CONC. (ug/kg)
1		Unknown	BNA	7 27	2789
2		Hydrocarbon	BNA	15.23	4912
3		Hydrocarbon	BNA	17 04	4757
4		Hydrocarbon	BNA	18.9	3230
5		Hydrocarbon	BNA	18.71	6918
6		Hydrocarbon	BNA	20 27	7854
7		Hydrocarbon	BNA	21 75	7621
8		Hydrocarbon	BNA	21 84	7852
9		Hydrocarbon	BNA	23.15	7043
10		Hydrocarbon	BNA	23.28	6323
11		Phthalate	BNA	24 09	4653
12		Hydrocarbon	BNA	24 47	5876
13	57103	Hexadecanoic acid	BNA	25.43	9525
14		Hydrocarbon	BNA	25.78	8977
15		Hydrocarbon	BNA	26.94	3694
16		Hydrocarbon	BNA	27 52	12370
17	57103	Hexadecanoic acid	BNA	27 79	8153
18		Unknown	BNA	37 17	31843
19		Hydrocarbon	BNA	37 73	11999
20		Unknown	BNA	39.65	14543
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

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Laboratory Name ENVIRODYNE
Case No 00016

| Sample Number X102 |

Organics Analysis Data Sheet
(Page 3)

Pesticides & PCB s

Concentration LOW
Date Extracted/Prepared
Date Analysed
Conc/Dil Factor 10
Percent Moisture (decanted) 8 2

GPC Cleanup NO
Sep Funnel Extraction YES NO (circle one)
Contin Liq -Liq Ext YES NO (circle one)

CAS No		ugkg	
319 84 6	Alpha BHC	87 U	
319 85 7	Beta BHC	87 U	
319 86 8	Delta BHC	87 U	
58 89 9	Gamma BHC (Lindane)	87 U	
76 44 8	Heptachlor	87 U	
309 00 2	Aldrin	87 U	
1024 57 3	Heptachlor Epoxide	87 U	
959 98 8	Endosulfan I	87 U	
60 57 1	Dieldrin	170 U	
72 55 9	4 4 DDE	170 U	
72 20 8	Endrin	170 U	
33213 65 9	Endosulfan II	170 U	
72 54 8	4 4 DDD	170 U	
1031 07 8	Endosulfan Sulfate	170 U	
50 29 3	4 4 DDT	170 U	
72 43-5	Methoxychlor	870 U	
53494 70 5	Endrin Ketone	170 U	
57 74 9	Chlordane	870 U	
8001 35 2	Toxaphene	1700	U
12674 11 2	Aroclor 1016	870 U	
11104 28 2	Aroclor 1221	870 U	
53469 21 9	Aroclor 1232	870 U	
53469 21 9	Aroclor 1242	870 U	
12672-29 6	Aroclor 1248	870 U	
11097 69 1	Aroclor 1254	1700	U
11096 82 5	Aroclor 1260	1700	U

Vi = Volume of extract injected (ul)
Ws Weight of sample extracted (g)
Vt Volume of total extract (ul)

00001A

Ws = 30 g Vt = 20 000 ul Vi = 2 0 ul

FORM 1

1158010001/Macon Co
waste Hauling
S.F. Tech

ENVIRODYNE
ENGINEERS

9161 Lackland Road
S[illegible]ous Ms[illegible]
[illegible]

September 2, 1987
3132-00016

Ms Sue Doubet
Illinois Environmental Protection Agency
2200 Churchill Road
Springfield, Illinois 62706

Dear Sue

Enclosed are the inorganic analytical data and associated QC information for the soil and water samples received June 17, 1987 from the Waste Hauling, Inc facility (site #1158010001) The organics data have been submitted to you previously on July 31, 1987

Both soil samples were digested and analyzed twice for antimony, lead, selenium, and silver due to poor MS recoveries The MS recoveries were out of QC range both times Matrix interferences were experienced while analyzing for selenium (based upon the bench spike recoveries) the data have been flagged accordingly

Both water samples were digested and analyzed twice for antimony and selenium due to poor MS recoveries The MS recoveries were out of QC range both times There was poor duplication while analyzing for arsenic However due to insufficient sample volume, redigestion/reanalysis was not possible All lead analyses on the water samples were calibrated by the Method of Standard Addition All data have been flagged accordingly

Please survey this package upon receipt There should be one volume each for water inorganics and soil inorganics

If you have any questions about these data please call Thank you for your patronage

Sincerely,

John J Coniglio

John J. Coniglio
Project Manager

JJC/smb
Enclosures

RECEIVED
SEP - 3 1987
IEPA/DLPC

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IEPA ANALYSIS PROGRAM
Report of INORGANIC Results
Water Samples

Site ID: G101
Sample #: 87003069

	PARAMETER	VALUE (ug/l)	DILUTION FACTOR
1	Aluminum	125 U	1
2	Antimony	28 UR	1
3	Arsenic	3 1 U*	1
4	Barium	74	1
5	Beryllium	5 U	1
6	Cadmium	5 U	1
7	Calcium	87600	10
8	Chromium	10 U	1
9	Cobalt	20 U	1
10	Copper	20 U	1
11	Iron	71	1
12	Lead	4 37 S	1
13	Magnesium	32300	10
14	Manganese	348	1
15	Mercury	0 2 U	1
16	Nickel	24 U	1
17	Potassium	4190	1
18	Selenium	2 UR	1
19	Silver	2 U	1
20	Sodium	46130	1
21	Thallium	2 2 U	1
22	Tin	100 U	1
23	Vanadium	20 U	1
24	Zinc	23	1
25	Cyanide	5 U	1
26	Sulfide	1000 U	1
27	Sulfate	80000	20
28			---

000006

Date: August 28, 1987 Page: 1

IEPA ANALYSIS PROGRAM
Report of INORGANIC Results
Water Samples

Site ID: G101 MS
Sample #: 87003069

	PARAMETER	VALUE (ug/l)	DILUTION FACTOR
1	Aluminum	1920	1
2	Antimony	179 2 R	1
3	Arsenic	21 9*	1
4	Barium	2210	1
5	Beryllium	38	1
6	Cadmium	56	1
7	Calcium	88300	10
8	Chromium	216	1
9	Cobalt	501	1
10	Copper	287	1
11	Iron	1140	1
12	Lead	22 1 S	1
13	Magnesium	34600	10
14	Manganese	559	1
15	Mercury	0 84	1
16	Nickel	427	1
17	Potassium	5990	1
18	Selenium	6 56 R	1
19	Silver	5 74	1
20	Sodium	46300	10
21	Thallium	43 9	2
22	Tin	997	1
23	Vanadium	540	1
24	Zinc	237	1
25	Cyanide	41	1
26	Sulfide	4400	1
27	Sulfate	150000	20
28			---

000003

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IEPA ANALYSIS PROGRAM
Report of INORGANIC Results
Water Samples

Site ID: S101
Sample #: 87003070

	PARAMETER	VALUE (ug/l)	DILUTION FACTOR
1	Aluminum	319	1
2	Antimony	28 UR	1
3	Arsenic	36 1 S*	5
4	Barium	600	1
5	Beryllium	5 U	1
6	Cadmium	5 U	1
7	Calcium	150200	10
8	Chromium	10 U	1
9	Cobalt	20 U	1
10	Copper	20 U	1
11	Iron	20400	10
12	Lead	5 51 S	1
13	Magnesium	76300	10
14	Manganese	961	1
15	Mercury	0 2 U	1
16	Nickel	30	1
17	Potassium	13990	1
18	Selenium	10 UER	5
19	Silver	2U	1
20	Sodium	124200	10
21	Thallium	2 2 U	1
22	Tin	100 U	1
23	Vanadium	20 U	1
24	Zinc	20 U	1
25	Cyanide	5 U	1
26	Sulfide	1000 U	1
27	Sulfate	22800	2
28			---

IEPA ANALYSIS PROGRAM
Report of INORGANIC Results
Water Samples

Site ID: S101 DUP
Sample #: 87003070

	PARAMETER	VALUE (ug/l)	DILUTION FACTOR
1	Aluminum	150	1
2	Antimony	28 UR	1
3	Arsenic	47 1 S*	5
4	Barium	590	1
5	Beryllium	5 U	1
6	Cadmium	5 U	1
7	Calcium	151100	10
8	Chromium	10 U	1
9	Cobalt	20 U	1
10	Copper	20 U	1
11	Iron	20300	10
12	Lead	6 43 S	1
13	Magnesium	75000	10
14	Manganese	939	1
15	Mercury		---
16	Nickel	32	1
17	Potassium	11570	1
18	Selenium	2UR	1
19	Silver	2U	1
20	Sodium	122100	10
21	Thallium	2 2 U	1
22	Tin	100 U	1
23	Vanadium	20 U	1
24	Zinc	20 U	1
25	Cyanide	5 U	1
26	Sulfide		---
27	Sulfate		---
28			---

000011

IEPA ANALYSIS PROGRAM
Report of INORGANIC Results
Water Samples

Site ID: G101 DUP
Sample #: 87003069

	PARAMETER	VALUE (ug/l)	DILUTION FACTOR
1	Aluminum		---
2	Antimony		---
3	Arsenic		---
4	Barium		---
5	Beryllium		---
6	Cadmium		---
7	Calcium		---
8	Chromium		---
9	Cobalt		---
10	Copper		---
11	Iron		---
12	Lead		---
13	Magnesium		---
14	Manganese		---
15	Mercury	0 2 U	1
16	Nickel		---
17	Potassium		---
18	Selenium		---
19	Silver		---
20	Sodium		---
21	Thallium		---
22	Tin		---
23	Vanadium		---
24	Zinc		---
25	Cyanide		---
26	Sulfide	1000 U	1
27	Sulfate	78000	20
28			---

IEPA ANALYSIS PROGRAM
Report of INORGANIC Results
Soil Samples

Site ID: X101
Sample #: 87003071

	PARAMETER	VALUE (ug/kg)	DILUTION FACTOR
1	Aluminum	3060000	1
2	Antimony	6500 UR	1
3	Arsenic	6200	2
4	Barium	125000	1
5	Beryllium	1000 U	1
6	Cadmium	1000 U	1
7	Calcium	56500000	10
8	Chromium	7800	1
9	Cobalt	11400	1
10	Copper	6000	1
11	Iron	16900000	1
12	Lead	20000 R	5
13	Magnesium	25400000	10
14	Manganese	1500000	1
15	Mercury	100 U	1
16	Nickel	10400	1
17	Potassium	510000	1
18	Selenium	2000 UER	5
19	Silver	490 UR	1
20	Sodium	296000	1
21	Thallium	510 U	1
22	Tin	20000 U	1
23	Vanadium	22800	1
24	Zinc	31600	1
25	Cyanide	250 U	1
26	Sulfide	1000	1
27	Sulfate	25000	1
28			---

0603

IEPA ANALYSIS PROGRAM
Report of INORGANIC Results
Soil Samples

Site ID: X101 HS
Sample #: 87003071

	PARAMETER	VALUE (ug/kg)	DILUTION FACTOR
1	Aluminum		---
2	Antimony	11900 R	1
3	Arsenic	15900	2
4	Barium	501000	1
5	Beryllium	9200	1
6	Cadmium	10400	1
7	Calcium	53700000	10
8	Chromium	56000	1
9	Cobalt	109000	1
10	Copper	58800	1
11	Iron	15300000	1
12	Lead	36600 R	5
13	Magnesium	23200000	10
14	Manganese	1330000	1
15	Mercury	450	1
16	Nickel	111000	1
17	Potassium	948000	1
18	Selenium	400 UR	1
19	Silver		---
20	Sodium	724000	1
21	Thallium		---
22	Tin	223000	1
23	Vanadium	120000	1
24	Zinc	119000	1
25	Cyanide	2800	1
26	Sulfide	4400	1
27	Sulfate	38900	1
28			---

0003

IEPA ANALYSIS PROGRAM
Report of INORGANIC Results
Soil Samples

Site ID: X102
Sample #: 87003072

	PARAMETER	VALUE (ug/kg)	DILUTION FACTOR
1	Aluminum	5160000	1
2	Antimony	7400 UR	1
3	Arsenic	23600	5
4	Barium	98600	1
5	Beryllium	1000 U	1
6	Cadmium	1000	1
7	Calcium	22900000	10
8	Chromium	8400	1
9	Cobalt	4000 U	1
10	Copper	12800	1
11	Iron	17700000	1
12	Lead	18300 R	5
13	Magnesium	10700000	10
14	Manganese	264000	1
15	Mercury	100 U	1
16	Nickel	15000	1
17	Potassium	742000	1
18	Selenium	2000 UER	5
19	Silver	550 UR	1
20	Sodium	394000	1
21	Thallium	580 U	1
22	Tin	20000 U	1
23	Vanadium	18400	1
24	Zinc	61800	1
25	Cyanide	250 U	1
26	Sulfide	100000	1
27	Sulfate	53200	1
28			---

0603

IEPA ANALYSIS PROGRAM
Report of INORGANIC Results
Soil Samples

Site ID: X102 DUP
Sample #: 87003072

	PARAMETER	VALUE (ug/kg)	DILUTION FACTOR
1	Aluminum	4540000	1
2	Antimony	7400 UR	1
3	Arsenic	22600	5
4	Barium	95600	1
5	Beryllium	1000 U	1
6	Cadmium	1000 U	1
7	Calcium	25800000	10
8	Chromium	8000	1
9	Cobalt	5600	1
10	Copper	11400	1
11	Iron	15400000	1
12	Lead	15900 R	5
13	Magnesium	11500000	10
14	Manganese	273000	1
15	Mercury		---
16	Nickel	12000	1
17	Potassium	606000	1
18	Selenium	400 UR	1
19	Silver	550 UR	1
20	Sodium	392000	1
21	Thallium	580 U	1
22	Tin	20000 U	1
23	Vanadium	14800	1
24	Zinc	55000	1
25	Cyanide	250 U	1
26	Sulfide	114000	1
27	Sulfate		---
28			---

IEPA ANALYSIS PROGRAM
Report of INORGANIC Results
Soil Samples

Site ID: X101 DUP
Sample #: 87003071

	PARAMETER	VALUE (ug/kg)	DILUTION FACTOR
1	Aluminum		---
2	Antimony		---
3	Arsenic		---
4	Barium		---
5	Beryllium		---
6	Cadmium		---
7	Calcium		---
8	Chromium		---
9	Cobalt		---
10	Copper		---
11	Iron		---
12	Lead		---
13	Magnesium		---
14	Manganese		---
15	Mercury	100 U	1
16	Nickel		---
17	Potassium		---
18	Selenium		---
19	Silver		---
20	Sodium		---
21	Thallium		---
22	Tin		---
23	Vanadium		---
24	Zinc		---
25	Cyanide		---
26	Sulfide		---
27	Sulfate	20900	1
28			---

0003

IEPA ANALYSIS PROGRAM
Report of INORGANIC Results
Soil Samples

Site ID: X102 NS
Sample #: 87003072

	PARAMETER	VALUE (ug/kg)	DILUTION FACTOR
1	Aluminum		---
2	Antimony		---
3	Arsenic		---
4	Barium		---
5	Beryllium		---
6	Cadmium		---
7	Calcium		---
8	Chromium		---
9	Cobalt		---
10	Copper		---
11	Iron		---
12	Lead		---
13	Magnesium		---
14	Manganese		---
15	Mercury		---
16	Nickel		---
17	Potassium		---
18	Selenium		---
19	Silver	1440 R	1
20	Sodium		---
21	Thallium	12200	1
22	Tin		---
23	Vanadium		---
24	Zinc		---
25	Cyanide		---
26	Sulfide		---
27	Sulfate		---
28			---

APPENDIX C

1992 SSI LEACHATE SAMPLING ANALYTICAL RESULTS

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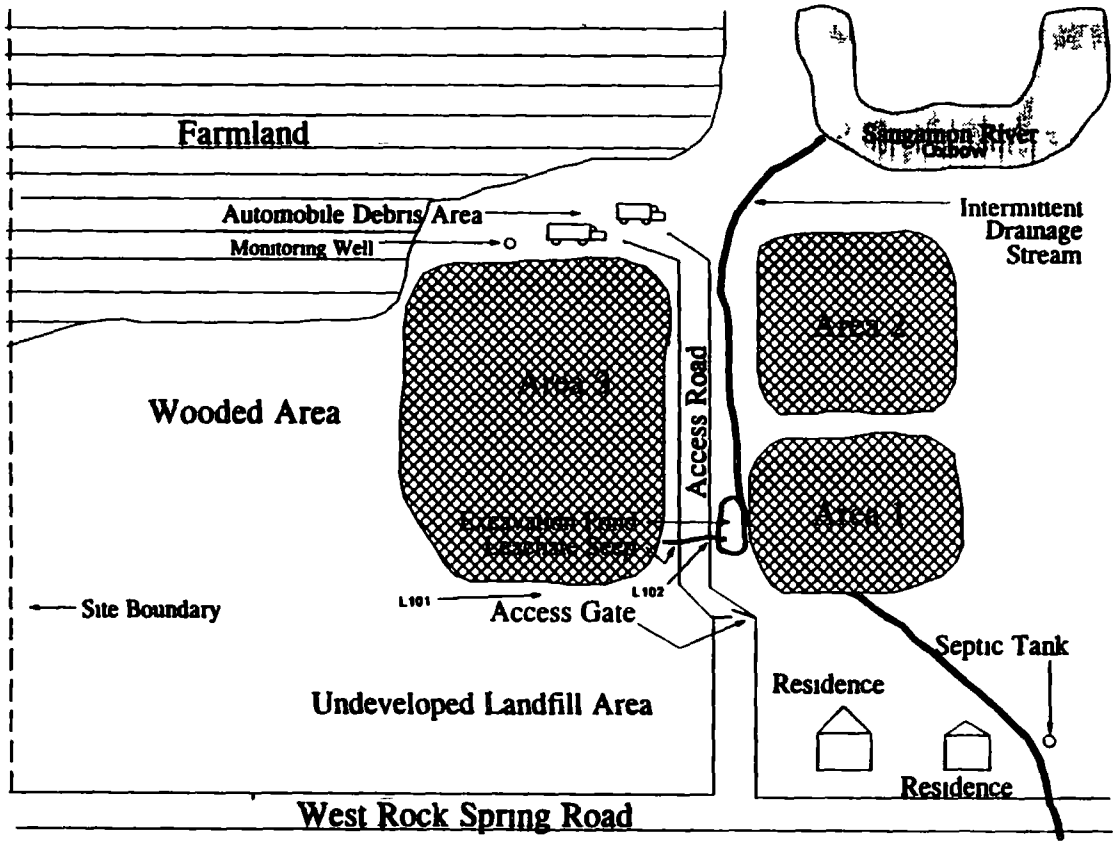

ecology and environment, inc
Technical Assistance Team
Region V

TITLE Leachate Sample Locations	FIGURE # NA
SITE Waste Hauling Inc	TDD# T05-9503-249
CITY Decatur STATE Illinois	SCALE Not to scale
SOURCE Ecology and Environment Inc	DATE 1995
	REVISED ----

recycled paper
ecology and environment

1158010001 / Mar 1
Waste Hauling Landfill
S. Fe Tech

Environmental
Science &
Engineering Inc

9 North Industrial Road
Peoria Illinois 61615-1589

Phone
Lab Fax (309) 69

An IEPA Contract Laboratory

RECEIVED
APR 09 1992
EPA/DLPC

April 8, 1992

Ms Sue Doubet
Division of Land Pollution Control
Illinois EPA
2200 Churchill Road
Springfield, IL 62706

Dear Sue

The results for two water samples from Waste Hauling Landfill, Site Inventory #1158010001, are enclosed The samples were received April 6, 1992, for Emergency Response analyses The samples were to be analyzed for volatile and semivolatile organics, pesticide/PCB's, metals (including mercury), and inorganics (including cyanide, sulfide, and sulfate) All results are reported except for the semivolatile organics These will be reported as soon as they are available

If you have any questions, please give me a call

Sincerely,

ENVIRONMENTAL SCIENCE & ENGINEERING, INC

Bernard T Johnson
IEPA Project Coordinator

CHAIN OF CUSTODY

Seal # [illegible]

Date Sealed ~~4/2/92~~ 4/3/92 By RLCM

Facility
Name WASTE HAULING LANDFILL
Region CENTRAL
County MACON

Site Inventory # 1158010001
Site Billing Code LP43801
Project Manager STEVE TOWNSEND

Laboratory #	Sample I D	Sample Date	Sample Time
	blank for 401	4/6/92	9 45am

Sample Appearance —

Collector Comments

Sampler Signature Jeffrey Turner Division/Company IEPA/DLPC/FOS

CONTAINER				ANALYSIS	FILTERING		
No	Code	Size	Preser		(Y/N)	Date	Time
2	15	40ml		TRIP BLANK			

CHAIN OF CUSTODY CHRONICLE

I certify that I received the sample shipping container with the shipping container sealed and intact

Opened by (print) Jeffrey S Turner Signature Jeffrey S Turner

Date 4/6/92 Time 9 22 Seal # 7323 Intact? Y/N

I certify that the sample listed above was collected and placed in bottles in my presence, that each bottle was placed intact in the sample shipping container and that I sealed the sample shipping container at the date and time listed below

Sealed by (print) Jeffrey S Turner Signature Jeffrey Turner

Date 4/6/92 Time 11 00 am Seal # ev tape

Courier - Sample Pickup transported by Jeffrey Turner

Courier - Sample Delivery

I certify that I received the sample shipping container from the courier listed above with the shipping container and seal intact and that each bottle in the shipping container was intact After recording the sample in the official record book, the sample will be in the custody of competent laboratory personnel at all times or locked in a secured area

Opened by (print) Alan R Hogan Signature Alan R Hogan

Date 4-6-92 Time 3:50 pm Seal # 0007328 Intact? Y/N

Lab Name ESE Comments ESE # 6817-3

CHAIN OF CUSTODY

Seal # [illegible]

Date Sealed ~~[illegible]~~ RKM By RKM
4/3/92

Facility
Name WASTE HAULING LANDFILL
Region CENTRAL
County MACON

Site Inventory # 1158010001
Site Billing Code LP43801
Project Manager STEVE TOWNSEND

Laboratory #	Sample I D	Sample Date	Sample Time
	LID2	4/6/92	11.00 Am

Sample Appearance - Clear to orange discoloration, oily sheen

Collector Comments

Sampler Signature Jeffrey S Turner Division/Company IEPA/DLPC/FOS

CONTAINER				ANALYSIS	FILTERING		
No	Code	Size	Preser		(Y/N)	Date	Time
2	1	40ml		VOA	N	4/6/92	
2	3	80oz		BNA			
2	4	80oz		PESTICIDE/PCB			
1	5	1L	GRN	TOTAL METALS			
1	6	1L	BLK	CYANIDE			
1	7	1L	RED	SULFIDE			
1	8	1L		SULFATE			
1	9	500ML	GRY	MERCURY			
1	15	40ml		VOC blank			

CHAIN OF CUSTODY CHRONICLE

certify that I received the sample shipping container with the shipping container sealed and intact

Opened by (print) Jeffrey S Turner Signature Jeffrey S Turner

Date 4/1/92 Time 9 32 am Seal # 7327 Intact? Y / N

certify that the sample listed above was collected and placed in bottles in my presence, that each bottle was placed intact in the sample shipping container and that I sealed the sample shipping container at the date and time listed below

Sealed by (print) Jeffrey S Turner Signature Jeffrey S Turner

Date 4/6/92 Time 11 40 am Seal # 7328

Courier - Sample Pickup Transported by Jeffrey Turner

Courier - Sample Delivery

certify that I received the sample shipping container from the courier listed above with the shipping container and seal intact and that each bottle in the shipping container was intact After recording the sample in the official record book, the sample will be in custody of competent laboratory personnel at all times or locked in a secured area

Opened by (print) Alan R Hogan Signature Alan R Hogan

Date 4-6-92 Time 3 50pm Seal # 0007328 Intact? Y / N

Lab Name recycled paper ESE Comments ESE #6817-2

CHAIN OF CUSTODY

Date Sealed ~~4/2/92~~ 4/3/92 RKM By RKM

Facility
Name WASTE HAULING LANDFILL
Region CENTRAL
County MACON

Site Inventory # 1158010001
Site Billing Code LP43801
Project Manager STEVE TOWNSEND

Laboratory #	Sample I D	Sample Date	Sample Time
	L101	4/6/92	9:45 am

Sample Appearance oily sheen, dark brown liquid

Collector Comments foul odor

Sampler Signature Jeffrey S Turner Division/Company EPA/DLPC/FOS

CONTAINER				ANALYSIS	FILTERING		
No	Code	Size	Preser		(Y/N)	Date	Time
2	1	40ml		VOA	N	4/6/92	
2	3	80oz		BNA	N	4/6/92	
2	4	80oz		PESTICIDE/PCB	N	4/6/92	
1	5	1L	GRN	TOTAL METALS	N	4/11/92	
1	6	1L	BLK	CYANIDE	N		
1	7	1L	RED	SULFIDE	N		
1	8	1L		SULFATE	N		
1	9	500ML	GRY	MERCURY	N		

CHAIN OF CUSTODY CHRONICLE

I certify that I received the sample shipping container with the shipping container sealed and intact

Opened by (print) Jeffrey S Turner Signature Jeffrey S Turner

Date 4/6/92 Time 9:22 am Seal # 0007323 Intact? (Y) / N

I certify that the sample listed above was collected and placed in bottles in my presence, that each bottle was placed intact in the sample shipping container and that I sealed the sample shipping container at the date and time listed below

Sealed by (print) ~~[illegible]~~ Jeffrey S Turner Signature Jeffrey S Turner

Date 4/6/92 Time 10:45 am Seal # 0007324

Courier - Sample Pickup transported by Jeffrey Turner

Courier - Sample Delivery

I certify that I received the sample shipping container from the courier listed above with the shipping container and seal intact and that each bottle in the shipping container was intact After recording the sample in the official record book, the sample will be in the custody of competent laboratory personnel at all times or locked in a secured area

Opened by (print) Alan R Hogan Signature Alan R Hogan

Date 4-6-92 Time 3:50pm Seal # 0007324 Intact? (Y) / N

Lab Name E. S. E Comments ESE #6817-1

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

TRPBLK

Lab Name EBE Contract IEPA

Lab Code EBE Case No SAS No SDG No 192

Matrix (soil/water) WATER Lab Sample ID 6817-3

Sample wt/vol 5 0 (g/mL) ML Lab File ID V277

Level (low/med) LOW Date Received 4/ 6/92

% Moisture not dec 100 Date Analyzed 4/ 7/92

Column (pack/cap) CAP Dilution Factor 1 00

GC Column DB 624 ID 0 53mm

CAS NO	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	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	trans-1,2-Dichloroethene	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	Xylenes (total)	10	U
156-59-2	cis-1 2-Dichloroethene	10	U
110-54-3	n-Hexane	10	U

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Energy and environment

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

L102

Lab Name ESE Contract WATSE HAULERS

Lab Code _____ Case No _____ SAS No _____ SDG No _____

Matrix (soil/water) Water Lab Sample ID 6817-2

Sample wt/vol 1L (g/mL) _____ Lab File ID WASTE23231

Moisture _____ decanted (Y/N) _____ Date Received 04/06/92

Extraction (SeptF/Cont/Sonc) SeptF Date Extracted 04/06/92

Concentrated Extract Volume 10 (mL) Data Analyzed 04/08/92

Injection Volume 2 (uL) Dilution Factor 1

GPC Cleanup (Y/N) N pH 7 Sulfur Cleanup (Y/N) N

CAS NO	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg) ug/L	Q
319-84-6	alpha-BHC	0 05	U
319-85-7	beta-BHC	0 05	U
319-86-8	delta-BHC	0 05	U
58-89-9	gamma-BHC (Lindane)	0 05	U
76-44-8	heptachlor	0 05	U
309-00-2	Aldrin	0 05	U
1024-57-3	Heptachlor epoxide	0 05	U
959-98-8	Endosulfan I	0 05	U
60-57-1	Dieldrin	0 10	U
72-55-9	4,4'-DDE	0 10	U
72-20-8	Endrin	0 10	U
33213-65-9	Endosulfan II	0 10	U
72-54-8	4,4'-DDD	0 10	U
1031-07-8	Endosulfan sulfate	0 10	U
50-29-3	4,4'-DDT	0 10	U
72-43-5	Methoxychlor	0 50	U
53494-70-5	Endrin ketone	0 10	U
7421-36-3	Endrin aldehyde	0 10	U
5103-71-9	alpha-Chlordane	0 05	U
5103-74-2	gamma-Chlordane	0 05	U
8001-35-2	Toxaphene	5 0	U
12674-11-2	Aroclor-1016	1 0	U
11104-28-2	Aroclor-1221	2 0	U
11141-16-5	Aroclor-1232	1 0	U
53469-21-9	Aroclor-1242	1 0	U
12672-29-6	Aroclor-1248	1 0	U
11097-69-1	Aroclor-1254	1 0	U
11096-82-5	Aroclor-1260	1 0	U

1H

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

L102

Lab Name ESE Contract IEPA

Lab Code ESE Case No SAS No SDG No 192

Matrix (soil/water) WATER Lab Sample ID 6817-2

Sample wt/vol 5 0 (g/mL) ML Lab File ID V278

Level (low/med) LOW Date Received 4/ 6/92

% Moisture not dec 100 Date Analyzed 4/ 7/92

Column (pack/cap) CAP Dilution Factor 1 00

Column DB624 ID 0 53mm

CAS NO	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	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	trans-1,2-Dichloroethene	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	Xylenes (total)	10	U
156-59-2	cis-1 2-Dichloroethene	10	U
110-54-3	n-Hexane	10	U

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FORM IB

INORGANIC ANALYSIS DATA SHEET
OTHER INORGANICS

LAB NAME ESE (Peoria) IEPA SAMPLE NO WH LANDFILL L102

MATRIX WATER LAB SAMPLE ID 6817-2

% SOLIDS _____ DATE RECEIVED 4-6-92

CONCENTRATION UNITS ug/L

ANALYTE	CONCENTRATION	C	METHOD	Q
Cyanide	10 0	U	C	
Sulfide	400	U	T	N*
Sulfate	55000		C	

I OPGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO

L 102

Lab Name ESE Contract _____

Lab Code _____ Case No _____ SAS No _____ SDG No 192

Matrix (soil/water) Water Lab Sample ID 10917 E

Level (low/med) _____ Date Received 4/6/92

% Solids _____

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

CAS No	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1,740		N	P
7440-36-0	Antimony	1.0	U		P
7440-38-2	Arsenic	23.1		W N	F
7440-39-3	Barium	517			P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	4.0	U		P
7440-70-2	Calcium	141 000			P
7440-47-3	Chromium	4.0	U		P
7440-48-4	Cobalt	9.3	B		P
7440-50-8	Copper	13.8	B		P
7439-89-6	Iron	16 460			P
7439-92-1	Lead	12.1		+	F
7439-95-4	Magnesium	82,900			P
7439-96-5	Manganese	2 630			P
7439-97-6	Mercury	0.10	U	N	CV
7440-02-0	Nickel	4.6			P
7440-09-7	Potassium	13 400			P
7782-49-2	Selenium	1.0	B		F
7440-22-4	Silver	5.0	U		P
7440-23-5	Sodium	315 000			P
7440-28-0	Thallium	1.0	U		F
7440-62-2	Vanadium	6.1	B		P
7440-66-6	Zinc	6.0	U		P
	Cyanide				

Color Before Colorless Clarity Before Clear Texture _____

Color After Colorless Clarity After Clear Artifacts _____

Comments

No Additional Pages

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1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

L101

Lab Name ESE Contract WATSE HAULERS

Lab Code _____ Case No _____ SAS No _____ SDG No _____

Matrix (soil/water) Water Lab Sample ID 6817-1

Sample wt/vol 1L (g/mL) _____ Lab File ID WASTE22221

Moisture _____ decanted (Y/N) _____ Date Received 04/06/92

Extraction (SeptF/Cont/Sonc) SeptF Date Extracted 04/06/92

Concentrated Extract Volume 10 (mL) Data Analyzed 04/07/92

Injection Volure 2 (uL) Dilution Factor 1

GPC Cleanup (Y/N) N pH 7 Sulfur Cleanup (Y/N) N

CAS NO	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg) ug/L	Q
319-84-6	alpha-BHC	0 05	U
319-85-7	beta-BHC	0 05	U
319-86-8	delta-BHC	0 05	U
58-89-9	gamma-BHC (Lindane)	0 37	
76-44-8	Heptachlor	0 05	U
309-00-2	Aldrin	0 05	U
1024-57-3	Heptachlor epoxide	0 05	U
959-98-8	Endosulfan I	0 05	U
60-57-1	Dieldrin	0 10	U
72-55-9	4,4'-DDE	0 10	U
72-20-8	Endrin	0 10	U
33213-65-9	Endosulfan II	0 10	U
72-54-8	4,4'-DDD	0 10	U
1031-07-8	Endosulfan sulfate	0 10	U
50-29-3	4,4'-DDT	0 10	U
72-43-5	Methoxychlor	0 50	U
53494-70-5	Endrin ketone	0 10	U
7421-36-3	Endrin aldehyde	0 10	U
5103-71-9	alpha-Chlordane	0 05	U
5103-74-2	gamma-Chlordane	0 07	
8001-35-2	Toxaphene	5 0	U
12674-11-2	Aroclor-1016	1 0	U
11104-28-2	Aroclor-1221	2 0	U
11141-16-5	Aroclor-1232	1 0	U
53469-21-9	Aroclor-1242	1 0	U
12672-29-6	Aroclor-1248	1 0	U
11097-69-1	Aroclor-1254	1 0	U
11096-82-5	Aroclor-1260	1 0	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

L101DL

Lab Name ESE Contract IEPA

Lab Code ESE Case No SAS No SDG No 192

Matrix (soil/water) WATER Lab Sample ID 6817-1DL

Sample wt/vol 5.0 (g/mL) ML Lab File ID V281

Level (low/med) LOW Date Received 4/ 6/92

% Moisture not dec. 100 Date Analyzed 4/ 7/92

Column (pack/cap) CAP Dilution Factor 25.00

GC Column DB624 ID 0.53mm

CAS NO	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	250	U
74-83-9	Bromomethane	250	U
75-01-4	Vinyl Chloride	250	U
75-00-3	Chloroethane	250	U
75-09-2	Methylene Chloride	160	JD
67-64-1	Acetone	830	D
75-15-0	Carbon Disulfide	250	U
75-35-4	1,1-Dichloroethene	250	U
75-34-3	1,1-Dichloroethane	250	U
540-59-0	trans-1,2-Dichloroethene	250	U
67-66-3	Chloroform	250	U
107-06-2	1,2-Dichloroethane	250	U
78-93-3	2-Butanone	2200	D
71-55-6	1,1,1-Trichloroethane	250	U
56-23-5	Carbon Tetrachloride	250	U
75-27-4	Bromodichloromethane	250	U
78-87-5	1,2-Dichloropropane	250	U
10061-01-5	cis-1,3-Dichloropropene	250	U
79-01-6	Trichloroethene	250	U
124-48-1	Dibromochloromethane	250	U
79-00-5	1,1,2-Trichloroethane	250	U
71-43-2	Benzene	250	U
10061-02-6	trans-1,3-Dichloropropene	250	U
75-25-2	Bromoform	250	U
108-10-1	4-Methyl-2-Pentanone	250	U
591-78-6	2-Hexanone	250	U
127-18-4	Tetrachloroethene	250	U
79-34-5	1,1,2,2-Tetrachloroethane	250	U
108-88-3	Toluene	50	JD
108-90-7	Chlorobenzene	250	U
100-41-4	Ethylbenzene	250	U
100-42-5	Styrene	250	U
1330-20-7	Xylenes (total)	250	U
156-59-2	cis-1,2-Dichloroethene	250	U
110-54-3	Hexane	250	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

L101

Lab Name ESE Contract IEPA

Lab Code ESE Case No SAS No SDG No 192

Matrix (soil/water) WATER Lab Sample ID 6817-1

Sample wt/vol 5.0 (g/mL) ML Lab File ID V282

Level (low/med) LOW Date Received 4/ 6/92

% Moisture not dec 100 Date Analyzed 4/ 7/92

Column (pack/cap) CAP Dilution Factor 2.00

GC Column DB624 = 0.53mm

CAS NO	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	20	U
74-83-9	Bromomethane	20	U
75-01-4	Vinyl Chloride	20	U
75-00-3	Chloroethane	20	U
75-09-2	Methylene Chloride	190	
67-64-1	Acetone	930	E
75-15-0	Carbon Disulfide	20	U
75-35-4	1,1-Dichloroethene	20	U
75-34-3	1,1-Dichloroethane	70	
540-59-0	trans-1,2-Dichloroethene	20	U
67-66-3	Chloroform	20	U
107-06-2	1,2-Dichloroethane	20	U
78-93-3	2-Butanone	3100	E
71-55-6	1,1,1-Trichloroethane	93	
56-23-5	Carbon Tetrachloride	20	U
75-27-4	Bromodichloromethane	20	U
78-87-5	1,2-Dichloropropane	20	U
10061-01-5	cis-1,3-Dichloropropene	20	U
79-01-6	Trichloroethene	24	
124-48-1	Dibromochloromethane	20	U
79-00-5	1,1,2-Trichloroethane	20	U
71-43-2	Benzene	20	U
10061-02-6	trans-1,3-Dichloropropene	20	U
75-25-2	Bromoform	20	U
108-10-1	4-Methyl-2-Pentanone	20	U
591-78-6	2-Hexanone	20	U
127-18-4	Tetrachloroethene	20	U
79-34-5	1,1,2,2-Tetrachloroethane	20	U
108-88-3	Toluene	81	
108-90-7	Chlorobenzene	20	U
100-41-4	Ethylbenzene	10	J
100-42-5	Styrene	20	U
1330-20-7	Xylenes (total)	43	
156-59-2	cis-1,2-Dichloroethene	20	U
110-54-3	n-Hexane	20	U

FORM IB

INORGANIC ANALYSIS DATA SHEET
OTHER INORGANICS

LAB NAME ESE (Peoria) IEPA SAMPLE NO WH LANDFILL L101

MATRIX WATER LAB SAMPLE ID 6817-1

% SOLIDS _____ DATE RECEIVED 4-6-92

CONCENTRATION UNITS ug/L

ANALYTE	CONCENTRATION	C	METHOD	Q
Cyanide	10 0	U	C	
Sulfide	1760		T	N*
Sulfate	80000		C	

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO

L101

Lab Name ESE Contract _____

Lab Code _____ Case No _____ SAS No _____ SDG No 192

Matrix (soil/water) Water Lab Sample ID 6817 1

Level (low/med) _____ Date Received 4/6/92

% Solids _____

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

CAS No	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1370		N	P
7440-36-0	Antimony	95.2			P
7440-38-2	Arsenic	11.4		*N	F
7440-39-3	Barium	1720			P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	57.9			P
7440-70-2	Calcium	808,000			P
7440-47-3	Chromium	4.0	U		P
7440-48-4	Cobalt	213			P
7440-50-8	Copper	3.0	U		P
7439-89-6	Iron	471,000			P
7439-92-1	Lead	25.9		*	F
7439-95-4	Magnesium	191,000			P
7439-96-5	Manganese	55,800			P
7439-97-6	Mercury	0.10	U	N	CV
7440-02-0	Nickel	515			P
7440-09-7	Potassium	166,000			P
7782-49-2	Selenium	1.6	B		F
7440-22-4	Silver	128			P
7440-23-5	Sodium	357,000			P
7440-28-0	Thallium	1.0	U		F
7440-62-2	Vanadium	14.0	B		P
7440-66-6	Zinc	1190			P
	Cyanide				

Color Before Brown Clay Clarity Before Cloudy Texture _____

Color After Yellow Clarity After Cloudy Artifacts _____

Comments

This water sample has approximately 10% - 15% solid sediment in the bottom of the sample. Since all quots of the sample may have had more floating sediment material than other

FORM I - IN 3/90

0

Additional qualifiers may be used, but they must be clearly defined in the case narrative

Column M (Method) Designations

P	ICP
A	Flame AA
F	Furnace AA
CV	Manual Cold Vapor AA
AV	Automated Cold Vapor AA
AS	Semi Automated Spectrophotometric
C	Manual Spectrophotometric
T	Titrimetric
NR	Analysis Not Required

ORGANIC ANALYSIS DATA SHEET QUALIFIERS

The various forms include columns for results qualifiers Forms 1A 1F contain a column identified at the top as Q, with the following defined qualifiers

U This flag indicates the compound was analyzed for but not detected The quantitation limit is corrected for dilution and percent moisture

J This flag indicates an estimated value, and is used for one of two reasons
1) The mass spectral data and/or chromatographic data indicates the presence of a target compound which meets the normal identification criteria (spectrum and/or retention time) but the concentration is below the CRQL
2) This flag is used when estimating the concentration for TICs assuming a response factor of one i e all TIC concentrations are flagged with a J

B This flag indicates this compound was found in the procedural blank prepared and analyzed with the sample, whether as a target compound, or as a TIC Target compounds allowed, to a maximum of 5X CRQL, in the blank include the common laboratory solvents Methylene Chloride, Acetone, 2 Butanone, and Toluene, as well as common phthalates Other target compounds in the blank above the CRQL require the sample to be re extracted, with a new blank, after identifying possible sources of contamination

E This flag identifies compounds whose concentrations exceed the calibration range of the instrument for the analysis The analytical fraction containing the compound which exceeds the calibration range must be diluted and re analyzed, with submission of a separate Form 1 The lab sample number and EPA sample number shall have the "DL" suffix appended to them

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Randolph & Associates, Inc
8901 NORTH INDUSTRIAL ROAD PEORIA ILLINOIS 61615 1589
TELEPHONE 309-692-4422

INORGANIC ANALYSIS DATA SHEET QUALIFIERS

The various forms include columns for data qualifiers The inorganic column headings with allowed qualifiers or designations, are as follows

Column C (Concentration) Qualifiers

U This flag indicates the parameter was analyzed for but not detected

B This flag indicates the parameter concentration was greater than the Instrument Detection Limit (IDL) but less than the CRQL

Column Q (Quality Control) Qualifiers

E This flag indicates the reported value is estimated due to the presence of an interference The interference is observed and reported on the ICP Serial Dilution Form VIII with the criteria for flagging the data as within ±10% of the original for the diluted analysis An explanatory note is included in the case narrative to give additional information

M This flag indicates the duplicate injection precision was not met

* This flag indicates the duplicate analysis is not within the 20% RPD control limits

NC This flag indicates at least one of the duplicate sample results is below the CRQL and the %RPD is not calculated on Form VI

N This flag indicates the spike sample recovery is not within the 75 125% recovery control limits

S This flag indicates the reported value was determined by the Method of Standard Additions (MSA) MSA shall be used for the analysis of all EPTox extracts

+ This flag indicates the correlation coefficient for MSA is less than 0 995

W This flag indicates the post digestion spike for furnace AA analysis is outside the control limits (85 115%) while the sample absorbance is less than 50% of spike absorbance

Note that qualifiers S" "W" and "+" are mutually exclusive No combination of these qualifiers may appear in the same column for an analyte

An IEPA Contract Laboratory
Disclaimer Liability to Randolph & Associates, Inc not to exceed cost of analysis

APPENDIX D

1995 FSIP ANALYTICAL DATA PACKAGE

SAMPLING DATE AUGUST 1, 1995

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ecology and the environment

8/25

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

DATE: 08-23-95

SUBJECT: **Review of Region V CLP Data Received for Review on** August 16, 1995

FROM **Dennis Wesolowski, Chief (SQC-14J) Contract Analytical Services Section** L Finkelberg for D Wesolowski

TO. **Data User** E & E

We have reviewed the data for the following case:

SITE NAME Macon Cty #2 / Murrell / Waste (IL)

CASE NUMBER 23857 **SDG NUMBER:** MEPF25

Number and Type of Samples: 13 - Soil / Water

Sample Numbers: MEPF25, MEWH61-72

Laboratory: SWOK **Hrs. for Review:** 48 +0.2 +1.2 TM

Following are our findings:

The soil duplicate audits for Al, As, Ba, Ca, Cu, Fe, Pb, Mg and Mn are out of control
The duplicate audit and matrix spike recovery for Zn (soil) are out of control
The soil serial dilution audits for Co and K are out of control
The water serial dilution for Na is out of control
The CLP contains contamination

All data (soil and water) are usable with the qualifications described in the attached narrative

L Finkelberg
08-23-95

cc: Regional TPO

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ecology and environment

NARRATIVE

SITE	Macon City #2/Murrell/Waste	CASE	23857
LABORATORY	SWOK	SDG	MEPF25

The laboratory's portion of case 23857 contains 6 water samples and 7 soil samples analyzed for total metals and cyanide The following narrative lists the out of control audits and their possible effects on the results

EVIDENTIAL AUDIT All of the forms are originals The original ICP raw data (pages 92-128), the mercury raw data (pages 164-169), and the cyanide raw data (pages 173-178) are with case# 23885, SDG# MEAF53 The sample tags, the chain of custody forms, the airbill, and the DC-1 form are originals All forms are present and in the order indicated on the Form DC-2 [inventory sheet]

SOIL (Samples MEWH61, MEWH63 - 65, MEWH67 - 69)

ICP ANALYSES The duplicate audits for chromium (65 9%), nickel (108 4%), and vanadium (113 3%) were flagged by the laboratory, but they do not exceed the technical criterion of ± 2X CRDL for soils All chromium, nickel, and vanadium data are acceptable

The duplicate audits for aluminum (72 5%), arsenic (151 8%), barium (108 0%), calcium (125 0%), copper (115 9%), iron (133 8%), lead (106 3%), magnesium (130 4%), and manganese (67 9%) are out of control All aluminum, arsenic, barium, calcium, copper, iron, lead, magnesium, and manganese data are estimated (J) due to poor precision

The duplicate audit for zinc (153 3%) is out of control The matrix spike recovery for zinc (21 8%) is out of control All zinc data are estimated (J) due to poor precision and low bias

The duplicate RPDs for antimony (200 0%), beryllium (200 0%), cadmium (200 0%), cobalt (99 8%), and potassium (53 9%) were not flagged by the laboratory because the techncial criterion of ± 2X CRDL was not exceeded for soils All antimony, beryllium, and cadmium data are acceptable The cobalt and potassium data are not qualifed on this basis, but are qualified in the sixth paragraph of this section

The matrix spike recovery for manganese (-200 4%) was not flagged by the laboratory because the sample is 4 times the spike concentration The manganese data are not qualified on this basis, but remain qualified as in the above paragraph

The serial dilution audits for cobalt (11 8%) and potassium (14 8%) are out of control All cobalt and potassium data are estimated (J) due to interference

OTHER ANALYSES According to the mercury digestion logs submitted by the laboratory, it appears that the soil and water samples were digested together with only one set of calibration standards After reviewing the SOW, the digestion procedure for soils and water samples for mercury are different The laboratory should digest soil and water samples according to the SOW with separate calibration curves for each digestion procedure Mercury data are not qualified on this basis and are acceptable

All cyanide data are acceptable

Samples MEWH67/MEWH68 are field duplicates that snow good correlation

WATER (Samples MEPF25, MEWH62, MEWH66, MEWH70 - 72)

ICP ANALYSES The aluminum and iron results for sample MEWH72 are biased high due to a CCB (16 7 µg/L and 20 1 µg/L, respectively) greater than the IDL (12 0 µg/L and 15 0 µg/L, respectively) The above sample for aluminum and iron is estimated (J) due to contamination

The duplicate RPD for cobalt (200 0%) was not flagged by the laboratory because the technical criterion of ± CRDL for waters was not exceeded All cobalt data are acceptable

The serial dilution audit for sodium (10 9%) is out of control All sodium data are estimated (J) due to interference

The 10X dilution factor necessary to analyze sodium for sample MEWH66 and the serial dilution was not factored into the results reported on Form IX The form was corrected by the reviewer

OTHER ANALYSES According to the mercury digestion logs submitted by the laboratory, it appears that the soil and water samples were digested together with only one set of calibration standards After reviewing the SOW, the digestion procedure for soils and water samples for mercury are different The laboratory should digest soil and water samples according to the SOW with separate calibration curves for each digestion procedure Mercury data are not qualified on this basis and are acceptable

All cyanide data are acceptable

Samples MEWH70/MEWH71 are field duplicates with the duplicate audit for aluminum (35 0%) and iron (44 0%) that are out of control Sample MEWH72 is affected by poor precision, but remains qualified as in the first paragraph of the ICP Analyses section The remaining water samples for aluminum and iron are estimated (J) due

Reviewed by Patricia M McClintock **Patricia M. McClintock**
Lockheed/ESAT

Date 8/21/95

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 associa ed 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

ESAT-5-087.1

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COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

I- Name SOUTHWEST_LAB_OF_OK_____ Contract 68-D3-0040

Lab Code SWOK__ Case No 23857 SAS No _____ SDG No MEPF25

SOW No ILM03

EPA Sample No	Lab Sample ID
MEPF25	2309701
MEWH61	2309702
MEWH62	2309703
MEWH63	2309704
MEWH63D	2309704D
MEWH63S	2309704S
MEWH64	2309705
MEWH65	2309706
MEWH66	2309707
MEWH66D	2309707D
MEWH66S	2309707S
MEWH67	2309708
MEWH68	2309709
MEWH69	2309710
MEWH70	2309711
MEWH71	2309712
MEWH72	2309713

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 Deborah J Beree for Jason D Ruckman

Date August 14, 1995 Title Inorganic Program Manager

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1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO

MEPF25
MCLSW2

Lab Name SOUTHWEST_LAB_OF_OK Contract 68-D3-0040

Lab Code SWOK Case No 23857 SAS No SDG No MEPF25

Matrix (soil/water) WATER Lab Sample ID 2309701

Level (low/med) LOW Date Received 08/02/95

% Solids 0 0

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

CAS No	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	2840			P
7440-36-0	Antimony	3 0	U		P
7440-38-2	Arsenic	3 6	B		P
7440-39-3	Barium	77 4	B		P
7440-41-7	Beryllium	1 0	U		P
7440-43-9	Cadmium	1 0	U		P
7440-70-2	Calcium	50500			P
7440-47-3	Chromium	4 8	B		P
7440-48-4	Cobalt	3 3	B		P
7440-50-8	Copper	12 9	B		P
7439-89-6	Iron	4370			P
7439-92-1	Lead	9 2			P
7439-95-4	Magnesium	32600			P
7439-96-5	Manganese	216			P
7439-97-6	Mercury	0 20	U		AV
7440-02-0	Nickel	56 1			P
7440-09-7	Potassium	51300			P
7782-49-2	Selenium	4 0	U		P
7440-22-4	Silver	2 0	U		P
7440-23-5	Sodium	453000		E	P
7440-28-0	Thallium	4 0	U		P
7440-62-2	Vanadium	9 9	B		P
7440-66-6	Zinc	64 5			P
	Cyanide	10 0	U		AS

Color Before YELLOW Clarity Before CLOUDY Texture

Color After COLORLESS Clarity After CLEAR Artifacts

Comments

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO 004

MEWH61
MLS2

Lab Name SOUTHWEST_LAB_OF_OK_____ Contract 68-D3-0040

Lab Code SWOK__ Case No 23857_ SAS No _____ SDG No MEPF25

Matrix (soil/water) SOIL_ Lab Sample ID 2309702___

Level (low/med) LOW__ Date Received 08/02/95

% 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	996	J	*	P	
7440-36-0	Antimony	0 76	U		P	
7440-38-2	Arsenic	2 4	B	J *	P	
7440-39-3	Barium	13 6	B	J *	P	
7440-41-7	Beryllium	0 25	U		P	
7440-43-9	Cadmium	0 25	U		P	
7440-70-2	Calcium	9820		J *	P	CS 8/25/95
7440-47-3	Chromium	4 3		*	P	
7440-48-4	Cobalt	2 8	B	J E	P	
7440-50-8	Copper	2 2	B	J *	P	
7439-89-6	Iron	3650		J *	P	
7439-92-1	Lead	4 1		J *	P	
7439-95-4	Magnesium	4090		J *	P	
7439-96-5	Manganese	142		J *	P	
7439-97-6	Mercury	0 13	U		AV	CS 8/25/95
7440-02-0	Nickel	4 8	B	*	P	
7440-09-7	Potassium	168	B	J E	P	
7782-49-2	Selenium	1 0	U		P	
7440-22-4	Silver	0 51	U		P	
7440-23-5	Sodium	67 4	B		P	
7440-28-0	Thallium	1 0	U		P	
7440-62-2	Vanadium	4 3	B	*	P	CS 8/25/95
7440-66-6	Zinc	14 5	J	N*	P	
	Cyanide	0 63	U		AS	

Color Before BROWN____ Clarity Before _____ Texture MEDIUM

Color After YELLOW___ Clarity After _____ Artifacts _____

Comments

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1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO

MEWH62
MLSW1

Lab Name SOUTHWEST_LAB_OF_OK_____ Contract 68-D3-0040

Lab Code SWOK__ Case No 23857_ SAS No _____ SDG No MEPF25

Matrix (soil/water) WATER Lab Sample ID 2309703___

Level (low/med) LOW__ Date Received 08/02/95

% Solids __0 0

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

CAS No	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	342	J		P
7440-36-0	Antimony_	3 0	U		P
7440-38-2	Arsenic__	3 4	B		P
7440-39-3	Barium___	39 2	B		P
7440-41-7	Beryllium	1 0	U		P
7440-43-9	Cadmium__	1 0	U		P
7440-70-2	Calcium__	48000			P
7440-47-3	Chromium_	1 8	B		P
7440-48-4	Cobalt___	1 4	B		P
7440-50-8	Copper___	7 7	B		P
7439-89-6	Iron_____	519	J		P
7439-92-1	Lead_____	3 1			P
7439-95-4	Magnesium	31300			P
7439-96-5	Manganese	76 7			P
7439-97-6	Mercury__	0 20	U		AV
7440-02-0	Nickel___	54 8			P
7440-09-7	Potassium	47200			P
7782-49-2	Selenium_	4 0	U		P
7440-22-4	Silver___	2 0	U		P
7440-23-5	Sodium___	394000	J	E	P
7440-28-0	Thallium_	4 0	U		P
7440-62-2	Vanadium_	4 4	B		P
7440-66-6	Zinc_____	40 5			P
	Cyanide__	10 0	U		AS

Color Before YELLOW___ Clarity Before CLOUDY Texture _____

Color After COLORLESS Clarity After CLEAR_ Artifacts _____

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO

MEWH63
MCLS1

Lab Name SOUTHWEST_LAB_OF_OK_____ Contract 68-D3-0040

Lab Code SWOK__ Case No 23857_ SAS No _____ SDG No MEPF25

Matrix (soil/water) SOIL_ Lab Sample ID 2309704___

Level (low/med) LOW__ Date Received 08/02/95

% Solids _82 9

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

CAS No	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	2530	J	*	P	
7440-36-0	Antimony	1 2	B		P	
7440-38-2	Arsenic	12 7		J *	P	
7440-39-3	Barium	98 5		J *	P	
7440-41-7	Beryllium	0 44	B		P	
7440-43-9	Cadmium	0 62	B	SS	P	CS 8/25/95
7440-70-2	Calcium	9920	J	*	P	
7440-47-3	Chromium	9 4		*	P	
7440-48-4	Cobalt	13 1	J	E	P	
7440-50-8	Copper	19 6	J	*	P	
7439-89-6	Iron	26900	J	*	P	
7439-92-1	Lead	21 9	J	*	P	
7439-95-4	Magnesium	4960	J	*	P	
7439-96-5	Manganese	1020	J	*	P	
7439-97-6	Mercury	0 12	U		AV	
7440-02-0	Nickel	24 2		*	P	CS 8/25/95
7440-09-7	Potassium	413	B	J E	P	
7782-49-2	Selenium	0 97	U		P	
7440-22-4	Silver	0 48	U		P	
7440-23-5	Sodium	301	B		P	
7440-28-0	Thallium	0 97	U		P	
7440-62-2	Vanadium	28 5		*	P	CS 8/25/95
7440-66-6	Zinc	121	J	N*	P	
	Cyanide	0 60	U		AS	

Color Before GREY_____ Clarity Before _____ Texture COARSE

Color After YELLOW___ Clarity After _____ Artifacts _____

Comments

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO

MEWH64

MCLS2

Lab Name SOUTHWEST_LAB_OF_OK_____ Contract 68-D3-0040

Lab Code SWOK__ Case No 23857_ SAS No _____ SDG No MEPF25

Matrix (soil/water) SOIL_ Lab Sample ID 2309705___

Level (low/med) LOW__ Date Received 08/02/95

% Solids _65 2

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

CAS No	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	5680	J	*	P
7440-36-0	Antimony	0 92	U		P
7440-38-2	Arsenic	3 3	J	*	P
7440-39-3	Barium	66 5	J	*	P
7440-41-7	Beryllium	0 50	B		P
7440-43-9	Cadmium	0 31	U		P
7440-70-2	Calcium	6630	J	*	P
7440-47-3	Chromium	12 1		*	P
7440-48-4	Cobalt	5 5	B	J E	P
7440-50-8	Copper	14 1	J	*	P
7439-89-6	Iron	13000	J	*	P
7439-92-1	Lead	16 4	J	*	P
7439-95-4	Magnesium	3330	J	*	P
7439-96-5	Manganese	335	J	*	P
7439-97-6	Mercury	0 15	U		AV
7440-02-0	Nickel	12 5		*	P
7440-09-7	Potassium	972	B	J E	P
7782-49-2	Selenium	1 2	U		P
7440-22-4	Silver	0 61	U		P
7440-23-5	Sodium	685	B		P
7440-28-0	Thallium	1 2	U		P
7440-62-2	Vanadium	13 8	B	*	P
7440-66-6	Zinc	53 8	J	N*	P
	Cyanide	0 77	U		AS

CS 8/25/95

CS 8/25/95

CS 8/25/95

Color Before GREY_____ Clarity Before _____ Texture MEDIUM

Color After YELLOW___ Clarity After _____ Artifacts _____

Comments

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO

MEWH65
MCLS3

Lab Name SOUTHWEST_LAB_OF_OK Contract 68-D3-0040

Lab Code SWOK Case No 23857 SAS No SDG No MEPF25

Matrix (soil/water) SOIL Lab Sample ID 2309706

Level (low/med) LOW Date Received 08/02/95

% Solids 80 2

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

CAS No	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	1400	J	*	P	
7440-36-0	Antimony	0 75	U		P	
7440-38-2	Arsenic	0 91	B	J *	P	
7440-39-3	Barium	19 2	B	J *	P	
7440-41-7	Beryllium	0 25	U		P	
7440-43-9	Cadmium	0 25	U		P	
7440-70-2	Calcium	5270	J	*	P	
7440-47-3	Chromium	5 0		*	P	CS 8/25/95
7440-48-4	Cobalt	1 8	B	J E	P	
7440-50-8	Copper	32 7	J	*	P	
7439-89-6	Iron	3480	J	*	P	
7439-92-1	Lead	8 6	J	*	P	
7439-95-4	Magnesium	2190	J	*	P	
7439-96-5	Manganese	110	J	*	P	
7439-97-6	Mercury	0 12	U		AV	
7440-02-0	Nickel	5 1	B	*	P	CS 8/25/95
7440-09-7	Potassium	234	B	J E	P	
7782-49-2	Selenium	1 00	U		P	
7440-22-4	Silver	0 50	U		P	
7440-23-5	Sodium	261	B		P	
7440-28-0	Thallium	1 00	U		P	
7440-62-2	Vanadium	5 8	B	*	P	CS 8/25/95
7440-66-6	Zinc	23 7	J	N*	P	
	Cyanide	0 62	U		AS	

Color Before GREY Clarity Before Texture MEDIUM

Color After YELLOW Clarity After Artifacts

Comments

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO

MEWH66
MCLSW1

Lab Name SOUTHWEST_LAB_OF_OK_____ Contract 68-D3-0040

Lab Code SWOK__ Case No 23857_ SAS No _____ SDG No MEPF25

Matrix (soil/water) WATER Lab Sample ID 2309707___

Level (low/med) LOW__ Date Received 08/02/95

% Solids 0 0

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

CAS No	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	279	J		P
7440-36-0	Antimony_	3 0	U		P
7440-38-2	Arsenic__	3 0	U		P
7440-39-3	Barium___	26 6	B		P
7440-41-7	Beryllium	1 0	U		P
7440-43-9	Cadmium__	1 0	U		P
7440-70-2	Calcium__	47000			P
7440-47-3	Chromium_	2 3	B		P
7440-48-4	Cobalt___	1 0	B		P
7440-50-8	Copper___	8 5	B		P
7439-89-6	Iron_____	425	J		P
7439-92-1	Lead_____	3 2			P
7439-95-4	Magnesium	31400			P
7439-96-5	Manganese	61 1			P
7439-97-6	Mercury__	0 20	U		AV
7440-02-0	Nickel___	49 9			P
7440-09-7	Potassium	50400			P
7782-49-2	Selenium_	4 0	U		P
7440-22-4	Silver___	2 0	U		P
7440-23-5	Sodium___	420000	J	E	P
7440-28-0	Thallium_	4 0	U		P
7440-62-2	Vanadium_	3 7	B		P
7440-66-6	Zinc_____	49 2			P
_____	Cyanide__	10 0	U		AS

Color Before YELLOW___ Clarity Before CLOUDY Texture _____

Color After COLORLESS Clarity After CLEAR_ Artifacts _____

Comments

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO

MEWH67

WHS1

Lab Name SOUTHWEST_LAB_OF_OK_____ Contract 68-D3-0040

Lab Code SWOK__ Case No 23857_ SAS No _____ SDG No MEPF25

Matrix (soil/water) SOIL_ Lab Sample ID 2309708___

Level (low/med) LOW__ Date Received 08/02/95

% Solids _78 0

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

CAS No	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	1550	J	*	P	
7440-36-0	Antimony	0 77	U		P	
7440-38-2	Arsenic	1 1	B	J *	P	
7440-39-3	Barium	15 9	B	J *	P	
7440-41-7	Beryllium	0 26	U		P	
7440-43-9	Cadmium	0 26	U		P	
7440-70-2	Calcium	7510	J	*	P	
7440-47-3	Chromium	4 8		*	P	CS 8/25/95
7440-48-4	Cobalt	2 4	B	J E	P	
7440-50-8	Copper	4 5	B	J *	P	
7439-89-6	Iron	4410	J	*	P	
7439-92-1	Lead	6 5	J	*	P	
7439-95-4	Magnesium	3750	J	*	P	
7439-96-5	Manganese	125	J	*	P	
7439-97-6	Mercury	0 13	U		AV	CS 8/25/95
7440-02-0	Nickel	4 8	B	*	P	
7440-09-7	Potassium	239	B	J E	P	
7782-49-2	Selenium	1 0	U		P	
7440-22-4	Silver	0 51	U		P	
7440-23-5	Sodium	74 6	B		P	
7440-28-0	Thallium	1 0	U		P	CS 8/25/95
7440-62-2	Vanadium	6 7	B	*	P	
7440-66-6	Zinc	24 2	J	N*	P	
	Cyanide	0 64	U		AS	

Color Before GREY_____ Clarity Before _____ Texture MEDIUM

Color After YELLOW___ Clarity After _____ Artifacts _____

Comments

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO

MEWH68
WHSID

Lab Name SOUTHWEST_LAB_OF_OK_____ Contract 68-D3-0040

Lab Code SWOK__ Case No 23857_ SAS No _____ SDG No MEPF25

Matrix (soil/water) SOIL_ Lab Sample ID 2309709___

Level (low/med) LOW__ Date Received 08/02/95

% Solids _72 6

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

CAS No	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1670	J	*	P
7440-36-0	Antimony	0 83	U		P
7440-38-2	Arsenic	0 91	B	*	P
7440-39-3	Barium	19 5	B	*	P
7440-41-7	Beryllium	0 28	U		P
7440-43-9	Cadmium	0 28	U		P
7440-70-2	Calcium	7670	J	*	P
7440-47-3	Chromium	4 8		*	P
7440-48-4	Cobalt	2 5	B	J E	P
7440-50-8	Copper	6 6	B	J *	P
7439-89-6	Iron	4340	J	*	P
7439-92-1	Lead	7 6	J	*	P
7439-95-4	Magnesium	3780	J	*	P
7439-96-5	Manganese	145	J	*	P
7439-97-6	Mercury	0 14	U		AV
7440-02-0	Nickel	5 3	B	*	P
7440-09-7	Potassium	257	B	J E	P
7782-49-2	Selenium	1 1	U		P
7440-22-4	Silver	0 55	U		P
7440-23-5	Sodium	81 2	B		P
7440-28-0	Thallium	1 1	U		P
7440-62-2	Vanadium	6 0	B	*	P
7440-66-6	Zinc	25 4	J	N*	P
	Cyanide	0 69	U		AS

CS 8/25/95

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8/25/95

Color Before GREY_____ Clarity Before _____ Texture MEDIUM

Color After YELLOW___ Clarity After _____ Artifacts _____

Comments

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO

MEWH69
WHS2

Lab Name SOUTHWEST_LAB_OF_OK Contract 68-D3-0040

Lab Code SWOK Case No 23857 SAS No SDG No MEPF25

Matrix (soil/water) SOIL Lab Sample ID 2309710

Level (low/med) LOW Date Received 08/02/95

% Solids 76 1

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

CAS No	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	687	J	*	P	
7440-36-0	Antimony	0 79	U		P	
7440-38-2	Arsenic	0 79	U	J *	P	
7440-39-3	Barium	6 8	B	J *	P	
7440-41-7	Beryllium	0 26	U		P	
7440-43-9	Cadmium	0 26	U		P	
7440-70-2	Calcium	5170	J	*	P	
7440-47-3	Chromium	2 7		*	P	CS 8/25/95
7440-48-4	Cobalt	1 5	B	J E	P	
7440-50-8	Copper	1 3	B	J *	P	
7439-89-6	Iron	2110	J	*	P	
7439-92-1	Lead	2 6	J	*	P	
7439-95-4	Magnesium	2330	J	*	P	
7439-96-5	Manganese	55 7	J	*	P	
7439-97-6	Mercury	0 13	U		AV	
7440-02-0	Nickel	2 6	B	*	P	CS 8/25/95
7440-09-7	Potassium	114	B	J E	P	
7782-49-2	Selenium	1 1	U		P	
7440-22-4	Silver	0 53	U		P	
7440-23-5	Sodium	79 8	B		P	
7440-28-0	Thallium	1 1	U		P	
7440-62-2	Vanadium	3 5	B	*	P	CS 8/25/95
7440-66-6	Zinc	8 6	J	N*	P	
	Cyanide	0 66	U		AS	

Color Before BROWN Clarity Before Texture FINE

Color After YELLOW Clarity After Artifacts

Comments

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1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO

MEWH70
WHSW1

Lab Name SOUTHWEST_LAB_OF_OK_____ Contract 68-D3-0040

Lab Code SWOK__ Case No 23857_ SAS No _____ SDG No MEPF25

Matrix (soil/water) WATER Lab Sample ID 2309711___

Level (low/med) LOW__ Date Received 08/02/95

% Solids __0 0

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

CAS No	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	672	J		P_
7440-36-0	Antimony_	3 0	U		P_
7440-38-2	Arsenic__	3 3	B		P_
7440-39-3	Barium___	68 3	B		P_
7440-41-7	Beryllium	1 0	U		P_
7440-43-9	Cadmium__	1 0	U		P_
7440-70-2	Calcium__	68800			P_
7440-47-3	Chromium_	1 4	B		P_
7440-48-4	Cobalt___	1 5	B		P_
7440-50-8	Copper___	6 2	B		P_
7439-89-6	Iron_____	1150	J		P_
7439-92-1	Lead_____	4 0			P_
7439-95-4	Magnesium	32700			P_
7439-96-5	Manganese	491			P_
7439-97-6	Mercury__	0 20	U		AV
7440-02-0	Nickel___	12 2	B		P_
7440-09-7	Potassium	8690			P_
7782-49-2	Selenium_	4 0	U		P_
7440-22-4	Silver___	2 0	U		P_
7440-23-5	Sodium___	61300	J	E	P_
7440-28-0	Thallium_	4 0	U		P_
7440-62-2	Vanadium_	2 9	B		P_
7440-66-6	Zinc_____	17 1	B		P_
_____	Cyanide__	10 0	U		AS

Color Before YELLOW___ Clarity Before CLOUDY Texture _____

Color After COLORLESS Clarity After CLEAR_ Artifacts _____

Comments

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1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO

MEWH71

WHSWID

Lab Name SOUTHWEST_LAB_OF_OK Contract 68-D3-0040

Lab Code SWOK Case No 23857 SAS No SDG No MEPF25

Matrix (soil/water) WATER Lab Sample ID 2309712

Level (low/med) LOW Date Received 08/02/95

% Solids 0 0

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

CAS No	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	472	J		P
7440-36-0	Antimony	3 0	U		P
7440-38-2	Arsenic	3 4	B		P
7440-39-3	Barium	65 0	B		P
7440-41-7	Beryllium	1 0	U		P
7440-43-9	Cadmium	1 0	U		P
7440-70 2	Calcium	69500			P
7440-47-3	Chromium	1 4	B		P
7440-48-4	Cobalt	1 1	B		P
7440-50-8	Copper	7 9	B		P
7439-89-6	Iron	735	J		P
7439-92-1	Lead	2 9	B		P
7439-95-4	Magnesium	33100			P
7439-96-5	Manganese	441			P
7439-97-6	Mercury	0 20	U		AV
7440-02-0	Nickel	12 0	B		P
7440-09-7	Potassium	8570			P
7782-49-2	Selenium	4 0	U		P
7440-22-4	Silver	2 0	U		P
7440-23-5	Sodium	61900	J	E	P
7440-28-0	Thallium	4 0	U		P
7440-62-2	Vanadium	2 8	B		P
7440-66-6	Zinc	16 0	B		P
	Cyanide	10 0	U		AS

Color Before YELLOW Clarity Before CLOUDY Texture

Color After COLORLESS Clarity After CLEAR Artifacts

Comments

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1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO

MEWH72

MLF1

Lab Name SOUTHWEST_LAB_OF_OK Contract 68-D3-0040

Lab Code SWOK Case No 23857 SAS No SDG No MEPF25

Matrix (soil/water) WATER Lab Sample ID 2309713

Level (low/med) LOW Date Received 08/02/95

% Solids 0 0

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

CAS No	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	42 1	B	J	P
7440-36-0	Antimony	3 0	U		P
7440-38-2	Arsenic	3 0	U		P
7440-39-3	Barium	1 2	B		P
7440-41-7	Beryllium	1 0	U		P
7440-43-9	Cadmium	1 0	U		P
7440-70-2	Calcium	462	B		P
7440-47-3	Chromium	1 0	U		P
7440-48-4	Cobalt	1 0	U		P
7440-50-8	Copper	9 6	B		P
7439-89-6	Iron	36 5	B	J	P
7439-92-1	Lead	2 0	B		P
7439-95-4	Magnesium	62 0	B		P
7439-96-5	Manganese	1 0	U		P
7439-97-6	Mercury	0 20	U		AV
7440-02-0	Nickel	2 0	U		P
7440-09-7	Potassium	89 6	B		P
7782-49-2	Selenium	4 0	U		P
7440-22-4	Silver	2 0	U		P
7440-23-5	Sodium	1770	B	J E	P
7440-28-0	Thallium	4 0	U		P
7440-62-2	Vanadium	1 0	U		P
7440-66-6	Zinc	4 6	B		P
	Cyanide	10 0	U		AS

Color Before YELLOW Clarity Before CLOUDY Texture

Color After COLORLESS Clarity After CLEAR Artifacts

Comments

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3
BLANKS

Lab Name SOUTHWEST_LAB_OF_OK_____ Contract 68-D3-0040

Lab Code SWOK__ Case No 23857_ SAS No _____ SDG No MEPF25

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	127	B	120	B	167	B	224	B	6382	B	P
Antimony	30	U	30	U	30	U	30	U	0600	U	P
Arsenic	30	U	30	U	30	U	30	U	0600	U	P
Barium	10	U	10	U	10	U	10	U	0200	U	P
Beryllium	10	U	10	U	10	U	10	U	0200	U	P
Cadmium	10	U	10	U	10	U	10	U	0200	U	P
Calcium	130	U	130	U	130	U	130	U	4805	B	P
Chromium	10	U	10	U	10	U	10	U	0200	U	P
Cobalt	10	U	10	U	10	U	10	U	0200	U	P
Copper	20	U	20	U	20	U	20	U	0400	U	P
Iron	178	B	201	B	150	U	150	U	3672	B	P
Lead	10	U	10	U	10	U	10	U	0200	U	P
Magnesium	110	U	110	U	110	U	110	U	2200	U	P
Manganese	10	U	10	U	10	U	10	U	0200	U	P
Mercury	02	U	02	U	02	U	02	U	0100	U	AV
Nickel	20	U	20	U	20	U	20	U	0400	U	P
Potassium	320	U	320	U	320	U	320	U	6400	U	P
Selenium	40	U	40	U	40	U	40	U	0800	U	P
Silver	20	U	20	U	20	U	20	U	0400	U	P
Sodium	210	U	210	U	264	B	210	U	5559	B	P
Thallium	40	U	40	U	40	U	40	U	0800	U	P
Vanadium	10	U	10	U	10	U	10	U	0200	U	P
Zinc	20	U	20	U	20	U	20	U	0400	U	P
Cyanide	100	U	100	U	100	U	100	U	0500	U	AS

Lab Name SOUTHWEST_LAB_OF_OK_____ Contract 68-D3-0040

Lab Code SWOK__ Case No 23857_ SAS No _____ SDG No MEPF25

Preparation Blank Matrix (soil/water) WATER

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

Analyte	Initial Calib Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
Aluminum	14 0	B	25 9	B	24 4	B	27 8	B	12 000	U	P
Antimony	3 0	U	3 0	U	3 0	U	3 0	U	3 000	U	P
Arsenic	3 0	U	3 0	U	3 0	U	3 0	U	3 000	U	P
Barium	1 0	U	1 0	U	1 0	U	1 0	U	1 000	U	P
Beryllium	1 0	U	1 0	U	1 0	U	1 0	U	1 000	U	P
Cadmium	1 0	U	1 0	U	1 0	U	1 0	U	1 000	U	P
Calcium	13 0	U	13 0	U	13 0	U	13 0	U	13 000	U	P
Chromium	1 0	U	1 0	U	1 0	U	1 0	U	1 000	U	P
Cobalt	1 0	U	1 0	U	1 0	U	1 0	U	1 000	U	P
Copper	2 0	U	2 0	U	2 0	U	2 0	U	2 000	U	P
Iron	15 0	U	15 0	U	15 0	U	15 2	B	15 000	U	P
Lead	1 0	U	1 0	U	1 0	U	1 0	U	1 000	U	P
Magnesium	11 0	U	11 0	U	11 0	U	11 0	U	11 000	U	P
Manganese	1 0	U	1 0	U	1 0	U	1 0	U	1 000	U	P
Mercury			0 2	U					0 200	U	AV
Nickel	2 0	U	2 0	U	2 0	U	2 0	U	2 000	U	P
Potassium	32 0	U	32 0	U	32 0	U	32 0	U	32 000	U	P
Selenium	4 0	U	4 0	U	4 0	U	4 0	U	4 000	U	P
Silver	2 0	U	2 0	U	2 0	U	2 0	U	2 000	U	P
Sodium	21 0	U	21 0	U	21 0	U	21 0	U	21 000	U	P
Thallium	4 0	U	4 0	U	4 0	U	4 0	U	4 000	U	P
Vanadium	1 0	U	1 0	U	1 0	U	1 0	U	1 000	U	P
Zinc	2 0	U	2 0	U	2 0	U	2 0	U	2 000	U	P
Cyanide			10 0	U	10 0	U			10 000	U	AS

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3
BLANKS

Lab Name SOUTHWEST_LAB_OF_OK_____ Contract 68-D3-0040

Lab Code SWOK__ Case No 23857_ SAS No _____ SDG No MEPF25

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											NR
Barium											N
Beryllium											
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			21 0	U							P
Thallium											NR
Vanadium											NR
Zinc											NR
Cyanide											NR

FORM III - IN

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3
BLANKS

Lab Name SOUTHWEST_LAB_OF_OK_____ Contract 68-D3-0040

Lab Code SWOK__ Case No 23857_ SAS No _____ SDG No MEPF25

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											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	21 0	U	21 0	U	21 0	U	21 0	U			P
Thallium											NR
Vanadium											NR
Zinc											NR
Cyanide											NR

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Energy and environment

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5A
SPIKE SAMPLE RECOVERY

EPA SAMPLE NO. 031

MEWH63S

Lab Name SOUTHWEST_LAB_OF_OK_____ Contract 68-D3-0040

Lab Code SWOK__ Case No 23857 SAS No _____ SDG No MEPF25

Matrix (soil/water) SOIL__ Level (low/med) LOW___

% Solids for Sample _82 9

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									NR
Antimony	75-125	115 9228		1 2331	B	120 63	95 1		P
Arsenic	75-125	492 8970		12 7457		482 51	99 5		P
Barium	75-125	502 9879		98 4948		482 51	83 8		P
Beryllium	75-125	11 6707		0 4403	B	12 06	93 1		P
Cadmium	75-125	12 0367		0 6217	B	12 06	94 7		P
Calcium									NR
Chromium	75-125	53 6403		9 3836		48 25	91 7		P
Cobalt	75-125	121 3805		13 1081		120 63	89 8		P
Copper	75-125	67 5411		19 5957		60 31	79 5		P
Iron									NR
Lead	75-125	128 8193		21 8914		120 63	88 6		P
Magnesium									NR
Manganese		776 1708		1017 8779		120 63	-200 4		P
Mercury	75-125	0 4747		0 1206	U	0 60	79 1		AV
Nickel	75-125	128 7385		24 1942		120 63	86 7		P
Potassium									NR
Selenium	75-125	477 9242		0 9650	U	482 51	99 0		P
Silver	75-125	11 4135		0 4825	U	12 06	94 6		P
Sodium									NR
Thallium	75-125	462 5363		0 9650	U	482 51	95 9		P
Vanadium	75-125	126 1269		28 5255		120 63	80 9		P
Zinc	75-125	146 8714		120 6333		120 63	21 8	N	P
Cyanide	75-125	4 6603		0 6031	U	6 03	77 3		AS

Comments

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5A
SPIKE SAMPLE RECOVERY

EPA SAMPLE NO

MEWH66S

Lab Name SOUTHWEST_LAB_OF_OK_____ Contract 68-D3-0040

Lab Code SWOK__ Case No 23857 SAS No _____ SDG No MEPF25

Matrix (soil/water) WATER_ Level (low/med) LOW___

% Solids for Sample __0 0

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

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum	75-125	2348 4200		278 8050		2000 00	103 5		P
Antimony	75-125	497 3660		3 0000	U	500 00	99 5		P
Arsenic	75-125	2035 2590		3 0000	U	2000 00	101 8		P
Barium	75-125	1883 4980		26 5550	B	2000 00	92 8		P
Beryllium	75-125	48 3420		1 0000	U	50 00	96 7		P
Cadmium	75-125	47 4450		1 0000	U	50 00	94 9		P
Calcium									NR
Chromium	75-125	192 7680		2 2560	B	200 00	95 3		P
Cobalt	75-125	485 3160		1 0080	B	500 00	96 9		P
Copper	75-125	256 8350		8 5120	B	250 00	99 3		P
Iron	75-125	1409 2500		424 8670		1000 00	98 4		P
Lead	75-125	481 5520		3 2460		500 00	95 7		P
Magnesium									NR
Manganese	75-125	549 5120		61 1100		500 00	97 7		P
Mercury	75-125	0 9100		0 2000	U	1 00	91 0		AV
Nickel	75-125	523 1560		49 8590		500 00	94 7		P
Potassium									NR
Selenium	75-125	2044 3140		4 0000	U	2000 00	102 2		P
Silver	75-125	50 6460		2 0000	U	50 00	101 3		P
Sodium									NR
Thallium	75-125	1878 4840		4 0000	U	2000 00	93 9		P
Vanadium	75-125	477 4740		3 7200	B	500 00	94 8		P
Zinc	75-125	546 1690		49 2270		500 00	99 4		P
Cyanide	75-125	93 0820		10 0000	U	100 00	93 1		AS

Comments

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5B
POST DIGEST SPIKE SAMPLE RECOVERY

EPA SAMPLE NO 03

MEWH63A

Lab Name SOUTHWEST_LAB_OF_OK_____ Contract 68-D3-0040

Lab Code SWOK__ Case No 23857_ SAS No _____ SDG No MEPF25

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									NR
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		1460 06		500 02		1000 0	96 0		P
Cyanide									NR

Comments

FORM V (Part 2) - IN

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6
DUPLICATES

EPA SAMPLE NO

MEWH63D

Lab Name SOUTHWEST_LAB_OF_OK Contract 68-D3-0040

Lab Code SWOK Case No 23857 SAS No SDG No MEPF25

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

% Solids for Sample 82 9 % Solids for Duplicate 81

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

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum		2531 6280		1184 4367		72 5	*	P
Antimony		1 2331	B	0 7238	U	200 0		P
Arsenic	2 4	12 7457		1 7460	B	151 8	*	P
Barium	48 3	98 4948		29 4019	B	108 0	*	P
Beryllium		0 4403	B	0 2413	U	200 0		P
Cadmium		0 6217	B	0 2413	U	200 0		P
Calcium		9918 9657		43000 0791		125 0	*	P
Chromium	2 4	9 3836		4 7344		65 9	*	P
Cobalt	12 1	13 1081		4 3834	B	99 8		P
Copper	6 0	19 5957		5 2154	B	115 9	*	P
Iron		26878 2323		5335 0473		133 8	*	P
Lead		21 8914		6 6938		106 3	*	P
Magnesium	1206 3	4964 3592		23555 4827		130 4	*	P
Manganese		1017 8779		501 6912		67 9	*	P
Mercury		0 1206	U	0 1206	U			AV
Nickel	9 7	24 1942		7 1846	B	108 4	*	P
Potassium		412 5961	B	237 5303	B	53 9		P
Selenium		0 9650	U	0 9650	U			P
Silver		0 4825	U	0 4825	U			P
Sodium		300 8280	B	228 2309	B	27 4		P
Thallium		0 9650	U	0 9650	U			P
Vanadium	12 1	28 5255		7 8936	B	113 3	*	P
Zinc	4 8	120 6333		15 9467		153 3	*	P
Cyanide		0 6031	U	0 6031	U			AS

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6
DUPLICATES

EPA SAMPLE NO

MEWH66D

Lab Name SOUTHWEST_LAB_OF_OK Contract 68-D3-0040

Lab Code SWOK Case No 23857 SAS No SDG No MEPF25

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

% Solids for Sample 0 0 % Solids for Duplicate 0 0

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

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum	200 0	278 8050		262 1170		6 2		P
Antimony		3 0000	U	3 0000	U			P
Arsenic		3 0000	U	3 0000	U			P
Barium		26 5550	B	27 1630	B	2 3		P
Beryllium		1 0000	U	1 0000	U			P
Cadmium		1 0000	U	1 0000	U			P
Calcium		46962 2260		47790 6760		1 7		P
Chromium		2 2560	B	1 9000	B	17 1		P
Cobalt		1 0080	B	1 0000	U	200 0		P
Copper		8 5120	B	8 4910	B	0 2		P
Iron	100 0	424 8670		404 7140		4 9		P
Lead	3 0	3 2460		2 8100	B	14 4		P
Magnesium		31376 5680		31877 0060		1 6		P
Manganese	15 0	61 1100		62 2570		1 9		P
Mercury		0 2000	U	0 2000	U			AV
Nickel	40 0	49 8590		50 4190		1 1		P
Potassium		50436 4370		51940 8750		2 9		P
Selenium		4 0000	U	4 0000	U			P
Silver		2 0000	U	2 0000	U			P
Sodium		420443 5900		419728 4400		0 2		P
Thallium		4 0000	U	4 0000	U			P
Vanadium		3 7200	B	3 2970	B	12 1		P
Zinc	20 0	49 2270		49 7880		1 1		P
Cyanide		10 0000	U	10 0000	U			AS

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Instrument Detection Limits (Quarterly)

Name SOUTHWEST_LAB_OF_OK Contract 68-D3-0040

Lab Code SWOK Case No 23857 SAS No SDG No MEPF25

ICP ID Number TJA#2 Date 07/04/95

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	12 0	P
Antimony	206 83		60	3 0	P
Arsenic	189 04		10	3 0	P
Barium	493 41		200	1 0	P
Beryllium	313 04		5	1 0	P
Cadmium	226 50		5	1 0	P
Calcium	317 93		5000	13 0	P
Chromium	267 72		10	1 0	P
Cobalt	228 61		50	1 0	P
Copper	324 70		25	2 0	P
Iron	271 44		100	15 0	P
Lead	220 35		3	1 0	P
Magnesium	279 08		5000	11 0	P
Manganese	257 61		15	1 0	P
Mercury			0 2		NR
Nickel	231 60		40	2 0	P
Potassium	766 49		5000	32 0	P
Selenium	203 99		5	4 0	P
Silver	328 07		10	2 0	P
Sodium	588 99		5000	21 0	P
Thallium	190 86		10	4 0	P
Vanadium	292 40		50	1 0	P
Zinc	213 86		20	2 0	P

Comments

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Instrument Detection Limits (Quarterly)

L Name SOUTHWEST_LAB_OF_OK Contract 68-D3-0040

Lab Code SWOK Case No 23857 SAS No SDG No MEPF25

ICP ID Number Date 07/10/95

Flame AA ID Number PS200A

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	253 30		0 2	0 2	AV
Nickel			40		NR
Potassium			5000		NR
Selenium			5		NR
Silver			10		NR
Sodium			5000		NR
Thallium			10		NR
Vanadium			50		NR
Zinc			20		NR

Comments

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ANALYSIS RUN LOG

Lab Name SOUTHWEST_LAB_OF_OK_____ Contract 68-D3-0040

Lab Code SWOK__ Case No 23857_ SAS No _____ SDG No MEPF

Instrument ID Number TJA#2_____ Method P_

Start Date 08/09/95 End Date 08/09/95

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	
S0	1 00	1046																					X		
S	1 00	1052																					X		
ICV	1 00	1057																					X		
ICB	1 00	1102																					X		
ICSA	1 00	1121																					X		
ICSAB	1 00	1126																					X		
CRI	1 00	1141																							
CCV	1 00	1147																					X		
CCB	1 00	1152																					X		
ZZZZZ	1 00	1157																							
ZZZZ	1 00	1203																							
ZZZZ	1 00	1208																							
ZZZZZZ	1 00	1213																							
ZZZZZZ	1 00	1219																							
ZZZZZZ	1 00	1224																							
ZZZZZZ	1 00	1229																							
ZZZZZZ	1 00	1235																							
ZZZZZZ	1 00	1240																							
ZZZZZZ	1 00	1245																							
CCV	1 00	1251																					X		
CCB	1 00	1256																					X		
ZZZZZZ	1 00	1301																							
MEPF25	10 00	1307																					X		
MEWH62	10 00	1312																					X		
MEWH66	10 00	1318																					X		
MEWH66L	10 00	1323																					X		
MEWH66D	10 00	1328																					X		
ZZZZZZ	1 00	1334																							
ZZZZZZ	1 00	1339																							
ZZZZZZ	1 00	1345																							
CCV	1 00	1350																					X		
CCB	1 00	1356																					X		

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ANALYSIS RUN LOG

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Lab Name SOUTHWEST_LAB_OF_OK_____ Contract 68-D3-0040

Lab Code SWOK__ Case No 23857_ SAS No _____ SDG No MEPF2

Instrument ID Number TJA#2_____ Method P_

Start Date 08/09/95 End Date 08/09/95

EPA Sample No	D/T	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		
ICSA	1 00	1401																					X				
ICSAB	1 00	1407																					X				
CRI	1 00	1415																									
CCV	1 00	1421																					X				
CCB	1 00	1426																					X				

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ANALYSIS RUN LOG

Lab Name SOUTHWEST_LAB_OF_OK_____ Contract 68-D3-0040

Lab Code SWOK__ Case No 23857_ SAS No _____ SDG No MEPF25

Instrument ID Number TJA#2_____ Method P_

Start Date 08/08/95 End Date 08/09/95

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
S0	1 00	2215		X	X	X	X	X	X	X	X	X	X	X	X	X	X	_	X	X	X	X	X	X	X	X
S	1 00	2220		X	X	X	X	X	X	X	X	X	X	X	X	X	X	_	X	X	X	X	X	X	X	X
ICV	1 00	2226		X	X	X	X	X	X	X	X	X	X	X	X	X	X	_	X	X	X	X	X	X	X	X
ICB	1 00	2231		X	X	X	X	X	X	X	X	X	X	X	X	X	X	_	X	X	X	X	X	X	X	X
ICSA	1 00	2237		X	X	X	X	X	X	X	X	X	X	X	X	X	X	_	X	X	X	X	X	X	X	X
ICSAB	1 00	2242		X	X	X	X	X	X	X	X	X	X	X	X	X	X	_	X	X	X	X	X	X	X	X
CRI	1 00	2251		_	X	X	_	X	X	_	X	X	X	_	X	_	X	_	X	_	X	X	_	X	X	X
CCV	1 00	2256		X	X	X	X	X	X	X	X	X	X	X	X	X	X	_	X	X	X	X	X	X	X	X
CCB	1 00	2302		X	X	X	X	X	X	X	X	X	X	X	X	X	X	_	X	X	X	X	X	X	X	X
BW	1 00	2307		X	X	X	X	X	X	X	X	X	X	X	X	X	X	_	X	X	X	X	X	X	X	X
BW	1 00	2313		X	X	_	X	X	_	X	X	X	X	X	_	X	X	_	X	X	_	_	X	_	X	X
SW	1 00	2318		_	_	X	_	_	X	_	_	_	_	_	X	_	_	_	_	_	X	X	_	X	_	_
MEPF25	1 00	2324		X	X	X	X	X	X	X	X	X	X	X	X	X	X	_	X	X	X	X	_	X	X	X
MEWH62	1 00	2329		X	X	X	X	X	X	X	X	X	X	X	X	X	X	_	X	X	X	X	_	X	X	X
MEWH66	1 00	2334		X	X	X	X	X	X	X	X	X	X	X	X	X	X	_	X	X	X	X	_	X	X	X
MEWH66L	5 00	2340		X	X	X	X	X	X	X	X	X	X	X	X	X	X	_	X	X	X	X	_	X	X	X
MEWH66D	1 00	2345		X	X	X	X	X	X	X	X	X	X	X	X	X	X	_	X	X	X	X	_	X	X	X
MEWH66S	1 00	2351		X	X	X	X	X	X	_	X	X	X	X	X	_	X	_	X	_	X	X	_	X	X	X
ZZZZZZ	1 00	2356																								
CCV	1 00	0002		X	X	X	X	X	X	X	X	X	X	X	X	X	X	_	X	X	X	X	X	X	X	X
CCB	1 00	0007		X	X	X	X	X	X	X	X	X	X	X	X	X	X	_	X	X	X	X	X	X	X	X
MEWH70	1 00	0013		X	X	X	X	X	X	X	X	X	X	X	X	X	X	_	X	X	X	X	X	X	X	X
MEWH71	1 00	0018		X	X	X	X	X	X	X	X	X	X	X	X	X	X	_	X	X	X	X	X	X	X	X
MEWH72	1 00	0024		X	X	X	X	X	X	X	X	X	X	X	X	X	X	_	X	X	X	X	X	X	X	X
ICSA	1 00	0031		X	X	X	X	X	X	X	X	X	X	X	X	X	X	_	X	X	X	X	X	X	X	X
ICSAB	1 00	0036		X	X	X	X	X	X	X	X	X	X	X	X	X	X	_	X	X	X	X	X	X	X	X
CRI	1 00	0045		_	X	X	_	X	X	_	X	X	X	_	X	_	X	_	X	_	X	X	_	X	X	X
CCV	1 00	0050		X	X	X	X	X	X	X	X	X	X	X	X	X	X	_	X	X	X	X	X	X	X	X
CCB	1 00	0056		X	X	X	X	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 SOUTHWEST_LAB_OF_OK_____ Contract 68-D3-0040

Lab Code SWOK__ Case No 23857_ SAS No _____ SDG No MEPF25

Instrument ID Number TJA#2_____ Method P_

Start Date 08/10/95 End Date 08/10/95

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 1017		X	X	X	X	X	X	X	X	X	X	X	X	X	X	_	X	X	X	X	X	X	X	X	_
S	1	00 1022		X	X	X	X	X	X	X	X	X	X	X	X	X	X	_	X	X	X	X	X	X	X	X	_
ICV	1	00 1027		X	X	X	X	X	X	X	X	X	X	X	X	X	X	_	X	X	X	X	X	X	X	X	_
ICB	1	00 1033		X	X	X	X	X	X	X	X	X	X	X	X	X	X	_	X	X	X	X	X	X	X	X	_
ICSA	1	00 1044		X	X	X	X	X	X	X	X	X	X	X	X	X	X	_	X	X	X	X	X	X	X	X	_
ICSAB	1	00 1049		X	X	X	X	X	X	X	X	X	X	X	X	X	X	_	X	X	X	X	X	X	X	X	_
CRI	1	00 1057		_	X	X	_	X	X	_	X	X	X	_	X	_	X	_	X	_	X	X	_	X	X	X	
CCV	1	00 1103		X	X	X	X	X	X	X	X	X	X	X	X	X	X	_	X	X	X	X	X	X			
CCB	1	00 1108		X	X	X	X	X	X	X	X	X	X	X	X	X	X	_	X	X	X	X	X	X			
PBS	1	00 1114		X	X	X	X	X	X	X	X	X	X	X	X	X	X	_	X	X	X	X	X	X	X	X	
[illegible]S	1	00 1119		X	X	X	X	X	X	_	X	X	X	X	X	X	X	_	X	X	X	X	X	X	X	X	_
[illegible]S	5	00 1124								X																	
MEWH61	1	00 1130		X	X	X	X	X	X	X	X	X	X	X	X	X	X	_	X	X	X	X	X	X	X	X	_
MEWH63	1	00 1135		X	X	X	X	X	X	X	X	X	X	X	X	X	X	_	X	X	X	X	X	X	X	X	_
MEWH63L	5	00 1141		X	X	X	X	X	X	X	X	X	X	X	X	X	X	_	X	X	X	X	X	X	X	X	_
MEWH63D	1	00 1146		X	X	X	X	X	X	X	X	X	X	X	X	X	X	_	X	X	X	X	X	X	X	X	_
MEWH63S	1	00 1151		_	X	X	X	X	X	_	X	X	X	_	X	_	X	_	X	_	X	X	_	X	X	X	_
MEWH64	1	00 1157		X	X	X	X	X	X	X	X	X	X	X	X	X	X	_	X	X	X	X	X	X	X	X	_
ZZZZZZ	1	00 1202																									
CCV	1	00 1207		X	X	X	X	X	X	X	X	X	X	X	X	X	X	_	X	X	X	X	X	X	X	X	_
CCB	1	00 1213		X	X	X	X	X	X	X	X	X	X	X	X	X	X	_	X	X	X	X	X	X	X	X	_
MEWH65	1	00 1218		X	X	X	X	X	X	X	X	X	X	X	X	X	X	_	X	X	X	X	X	X	X	X	_
MEWH67	1	00 1223		X	X	X	X	X	X	X	X	X	X	X	X	X	X	_	X	X	X	X	X	X	X	X	_
MEWH68	1	00 1229		X	X	X	X	X	X	X	X	X	X	X	X	X	X	_	X	X	X	X	X	X	X	X	_
MEWH69	1	00 1234		X	X	X	X	X	X	X	X	X	X	X	X	X	X	_	X	X	X	X	X	X	X	X	_
MEWH63A	1	00 1240																								X	_
ICSA	1	00 1246		X	X	X	X	X	X	X	X	X	X	X	X	X	X	_	X	X	X	X	X	X	X	X	_
ICSAB	1	00 1251		X	X	X	X	X	X	X	X	X	X	X	X	X	X	_	X	X	X	X	X	X	X	X	_
CRI	1	00 1300		_	X	X	_	X	X	_	X	X	X	_	X	_	X	_	X	_	X	X	_	X	X	X	_
CCV	1	00 1306		X	X	X	X	X	X	X	X	X	X	X	X	X	X	_	X	X	X	X	X	X	X	X	_
CCB	1	00 1312		X	X	X	X	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

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Lab Name SOUTHWEST_LAB_OF_OK_____ Contract 68-D3-0040

Lab Code SWOK__ Case No 23857_ SAS No _____ SDG No MEPF25

Instrument ID Number PS200A_____ Method AV

Start Date 08/07/95 End Date 08/07/95

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	1113																X									
S0 2	1 00	1116																X									
S1	1 00	1118																X									
S5	1 00	1121																X									
S10	1 00	1124																X									
ICV	1 00	1127																X									
ICB	1 00	1129																X									
CRA	1 00	1132																X									
CCV	1 00	1135																X									
CCB	1 00	1137																X									
[illegible]	1 00	1233																X									
LCSS	10 00	1235																X									
MEWH61	1 00	1238																X									
MEWH63	1 00	1241																X									
MEWH63D	1 00	1243																X									
MEWH63S	1 00	1246																X									
MEWH64	1 00	1249																X									
MEWH65	1 00	1251																X									
MEWH67	1 00	1254																X									
MEWH68	1 00	1256																X									
CCV	1 00	1259																X									
CCB	1 00	1302																X									
MEWH69	1 00	1304																X									
ZZZZZZ	1 00	1307																									
ZZZZZZ	1 00	1310																									
ZZZZZZ	1 00	1312																									
ZZZZZZ	1 00	1315																									
ZZZZZZ	1 00	1318																									
ZZZZZZ	1 00	1320																									
ZZZZZZ	1 00	1323																									
ZZZZZZ	1 00	1325																									
PBW	1 00	1328																X									

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ANALYSIS RUN LOG

Lab Name SOUTHWEST_LAB_OF_OK_____ Contract 68-D3-0040

Lab Code SWOK__ Case No 23857_ SAS No _____ SDG No MEPF25

Instrument ID Number PS200A_____ Method AV

Start Date 08/07/95 End Date 08/07/95

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
CCV	1 00	1331																X									
CCB	1 00	1333																X									
MEPF25	1 00	1336																X									
MEWH62	1 00	1339																X									
MEWH66	1 00	1341																X									
MEWH66D	1 00	1344																X									
MEWH66S	1 00	1347																X									
MEWH70	1 00	1349																X									
MEWH71	1 00	1352																X									
MEWH72	1 00	1355																X									
[illegible]	1 00	1357																X									
CCB	1 00	1400																X									

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ANALYSIS RUN LOG

Lab Name SOUTHWEST_LAB_OF_OK_____ Contract 68-D3-0040

Lab Code SWOK__ Case No 23857_ SAS No _____ SDG No MEPF25

Instrument ID Number LACHAT_____ Method AS

Start Date 08/04/95 End Date 08/04/95

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
S200	1 00	1442																									X
S100	1 00	1443																									X
S50	1 00	1444																									X
S10	1 00	1445																									X
S0	1 00	1446																									X
ICV	1 00	1449																									X
ICB	1 00	1449																									X
CCV	1 00	1450																									X
CCB	1 00	1451																									X
BW	1 00	1452																									X
PF25	1 00	1452																									X
WH62	1 00	1453																									X
MEWH66	1 00	1454																									X
MEWH66D	1 00	1455																									X
MEWH66S	1 00	1455																									X
CCV	1 00	1456																									X
CCB	1 00	1457																									X
MEWH70	1 00	1459																									X
MEWH71	1 00	1500																									X
MEWH72	1 00	1500																									X
ZZZZZZ	1 00	1501																									
ZZZZZZ	1 00	1502																									
ZZZZZZ	1 00	1503																									
ZZZZZZ	1 00	1503																									
ZZZZZZ	1 00	1504																									
ZZZZZZ	1 00	1505																									
ZZZZZZ	1 00	1505																									
CCV	1 00	1506																									X
CCB	1 00	1507																									X
ZZZZZZ	1 00	1509																									
PBS	1 00	1510																									X
LCSS	1 00	1510																									X

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ANALYSIS RUN LOG

Lab Name SOUTHWEST_LAB_OF_OK_____ Contract 68-D3-0040

Lab Code SWOK__ Case No 23857_ SAS No _____ SDG No MEPF25

Instrument ID Number LACHAT_____ Method AS

Start Date 08/04/95 End Date 08/04/95

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
MEWH61	1 00	1511																									X
MEWH63	1 00	1512																									X
MEWH63D	1 00	1513																									X
MEWH63S	1 00	1513																									X
MEWH64	1 00	1514																									X
MEWH65	1 00	1515																									X
MEWH67	1 00	1516																									X
CCV	1 00	1516																									X
CCB	1 00	1517																									X
MEWH68	1 00	1519																									
MEWH69	1 00	1520																									X
CCV	1 00	1521																									X
CCB	1 00	1521																									X

QC EXCEPTION SUMMARY REPORT

CASE\SAS#: 23857 SITE: Macon City #2 / Murrell / Waste MATRIX: Soil/Water WATER SAMPLE SPK: MEWH66

DATA SET: MEPF25 LAB: SWOK CONC: Low WATER SAMPLE DUP: MEWH66

LAB QC # REVIEWED BY: [signature] SOIL SAMPLE SPK: MEWH63

DATE: August 21, 1995 SOIL SAMPLE DUP: MEWH63

FORM #		FORM 2	FORM 2	FORM 3	FORM 3	FORM 3	FORM 4	FORM 5	FORM 6	FORM 7	FORM 7	FORM 9	FORM 9	FORM 6	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 H2O	BLANK	DUP RPD	GFAA DUP	GFAA ANALYT SPIKE
ALUMINUM				167					725								350				
ANTIMONY																					
ARSENIC																					
BARIUM									1080												
BERYLLIUM																					
CADMIUM																					
CALCIUM									1250												
CHROMIUM																					
COBALT													118								
COPPER									1159												
IRON				201					1338								440				
LEAD									1063												
MAGNESIUM									1304												
MANGANESE									679												
MERCURY																					
NICKEL																					
POTASSIUM													148								
SELENIUM																					
SILVER									1518												
SODIUM												109									
THALLIUM																					
TIN																					
VANADIUM																					
ZINC								218	1533												
CYANIDE																					

EPA United States Environmental Protection Agency Contract Laboratory Program

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

SAS No (if applicable): N/A
Case No: 72047

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

3 Region No: V
Sampling Co: EBETAT
Sampler (Name): L. Lukhovy
Sampler Signature: Linda Kroy
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: 8/1/95
Carrier: FedEx
Airbill Number: 1405075352
5 Ship To: SWOK
1700 ~~Broadway~~ West Albany, Suite C
Broken Arrow, OK 74012
ATTN Robert Harris
6 Date Received – Received by: [signature] 8-2-95
Laboratory Contract Number: 68-D3-0040
Unit Price: ~~$226.00~~ 175.00
7 Transfer to:
Date Received: 8/11/95
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
MEWH63	5	L	G	6		X	X					073492	MCLS1	8/1/95 1630	LAFK4	LK			
MEWH64	5	L	G	6		X	X					073496	MCLS2	8/1/95 154[illegible]	EAFK5	LK			
MEWH65	5	L	G	6		X	X					073500	MCLS3	8/1/95 1515	EAFK6	LK			
MEWH66	1	L	G	2,3		X	X					073511-12	MCLSW1	8/1/95 1613	EAFK7	LK			
MEPF25	1	L	G	2,3		X	X					073587-88	MCLSW2	8/1/95 1535	EPK45	LK			

Shipment for Case Complete? (Y/N): Y
Page: 1 of 1
Sample(s) to be Used for Laboratory QC: MEWH63-MEWH66
Additional Sampler Signatures:
Chain of Custody Seal Number(s): 34788-89

CHAIN OF CUSTODY RECORD

Relinquished by (Signature)	Date / Time	Received by (Signature)	Relinquished by (Signature)	Date / Time	Received by (Signature)
[signature]	1/5 1710				
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	
		[signature]	8/2/95 1000	All samples intact	

A21-012-6 REV 3/93

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

EPA Form 9110-1

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

EPA United States Environmental Protection Agency Contract Laboratory Program

Inorganic Traffic Report & Chain of Custody Record

(For Inorganic CLP Analysis)

SAS No (if applicable): N/A

Case No.: 72457

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: V

Sampling Co: ETAT

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: 8/1/95

Carrier: Fed Ex

Airbill Number: 4805075552

5 Ship to: SWUK
1700 West Albany, Suite C
Broken Arrow, OK 74012
ATTN Robert Harris

6 Date Received – Received by: [illegible] 8-2-95

Laboratory Contract Number: 68-D3-0040

Unit Price: ~~$226.00~~ 175.00

7 Transfer to:

Date Received: 8-11-95

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
MEWH67	5	L	G	6		X	X					073518	WHS1	8/1/95 1030	EAFK9	LK			
MEWH68	5	L	G	6		X	X					073522	WHS1D	8/1/95 1000	ETC02	LK			
MEWH69	5	L	G	6		X	X					073526	WHS2	8/1/95 1100	ETC03	LK			
MEWH70	1	L	G	2,3		X	X					073531-32	WHSW1	8/1/95 1100	ETC04	LK			
MEWH71	1	L	G	2,3		X	X					073537-38	WHSW1D	8/1/95 1000	EAFR1	LK			

Shipment for Case Complete? (Y/N): Y

Page: 1 of 1

Sample(s) to be Used for Laboratory QC:

Additional Sampler Signatures:

Chain of Custody Seal Number(s): 34746 97

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)	Date / Time	Remarks: Is custody seal intact? Y/N/none	
		[illegible]	8/2/95 1000	All samples intact	

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

EPA Form 9110-1

SEE REVERSE FOR ADDITIONAL STANDARD INSTRUCTIONS

SEE REVERSE FOR PURPOSE CODE DEFINITIONS

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EPA United States Environmental Protection Agency Contract Laboratory Program

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

SAS No (if applicable): N/A
Case No: 32057

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 HNO_3
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: II
Sampling Co: EJE TAT
Sampler (Name): [illegible]
Sampler Signature: [illegible]

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

4 Date Shipped: 8/1/95
Carrier: FED EX
Airbill Number: 4805045352
5 Ship To: SWUK
1700 West Albany Suite C
Broken Arrow, OK 74012
ATTN Robert Harris

6 Date Received -- Received by: [illegible] 8-2-95
Laboratory Contract Number: 68-D3-0040
Unit Price: ~~$226.00~~ 75.00
7 Transfer to:
Date Received: 8/8 8-11-
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
~~MEWH60~~	~~5~~	~~L~~	~~G~~	~~6~~		~~X~~	~~X~~					~~073476~~	~~MLS1~~		~~EHFK0~~	~~LK~~			
MEWH61	5	L	G	6		X	X					073480	MLS2	8/1/95 1140	EHFK1	LK			
MEWH62	1	L	G	2,3		X	X					073485-86	MLSW1	8/1/95 1130	EHFL2	LK			
MEWH72	4	L	G	2,3		X	X					~~0734~~ 073543-44	MLF1	8/1/95 1100	EHFR2	LK			

LK 11/91

* final sample need on SOG
SAS 08-03-95

Shipment for Case Complete? (Y/N)	Page	Sample(s) to be Used for Laboratory QC	Additional Sampler Signatures	Chain of Custody Seal Number(s)
	1 of 1			34742-43

CHAIN OF CUSTODY RECORD

Relinquished by (Signature)	Date / Time	Received by (Signature)	Relinquished by (Signature)	Date / Time	Received by (Signature)
[illegible]	8/1/95 [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)	Date / Time	Remarks Is custody seal intact? Y/N/none	
		[illegible]	8/2/95 1000	All samples intact	

A21-012-6 REV 3/89

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EPA Form 9110-1 SEE REVERSE FOR ADDITIONAL STANDARD INSTRUCTIONS

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

ESD Central Regional Laboratory
Data Tracking Form for Contract Samples

Data Set No _____ CERCLIS No ILD980498125

Case No 23857 Site Name Location Macon Cty #2

Contractor or EPA Lab SWOK Data User E & E

No of Samples 13 Date Sampled or Data Received 8-16-95

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 13 No of samples received 13

Received by A C Harvey Date 8-16-95

Received by LSSS A C Harvey Date 8-16-95

Review started 8/18/95 Reviewer Signature Patricia M McClintock

Total time spent on review 4.8+0.2 +1.2 Date review completed 8/21/95

Copied by Lynette Burnett Date 8-24-95

Mailed to user by Lynette Burnett Date 8-24-95

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 _____

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

DATE:

SUBJECT: Review of Region V CLP Data
Received for Review on 8-16-95

FROM. Dennis Wesolowski, Chief (SQC-14J)
Contract Analytical Services Section

TO: Data User E & E Patricia J Scott for D Wesolowski 08/30/95

We have reviewed the data for the following case:

SITE NAME Macon Cty #2/Murrell/Waste (IL)

CASE NUMBER 23857 SDG NUMBER EAFK1

Number and Type of Samples: 16 - Soil/Water

Sample Numbers: EAFK1-9, EAFR1-3, EPK45, ETC02-0

Laboratory SWOK Hrs. for Review 18.5

Following are our findings

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

Patricia J Scott

cc Regional TPO

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ol gy and e ir nn ent

NARRATIVE

LABORATORY.	**SWOK**	**CASE.**	**23857**
SITE.	**MACON CNTY #2/MURRELL/WASTE (IL)**	**SDG**	**EAFK1**

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

Nine (9) water samples and seven (7) soil samples numbered EAFK1 - 9, EAFR1 - 3, ETC02 - 04 and EPK45 were collected on 08-01-95 Southwest Laboratory of Oklahoma of Broken Arrow, OK received the samples on 08-02-95 All samples, except one SV container for water sample EAFR2, were received intact and in good condition One SV container for sample EAFR2 was broken on receipt All samples except EAFK3, EAFK8, and EAFR3 were analyzed for the full list of organic analytes Water samples EAFK3, EAFK8, and EAFR3 were identified as trip blanks and analyzed for the VOA fraction only All samples were analyzed according to CLP SOW OLM03 1 8/94

Water sample EAFK7 and soil sample EAFK4 were used as the low level MS/MSD for all three fractions, VOA, SV and Pest/PCBs

Water samples EAFK3, EAFK8, and EAFR3 were identified as trip blanks Soil sample ETC02 was identified as a field duplicate of soil sample EAFK9 Water sample EAFR1 was identified as a field duplicate of water sample ETC04 Water sample EAFR2 was identified as a field blank

The VOA analyses were performed within the technical holding time of fourteen (14) days after sample collection for preserved water and soil samples, therefore, the results are acceptable The SV and Pesticide/PCB sample extractions were performed within fourteen (14) days and all analyses were performed within forty (40) days after extraction, therefore, the results are acceptable

Reviewed by Allison C Harvey Lockheed/ESAT
Date August 25, 1995

NARRATIVE

LABORATORY	**SWOK**	**CASE**	**23857**
SITE	**MACON CNTY #2/MURRELL/WASTE (IL)**	**SDG**	**EAFK1**

1 HOLDING TIME

Nine (9) water samples and seven (7) soil samples numbered EAFK1 - 9, EAFR1 - 3, ETC02 - 04 and EPK45 were collected on 08-01-95 Southwest Laboratory of Oklahoma of Broken Arrow, OK received the samples on 08-02-95 All samples, except one SV container for water sample EAFR2, were received intact and in good condition One SV container for sample EAFR2 was broken on receipt All samples except EAFK3, EAFK8, and EAFR3 were analyzed for the full list of organic analytes Water samples EAFK3, EAFK8, and EAFR3 were identified as trip blanks and analyzed for the VOA fraction only All samples were analyzed according to CLP SOW OLM03 1 8/94

The VOA analyses were performed within the technical holding time of fourteen (14) days after sample collection for preserved water and soil samples, therefore, the results are acceptable The SV and Pesticide/PCB's sample extractions were performed within fourteen (14) days and all analyses were performed within forty (40) days after extraction, therefore, the results are acceptable All SVOA and Pest/PCB water extractions were performed within 7 days therefore results are acceptable

AJS 08/30/95

2 GC/MS TUNING AND GC PERFORMANCE

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

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

GC Resolution Check Mixtures met the 60% resolution criteria Endrin and DDT degradation checks using PEM Mix on the DB-17 and DB-1701 columns were <20%, therefore the results are acceptable The Florisil Cartridge Check and GPC Calibration Check met the QC criteria, therefore, the results are acceptable

3 CALIBRATION

Initial and continuing calibrations of the Volatile, Semi-Volatile, and Pest/PCB standards were evaluated for the target compounds list and outliers were recorded on the outlier forms included as a part of this narrative

Reviewed by Allison C Harvey Lockheed/ESAT
Date August 25, 1995

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NARRATIVE

LABORATORY	SWOK	CASE	23857
SITE	MACON CNTY #2/MURRELL/WASTE (IL)	SDG	EAFK1

4 METHOD BLANKS

VOA

VBLK1 and VBLK3 are the two (2) low level volatile water method blanks VBLK2 is the low level volatile soil method blank VBLK1 contained Methylene Chloride at 2 µg/L, Chloroform at 1 µg/L and no TICs VBLK2 contained no target compounds and no TICs VBLK3 contained Methylene Chloride at 1 µg/L and no TICs VHBLK1 is the volatile storage blank Methylene Chloride is a common laboratory contaminant, its presence in any of the samples associated with the method blanks is flagged as undetected "U", when the sample result is less than ten (10) times the blank result The presence of Chloroform in the samples associated with the method blanks is flagged as undetected "U", when the sample result is less than five (5) times the blank result The volatile method blank summaries (FORM IV VOA) list the samples associated with each blank

SV

SBLK1 is the low level semi-volatile soil method blank SBLK2 and SBLK3 are the low level semi-volatile water method blanks SBLK1 contained bis(2-Ethylhexyl)phthalate at 63 µg/Kg and nine (9) TICs SBLK2 contained bis(2-Ethylhexyl)phthalate at 1 µg/L and two (2) TICs SBLK3 contained no target compounds and two (2) TICs Bis(2-Ethylhexyl)phthalate is a common laboratory contaminant, its presence in any of the samples associated with the method blanks is flagged as undetected "U", when the sample result is less than ten (10) times the blank result The presence of any of the TICs in the samples associated with the method blanks is flagged as undetected "U", when the sample result is less than five (5) times the blank result The semi-volatile method blank summaries (FORM IV SV) list the samples associated with each blank

Pesticide\PCB

PBLKSD and PBLKSN are the two (2) pesticide soil method blanks and PBLKWA and PBLKWB are the two (2) pesticide water method blanks No target compounds were detected in any of the four (4) method blanks, therefore, the results are acceptable The pesticide method blank summaries (FORM IV PEST) list the samples associated with each blank

Reviewed by Allison C Harvey Lockheed/ESAT
Date August 25, 1995

NARRATIVE

LABORATORY	SWOK	CASE	23857
SITE	MACON CNTY #2/MURRELL/WASTE (IL)	SDG	EAFK1

There were eight (8) pesticide instrument method blanks No samples were associated with the instrument blanks

5 SYSTEM MONITORING COMPOUND RECOVERY

VOA

The volatile system monitoring compounds were within the QC limits for all samples, therefore, the results are acceptable

SV

S2 - 2-Fluorobiphenyl (FBP) of the base/neutral fraction reported recovery low outside the QC limits for water samples EAFK7MSD S3 - Terphenyl-d14 (TPH) of the base/neutral fraction reported recoveries low outside the QC limits for water samples EAFK7, EAFK7MS, EAFK7MSD and EPK45 Water samples EAFK7, EAFK7MS and EPK45 required no qualification as less than 2 surrogates of either the acid or the base/neutral fraction were outside the QC limits Water sample EAFK7MSD reported two surrogates of the base/neutral fraction low outside of QC limits, therefore detected semivolatile target compounds are qualified as estimated "J" and non-detects "UJ"

Pest/PCB

This data was qualified using the National Functional Guidelines for Organic Data Review (6/91) QC limits of 60-150 percent Tetrachloro-m-xylene (TCX) reported recoveries low outside the QC limits for soil sample EAFK9 on both GC columns TCX reported recoveries low outside the QC limits for soil samples EAFK4, EAFK4MSD and soil method blank PBLKSD on GC column DB-1701 TCX reported recovery high outside the QC limits for water sample EAFK7 on GC column DB-17 The high recovery observed for water sample EAFK7 may be an indication of co-eluting interferences, therefore, detected target compounds should be qualified as estimated, "J" The low recoveries observed for soil samples EAFK4, EAFK4MSD, EAFK9 and soil method blank PBLKSD may be an indication of a low bias, therefore, detected target compounds should be qualified as estimated, "J" and non-detects "UJ"

Reviewed by Allison C Harvey Lockheed/ESAT
Date August 25, 1995

NARRATIVE

LABORATORY	**SWOK**	**CASE**	**23857**
SITE	**MACON CNTY #2/MURRELL/WASTE (IL)**	**SDG**	**EAFK1**

6 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Water sample EAFK7 and soil sample EAFK4 were used as the low level MS/MSD for all three fractions, VOA, SV and Pest/PCBs

VOA

All spike recoveries and RPDs for the low level soil sample, EAFK4 were within the QC limits, therefore, the results are acceptable

The %RPD of Benzene in the low level spiked water sample EAKF7 was high outside the QC limit Positive results for benzene in the unspiked soil sample should be considered as estimated "J" and non-detects "UJ"

SV

All spike recoveries and RPDs for the low level soil sample, EAFK4 were within the QC limits, therefore, the results are acceptable

The %recoveries of N-Nitroso-di-n-propylamine and 1,2,4-Trichlorobenzene reported low outside the QC limits for low level water samples EAFK7MS and EAFK7MSD The %recoveries of 1,4-Dichlorobenzene and Acenaphthene reported low outside the QC limits for low level water sample EAFK7MSD Positive results for these compounds in the unspiked water sample, EAFK7, should be considered as estimated "J" and non-detects "UJ"

Pest/PCB

The %RPD for Heptachlor reported high outside the QC limit for the spiked soil samples EAFK4MS and EAFK4MSD Positive results for these compounds in the unspiked soil sample should be considered as estimated "J", and non-positive results estimated "UJ" AJS 08/30/95

All spike recoveries and RPDs for the low level water sample, EAFK7 were within the QC limits, therefore, the results are acceptable

7 FIELD BLANK AND FIELD DUPLICATE

Water samples EAFK3, EAFK8, and EAFR3 were identified as trip blanks Sample EAFK3 reported one (1) target compound and no TICs for the volatile fraction Sample EAFK8 reported three (3) target compound and six (6) TICs for the volatile fraction

Reviewed by Allison C Harvey Lockheed/ESAT
Date August 25, 1995

NARRATIVE

LABORATORY.	SWOK	CASE	23857
SITE	MACON CNTY #2/MURRELL/WASTE (IL)	SDG.	EAFK1

Sample EAFR3 reported two (2) target compound and one (1) TIC for the volatile fraction

Soil sample ETC02 was identified as a field duplicate of soil sample EAFK9 Sample ETC02 reported two (2) target compounds and no TICs for the volatile fraction, sample EAFK9 reported two (2) target compounds and no TICs for the volatile fraction Sample ETC02 reported twelve (12) target compounds and twenty-five (25) TICs for the semi-volatile fraction, sample EAFK9 reported thirteen (13) target compounds and nineteen (19) TICs for the semi-volatile fraction Sample ETC02 reported no target compounds for the pesticide/PCB fraction, sample EAFK9 reported no target compounds for the pesticide/PCB fraction

Water sample EAFR1 was identified as a field duplicate of water sample ETC04 Sample ETC04 reported three (3) target compounds and seven (7) TICs for the volatile fraction, sample EAFR1 reported three (3) target compounds and six (6) TICs for the volatile fraction Sample ETC04 reported no target compounds and no TICs for the semi-volatile fraction, sample EAFR1 reported one (1) target compound and two (2) TICs for the semi-volatile fraction Sample ETC04 reported no target compounds for the pesticide/PCB fraction, sample EAFR1 reported no target compounds for the pesticide/PCB fraction

Water sample EAFR2 was identified as a field blank Sample EAFR2 reported no target compounds and eight (8) TICs for the VOA fraction, one (1) target compound and two (2) TICs for the SV fraction, and no target compounds for the pesticide/PCB fraction

8 INTERNAL STANDARDS

VOA

The internal standard retention time and area counts for the VOA fraction were all within the required QC limits, therefore, the results are accepatable

SV

IS5 - Chrysene-d12 (CRY) reported area counts low outside the QC limits for water sample EAFK7MSD Detected target compounds for EAFK7MSD quantitated using IS5 should be qualified as estimated "J" and non-detects "UJ"

See Table 4 for the list of affected target compounds

Reviewed by Allison C Harvey Lockheed/ESAT
Date August 25, 1995

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NARRATIVE

LABORATORY	SWOK	CASE	23857
SITE	MACON CNTY #2/MURRELL/WASTE (IL)	SDG	EAFK1

9 COMPOUND IDENTIFICATION

After reviewing the mass spectra and chromatograms it appears that all VOA, SV and Pesticide/PCB compounds were correctly identified

10. COMPOUND QUANTITATION AND REPORTED DETECTION LIMITS

All CRQLs were properly adjusted for percent moisture and dilution, therefore all VOA, SV, and Pest/PCB target were properly reported All target compound quantitation was properly reported

11 SYSTEM PERFORMANCE

GC/MS baseline indicated acceptable performance The GC baseline for the pesticide analysis was acceptable

12 OVERALL CASE ASSESSMENT

VOA

The laboratory reported that water samples EAFK7 and EAFR1 had neutral Ph values of 7 indicating that they had not been properly preserved as indicated on the Organic Traffic Report/Chain-of-Custody records However, since the analyses were conducted within the seven (7) day holding time for unpreserved water samples, therefore, no qualification of the data is required

Reviewed by Allison C Harvey Lockheed/ESAT
Date August 25, 1995

CALIBRATION OUTLIERS
VOLATILE TCL COMPOUNDS
(Page 1 of 1)

CASE\SAS# 23857 LABORATORY SWOK

COLUMN DB - 624 SITE NAME Mason Cty #2/Murrell

HEATED PURGE (Y/N) N

Instrument# C		Initial Cal			Contin Cal			Contin Cal			Contin Cal			Contin Cal		
Date/Time		07/26/95 0803			08/07/95 0801			08/09/95 0840								
	#	rf	%rsd	*	rf	%d	*	rf	%d	*	rf	%d	*	rf	%d	*
Chloromethane	0.01															
Bromomethane	0.10															
Vinyl chloride	0.10															
Chloroethane	0.01															
Methylene chloride	0.01															
Acetone	0.01	0.183			0.310	69.4	J	0.228								
Carbon disulfide	0.01															
1,1 Dichloroethene	0.10															
1,1 Dichloroethane	0.20															
1,2 Dichloroethene (total)																
Chloroform	0.20															
1,2 Dichloroethane	0.10															
2 Butanone	0.01															
1,1,1 Trichloroethane	0.10															
Carbon tetrachloride	0.10															
Bromodichloromethane	0.20															
1,2 Dichloropropane																
cis 1,3 Dichloropropene	0.20															
Trichloroethene	0.30															
Dibromochloromethane	0.10															
1,1,2 Trichloroethane	0.10															
Benzene	0.50															
tran 1,3 Dichloropropene	0.10															
Bromoform	0.10															
4-Methyl 2 pentanone	0.01															
2 Hexanone	0.01															
Tetrachloroethene	0.20															
1,1,2,2 Tetrachloroethane	0.50															
Toluene	0.40															
Chlorobenzene	0.50															
Ethylbenzene	0.10															
Styrene	0.30															
Xylene (total)	0.30															
Toluene-d8																
Bromofluorobenzene	0.20															
1,2 Dichloroethane-d4																

Samples affected		
	VBLK1	VBLK3
	EAFK2-3	VHBLK1
	EAFK7-8	
	EAFR2-3	
	EAFK7MS/MSD	
	EAFR1	
	EPK45	
	ETC04	

Reviewer's Init/Date ACH / 8-22-95

J/R = All positive results are estimated J and non-detected results are unusable R

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= Minimum Relative Response Factor

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CALIBRATION OUTLIERS
VOLATILE TCL COMPOUNDS
(Page 1 of 1)

CASE\SAS# 23857 LABORATORY SWOK

COLUMN DB-624 SITE NAME Mason Cty #2/Murrell

HEATED PURGE (Y/N) Y

Instrument# L		Initial Cal			Contin Cal			Contin Cal			Contin Cal			Contin Cal		
Date/Time		08/02/95 1908			08/07/95 1331											
	#	rf	%rsd	*	rf	%d	*	rf	%d	*	rf	%d	*	rf	%d	*
Chloromethane	0.01															
Bromomethane	0.10	0.907			1.159	27.8	J									
Vinyl chloride	0.10	0.950			1.197	26.0	J									
Chloroethane	0.01	0.584			0.764	30.8	J									
Methylene chloride	0.01	1.200			1.827	52.3	J									
Acetone	0.01	0.118			0.181	53.4	J									
Carbon disulfide	0.01															
1,1 Dichloroethene	0.10															
1,1 Dichloroethane	0.20															
1,2 Dichloroethene (total)																
Chloroform	0.20															
1,2 Dichloroethane	0.10															
2 Butanone	0.01															
1,1,1 Trichloroethane	0.10															
Carbon tetrachloride	0.10															
Bromodichloromethane	0.20															
1,2 Dichloropropane																
cis 1,3 Dichloropropene	0.20															
Trichloroethene	0.30															
Dibromochloromethane	0.10															
1,1,2 Trichloroethane	0.10															
Benzene	0.50															
tran 1,3 Dichloropropene	0.10															
Bromoform	0.10															
4-Methyl 2 pentanone	0.01															
2 Hexanone	0.01	0.120	37.3	J	0.131											
Tetrachloroethene	0.20															
1,1,2,2 Tetrachloroethane	0.50															
Toluene	0.40															
Chlorobenzene	0.50															
Ethylbenzene	0.10															
Styrene	0.30															
Xylene (total)	0.30															
Toluene-d8																
Bromofluorobenzene	0.20															
1,2 Dichloroethane-d4																

Samples affected

VBLK2
EAFK1
EAFK4-6
EAFK4MS/MSD
EAFK9
ETCO2-3

Reviewer's Init/Date ACH / 8-22-95

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= Minimum Relative Response Factor

CALIBRATION OUTLIER
SEMIVOLATILE TCL COMPOUNDS
(Page 1 of 2)

CASE\SAS# 23857 LABORATORY SWOK

COLUMN _____ SITE NAME Macon Cty #2/Murrell

Instrument# V		Initial Cal			Contin Cal			Contin Cal			Contin Cal			Contin Cal.		
Date/Time		07/24/95 1218			08/04/95 1057			08/07/95 0831								
	#	rf	%rsd	*	rf	%d	*	rf	%d	*	rf	%d	*	rf	%d	*
Phenol	0 80															
bis(2-chloroethyl) Ether	0 70															
2 Chlorophenol	0 70															
1,3 Dichlorobenzene																
1,4-Dichlorobenzene																
1,2 Dichlorobenzene																
2 Methylphenol	0 70															
2,2 -Oxybis(1-chl propane)	0 01															
4-Methylphenol	0 60															
N nitroso-di n prop[illegible]	0 50															
Hexachloroethane	0 30															
Nitrobenzene	0 20															
Isophorone	0 40															
2 Nitrophenol	0 10															
2,4-Dimethylphenol	0 20															
bis-(2-chloroethoxyl)methane	0 30															
2,4-Dichlorophenol	0 20															
1,2,4-Trichlorobenzene	0 20															
Naphthalene	0 70															
4-Chloroaniline	0 01															
Hexachlorobutadiene	0 01															
4-Chloro 3 methylphenol	0 20															
2 Methylnaphthalene	0 40															
Hexachlorocyclopentadiene	0 01															
2,4,6-Trichlorophenol	0 20															
2,4,5 Trichlorophenol	0 20															
2 Chloronaphthalene	0 80															
2 Nitroaniline	0 01															
Dimethyl phthlate	0 01															
Acenaphthylene	1 30															
2,6-Dinitrotoluene	0 20															
3 Nitroaniline	0 01															
Acenaphthene	0 30															
2,4-Dinitrophenol	0 01	0.194			0128	340	J	0125	352	J						
4-Nitrophenol	0 01															
Dibenzofuran	0 80															
2,4-Dinitrotoluene	0 20															

Affected samples

	SBLK1	SBLK3		
	EAFK1	EAFK2		
	EAFK4-6	EAFK7		
	EAFK4MS/MSD	EAFKMS/MSD		
	EAFK9	EAFR1-2		
	ETC02-3	EPK45		

Reviewer's Init/Date aoH / 8 22 95

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CALIBRATION OUTLIER
SEMIVOLATILE TCL COMPOUNDS
(Page 2 of 2)

CASE\SAS# 23857
COLUMN

LABORATORY SWOK

SITE NAME Mason Cty #2/Murrell

Instrument# V		Initial Cal			Contin Cal			Contin Cal			Contin Cal			Contin Cal.		
Date/Time		07/24/95 1218			08/04/95 1057			08/07/95 0831								
	#	rf	%rsd	*	rf	%d	*	rf	%d	*	rf	%d	*	rf	%d	*
Diethylphthalate	0.01															
4-Chlorophenyl phenylether	0.40															
Fluorene	0.90															
4-Nitroaniline	0.01															
4,6-Dinitro 2 methylphenol	0.01															
N nitrosodiphenylamine	0.01															
4-Bromophenyl phenylether	0.10															
Hexachlorobenzene	0.10															
Pentachlorophenol	.00	0.212			0.137	35.5	J	0.141	33.4	J						
Phenanthrene	0.70															
Anthracene	0.70															
Carbazole																
Di n-butylphthalate	0.01															
Fluoranthene	0.60															
Pyrene	0.60	1.516			2.103	38.7	J	1.965	29.6	J						
Butylbenzylphthalate	0.01	0.851			1.264	48.5	J	1.311	54.0	J						
3,3 Dichlorobenzidine	0.01															
Benzo(a)anthracene	0.80															
Chrysene	0.70															
bis(2 Ethylhexyl)phthalate	0.01	1.137			1.614	42.0	J	1.728	52.0	J						
Di n-octyl phthalate	0.01	1.854			2.922	57.6	J	3.195	72.3	J						
Benzo(b)fluoranthene	0.70															
Benzo(k)fluoranthene	0.70															
enzo(a)pyrene	0.70															
Indeno(1,2,3-cd)pyrene	0.50															
Dibenz(a,h)anthrancene	0.40															
Benzo(g,h,i)perylene	0.50															
Nitrobenzene-d5	0.01															
2 Fluorobiphenyl	0.70															
Terphenyl-d14	0.50															
Phenol-d5	0.80															
2 Fluorophenol	0.60															
2,4,6-Tribromophenol	0.01	0.155			0.112	27.9	J	0.113	27.3	J						
2-Chlorophenol-d4																
1,2 Dichlorobenzene-d4																

Reviewer s Init/Date ACH/8-22-95

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CALIBRATION OUTLIER
SEMIVOLATILE TCL COMPOUNDS
(Page 1 of 2)

CASE\SAS# 23857 LABORATORY SWOK

COLUMN _____ SITE NAME Macon Cty #2/Murrell

Instrument# T		Initial Cal.			Contin Cal			Contin Cal			Contin Cal			Contin Cal.		
Date/Time		08/07/95 0828			08/09/95 0838			08/10/95 1043								
	#	rf	%rsd	*	rf	%d	*	rf	%d	*	rf	%d	*	rf	%d	*
Phenol	0.80															
bis(2-chloroethyl) Ether	0.70															
2-Chlorophenol	0.70															
1,3 Dichlorobenzene																
1,4-Dichlorobenzene																
1,2 Dichlorobenzene																
2 Methylphenol	0.70															
2,2 -Oxybis(1-chl propane)	0.01															
4-Methylphenol	0.60															
N nitroso-di n propylamine	0.50															
Hexachloroethane	0.30															
Nitrobenzene	0.20															
Isophorone	0.40															
2 Nitrophenol	0.10															
2,4-Dimethylphenol	0.20															
bis-(2-chloroethoxy)methane	0.30															
2,4-Dichlorophenol	0.20															
1,2,4-Trichlorobenzene	0.20															
Naphthalene	0.70															
4-Chloroaniline	0.01															
Hexachlorobutadiene	0.01															
4-Chloro 3 methylphenol	0.20															
2 Methylnaphthalene	0.40															
Hexachlorocyclopentadiene	0.01															
2,4,6-Trichlorophenol	0.20															
2,4,5 Trichlorophenol	0.20															
2 Chloronaphthalene	0.80															
2 Nitroaniline	0.01															
Dimethyl phthlate	0.01															
Acenaphthylene	1.30															
2,6-Dinitrotoluene	0.20															
3 Nitroaniline	0.01															
Acenaphthene	0.30															
2,4-Dinitrophenol	0.01	0.177			0.176			0.127	28.6	J						
4-Nitrophenol	0.01															
Dibenzofuran	0.80															
2,4-Dinitrotoluene	0.20															
Affected samples					ETC04			SBLK2								

Reviewer s Init/Date [illegible] / 8-22-95

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CALIBRATION OUTLIER
SEMIVOLATILE TCL COMPOUNDS
(Page 2 of 2)

CASE\SAS# 23857
COLUMN

LABORATORY SWOK

SITE NAME Macon Cty #2/Murrell

Instrument# T		Initial Cal			Contin Cal			Contin Cal			Contin Cal.			Contin Cal.		
Date/Time		08/07/95 0828			08/09/95 0838			08/10/95 1043								
	#	rf	%rsd	*	rf	%d	*	rf	%d	*	rf	%d	*	rf	%d	*
Diethylphthalate	0.01															
4-Chlorophenyl phenylether	0.40															
Fluorene	0.90															
4-Nitroaniline	0.01															
4,6-Dinitro 2 methylphenol	0.01															
N nitrosodiphenylamine	0.01															
4-Bromophenyl phenylether	0.10															
Hexachlorobenzene	0.10															
Pentachlorophenol	0.0															
Phenanthrene	0.70															
Anthracene	0.70															
Carbazole																
Di n-butylphthalate	0.01															
Fluoranthene	0.60															
Pyrene	0.60															
Butylbenzylphthalate	0.01															
3,3 Dichlorobenzidine	0.01															
Benzo(a)anthracene	0.80															
Chrysene	0.70															
bis(2 Ethylhexyl)phthalate	0.01															
Di n-octyl phthalate	0.01	1.999			2.591	29.6	J	2.587	29.4	J						
Benzo(b)fluoranthene	0.70															
Benzo(k)fluoranthene	0.70															
Benzo(a)pyrene	0.70															
Indeno(1,2,3-cd)pyrene	0.50															
Dibenz(a,h)anthrancene	0.40															
Benzo(g,h,i)perylene	0.50															
Nitrobenzene-d5	0.01															
2 Fluorobiphenyl	0.70															
Terphenyl-d14	0.50															
Phenol-d5	0.80															
2 Fluorophenol	0.60															
2,4,6-Tribromophenol	0.01															
2-Chlorophenol-d4																
1,2 Dichlorobenzene-d4																

Reviewer s Init/Date acH /8-22-95

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CALIBRATION OUTLIER
PESTICIDE/PCB TCL COMPOUNDS
(Page 1 of 1)

CASE\SAS# 23857 LABORATORY SWOK

COLUMN DB-1701 SITE NAME Macon Cty #2/Murrell

Instrument# HP-01A		Initial Cal.			Contin Cal			Contin. Cal.			Contin Cal.			Contin Cal		
Date/Time.		08/04/95			08/05/95 0212											
	#	rf	%rsd	*	rf	%d	*	rf	%d	*	rf	%d	*	rf	%d	*
alpha BHC	0.01															
beta BHC	0.40															
delta BHC	0.90															
gamma BHC	0.01															
Heptachlor	0.01															
Aldrin	0.01															
Heptachlor epoxide	0.10															
Endosulfan I	0.10															
Dieldrin	0.05															
4, 4 DDE	0.70															
Endrin	0.70															
Endosulfan II	0.01															
4, 4 DDD	0.60															
Endosulfan sulfate	0.60															
4, 4 DDT	0.01															
Methoxychlor	0.01															
Endrin ketone	0.80															
Endrin aldehyde	0.70															
alpha chlordane	0.01															
gamma chlordane	0.01															
Arochlor 1016																
Arochlor 1221																
Arochlor 1232																
Arochlor 1242																
Arochlor 1248																
Arochlor 1254																
Arochlor 1260																

Affected samples

PBLKWA			
PBLKWB			
EAFK2			
EAFK7			
EAFK7MS/MSD			
EAFR1-2			
EPK45			
ETC04			

Reviewer s Init/Date ACH / 8-23-95

* These flags should be applied to the analytes on the sample data sheets
\# Minimum Relative Response Factor

CALIBRATION OUTLIER
PESTICIDE/PCB TCL COMPOUNDS
(Page 1 of 1)

CASE\SAS# 23857 LABORATORY SWOK

COLUMN DB-17 SITE NAME Macon Cty #2/Murrell

Instrument# HP-01B		Initial Cal			Contin Cal			Contin Cal			Contin Cal			Contin Cal.		
Date/Time		08/04/95			08/05/95 0212											
	#	rf	%rsd	*	rf	%d	*	rf	%d	*	rf	%d	*	rf	%d	*
alpha BHC	0.01															
beta BHC	0.40															
delta BHC	0.90															
gamma BHC	0.01															
Heptachlor	0.01															
Aldrin	0.01															
Heptachlor epoxide	0.10															
Endosulfan I	0.10															
Dieldrin	0.05															
4, 4 DDE	0.70															
Endrin	0.70															
Endosulfan II	0.01															
4, 4 DDD	0.60															
Endosulfan sulfate	0.60															
4, 4 DDT	0.01															
Methoxychlor	0.01															
Endrin ketone	0.80															
Endrin aldehyde	0.70															
alpha chlordane	0.01															
gamma chlordane	0.01															
Arochlor 1016																
Arochlor 1221																
Arochlor 1232																
Arochlor 1242																
Arochlor 1248																
Arochlor 1254																
Arochlor 1260																

Affected samples

PBLKWA			
PBLKWB			
EAFK2			
EAFK7			
EAFK7MS/MSD			
EAFR1-2			
EPK45			
ETC04			

Reviewer's Init/Date aOH /8-24-95

* These flags should be applied to the analytes on the sample data sheets
\# Minimum Relative Response Factor

CALIBRATION OUTLIER
PESTICIDE/PCB TCL COMPOUNDS
(Page 1 of 1)

CASE\SAS# 23857 LABORATORY SWOK

COLUMN DB-17 SITE NAME Macon Cty #2/Murrell

Instrument# HP 02A		Initial Cal			Contin Cal.			Contin Cal.			Contin Cal			Contin Cal		
Date/Time		08/07/95			08/09/95 0231			08/09/95 1335								
	#	rf	%rsd	*	rf	%d	*	rf	%d	*	rf	%d	*	rf	%d	*
alpha BHC	0.01															
beta BHC	0.40															
delta BHC	0.90															
gamma BHC	0.01															
Heptachlor	0.01															
Aldrin	0.01															
Heptachlor epoxide	0.10															
Endosulfan I	0.10															
Dieldrin	0.05															
4,4 DDE	0.70															
Endrin	0.70															
Endosulfan II	0.01															
4,4 DDD	0.60															
Endosulfan sulfate	0.60															
4,4 DDT	0.01															
Methoxychlor	0.01															
Endrin ketone	0.80															
Endrin aldehyde	0.70															
alpha chlordane	0.01															
gamma chlordane	0.01															
Arochlor 1016																
Arochlor 1221																
Arochlor 1232																
Arochlor 1242																
Arochlor 1248																
Arochlor 1254																
Arochlor 1260																

Affected samples

PBLKSN
EAFK1
EAFK5-6
EAFK9
ETC02-3

Reviewer s Init/Date ACH / 8-24-95

* These flags should be applied to the analytes on the sample data sheets
\# Minimum Relative Response Factor

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CALIBRATION OUTLIER
PESTICIDE/PCB TCL COMPOUNDS
(Page 1 of 1)

CASE\SAS# 23857 LABORATORY SWOK

COLUMN DB-1701 SITE NAME Macon Cty #2/Murrell

Instrument# HP-02B		Initial Cal.			Contin Cal			Contin Cal.			Contin Cal			Contin Cal		
Date/Time.		08/07/95			08/08/95 0231			08/09/95 1335								
	#	rf	%rsd	*	rf	%d	*	rf	%d	*	rf	%d	*	rf	%d	*
alpha BHC	0.01															
beta BHC	0.40															
delta BHC	0.90															
gamma BHC	0.01															
Heptachlor	0.01															
Aldrin	0.01															
Heptachlor epoxide	0.10															
Endosulfan I	0.10															
Dieldrin	0.05															
4, 4 DDE	0.70															
Endrin	0.70															
Endosulfan II	0.01															
4, 4 DDD	0.60															
Endosulfan sulfate	0.60															
4, 4 DDT	0.01		28.0	J		12.1			3.0							
Methoxychlor	0.01															
Endrin ketone	0.80															
Endrin aldehyde	0.70															
alpha chlordane	0.01															
gamma chlordane	0.01															
Arochlor 1016																
Arochlor 1221																
Arochlor 1232																
Arochlor 1242																
Arochlor 1248																
Arochlor 1254																
Arochlor 1260																

Affected samples

		PBLKSN		
		EAFK1		
		EAFK5-6		
		EAFK9		
		ETC02-3		

Reviewer s Init/Date 8-24-95

* These flags should be applied to the analytes on the sample data sheets
\# Minimum Relative Response Factor

CALIBRATION OUTLIER
PESTICIDE/PCB TCL COMPOUNDS
(Page 1 of 1)

CASE\SAS# 23857 LABORATORY SWOK

COLUMN DB-1701 SITE NAME Macon Cty #2/Murrell

Instrument# HP-01A		Initial Cal			Contin. Cal			Contin. Cal.			Contin Cal			Contin Cal		
Date/Time		08/08/95			08/08/95 2317			08/14/95 1425								
	#	rf	%rsd	*	rf	%d	*	rf	%d	*	rf	%d	*	rf	%d	*
alpha BHC	0.01															
beta BHC	0.40															
delta BHC	0.90															
gamma BHC	0.01															
Heptachlor	0.01															
Aldrin	0.01															
Heptachlor epoxide	0.10															
Endosulfan I	0.10															
Dieldrin	0.05															
4, 4 DDE	0.70															
Endrin	0.70															
Endosulfan II	0.01															
4, 4 DDD	0.60															
Endosulfan sulfate	0.60															
4, 4 DDT	0.01															
Methoxychlor	0.01															
Endrin ketone	0.80															
Endrin aldehyde	0.70															
alpha chlordane	0.01															
gamma chlordane	0.01															
Arochlor 1016																
Arochlor 1221																
Arochlor 1232																
Arochlor 1242																
Arochlor 1248																
Arochlor 1254																
Arochlor 1260																

Affected samples

PBLKSD
EAFK4
EAFK4MS/MSD

Reviewer's Init/Date ACH / 8-24-95

* These flags should be applied to the analytes on the sample data sheets
# Minimum Relative Response Factor

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CALIBRATION OUTLIER
PESTICIDE/PCB TCL COMPOUNDS
(Page 1 of 1)

CASE\SAS# 23857 LABORATORY SWOK

COLUMN DB-17 SITE NAME Macon Cty #2/Murrell

Instrument# HP 01B		Initial Cal			Contin Cal.			Contin. Cal			Contin Cal			Contin Cal.		
Date/Time.		08/08/95			08/08/95 2317			08/14/95 1425								
	#	rf	%rsd	*	rf	%d	*	rf	%d	*	rf	%d	*	rf	%d	*
alpha BHC	0.01															
beta BHC	0.40															
delta BHC	0.90															
gamma BHC	0.01															
Heptachlor	0.01															
Aldrin	0.01															
Heptachlor epoxide	0.10															
Endosulfan I	0.10															
Dieldrin	0.05															
4, 4 DDE	0.70															
Endrin	0.70															
Endosulfan II	0.01															
4, 4 DDD	0.60															
Endosulfan sulfate	0.60															
4, 4 DDT	0.01															
Methoxychlor	0.01															
Endrin ketone	0.80															
Endrin aldehyde	0.70															
alpha chlordane	0.01															
gamma chlordane	0.01															
Arochlor 1016																
Arochlor 1221																
Arochlor 1232																
Arochlor 1242																
Arochlor 1248																
Arochlor 1254																
Arochlor 1260																

Affected samples

PBLKSD
EAFK4
EAFK4MS/MSD

Reviewer s Int/Date ACH / 8-24-95

* These flags should be applied to the analytes on the sample data sheets
\# Minimum Relative Response Factor

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

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TABLE 4

(For Multi-Media Multi-Concentration Analysis)

VOLATILE INTERNAL STANDARDS WITH CORRESPONDING 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	Ethylbenzene
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 CORRESPONDING 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) sys[illegible] monitoring compound

EPA United States Environmental Protection Agency Contract Laboratory Program

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

SAS No (if applicable): NA
Case No: 23857

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: E&E TAT
4 Date Shipped: 8/1/95
Carrier: Fed Ex
Sampler (Name): Linda Knorr
Airbill Number: 4805095352
Sampler Signature: [signature]
3 Purpose: Lead [X] SF [ ] PRP [ ] ST [ ] FED; Early Action [ ] CLEM [ ] PA [ ] REM [ ] RI [X] SI FSIP [ ] ESI; Long-Term Action [ ] FS [ ] RD [ ] RA [ ] O&M [ ] NPLD
5 Ship To: SWOK, 1700 West Albany, Suite C, Broken Arrow, OK 74012
ATTN: HARRY BORG

6 Date Received – Received by: [signature] 8-2-95
Laboratory Contract Number:
Unit Price:
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.
~~EAFK0~~	~~5~~	~~L~~	~~G~~	~~5~~	~~X~~	~~X~~	~~X~~		~~073473-75~~	~~MLS1~~		~~MEWH 60~~	~~LK~~			
EAFK1	5	L	G	5	X	X	X		073477-79	MLS2	8/1/95 1140	MEWH 61	LK			
EAFK2	1	L	G	1,5	X	X	X		073481-84	MLSW1	8/1/95 1130	MEWH 62	LK			
EAFK3	4	L	G	1	X				073487-88	MLW1	8/1/95 0930	—	LK			
EAFR2	4	L	G	1,5	X	X	X		073539-42	MLF1	8/1/95 1600	MEWH 72	LK			

8/1/95

Shipment for Case Complete? (Y)N
Page 1 of 1
Sample(s) to be Used for Laboratory QC:
Additional Sampler Signatures:
Chain of Custody Seal Number(s): 34790-91

CHAIN OF CUSTODY RECORD

Relinquished by (Signature)	Date / Time	Received by (Signature)	Relinquished by (Signature)	Date / Time	Received by (Signature)
Linda Knorr	8/1/95 1200				
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	
		[signature] EAFK1	8/2/95 1000	All samples 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

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EPA United States Environmental Protection Agency
Contract Laboratory Program

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

SAS No (if applicable): NA
Case No: 23857

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: E&E TAT
4 Date Shipped: 8/1/95
Carrier: Fed Ex
6 Date Received – Received by: [signature] 8-2-95
Sampler (Name): Linda Knorr
Airbill Number: 4805095352
Sampler Signature: Linda Knorr
5 Ship To: SWOK
1700 West Albany, Suite C
Broken Arrow, OK 74012
ATTN: Harry Borg
Laboratory Contract Number:
Unit Price:
Transfer:
Date Received:
Received by:
Contract Number:
Price:

3 Purpose: Lead [X] SF [ ] PRP [ ] ST [ ] FED; Early Action [ ] CLEM [ ] PA [ ] REM [ ] RI [X] SI FSIP [ ] 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
EAFK4	5	L	G	5	X	X	X		073489-91	MCLS1	8/1/95 1030	MEWH 63	LK			
EAFK5	5	L	G	5	X	X	X		073493-95	MCLS2	8/1/95 1540	MEWH 64	LK			
EAFK6	5	L	G	5	X	X	X		073497-99	MCLS3	8/1/95 1515	MEWH 65	LK			
EAFK7	1	L	G	1,5	X	X	X		073501-10	MCLSW1	8/1/95 1615	MEWH 66	LK			
EPK45	1	L	G	1,5	X	X	X		073583-86	MCLSW2	8/1/95 1535	MEPF 25	LK			
EAFK8	4	L	G	1	X				073513-14	MCLW1	8/1/95 0930	—				

Shipment for Case Complete? (Y/N): Y
Page: 1 of 1
Sample(s) to be Used for Laboratory QC: EAFK4, EAFK7
Additional Sampler Signatures:
Chain of Custody Seal Number(s): 34786-87

CHAIN OF CUSTODY RECORD

Relinquished by (Signature)	Date / Time	Received by (Signature)	Relinquished by (Signature)	Date / Time	Received by (Signature)
Linda Knorr	8/1/95 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	
		[signature] EAFK1	8/2/95 1000	All samples intact	

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

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EPA United States Environmental Protection Agency
Contract Laboratory Program

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

SAS No (if applicable): NA
Case No: 23857

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: E&ETAT
Sampler (Name): [illegible]
Sampler Signature: [illegible]
3 Purpose: Lead [X] SF [ ] PRP [ ] ST [ ] FED
Early Action: [ ] CLEM [ ] PA [ ] REM [ ] RI [X] SI FSIP [ ] ESI
Long-Term Action: [ ] FS [ ] RD [ ] RA [ ] O&M [ ] NPLD

4 Date Shipped: 8/1/95
Carrier: Fed Ex
Airbill Number: 4805095352
5 Ship To: SWOK
1700 West Albany, Suite C
Broken Arrow, OK 74012
ATTN: Harry Burg

6 Date Received – Received by: [signature] 8-2-95
Laboratory Contract Number
Unit Price
Transferred
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.
EAFK9	5	L	G	5	X	X	X		073515-17	WHS1	8/1/95 1	MEWH67	LK			
ETC02	5	L	G	5	X	X	X		073519-21	WHS1D	1 1 1034	MEWH68	LK			
ETC03	5	L	G	5	X	X	X		073523-25	WHS2	8/1/95 0900	MEWH69	LK			
* ETC04	1	L	G	1.5	X	X	X		073527-30	WHSW1	1 1 1	MEWH70	LK			
EAFR1	1	L	G	1.5	X	X	X		073533-36	WHSW1D	1 1 95 1000	MEWH71	LK			
EAFR3	4	L	G	1	X				073545-46	WHW1	8/1/ 0100	—	LK			

Shipment for Case Complete? (Y/N) (Y)
Page 1 of 1
Sample(s) to be Used for Laboratory QC:
Additional Sampler Signatures:
Chain of Custody Seal Number(s): 34794-95

* SD6 Final Sample

CHAIN OF CUSTODY RECORD

Relinquished by (Signature)	Date / Time	Received by (Signature)	Relinquished by (Signature)	Date / Time	Received by (Signature)
[signature]	8/1/95 1:00				
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	
		[signature]	8/2/95 1000	All samples intact	

DISTRIBUTION: Blue Region Copy; White Lab Copy for Return to Region; Pink SMO Copy; Yellow Lab Copy for Return to SMO
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SOUTHWEST LABORATORY OF OKLAHOMA
1700 West Albany, Suite A / Broken Arrow, OK 74012
918 251 2858

SDG NARRATIVE
August 15 1995

RECEIVED
AUG 1 1 1995
US EPA CENTRAL REGIONAL LAB
536 S CLARK ST
CHICAGO, ILLINOIS 60605

CONTRACT NO	68 D5 0026
CASE NO	23857
SAMPLE NOS	EAFK1 EAFK2 EAFK3 EAFK4 EAFK4MS EAFK4MSD EAFK5 EAFK6 EAFK7 EAFK7MS EAFK7MSD EAFK8 EAFK9 EAFR1 EAFR2 EAFR3 EPK45 ETC02 ETC03 ETC04
SDG NO	EAFK1

VOLATILE FRACTION

Seven soil and nine water samples were submitted for Volatile Organic Analysis The samples were analyzed by GC/MS following the OLM03 1 CLP Statement of Work

Alternate columns used for the analysis of volatile compounds by Method OLM03 1 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 1 is the Vocarb 3000 (Carbopack B/Carboxen 1000 & 1001 Tekmar #2 1066)

No major problems occurred during the analyses of these samples Except for samples EAFK7 and EAFR1 all samples had a neutral pH (7) upon measurement at the laboraotry these samples were apparently not acidfied

Blanks Both VBLk1 and VHBLK1 contained low level methylene chloride and chloroform contamination less than CRQL VBLK3 contained methylene chloride less than CRQL

Surrogates No problems

Matrix Spikes Although benzene s percent recovery in both the matrix spike and matrix spike duplicate of smaple EAFK7 fell within QC limits the relative percent difference between benzene s recovery in the matrix spike and matrix spike duplicate of this sample exceeded the upper recommended limit No reanalysis was performed as per contract

Internal Standards No problems

SEMIVOLATILE FRACTION

Seven soil and six water samples were submitted for Semivolatile Organic Analysis The samples were analyzed by GC/MS following the OLM03 1 CLP Organic Statement of Work

The following column is used for the semivolatile analysis Restek XTI 5 (bonded 5% phenyl 95% dimethyl polysiloxane) 30m 0 25mm ID 0 25um film thickness (Restek #12223)

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 this SDG narrative EAFK4 EAFK5 EAFK6 EAFK9 ETC02 ETC03 and SBLK1

Blanks SBLK1 and SBLK2 had low level phthalate contamination below CRQL

Surrogates EAFK7 EAFK7MS EAFK7MSD and EPK45 had low recovery of terphenly d14 at 32% 27% 24% and 29% respectivley EAFK7MSD also had low recovery of 2 fluorobiphenyl at 38%

Matrix Spikes EAFK7MS/MSD had 6 out of 22 spike recoveries outside of QC limits (low) ranging from (30 to 40) percent

Internal Standards Sample EAFK7MSD had low recovery of IS #5

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 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

August 15 1995

SDG Narrative
August 15 1995

Case	23857
SDG	EAFK1
Contract	68 D5 0026
Samples	EAFK1 EAFK2 EAFK4 EAFK5 EAFK6 EAFK7 EAFK9 EAFR1 EAFR2 EPK45, ETC02 ETC03 ETC04
Fraction	Pesticide/PCB

SDG EAFK1 consisted of 7 soil samples and 6 water samples which were analyzed for pesticide/PCBs All samples blanks and spikes were extracted and analyzed according to EPA SOW OLM03 1 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

Surrogate recoveries of all method blanks were within limits All matrix spike recoveries were within advisory limits The heptachlor RPD for the MS/MSD of sample EAFK4 was one percent above the advisory limit

Many samples in this SDG were sulfur cleaned using the copper technique as outlined in D-56/PEST, 10 1 8 3 3 2, in addition to GPC and Florisil cleanups

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

Brett R Dees
GC Group Leader

2A
WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

	EPA SAMPLE NO	SMC1 (TOL)#	SMC2 (BFB)#	SMC3 (DCE)#	OTHER	TOT OUT
01	VBLK1	96	107	99		0
02	EAFK2	97	107	102		0
03	EAFK3	97	109	102		0
04	EAFK7	99	112	99		0
05	EAFR2	100	108	104		0
06	EAFK7MS	99	110	103		0
07	EAFK7MSD	103	112	88		0
08	EAFK8	102	113	89		0
09	EAFR1	99	110	84		0
10	EAFR3	99	111	90		0
11	EPK45	95	104	94		0
12	ETC04	95	105	92		0
13	VBLK3	100	104	97		0
14	VHBLK1	98	100	93		0
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		QC LIMITS
SMC1 (TOL)	= Toluene-d8	(88-110)
SMC2 (BFB)	= Bromofluorobenzene	(86-115)
SMC3 (DCE)	= 1,2-Dichloroethane-d4	(76-114)

Column to be used to flag recovery values

* Values outside of contract required QC limits

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2B
SOIL VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Level (low/med) LOW

	EPA SAMPLE NO	SMC1 (TOL)#	SMC2 (BFB)#	SMC3 (DCE)#	OTHER	TOT OUT
01	VBLK2	102	100	98		0
02	EAFK1	100	93	94		0
03	EAFK4	104	97	98		0
04	EAFK4MS	96	94	98		0
05	EAFK4MSD	93	89	93		0
06	EAFK5	102	97	102		0
07	EAFK6	104	91	100		0
08	EAFK9	101	87	94		0
09	ETC02	105	86	96		0
10	ETC03	108	84	90		0
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	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

3A
WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix Spike - EPA Sample No EAFK7

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC LIMITS REC
1,1-Dichloroethene	50	0	52	104	61-145
Trichloroethene	50	0	48	96	71-120
Benzene	50	0	46	92	76-127
Toluene	50	0	50	100	76-125
Chlorobenzene	50	0	52	104	75-130

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC
1,1-Dichloroethene	50	53	106	2	14	61-145
Trichloroethene	50	53	106	10	14	71-120
Benzene	50	40	80	14*	11	76-127
Toluene	50	54	108	8	13	76-125
Chlorobenzene	50	55	110	6	13	75-130

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

* Values outside of QC limits

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

COMMENTS

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3B
SOIL VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix Spike - EPA Sample No EAFK4 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	59	0	55	93	59-172
Trichloroethene	59	0	54	92	62-137
Benzene	59	0	56	95	66-142
Toluene	59	7	61	92	59-139
Chlorobenzene	59	0	57	97	60-133

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC
1,1-Dichloroethene	59	54	92	1	22	59-172
Trichloroethene	59	52	88	4	24	62-137
Benzene	59	54	92	3	21	66-142
Toluene	59	58	86	7	21	59-139
Chlorobenzene	59	55	93	4	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

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Lab File ID C17889 D Lab Sample ID C950807A

Date Analyzed 08/07/95 Time Analyzed 0900

GC Column DB-624 ID 0 53 (mm) Heated Purge (Y/N) N

Instrument ID C

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

	EPA SAMPLE NO	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	EAFK2	23089 02	C17892 D	1045
02	EAFK3	23089 03	C17893 D	1110
03	EAFK7	23089 07	C17894 D	1136
04	EAFR2	23089 11	C17897 D	1252
05	EAFK7MS	23089 07MS	C17901 D	1435
06	EAFK7MSD	23089 07MSD	C17902 D	1501
07	EAFK8	23089 08	C17903 D	1528
08	EAFR1	23089 10	C17904 D	1555
09	EAFR3	23089 12	C17906 D	1647
10	EPK45	23089 13	C17907 D	1713
11	ETC04	23089 16	C17908 D	1739
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COMMENTS

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4A
VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO

VBLK2

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Lab File ID L17273 D Lab Sample ID L950807A

Date Analyzed 08/07/95 Time Analyzed 1529

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	EAFK1	23089 01	L17275 D	1703
02	EAFK4	23089 04	L17276 D	1734
03	EAFK4MS	23089 04MS	L17277 D	1806
04	EAFK4MSD	23089 04MSD	L17278 D	1839
05	EAFK5	23089 05	L17279 D	1910
06	EAFK6	23089 06	L17280 D	1941
07	EAFK9	23089 09	L17281 D	2011
08	ETC02	23089 14	L17282 D	2039
09	ETC03	23089 15	L17283 D	2106
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COMMENTS

4A
VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLK3

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Lab File ID C17931.D Lab Sample ID C950809A

Date Analyzed 08/09/95 Time Analyzed 0946

GC Column DB-624 ID 0 53 (mm) Heated Purge (Y/N) N

Instrument ID C

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

	EPA SAMPLE NO	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	VHBLK1	VHBLK	C17932 D	1024
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COMMENTS

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

VBLK1

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) WATER Lab Sample ID C950807A

Sample wt/vol 5 0 (g/mL) ML Lab File ID: C17889 D

Level (low/med) LOW Date Received / /

% Moisture not dec _____ Date Analyzed 08/07/95

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/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	2	J
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	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	1	J
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

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) WATER Lab Sample ID C950807A

Sample wt/vol 5 0 (g/mL) ML Lab File ID C17889 D

Level (low/med) LOW Date Received / /

% Moisture not dec _____ Date Analyzed 08/07/95

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/L

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

EPA SAMPLE NO

VBLK2

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) SOIL Lab Sample ID L950807A

Sample wt/vol 5 0 (g/mL) G Lab File ID L17273 D

Level (low/med) LOW Date Received / /

% Moisture not dec 0 Date Analyzed 08/07/95

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

VBLK2

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) SOIL Lab Sample ID: L950807A

Sample wt/vol 5 0 (g/mL) G Lab File ID L17273 D

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

% Moisture not dec. 0 Date Analyzed. 08/07/95

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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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

VBLK3

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) WATER Lab Sample ID C950809A

Sample wt/vol 5 0 (g/mL) ML Lab File ID C17931 D

Level (low/med) LOW Date Received / /

% Moisture not dec _____ Date Analyzed: 08/09/95

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/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	1	J
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

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO

VBLK3

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) WATER Lab Sample ID C950809A

Sample wt/vol 5 0 (g/mL) ML Lab File ID C17931 D

Level (low/med) LOW Date Received / /

% Moisture not dec _____ Date Analyzed 08/09/95

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/L

	CAS NUMBER	COMPOUND NAME	RT	EST CONC	Q
1					
2					
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

EAFK1
MLS2

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) SOIL Lab Sample ID 23089 01

Sample wt/vol 5 0 (g/mL) G Lab File ID L17275 D

Level (low/med) LOW Date Received 08/02/95

% Moisture not dec 18 Date Analyzed 08/07/95

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	16	
67-64-1	Acetone	34	
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

EAFK1

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) SOIL Lab Sample ID 23089 01

Sample wt/vol 5 0 (g/mL) G Lab File ID L17275 D

Level (low/med) LOW Date Received 08/02/95

% Moisture not dec 18 Date Analyzed 08/07/95

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
1					
2					
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

EAFK2
MLSW1

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) WATER Lab Sample ID 23089 02

Sample wt/vol 5 0 (g/mL) ML Lab File ID C17892 D

Level (low/med) LOW Date Received 08/02/95

% Moisture not dec _____ Date Analyzed 08/07/95

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/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10 ~~4~~	JB u
67-64-1	Acetone	7	J
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	8	JB
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	8	J
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	8	J
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

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TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO

EAFK2

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) WATER Lab Sample ID 23089 02

Sample wt/vol 5 0 (g/mL) ML Lab File ID C17892 D

Level (low/med) LOW Date Received 08/02/95

% Moisture not dec _____ Date Analyzed 08/07/95

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/L

	CAS NUMBER	COMPOUND NAME	RT	EST CONC	Q
1					
2					
3					
4					
5					
6					
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9					
10					
11					
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EPA SAMPLE NO

EAFK3
MLW1

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) WATER Lab Sample ID 23089 03

Sample wt/vol 5 0 (g/mL) ML Lab File ID C17893 D

Level (low/med) LOW Date Received 08/02/95

% Moisture not dec _____ Date Analyzed 08/07/95

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/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10 ~~3~~	JB u
67-64-1	Acetone	9	J
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

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO

EAFK3

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) WATER Lab Sample ID 23089 03

Sample wt/vol 5 0 (g/mL) ML Lab File ID C17893 D

Level (low/med) LOW Date Received 08/02/95

% Moisture not dec _____ Date Analyzed 08/07/95

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/L

	CAS NUMBER	COMPOUND NAME	RT	EST CONC	Q
1					
2					
3					
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9					
10					
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EPA SAMPLE NO

EAFK4
~~MLF1~~ MCLS1

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) SOIL Lab Sample ID 23089 04

Sample wt/vol 5 0 (g/mL) G Lab File ID L17276 D

Level (low/med) LOW Date Received 08/02/95

% Moisture not dec 15 Date Analyzed 08/07/95

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	16	
67-64-1	Acetone	42	
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	7	J
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

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO

EAFK4

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) SOIL Lab Sample ID 23089 04

Sample wt/vol 5 0 (g/mL) G Lab File ID L17276 D

Level (low/med) LOW Date Received 08/02/95

% Moisture not dec 15 Date Analyzed 08/07/95

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
1					
2					
3					
4					
5					
6					
7					
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9					
10					
11					
12					
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

EAFK5
MCL52

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) SOIL Lab Sample ID 23089 05

Sample wt/vol 5 0 (g/mL) G Lab File ID L17279 D

Level (low/med) LOW Date Received. 08/02/95

% Moisture not dec 28 Date Analyzed 08/07/95

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	19	
67-64-1	Acetone	36	
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

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO

EAFK5

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) SOIL Lab Sample ID 23089.05

Sample wt/vol 5 0 (g/mL) G Lab File ID L17279 D

Level (low/med) LOW Date Received 08/02/95

% Moisture not dec 28 Date Analyzed 08/07/95

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
1					
2					
3					
4					
5					
6					
7					
8					
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EPA SAMPLE NO

EAFK6
MCL33

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No. EAFK1

Matrix (soil/water) SOIL Lab Sample ID 23089 06

Sample wt/vol 5 0 (g/mL) G Lab File ID L17280 D

Level (low/med) LOW Date Received 08/02/95

% Moisture not dec 18 Date Analyzed 08/07/95

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	17	
67-64-1	Acetone	16	
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

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO

EAFK6

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) SOIL Lab Sample ID 23089 06

Sample wt/vol 5 0 (g/mL) G Lab File ID L17280 D

Level (low/med) LOW Date Received 08/02/95

% Moisture not dec 18 Date Analyzed 08/07/95

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
1					
2					
3					
4					
5					
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EPA SAMPLE NO

EAFK7
MCLSW1

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) WATER Lab Sample ID 23089 07

Sample wt/vol 5 0 (g/mL) ML Lab File ID C17894 D

Level (low/med) LOW Date Received 08/02/95

% Moisture not dec _____ Date Analyzed 08/07/95

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/L	Q	
74-87-3	Chloromethane	10	U	
74-83-9	Bromomethane	10	U	
75-01-4	Vinyl Chloride	10	U	
75-00-3	Chloroethane	10	U	
75-09-2	Methylene Chloride	10 ~~3~~	JB	u
67-64-1	Acetone	10		
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	20	B	
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	14		
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	8	J	
79-00-5	1,1,2-Trichloroethane	10	U	
71-43-2	Benzene	10	U	J
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	

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO

EAFK7

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) WATER Lab Sample ID 23089.07

Sample wt/vol 5 0 (g/mL) ML Lab File ID C17894 D

Level (low/med) LOW Date Received 08/02/95

% Moisture not dec _____ Date Analyzed 08/07/95

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/L

	CAS NUMBER	COMPOUND NAME	RT	EST CONC	Q
1					
2					
3					
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

EAFK8
MCLW1

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) WATER Lab Sample ID 23089 08

Sample wt/vol 5 0 (g/mL) ML Lab File ID C17903 D

Level (low/med) LOW Date Received 08/02/95

% Moisture not dec _____ Date Analyzed 08/07/95

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/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	19	B
67-64-1	Acetone	12	
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	1	J
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (Total)	2	J

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO

EAFK8

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) WATER Lab Sample ID 23089 08

Sample wt/vol 5 0 (g/mL) ML Lab File ID C17903 D

Level (low/med) LOW Date Received 08/02/95

% Moisture not dec _____ Date Analyzed 08/07/95

GC Column DB-624 ID 0 53 (mm) Dilution Factor 1 0

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

Number TICs found 6

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

	CAS NUMBER	COMPOUND NAME	RT	EST CONC	Q
1		UNKNOWN	12 204	9	J
2		UNKNOWN	12 427	12	J
3		UNKNOWN	13 269	6	J
4		UNKNOWN HYDROCARBON	13 995	17	J
5		UNKNOWN HYDROCARBON	15 614	43	J
6		UNKNOWN ALKYL BENZENE	18 168	83	J
7					
8					
9					
10					
11					
12					
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FORM I VOA-TIC OLM03 0

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

EAFK9
WHS1

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) SOIL Lab Sample ID 23089 09

Sample wt/vol 5 0 (g/mL) G Lab File ID L17281 D

Level (low/med) LOW Date Received 08/02/95

% Moisture not dec 23 Date Analyzed 08/07/95

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	18	
67-64-1	Acetone	22	
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

EAFK9

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) SOIL Lab Sample ID 23089 09

Sample wt/vol 5 0 (g/mL) G Lab File ID L17281 D

Level (low/med) LOW Date Received. 08/02/95

% Moisture not dec 23 Date Analyzed 08/07/95

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
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

EAFR1
WHSW1D

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) WATER Lab Sample ID 23089 10

Sample wt/vol 5.0 (g/mL) ML Lab File ID C17904 D

Level (low/med) LOW Date Received 08/02/95

% Moisture not dec _____ Date Analyzed 08/07/95

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/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10 ~~5~~	U JB
67-64-1	Acetone	8	J
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)	3	J
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	11	
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

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1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO

EAFR1

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) WATER Lab Sample ID 23089 10

Sample wt/vol 5 0 (g/mL) ML Lab File ID C17904 D

Level (low/med) LOW Date Received 08/02/95

% Moisture not dec _____ Date Analyzed 08/07/95

GC Column DB-624 ID 0 53 (mm) Dilution Factor 1 0

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

Number TICs found 6

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

	CAS NUMBER	COMPOUND NAME	RT	EST CONC	Q
1		UNKNOWN HYDROCARBON	14 274	9	J
2		UNKNOWN	15.778	12	J
3		UNKNOWN HYDROCARBON	16 623	33	J
4		UNKNOWN CYCLOALKANE	17 381	21	J
5		UNKNOWN	17 604	24	J
6		UNKNOWN HYDROCARBON	18 178	61	J
7					
8					
9					
10					
11					
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

EAFR2
MLF1

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) WATER Lab Sample ID 23089 11

Sample wt/vol 5 0 (g/mL) ML Lab File ID C17897 D

Level (low/med) LOW Date Received 08/02/95

% Moisture not dec _____ Date Analyzed 08/07/95

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/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10 ~~4~~	u JB
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

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1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO

EAFR2

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) WATER Lab Sample ID 23089 11

Sample wt/vol 5 0 (g/mL) ML Lab File ID C17897 D

Level (low/med) LOW Date Received 08/02/95

% Moisture not dec _____ Date Analyzed 08/07/95

GC Column DB-624 ID 0 53 (mm) Dilution Factor 1 0

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

Number TICs found 8

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

CAS NUMBER	COMPOUND NAME	RT	EST CONC	Q
1	UNKNOWN	9 304	5	J
2	UNKNOWN	12 252	24	J
3	UNKNOWN HYDROCARBON	14 121	22	J
4	UNKNOWN CYCLOALKANE	15 683	11	J
5	UNKNOWN HYDROCARBON	16 499	8	J
6	UNKNOWN CYCLOALKANE	17 480	46	J
7	UNKNOWN HYDROCARBON	18 103	32	J
8	UNKNOWN HYDROCARBON	18 862	30	J
9				
10				
11				
12				
13				
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EPA SAMPLE NO

EAFR3
NHW1

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No . EAFK1

Matrix (soil/water) WATER Lab Sample ID: 23089 12

Sample wt/vol 5 0 (g/mL) ML Lab File ID C17906 D

Level (low/med) LOW Date Received 08/02/95

% Moisture not dec _____ Date Analyzed: 08/07/95

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/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	12	u B
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	1	J
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (Total)	4	J

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1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO

EAFR3

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) WATER Lab Sample ID 23089 12

Sample wt/vol 5 0 (g/mL) ML Lab File ID C17906 D

Level (low/med) LOW Date Received 08/02/95

% Moisture not dec _____ Date Analyzed 08/07/95

GC Column DB-624 ID 0 53 (mm) Dilution Factor 1 0

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

Number TICs found 1

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

	CAS NUMBER	COMPOUND NAME	RT	EST CONC	Q
1		UNKNOWN HYDROCARBON	18 136	42	J
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

EPK45
MCLSW2

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) WATER Lab Sample ID 23089 13

Sample wt/vol 5 0 (g/mL) ML Lab File ID C17907 D

Level (low/med) LOW Date Received 08/02/95

% Moisture not dec _____ Date Analyzed 08/07/95

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/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	~~U~~ JB ack 8-22-9
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	16	B
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	14	
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	J
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)	2	J

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO

EPK45

Lab Name: SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) WATER Lab Sample ID 23089 13

Sample wt/vol 5 0 (g/mL) ML Lab File ID C17907 D

Level (low/med) LOW Date Received 08/02/95

% Moisture not dec. _____ Date Analyzed 08/07/95

GC Column DB-624 ID 0 53 (mm) Dilution Factor 1 0

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

Number TICs found 4

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

	CAS NUMBER	COMPOUND NAME	RT	EST CONC	Q
1		UNKNOWN	14 306	8	J
2		UNKNOWN HYDROCARBON	16 721	11	J
3		UNKNOWN	17 391	6	J
4		UNKNOWN	18 188	16	J
5					
6					
7					
8					
9					
10					
11					
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

ETC02
WHSID

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) SOIL Lab Sample ID 23089 14

Sample wt/vol 5 0 (g/mL) G Lab File ID L17282 D

Level (low/med) LOW Date Received 08/02/95

% Moisture not dec 21 Date Analyzed 08/07/95

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	18	
67-64-1	Acetone	19	
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

ETC02

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) SOIL Lab Sample ID 23089 14

Sample wt/vol 5 0 (g/mL) G Lab File ID L17282 D

Level (low/med) LOW Date Received 08/02/95

% Moisture not dec 21 Date Analyzed 08/07/95

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
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

ETC03
WHS2

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) SOIL Lab Sample ID 23089 15

Sample wt/vol 5 0 (g/mL) G Lab File ID L17283 D

Level (low/med) LOW Date Received. 08/02/95

% Moisture not dec 18 Date Analyzed 08/07/95

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	17	
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

ETC03

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) SOIL Lab Sample ID 23089 15

Sample wt/vol 5 0 (g/mL) G Lab File ID L17283 D

Level (low/med) LOW Date Received 08/02/95

% Moisture not dec 18 Date Analyzed 08/07/95

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
1					
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FORM I VOA-TIC OLM03 0

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

ETC04
WHSW1

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) WATER Lab Sample ID 23089 16

Sample wt/vol 5 0 (g/mL) ML Lab File ID C17908 D

Level (low/med) LOW Date Received 08/02/95

% Moisture not dec _____ Date Analyzed 08/07/95

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/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10 ~~6~~	u JB
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)	3	J
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	1	J
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)	2	J

ack 8-22-95

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO

ETC04

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) WATER Lab Sample ID 23089 16

Sample wt/vol 5 0 (g/mL) ML Lab File ID C17908 D

Level (low/med) LOW Date Received 08/02/95

% Moisture not dec _____ Date Analyzed 08/07/95

GC Column DB-624 ID 0 53 (mm) Dilution Factor 1 0

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

Number TICs found 7

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

CAS NUMBER	COMPOUND NAME	RT	EST CONC	Q
1	UNKNOWN HYDROCARBON	16 072	10	J
2	UNKNOWN HYDROCARBON	16 673	10	J
3	UNKNOWN CYCLOALKANE	17 177	6	J
4	UNKNOWN	17 439	16	J
5	UNKNOWN HYDROCARBON	17 643	14	J
6	UNKNOWN CYCLOALKANE	18.246	31	J
7	UNKNOWN HYDROCARBON	18 518	10	J
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2C
WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

	EPA SAMPLE NO	S1 (NBZ) #	S2 (FBP) #	S3 (TPH) #	S4 (PHL) #	S5 (2FP) #	S6 (TBP) #	S7 (2CP) #	S8 (DCB) #	TOT OUT
01	SBLK3	52	52	75	53	46	60	48	52	0
02	EAFK2	52	57	41	56	46	75	48	55	0
03	EAFK7	50	54	32*	54	44	69	48	52	1
04	EAFK7MS	44	53	27*	45	36	59	40	42	1
05	EAFK7MSD	36	38*	24*	36	29	45	34	33	2
06	EAFR1	48	55	51	47	38	77	43	48	0
07	EAFR2	52	56	83	50	42	69	46	49	0
08	EPK45	51	53	29*	52	45	62	50	53	1
09	ETC04	46	44	35	41	40	40	45	46	0
10	SBLK2	56	51	79	50	46	60	58	49	0
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		QC LIMITS	
S1 (NBZ)	= Nitrobenzene-d5	(35-114)	
S2 (FBP)	= 2-Fluorobiphenyl	(43-116)	
S3 (TPH)	= Terphenyl-d14	(33-141)	
S4 (PHL)	= Phenol-d5	(10-110)	
S5 (2FP)	= 2-Fluorophenol	(21-110)	
S6 (TBP)	= 2,4,6-Tribromophenol	(10-123)	
S7 (2CP)	= 2-Chlorophenol-d4	(33-110)	(advisory)
S8 (DCB)	= 1,2-Dichlorobenzene-d4	(16-110)	(advisory)

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

2D
SOIL SEMIVOLATILE SURROGATE RECOVERY

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

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	62	70	91	58	52	78	49	67	0
02	EAFK1	64	68	93	60	54	88	53	67	0
03	EAFK4	58	63	99	61	49	94	53	68	0
04	EAFK4MS	59	69	104	55	54	103	52	64	0
05	EAFK4MSD	64	75	92	58	50	96	52	72	0
06	EAFK5	56	69	90	59	50	100	50	61	0
07	EAFK6	66	72	89	63	50	98	56	70	0
08	EAFK9	64	70	86	62	52	93	52	69	0
09	ETC02	61	68	85	60	47	96	54	66	0
10	ETC03	60	70	89	58	49	87	51	66	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

3C
WATER SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix Spike - EPA Sample No EAFK7

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC LIMITS REC
Phenol	75	0	27	36	12-110
2-Chlorophenol	75	0	27	36	27-123
1,4-Dichlorobenzene	50	0	19	38	36- 97
N-Nitroso-di-n-prop (1)	50	0	20	40*	41-116
1,2,4-Trichlorobenzene	50	0	19	38*	39- 98
4-Chloro-3-Methylphenol	75	0	28	37	23- 97
Acenaphthene	50	0	24	48	46-118
4-Nitrophenol	75	0	35	47	10- 80
2,4-Dinitrotoluene	50	0	22	44	24- 96
Pentachlorophenol	75	0	39	52	9-103
Pyrene	50	0	23	46	26-127

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC
Phenol	75	23	31	15	42	12-110
2-Chlorophenol	75	23	31	15	40	27-123
1,4-Dichlorobenzene	50	16	32*	17	28	36- 97
N-Nitroso-di-n-prop (1)	50	15	30*	28	38	41-116
1,2,4-Trichlorobenzene	50	15	30*	24	28	39- 98
4-Chloro-3-Methylphenol	75	22	29	24	42	23- 97
Acenaphthene	50	18	36*	28	31	46-118
4-Nitrophenol	75	27	36	26	50	10- 80
2,4-Dinitrotoluene	50	17	34	26	38	24- 96
Pentachlorophenol	75	31	41	24	50	9-103
Pyrene	50	22	44	4	31	26-127

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

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

RPD 0 out of 11 outside limits
Spike Recovery 6 out of 22 outside limits

COMMENTS

3D
SOIL SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix Spike - EPA Sample No EAFK4 Level(low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC LIMITS REC
Phenol	2900	0	1400	48	26- 90
2-Chlorophenol	2900	0	1400	48	25-102
1,4-Dichlorobenzene	2000	0	1000	50	28-104
N-Nitroso-di-n-prop (1)	2000	0	1200	60	41-126
1,2,4-Trichlorobenzene	2000	0	1100	55	38-107
4-Chloro-3-Methylphenol	2900	0	1900	66	26-103
Acenaphthene	2000	0	1300	65	31-137
4-Nitrophenol	2900	0	2400	83	11-114
2,4-Dinitrotoluene	2000	0	1600	80	28- 89
Pentachlorophenol	2900	0	1900	66	17-109
Pyrene	2000	22	1700	84	35-142

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC
Phenol	2900	1500	52	8	35	26- 90
2-Chlorophenol	2900	1300	45	6	50	25-102
1,4-Dichlorobenzene	2000	1000	50	0	27	28-104
N-Nitroso-di-n-prop (1)	2000	1200	60	0	38	41-126
1,2,4-Trichlorobenzene	2000	1200	60	9	23	38-107
4-Chloro-3-Methylphenol	2900	1900	66	0	33	26-103
Acenaphthene	2000	1400	70	7	19	31-137
4-Nitrophenol	2900	2700	93	11	50	11-114
2,4-Dinitrotoluene	2000	1700	85	6	47	28- 89
Pentachlorophenol	2900	1800	62	6	47	17-109
Pyrene	2000	1600	79	6	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

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4B
SEMIVOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO

SBLK1

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Lab File ID V9539 D Lab Sample ID BL0802SB

Instrument ID V Date Extracted 08/02/95

Matrix (soil/water) SOIL Date Analyzed 08/04/95

Level (low/med) LOW Time Analyzed 1400

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

	EPA SAMPLE NO	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	EAFK1	23089 01	V9544 D	08/04/95
02	EAFK4	23089 04	V9545 D	08/04/95
03	EAFK4MS	23089 04MS	V9546 D	08/04/95
04	EAFK4MSD	23089 04MSD	V9547 D	08/04/95
05	EAFK5	23089 05	V9548 D	08/04/95
06	EAFK6	23089 06	V9549 D	08/04/95
07	EAFK9	23089 09	V9550 D	08/04/95
08	ETC02	23089 14	V9551 D	08/04/95
09	ETC03	23089 15	V9552 D	08/04/95
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COMMENTS

page 01 of 01

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4B
SEMIVOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO

SBLK2

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Lab File ID T10959 D Lab Sample ID BB0807WE

Instrument ID T Date Extracted 08/07/95

Matrix (soil/water) WATER Date Analyzed 08/10/95

Level (low/med) LOW Time Analyzed 1326

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

	EPA SAMPLE NO	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	ETC04	23089 16	T10926 D	08/09/95
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COMMENTS

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4B
SEMIVOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO

SBLK3

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Lab File ID V9557 D Lab Sample ID BL0802WF

Instrument ID V Date Extracted 08/02/95

Matrix (soil/water) WATER Date Analyzed 08/07/95

Level (low/med) LOW Time Analyzed 1007

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

	EPA SAMPLE NO	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	EAFK2	23089 02	V9558 D	08/07/95
02	EAFK7	23089 07	V9559 D	08/07/95
03	EAFK7MS	23089 07MS	V9560 D	08/07/95
04	EAFK7MSD	23089 07MSD	V9561 D	08/07/95
05	EAFR1	23089 10	V9562 D	08/07/95
06	EAFR2	23089 11	V9563 D	08/07/95
07	EPK45	23089 13	V9564 D	08/07/95
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COMMENTS

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

SBLK1

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) SOIL Lab Sample ID BL0802SB

Sample wt/vol 30 0 (g/mL) G Lab File ID V9539 D

Level (low/med) LOW Date Received / /

% Moisture 0 decanted (Y/N) N Date Extracted 08/02/95

Concentrated Extract Volume 500(uL) Date Analyzed 08/04/95

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

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1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

SBLK1

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) SOIL Lab Sample ID BL0802SB

Sample wt/vol 30 0 (g/mL) G Lab File ID V9539 D

Level (low/med) LOW Date Received / /

% Moisture 0 decanted (Y/N) N Date Extracted 08/02/95

Concentrated Extract Volume 500(uL) Date Analyzed 08/04/95

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	63	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

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) SOIL Lab Sample ID BL0802SB

Sample wt/vol 30 0 (g/mL) G Lab File ID V9539 D

Level (low/med) LOW Date Received / /

% Moisture 0 decanted (Y/N) N Date Extracted 08/02/95

Concentrated Extract Volume 500(uL) Date Analyzed 08/04/95

Injection Volume 2 0(uL) Dilution Factor 1 0

GPC Cleanup (Y/N) Y pH 7 0

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	3 232	4300	NJA
2		UNKNOWN ORGANIC ACID	8 710	87	J
3		UNKNOWN AMIDE	11 820	100	J
4		UNKNOWN AMIDE	13 273	210	J
5		UNKNOWN AMIDE	13 413	340	J
6		UNKNOWN AMIDE	14 726	4900	J
7		UNKNOWN AMIDE	14 877	180	J
8		UNKNOWN AMIDE	16 082	120	J
9		UNKNOWN AMIDE	17 352	1700	J
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1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

SBLK2

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) WATER Lab Sample ID BB0807WE

Sample wt/vol 1000 (g/mL) ML Lab File ID T10959 D

Level (low/med) LOW Date Received / /

% Moisture _____ decanted (Y/N)___ Date Extracted 08/07/95

Concentrated Extract Volume 1000(uL) Date Analyzed 08/10/95

Injection Volume 2 0(uL) Dilution Factor 1 0

GPC Cleanup (Y/N) N pH 7 0

CAS NO	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	25	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	25	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
99-09-2	3-Nitroaniline	25	U
83-32-9	Acenaphthene	10	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

SBLK2

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) WATER Lab Sample ID BB0807WE

Sample wt/vol 1000 (g/mL) ML Lab File ID T10959 D

Level (low/med) LOW Date Received / /

% Moisture _____ decanted (Y/N)___ Date Extracted 08/07/95

Concentrated Extract Volume 1000(uL) Date Analyzed 08/10/95

Injection Volume 2 0(uL) Dilution Factor 1 0

GPC Cleanup (Y/N) N pH 7 0

CAS NO	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg) UG/L	Q
51-28-5	2,4-Dinitrophenol	25	U
100-02-7	4-Nitrophenol	25	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	25	U
534-52-1	4,6-Dinitro-2-methylphenol	25	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	25	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	1	J
117-84-0	Di-n-octylphthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenz(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 OLM03 0

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO
SBLK2

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) WATER Lab Sample ID BB0807WE

Sample wt/vol 1000 (g/mL) ML Lab File ID T10959 D

Level (low/med) LOW Date Received / /

% Moisture _____ decanted (Y/N)___ Date Extracted 08/07/95

Concentrated Extract Volume 1000(uL) Date Analyzed 08/10/95

Injection Volume 2 0(uL) Dilution Factor 1 0

GPC Cleanup (Y/N) N pH 7 0

Number TICs found 2

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

	CAS NUMBER	COMPOUND NAME	RT	EST CONC	Q
1		UNKNOWN ORGANIC ACID	8 878	10	J
2		UNKNOWN	17 744	4	J
3					
4					
5					
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

SBLK3

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) WATER Lab Sample ID BL0802WF

Sample wt/vol 1000 (g/mL) ML Lab File ID V9557 D

Level (low/med) LOW Date Received / /

% Moisture _____ decanted (Y/N)___ Date Extracted 08/02/95

Concentrated Extract Volume 1000(uL) Date Analyzed 08/07/95

Injection Volume 2 0(uL) Dilution Factor 1 0

GPC Cleanup (Y/N) N pH 7 0

CAS NO	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	25	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	25	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
99-09-2	3-Nitroaniline	25	U
83-32-9	Acenaphthene	10	U

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1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

SBLK3

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) WATER Lab Sample ID BL0802WF

Sample wt/vol 1000 (g/mL) ML Lab File ID V9557 D

Level (low/med) LOW Date Received / /

% Moisture _____ decanted (Y/N)___ Date Extracted 08/02/95

Concentrated Extract Volume 1000(uL) Date Analyzed 08/07/95

Injection Volume 2 0(uL) Dilution Factor 1 0

GPC Cleanup (Y/N) N pH 7 0

CAS NO	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg) UG/L	Q
51-28-5	2,4-Dinitrophenol	25	U
100-02-7	4-Nitrophenol	25	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	25	U
534-52-1	4,6-Dinitro-2-methylphenol	25	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	25	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	10	U
117-84-0	Di-n-octylphthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenz(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO

SBLK3

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) WATER Lab Sample ID BL0802WF

Sample wt/vol 1000 (g/mL) ML Lab File ID V9557 D

Level (low/med) LOW Date Received / /

% Moisture _____ decanted (Y/N)___ Date Extracted 08/02/95

Concentrated Extract Volume 1000(uL) Date Analyzed 08/07/95

Injection Volume 2 0(uL) Dilution Factor 1 0

GPC Cleanup (Y/N) N pH 7 0

Number TICs found 2

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

	CAS NUMBER	COMPOUND NAME	RT	EST CONC	Q
1	111-76-2	Ethanol, 2-butoxy-	3 640	6	NJ
2	111-77-3	Ethanol, 2-(2-methoxyethoxy)	3 877	2	NJ
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

EAFK1
MLSQ

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) SOIL Lab Sample ID 23089 01

Sample wt/vol 30 0 (g/mL) G Lab File ID V9544 D

Level (low/med) LOW Date Received 08/02/95

% Moisture 18 decanted (Y/N) N Date Extracted 08/02/95

Concentrated Extract Volume 500(uL) Date Analyzed 08/04/95

Injection Volume 2 0(uL) Dilution Factor 1 0

GPC Cleanup (Y/N) Y pH 8 1

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

EAFK1
MLS2

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) SOIL Lab Sample ID 23089 01

Sample wt/vol 30 0 (g/mL) G Lab File ID V9544 D

Level (low/med) LOW Date Received 08/02/95

% Moisture 18 decanted (Y/N) N Date Extracted 08/02/95

Concentrated Extract Volume 500(uL) Date Analyzed 08/04/95

Injection Volume 2 0(uL) Dilution Factor 1 0

GPC Cleanup (Y/N) Y pH 8 1

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	400	U
120-12-7	Anthracene	400	U
86-74-8	Carbazole	400	U
84-74-2	Di-n-butylphthalate	400	U
206-44-0	Fluoranthene	400	U
129-00-0	Pyrene	400	U
85-68-7	Butylbenzylphthalate	400	U
91-94-1	3,3'-Dichlorobenzidine	400	U
56-55-3	Benzo(a)anthracene	400	U
218-01-9	Chrysene	400	U
117-81-7	bis(2-Ethylhexyl)phthalate	400 ~~57~~	u JB
117-84-0	Di-n-octylphthalate	400	U
205-99-2	Benzo(b)fluoranthene	400	U
207-08-9	Benzo(k)fluoranthene	400	U
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

act 8-22 4

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 OLM03 0

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO

EAFK1

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) SOIL Lab Sample ID 23089 01

Sample wt/vol 30 0 (g/mL) G Lab File ID V9544 D

Level (low/med) LOW Date Received 08/02/95

% Moisture 18 decanted (Y/N) N Date Extracted 08/02/95

Concentrated Extract Volume 500(uL) Date Analyzed 08/04/95

Injection Volume 2 0(uL) Dilution Factor 1 0

GPC Cleanup (Y/N) Y pH 8 1

Number TICs found 13

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	3 243	5800	u NJAB
2		UNKNOWN ORGANIC ACID	11 573	180	J
3		UNKNOWN ORGANIC ACID	11 713	130	J
4		UNKNOWN AMIDE	11 842	110	u JB
5	10544-50-0	Sulfur, mol (S8)	12 660	320	N
6		UNKNOWN AMIDE	13 285	260	u JB
7		UNKNOWN AMIDE	13 414	430	u JB
8		UNKNOWN AMIDE	14 738	4400	u JB
9		UNKNOWN AMIDE	14 877	200	u JB
10		UNKNOWN	15 050	150	J
11		UNKNOWN AMIDE	16 083	86	u JB
12		UNKNOWN AMIDE	17 364	1800	u JB
13		UNKNOWN	17 611	130	J
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1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

EAFK2
MLSW1

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) WATER Lab Sample ID 23089 02

Sample wt/vol 1000 (g/mL) ML Lab File ID V9558 D

Level (low/med) LOW Date Received 08/02/95

% Moisture _____ decanted (Y/N)___ Date Extracted 08/02/95

Concentrated Extract Volume 1000(uL) Date Analyzed 08/07/95

Injection Volume 2 0(uL) Dilution Factor 1 0

GPC Cleanup (Y/N) N pH 8 2

CAS NO	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	25	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	25	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
99-09-2	3-Nitroaniline	25	U
83-32-9	Acenaphthene	10	U

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1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

EAFK2
MLSW1

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) WATER Lab Sample ID 23089 02

Sample wt/vol 1000 (g/mL) ML Lab File ID V9558 D

Level (low/med) LOW Date Received 08/02/95

% Moisture _____ decanted (Y/N)___ Date Extracted 08/02/95

Concentrated Extract Volume 1000(uL) Date Analyzed 08/07/95

Injection Volume 2 0(uL) Dilution Factor 1 0

GPC Cleanup (Y/N) N pH 8 2

CAS NO	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg) UG/L	Q
51-28-5	2,4-Dinitrophenol	25	U
100-02-7	4-Nitrophenol	25	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	25	U
534-52-1	4,6-Dinitro-2-methylphenol	25	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	25	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	10	U
117-84-0	Di-n-octylphthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenz(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO

EAFK2

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) WATER Lab Sample ID 23089 02

Sample wt/vol 1000 (g/mL) ML Lab File ID V9558 D

Level (low/med) LOW Date Received 08/02/95

% Moisture _____ decanted (Y/N)___ Date Extracted 08/02/95

Concentrated Extract Volume 1000(uL) Date Analyzed 08/07/95

Injection Volume 2 0(uL) Dilution Factor 1 0

GPC Cleanup (Y/N) N pH 8 2

Number TICs found 4

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

	CAS NUMBER	COMPOUND NAME	RT	EST CONC	Q
1	111-76-2	Ethanol, 2-butoxy-	3 640	6	u NJB
2	111-77-3	Ethanol, 2-(2-methoxyethoxy)	3 877	2	u NJB
3		UNKNOWN	8 161	4	J
4		UNKNOWN ORGANIC ACID	8 656	3	J
5					
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

EAFK4
MCLS1

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) SOIL Lab Sample ID 23089 04

Sample wt/vol 30 0 (g/mL) G Lab File ID V9545 D

Level (low/med) LOW Date Received 08/02/95

% Moisture 15 decanted (Y/N) N Date Extracted 08/02/95

Concentrated Extract Volume 500(uL) Date Analyzed 08/04/95

Injection Volume 2 0(uL) Dilution Factor 1 0

GPC Cleanup (Y/N) Y pH 8 2

CAS NO	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	390	U
111-44-4	bis(2-Chloroethyl)Ether	390	U
95-57-8	2-Chlorophenol	390	U
541-73-1	1,3-Dichlorobenzene	390	U
106-46-7	1,4-Dichlorobenzene	390	U
95-50-1	1,2-Dichlorobenzene	390	U
95-48-7	2-Methylphenol	390	U
108-60-1	2,2'-oxybis(1-Chloropropane)	390	U
106-44-5	4-Methylphenol	390	U
621-64-7	N-Nitroso-di-n-propylamine	390	U
67-72-1	Hexachloroethane	390	U
98-95-3	Nitrobenzene	390	U
78-59-1	Isophorone	390	U
88-75-5	2-Nitrophenol	390	U
105-67-9	2,4-Dimethylphenol	390	U
111-91-1	bis(2-Chloroethoxy)methane	390	U
120-83-2	2,4-Dichlorophenol	390	U
120-82-1	1,2,4-Trichlorobenzene	390	U
91-20-3	Naphthalene	390	U
106-47-8	4-Chloroaniline	390	U
87-68-3	Hexachlorobutadiene	390	U
59-50-7	4-Chloro-3-Methylphenol	390	U
91-57-6	2-Methylnaphthalene	390	U
77-47-4	Hexachlorocyclopentadiene	390	U
88-06-2	2,4,6-Trichlorophenol	390	U
95-95-4	2,4,5-Trichlorophenol	980	U
91-58-7	2-Chloronaphthalene	390	U
88-74-4	2-Nitroaniline	980	U
131-11-3	Dimethylphthalate	390	U
208-96-8	Acenaphthylene	390	U
606-20-2	2,6-Dinitrotoluene	390	U
99-09-2	3-Nitroaniline	980	U
83-32-9	Acenaphthene	390	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

EAFK4
MCLS1

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) SOIL Lab Sample ID 23089 04

Sample wt/vol 30 0 (g/mL) G Lab File ID V9545 D

Level (low/med) LOW Date Received 08/02/95

% Moisture 15 decanted (Y/N) N Date Extracted 08/02/95

Concentrated Extract Volume 500(uL) Date Analyzed 08/04/95

Injection Volume 2 0(uL) Dilution Factor 1 0

GPC Cleanup (Y/N) Y pH 8 2

CAS NO	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	980	U
100-02-7	4-Nitrophenol	980	U
132-64-9	Dibenzofuran	390	U
121-14-2	2,4-Dinitrotoluene	390	U
84-66-2	Diethylphthalate	390	U
7005-72-3	4-Chlorophenyl-phenylether	390	U
86-73-7	Fluorene	390	U
100-01-6	4-Nitroaniline	980	U
534-52-1	4,6-Dinitro-2-methylphenol	980	U
86-30-6	N-Nitrosodiphenylamine (1)	390	U
101-55-3	4-Bromophenyl-phenylether	390	U
118-74-1	Hexachlorobenzene	390	U
87-86-5	Pentachlorophenol	980	U
85-01-8	Phenanthrene	390	U
120-12-7	Anthracene	390	U
86-74-8	Carbazole	390	U
84-74-2	Di-n-butylphthalate	390	U
206-44-0	Fluoranthene	390	U
129-00-0	Pyrene	22	J
85-68-7	Butylbenzylphthalate	390	U
91-94-1	3,3'-Dichlorobenzidine	390	U
56-55-3	Benzo(a)anthracene	390	U
218-01-9	Chrysene	390	U
117-81-7	bis(2-Ethylhexyl)phthalate	390 ~~54~~	u JB
117-84-0	Di-n-octylphthalate	390	U
205-99-2	Benzo(b)fluoranthene	390	U
207-08-9	Benzo(k)fluoranthene	390	U
50-32-8	Benzo(a)pyrene	390	U
193-39-5	Indeno(1,2,3-cd)pyrene	390	U
53-70-3	Dibenz(a,h)anthracene	390	U
191-24-2	Benzo(g,h,i)perylene	390	U

acH 8 22

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 OLM03 0

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO

EAFK4

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) SOIL Lab Sample ID 23089 04

Sample wt/vol 30 0 (g/mL) G Lab File ID V9545 D

Level (low/med) LOW Date Received 08/02/95

% Moisture 15 decanted (Y/N) N Date Extracted 08/02/95

Concentrated Extract Volume 500(uL) Date Analyzed 08/04/95

Injection Volume 2 0(uL) Dilution Factor 1 0

GPC Cleanup (Y/N) Y pH 8 2

Number TICs found 29

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	3 264	5400	uNJAB
2	10544-50-0	Sulfur, mol (S8)	8 343	160	NJ
3		UNKNOWN ORGANIC ACID	8 720	86	u JB
4	10544-50-0	Sulfur, mol (S8)	10 614	84	NJ
5		UNKNOWN	10 647	89	J
6	10544-50-0	Sulfur, mol (S8)	10 916	110	NJ
7		UNKNOWN PHTHALATE	11 034	96	J
8	10544-50-0	Sulfur, mol (S8)	11 099	110	NJ
9		UNKNOWN	11 260	120	J
10	10544-50-0	Sulfur, mol (S8)	11 422	370	NJ
11	10544-50-0	Sulfur, mol (S8)	11 540	370	NJ
12		UNKNOWN	11 572	210	J
13		UNKNOWN	11 648	220	J
14		UNKNOWN ORGANIC ACID	11 712	260	J
15		UNKNOWN AMIDE	11 766	230	JB
16		UNKNOWN AMIDE	11 841	430	uJB
17	10544-50-0	Sulfur, mol (S8)	12 003	730	NJ
18	10544-50-0	Sulfur, mol (S8)	12 164	840	NJ
19	7704-34-9	Sulfur	12 283	870	NJ
20		UNKNOWN	12 358	720	J
21		UNKNOWN AMIDE	12 433	600	J
22	10544-50-0	Sulfur, mol (S8)	12 530	430	NJ
23	10544-50-0	Sulfur, mol (S8)	12 745	2500	NJ
24		UNKNOWN AMIDE	13 283	210	u JB
25		UNKNOWN AMIDE	13 423	310	u JB
26		UNKNOWN AMIDE	14 736	4100	u JB
27		UNKNOWN AMIDE	14 887	260	u JB
28		UNKNOWN AMIDE	16 092	100	u JB
29		UNKNOWN AMIDE	17 362	1800	u JB
30					

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

EAFK5
MCLS2

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) SOIL Lab Sample ID 23089 05

Sample wt/vol 30 0 (g/mL) G Lab File ID V9548 D

Level (low/med) LOW Date Received 08/02/95

% Moisture 28 decanted (Y/N) N Date Extracted 08/02/95

Concentrated Extract Volume 500(uL) Date Analyzed 08/04/95

Injection Volume 2 0(uL) Dilution Factor 1 0

GPC Cleanup (Y/N) Y pH 7 7

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	37	J
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	330	J
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	45	J
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	29	J

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

EAFK5
MCLS2

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) SOIL Lab Sample ID 23089 05

Sample wt/vol 30 0 (g/mL) G Lab File ID V9548 D

Level (low/med) LOW Date Received 08/02/95

% Moisture 28 decanted (Y/N) N Date Extracted 08/02/95

Concentrated Extract Volume 500(uL) Date Analyzed 08/04/95

Injection Volume 2 0(uL) Dilution Factor 1 0

GPC Cleanup (Y/N) Y pH 7 7

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	43	J
120-12-7	Anthracene	460	U
86-74-8	Carbazole	460	U
84-74-2	Di-n-butylphthalate	240	J
206-44-0	Fluoranthene	96	J
129-00-0	Pyrene	120	J
85-68-7	Butylbenzylphthalate	460	U
91-94-1	3,3'-Dichlorobenzidine	460	U
56-55-3	Benzo(a)anthracene	65	J
218-01-9	Chrysene	62	J
117-81-7	bis(2-Ethylhexyl)phthalate	460 ~~80~~	~~U~~ JB
117-84-0	Di-n-octylphthalate	460	U
205-99-2	Benzo(b)fluoranthene	58	J
207-08-9	Benzo(k)fluoranthene	64	J
50-32-8	Benzo(a)pyrene	80	J
193-39-5	Indeno(1,2,3-cd)pyrene	59	J
53-70-3	Dibenz(a,h)anthracene	460	U
191-24-2	Benzo(g,h,i)perylene	62	J

act 8-2

(1) - Cannot be separated from Diphenylamine

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO

EAFK5

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) SOIL Lab Sample ID 23089 05

Sample wt/vol 30 0 (g/mL) G Lab File ID V9548 D

Level (low/med) LOW Date Received 08/02/95

% Moisture 28 decanted (Y/N) N Date Extracted 08/02/95

Concentrated Extract Volume 500(uL) Date Analyzed 08/04/95

Injection Volume 2 0(uL) Dilution Factor 1 0

GPC Cleanup (Y/N) Y pH 7 7

Number TICs found 31

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	3 265	7400	μNJAB
2	111-46-6	Ethanol, 2,2'-oxybis-	4 180	200	NJ
3		UNKNOWN	8 356	180	J
4		UNKNOWN ORGANIC ACID	10 078	380	J
5		UNKNOWN ORGANIC ACID	10 605	250	J
6		UNKNOWN ORGANIC ACID	10 917	290	J
7		UNKNOWN ORGANIC ACID	11 606	700	J
8		UNKNOWN AMIDE	11 907	450	μ JB
9	10544-50-0	Sulfur, mol (S8)	12 004	580	NJ
10	10544-50-0	Sulfur, mol (S8)	12 122	660	NJ
11		UNKNOWN	12 230	640	J
12	10544-50-0	Sulfur, mol (S8)	12 316	600	NJ
13		UNKNOWN	12 435	1600	J
14		UNKNOWN ORGNAIC ACID	12 510	680	J
15		UNKNOWN	12 585	830	J
16	10544-50-0	Sulfur, mol (S8)	12 736	3500	NJ
17		UNKNOWN ORGANIC ACID	13 123	910	J
18		UNKNOWN ORGNAIC ACID	13 177	1300	J
19		UNKNOWN ORGANIC ACID	13 274	440	J
20		UNKNOWN AMIDE	13 317	350	μ JB
21		UNKNOWN	13 446	460	J
22		UNKNOWN AMIDE	14 748	4200	μ JB
23		UNKNOWN	15 061	480	J
24	0-00-0	2,4-Bis(dimethylbenzyl)pheno	15 814	320	NJ
25		UNKNOWN AMIDE	17 375	2500	μ JB
26		UNKNOWN	20 474	840	J
27		UNKNOWN	20 765	430	J
28	83-47-6	gamma -Sitosterol	21 195	4300	NJ
29		UNKNOWN	21 346	700	J
30		UNKNOWN	21 733	780	J

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO

EAFK5

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) SOIL Lab Sample ID 23089 05

Sample wt/vol 30 0 (g/mL) G Lab File ID V9548 D

Level (low/med) LOW Date Received 08/02/95

% Moisture 28 decanted (Y/N) N Date Extracted 08/02/95

Concentrated Extract Volume 500(uL) Date Analyzed 08/04/95

Injection Volume 2 0(uL) Dilution Factor 1 0

GPC Cleanup (Y/N) Y pH 7 7

Number TICs found 31

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

	CAS NUMBER	COMPOUND NAME	RT	EST CONC	Q
1	58-22-0	Testosterone	22 476	560	NJ
2					
3					
4					
5					
6					
7					
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

EAFK6
MCLS3

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) SOIL Lab Sample ID 23089 06

Sample wt/vol 30 0 (g/mL) G Lab File ID V9549 D

Level (low/med) LOW Date Received 08/02/95

% Moisture 18 decanted (Y/N) N Date Extracted 08/02/95

Concentrated Extract Volume 500(uL) Date Analyzed 08/04/95

Injection Volume 2 0(uL) Dilution Factor 1 0

GPC Cleanup (Y/N) Y pH 8 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

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

EAFK6
MCLS3

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) SOIL Lab Sample ID 23089 06

Sample wt/vol 30 0 (g/mL) G Lab File ID V9549 D

Level (low/med) LOW Date Received 08/02/95

% Moisture 18 decanted (Y/N) N Date Extracted 08/02/95

Concentrated Extract Volume 500(uL) Date Analyzed 08/04/95

Injection Volume 2 0(uL) Dilution Factor 1 0

GPC Cleanup (Y/N) Y pH 8 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	28	J
120-12-7	Anthracene	400	U
86-74-8	Carbazole	400	U
84-74-2	Di-n-butylphthalate	130	J
206-44-0	Fluoranthene	60	J
129-00-0	Pyrene	53	J
85-68-7	Butylbenzylphthalate	400	U
91-94-1	3,3'-Dichlorobenzidine	400	U
56-55-3	Benzo(a)anthracene	37	J
218-01-9	Chrysene	40	J
117-81-7	bis(2-Ethylhexyl)phthalate	400 ~~96~~	u JB act 2
117-84-0	Di-n-octylphthalate	400	U
205-99-2	Benzo(b)fluoranthene	42	J
207-08-9	Benzo(k)fluoranthene	41	J
50-32-8	Benzo(a)pyrene	46	J
193-39-5	Indeno(1,2,3-cd)pyrene	38	J
53-70-3	Dibenz(a,h)anthracene	400	U
191-24-2	Benzo(g,h,i)perylene	33	J

(1) - Cannot be separated from Diphenylamine

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO

EAFK6

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) SOIL Lab Sample ID 23089 06

Sample wt/vol 30 0 (g/mL) G Lab File ID V9549 D

Level (low/med) LOW Date Received 08/02/95

% Moisture 18 decanted (Y/N) N Date Extracted 08/02/95

Concentrated Extract Volume 500(uL) Date Analyzed 08/04/95

Injection Volume 2 0(uL) Dilution Factor 1 0

GPC Cleanup (Y/N) Y pH 8 4

Number TICs found 18

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

	CAS NUMBER	COMPOUND NAME	RT	EST CONC	Q
1	141-79-7	3-Penten-2-one, 4-methyl-	2 846	84	NJA
2	123-42-2	2-Pentanone, 4-hydroxy-4-met	3 277	7600	NJAB
3		UNKNOWN ORGANIC ACID	8 723	88	JB
4		UNKNOWN ORGANIC ACID	10 057	95	J
5		UNKNOWN ORGANIC ACID	11 586	250	J
6		UNKNOWN ORGANIC ACID	11 726	330	J
7		UNKNOWN AMIDE	11 855	140	JB
8	10544-50-0	Sulfur, mol (S8)	12 673	380	NJ
9		UNKNOWN AMIDE	13 146	110	J
10		UNKNOWN AMIDE	13 297	270	JB
11		UNKNOWN AMIDE	13 426	410	JB
12		UNKNOWN AMIDE	14 750	5200	JB
13	0-00-0	2,4-Bis(dimethylbenzyl)pheno	15 815	130	NJ
14	0-00-0	2,4-Bis(dimethylbenzyl)-6-t-	15 901	140	NJ
15		UNKNOWN AMIDE	16 095	180	JB
16		UNKNOWN AMIDE	17 376	3100	JB
17		UNKNOWN	20 475	140	J
18		UNKNOWN	21 110	150	J
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1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

EAFK7
MCLSW1

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) WATER Lab Sample ID 23089 07

Sample wt/vol 1000 (g/mL) ML Lab File ID V9559 D

Level (low/med) LOW Date Received 08/02/95

% Moisture _____ decanted (Y/N)___ Date Extracted 08/02/95

Concentrated Extract Volume 1000(uL) Date Analyzed 08/07/95

Injection Volume 2 0(uL) Dilution Factor 1 0

GPC Cleanup (Y/N) N pH 8 5

CAS NO	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	25	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	25	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
99-09-2	3-Nitroaniline	25	U
83-32-9	Acenaphthene	10	U

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

EAFK7
MCLSW1

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) WATER Lab Sample ID 23089 07

Sample wt/vol 1000 (g/mL) ML Lab File ID V9559 D

Level (low/med) LOW Date Received 08/02/95

% Moisture _____ decanted (Y/N)___ Date Extracted 08/02/95

Concentrated Extract Volume 1000(uL) Date Analyzed 08/07/95

Injection Volume 2 0(uL) Dilution Factor 1 0

GPC Cleanup (Y/N) N pH 8 5

CAS NO	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg) UG/L	Q
51-28-5	2,4-Dinitrophenol	25	U
100-02-7	4-Nitrophenol	25	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	25	U
534-52-1	4,6-Dinitro-2-methylphenol	25	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	25	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	10	U
117-84-0	Di-n-octylphthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenz(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 OLM03 0

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1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO

EAFK7

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) WATER Lab Sample ID 23089 07

Sample wt/vol 1000 (g/mL) ML Lab File ID V9559 D

Level (low/med) LOW Date Received 08/02/95

% Moisture _____ decanted (Y/N)___ Date Extracted 08/02/95

Concentrated Extract Volume 1000(uL) Date Analyzed 08/07/95

Injection Volume 2 0(uL) Dilution Factor 1 0

GPC Cleanup (Y/N) N pH 8 5

Number TICs found 3

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

	CAS NUMBER	COMPOUND NAME	RT	EST CONC	Q
1	111-76-2	Ethanol, 2-butoxy-	3 639	5	u NJB
2		UNKNOWN	8 159	5	J
3		UNKNOWN ORGANIC ACID	8 655	3	J
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

EAFK9
WHS1

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) SOIL Lab Sample ID 23089 09

Sample wt/vol 30 0 (g/mL) G Lab File ID V9550 D

Level (low/med) LOW Date Received 08/02/95

% Moisture 23 decanted (Y/N) N Date Extracted 08/02/95

Concentrated Extract Volume 500(uL) Date Analyzed 08/04/95

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	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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1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

EAFK9
WHS1

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) SOIL Lab Sample ID 23089 09

Sample wt/vol 30 0 (g/mL) G Lab File ID V9550 D

Level (low/med) LOW Date Received 08/02/95

% Moisture 23 decanted (Y/N) N Date Extracted 08/02/95

Concentrated Extract Volume 500(uL) Date Analyzed 08/04/95

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	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	55	J
120-12-7	Anthracene	50	J
86-74-8	Carbazole	430	U
84-74-2	Di-n-butylphthalate	40	J
206-44-0	Fluoranthene	520	
129-00-0	Pyrene	550	
85-68-7	Butylbenzylphthalate	430	U
91-94-1	3,3'-Dichlorobenzidine	430	U
56-55-3	Benzo(a)anthracene	590	
218-01-9	Chrysene	520	
117-81-7	bis(2-Ethylhexyl)phthalate	430 ~~87~~	u JB
117-84-0	Di-n-octylphthalate	430	U
205-99-2	Benzo(b)fluoranthene	390	J
207-08-9	Benzo(k)fluoranthene	570	
50-32-8	Benzo(a)pyrene	650	
193-39-5	Indeno(1,2,3-cd)pyrene	320	J
53-70-3	Dibenz(a,h)anthracene	83	J
191-24-2	Benzo(g,h,i)perylene	320	J

(1) - Cannot be separated from Diphenylamine

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO

EAFK9

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) SOIL Lab Sample ID 23089 09

Sample wt/vol 30 0 (g/mL) G Lab File ID V9550 D

Level (low/med) LOW Date Received 08/02/95

% Moisture 23 decanted (Y/N) N Date Extracted 08/02/95

Concentrated Extract Volume 500(uL) Date Analyzed 08/04/95

Injection Volume 2 0(uL) Dilution Factor 1 0

GPC Cleanup (Y/N) Y pH 6 9

Number TICs found 24

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

	CAS NUMBER	COMPOUND NAME	RT	EST CONC	Q
1	141-79-7	3-Penten-2-one, 4-methyl-	2 856	91	NJA
2	123-42-2	2-Pentanone, 4-hydroxy-4-met	3 276	7600	μNJAB
3		UNKNOWN ORGNAIC ACID	11 573	110	J
4		Phenanthrene, -methyl-	11 638	89	J
5		UNKNOWN ORGANIC ACID	11 713	130	J
6		Phenanthrene, -dimethyl-	12 488	92	J
7		Anthracene, -ethyl-	12 531	130	J
8		UNKNOWN AMIDE	12 585	110	J
9	7704-34-9	Sulfur	12 693	860	NJ
10		UNKNOWN AMIDE	13 295	130	μ JB
11		UNKNOWN AMIDE	13 425	250	μ JB
12		11H-Benzo[]fluorene	13 898	300	J
13		Pyrene, -methyl-	14 017	150	J
14		UNKNOWN AMIDE	14 738	2900	μ JB
15		Benzo[]fluoranthene	15 190	160	J
16		Benzo[]phenanthrene	15 803	110	J
17		Chrysene, -methyl-	16 406	130	J
18		UNKNOWN AMIDE	17 374	2400	μ JB
19		UNKNOWN AMIDE	17 493	180	J
20	205-82-3	Benzo[j]fluoranthene	17 773	230	NJ
21	192-97-2	Benzo[e]pyrene	18 063	400	NJ
22	198-55-0	Perylene	18 278	200	NJ
23		UNKNOWN	19 742	160	J
24		UNKNOWN PAH	20 485	160	J
25					
26					
27					
28					
29					
30					

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

EAFR1
WHSW1D

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) WATER Lab Sample ID 23089 10

Sample wt/vol 1000 (g/mL) ML Lab File ID V9562 D

Level (low/med) LOW Date Received 08/02/95

% Moisture _____ decanted (Y/N)___ Date Extracted 08/02/95

Concentrated Extract Volume 1000(uL) Date Analyzed 08/07/95

Injection Volume 2 0(uL) Dilution Factor 1 0

GPC Cleanup (Y/N) N pH 8 3

CAS NO	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	25	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	25	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
99-09-2	3-Nitroaniline	25	U
83-32-9	Acenaphthene	10	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

EAFR1
WHSW1D

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) WATER Lab Sample ID 23089 10

Sample wt/vol 1000 (g/mL) ML Lab File ID V9562 D

Level (low/med) LOW Date Received 08/02/95

% Moisture _____ decanted (Y/N)___ Date Extracted 08/02/95

Concentrated Extract Volume 1000(uL) Date Analyzed 08/07/95

Injection Volume 2 0(uL) Dilution Factor 1 0

GPC Cleanup (Y/N) N pH 8 3

CAS NO	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg) UG/L	Q
51-28-5	2,4-Dinitrophenol	25	U
100-02-7	4-Nitrophenol	25	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	25	U
534-52-1	4,6-Dinitro-2-methylphenol	25	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	25	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	3	J
117-84-0	Di-n-octylphthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenz(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 OLM03 0

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1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO

EAFR1

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) WATER Lab Sample ID 23089 10

Sample wt/vol 1000 (g/mL) ML Lab File ID V9562 D

Level (low/med) LOW Date Received 08/02/95

% Moisture _____ decanted (Y/N)___ Date Extracted 08/02/95

Concentrated Extract Volume 1000(uL) Date Analyzed 08/07/95

Injection Volume 2 0(uL) Dilution Factor 1 0

GPC Cleanup (Y/N) N pH 8 3

Number TICs found 4

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

	CAS NUMBER	COMPOUND NAME	RT	EST CONC	Q
1	111-76-2	Ethanol, 2-butoxy-	3 642	5	μNJB
2	111-77-3	Ethanol, 2-(2-methoxyethoxy)	3 879	2	μNJB
3		UNKNOWN	5 977	3	J
4		UNKNOWN ORGANIC ACID	8 657	4	J
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1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

EAFR2
MLF1

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) WATER Lab Sample ID 23089 11

Sample wt/vol 1000 (g/mL) ML Lab File ID V9563 D

Level (low/med) LOW Date Received 08/02/95

% Moisture _____ decanted (Y/N)___ Date Extracted 08/02/95

Concentrated Extract Volume 1000(uL) Date Analyzed 08/07/95

Injection Volume 2 0(uL) Dilution Factor 1 0

GPC Cleanup (Y/N) N pH 8 2

CAS NO	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	25	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	25	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
99-09-2	3-Nitroaniline	25	U
83-32-9	Acenaphthene	10	U

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1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

EAFR2
MLF1

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) WATER Lab Sample ID 23089 11

Sample wt/vol 1000 (g/mL) ML Lab File ID V9563 D

Level (low/med) LOW Date Received 08/02/95

% Moisture _____ decanted (Y/N)___ Date Extracted 08/02/95

Concentrated Extract Volume 1000(uL) Date Analyzed 08/07/95

Injection Volume 2 0(uL) Dilution Factor 1 0

GPC Cleanup (Y/N) N pH 8 2

CAS NO	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg) UG/L	Q
51-28-5	2,4-Dinitrophenol	25	U
100-02-7	4-Nitrophenol	25	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	25	U
534-52-1	4,6-Dinitro-2-methylphenol	25	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	25	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	1	J
117-84-0	Di-n-octylphthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenz(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO

EAFR2

ab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) WATER Lab Sample ID 23089 11

Sample wt/vol 1000 (g/mL) ML Lab File ID V9563 D

Level (low/med) LOW Date Received 08/02/95

% Moisture _____ decanted (Y/N)___ Date Extracted 08/02/95

Concentrated Extract Volume 1000(uL) Date Analyzed 08/07/95

Injection Volume 2 0(uL) Dilution Factor 1 0

GPC Cleanup (Y/N) N pH 8 2

Number TICs found 3

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

	CAS NUMBER	COMPOUND NAME	RT	EST CONC	Q
1	111-76-2	Ethanol, 2-butoxy-	3 642	6	~~μ~~ NJB
2		UNKNOWN	4 923	2	J
3	119-61-9	Benzophenone	9 067	32	NJ
4					
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

EPK45
MCLSW2

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) WATER Lab Sample ID 23089 13

Sample wt/vol 1000 (g/mL) ML Lab File ID V9564 D

Level (low/med) LOW Date Received 08/02/95

% Moisture _____ decanted (Y/N)___ Date Extracted 08/02/95

Concentrated Extract Volume 1000(uL) Date Analyzed 08/07/95

Injection Volume 2 0(uL) Dilution Factor 1 0

GPC Cleanup (Y/N) N pH 8 6

CAS NO	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	25	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	25	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
99-09-2	3-Nitroaniline	25	U
83-32-9	Acenaphthene	10	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

EPK45
MCLSW2

ab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) WATER Lab Sample ID 23089 13

Sample wt/vol 1000 (g/mL) ML Lab File ID V9564 D

Level (low/med) LOW Date Received 08/02/95

% Moisture _____ decanted (Y/N)___ Date Extracted 08/02/95

Concentrated Extract Volume 1000(uL) Date Analyzed 08/07/95

Injection Volume 2 0(uL) Dilution Factor 1 0

GPC Cleanup (Y/N) N pH 8 6

CAS NO	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg) UG/L	Q
51-28-5	2,4-Dinitrophenol	25	U
100-02-7	4-Nitrophenol	25	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	25	U
534-52-1	4,6-Dinitro-2-methylphenol	25	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	25	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	0 5	J
117-84-0	Di-n-octylphthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenz(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 OLM03 0

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1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO

EPK45

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) WATER Lab Sample ID 23089 13

Sample wt/vol 1000 (g/mL) ML Lab File ID V9564 D

Level (low/med) LOW Date Received 08/02/95

% Moisture _____ decanted (Y/N)___ Date Extracted 08/02/95

Concentrated Extract Volume 1000(uL) Date Analyzed 08/07/95

Injection Volume 2 0(uL) Dilution Factor 1 0

GPC Cleanup (Y/N) N pH 8 6

Number TICs found 3

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

	CAS NUMBER	COMPOUND NAME	RT	EST CONC	Q
1		UNKNOWN	2 692	3	J
2		UNKNOWN	8 160	4	J
3		UNKNOWN ORGANIC ACID	8 655	4	J
4					
5					
6					
7					
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1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

ETC02
WHSID

ab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) SOIL Lab Sample ID 23089 14

Sample wt/vol 30 0 (g/mL) G Lab File ID V9551 D

Level (low/med) LOW Date Received 08/02/95

% Moisture 21 decanted (Y/N) N Date Extracted 08/02/95

Concentrated Extract Volume 500(uL) Date Analyzed 08/04/95

Injection Volume 2 0(uL) Dilution Factor 1 0

GPC Cleanup (Y/N) Y pH 7 6

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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1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

ETC02
WHSID

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) SOIL Lab Sample ID 23089 14

Sample wt/vol 30 0 (g/mL) G Lab File ID V9551 D

Level (low/med) LOW Date Received 08/02/95

% Moisture 21 decanted (Y/N) N Date Extracted 08/02/95

Concentrated Extract Volume 500(uL) Date Analyzed 08/04/95

Injection Volume 2 0(uL) Dilution Factor 1 0

GPC Cleanup (Y/N) Y pH 7 6

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	160	J	•
120-12-7	Anthracene	30	J	•
86-74-8	Carbazole	420	U	
84-74-2	Di-n-butylphthalate	420	U	
206-44-0	Fluoranthene	320	J	
129-00-0	Pyrene	280	J	•
85-68-7	Butylbenzylphthalate	420	U	
91-94-1	3,3'-Dichlorobenzidine	420	U	
56-55-3	Benzo(a)anthracene	170	J	•
218-01-9	Chrysene	170	J	
117-81-7	bis(2-Ethylhexyl)phthalate	420 ~~64~~	u JB	act 8
117-84-0	Di-n-octylphthalate	420	U	
205-99-2	Benzo(b)fluoranthene	150	J	•
207-08-9	Benzo(k)fluoranthene	170	J	•
50-32-8	Benzo(a)pyrene	190	J	•
193-39-5	Indeno(1,2,3-cd)pyrene	140	J	•
53-70-3	Dibenz(a,h)anthracene	38	J	•
191-24-2	Benzo(g,h,i)perylene	130	J	•

(1) - Cannot be separated from Diphenylamine

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO

ETC02

b Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) SOIL Lab Sample ID 23089 14

Sample wt/vol 30 0 (g/mL) G Lab File ID V9551 D

Level (low/med) LOW Date Received 08/02/95

% Moisture 21 decanted (Y/N) N Date Extracted 08/02/95

Concentrated Extract Volume 500(uL) Date Analyzed 08/04/95

Injection Volume 2 0(uL) Dilution Factor 1 0

GPC Cleanup (Y/N) Y pH 7 6

Number TICs found 27

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

	CAS NUMBER	COMPOUND NAME	RT	EST CONC	Q
1	141-79-7	3-Penten-2-one, 4-methyl-	2 846	86	NJA
2	123-42-2	2-Pentanone, 4-hydroxy-4-met	3 277	7800	NJA
3		Unknown	8 163	180	J
4		UNKNOWN ORGANIC ACID	8 723	110	J
5		UNKNOWN ORGANIC ACID	11 585	170	J
6		UNKNOWN ORGANIC ACID	11 725	100	J
7		UNKNOWN AMIDE	11 854	120	J
8		Phenanthrene, -dimethyl-	12 532	130	J
9	7704-34-9	Sulfur	12 705	1000	NJ
10		UNKNOWN AMIDE	13 297	160	J
11		UNKNOWN AMIDE	13 426	230	J
12		UNKNOWN AMIDE	14 750	3300	J
13		UNKNOWN AMIDE	14 889	180	J
14		UNKNOWN AMIDE	16 095	130	J
15		UNKNOWN	17 042	120	J
16		UNKNOWN AMIDE	17 376	2400	J
17		UNKNOWN AMIDE	17 483	110	J
18	198-55-0	Perylene	17 774	100	NJ
19	192-97-2	Benzo[e]pyrene	18 054	160	NJ
20		UNKNOWN	19 550	100	J
21		UNKNOWN	19 743	190	J
22		UNKNOWN	21 121	130	J
23		UNKNOWN	21 272	350	J
24		UNKNOWN	21 336	150	J
25		UNKNOWN	21 724	230	J
26		UNKNOWN	22 477	170	J
27		UNKNOWN	23 553	1800	J
28					
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1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

ETC03
WHS2

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) SOIL Lab Sample ID 23089 15

Sample wt/vol 30 0 (g/mL) G Lab File ID V9552 D

Level (low/med) LOW Date Received 08/02/95

% Moisture 18 decanted (Y/N) N Date Extracted 08/02/95

Concentrated Extract Volume 500(uL) Date Analyzed 08/04/95

Injection Volume 2 0(uL) Dilution Factor 1 0

GPC Cleanup (Y/N) Y pH 7 7

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

ETC03
WHS2

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) SOIL Lab Sample ID 23089 15

Sample wt/vol 30 0 (g/mL) G Lab File ID V9552 D

Level (low/med) LOW Date Received 08/02/95

% Moisture 18 decanted (Y/N) N Date Extracted 08/02/95

Concentrated Extract Volume 500(uL) Date Analyzed 08/04/95

Injection Volume 2 0(uL) Dilution Factor 1 0

GPC Cleanup (Y/N) Y pH 7 7

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	400	U
120-12-7	Anthracene	400	U
86-74-8	Carbazole	400	U
84-74-2	Di-n-butylphthalate	400	U
206-44-0	Fluoranthene	400	U
129-00-0	Pyrene	400	U
85-68-7	Butylbenzylphthalate	400	U
91-94-1	3,3'-Dichlorobenzidine	400	U
56-55-3	Benzo(a)anthracene	400	U
218-01-9	Chrysene	400	U
117-81-7	bis(2-Ethylhexyl)phthalate	400 ~~93~~	u JB
117-84-0	Di-n-octylphthalate	400	U
205-99-2	Benzo(b)fluoranthene	400	U
207-08-9	Benzo(k)fluoranthene	400	U
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

ack 8-22 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

ETC03

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) SOIL Lab Sample ID 23089 15

Sample wt/vol 30 0 (g/mL) G Lab File ID V9552 D

Level (low/med) LOW Date Received 08/02/95

% Moisture 18 decanted (Y/N) N Date Extracted 08/02/95

Concentrated Extract Volume 500(uL) Date Analyzed 08/04/95

Injection Volume 2 0(uL) Dilution Factor 1 0

GPC Cleanup (Y/N) Y pH 7 7

Number TICs found 19

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

	CAS NUMBER	COMPOUND NAME	RT	EST CONC	Q
1	141-79-7	3-Penten-2-one, 4-methyl-	2 844	84	NJA
2	123-42-2	2-Pentanone, 4-hydroxy-4-met	3 264	6900	UNJAB
3		UNKNOWN ORGANIC ACID	8 720	130	u JB
4		UNKNOWN ORGANIC ACID	10 055	110	J
5		UNKNOWN ORGANIC ACID	11 583	430	J
6		UNKNOWN ORGANIC ACID	11 723	250	J
7		UNKNOWN AMIDE	11 852	120	u JB
8		UNKNOWN	12 422	94	J
9	10544-50-0	Sulfur, mol (S8)	12 681	540	NJ
10		UNKNOWN	13 079	100	J
11		UNKNOWN AMIDE	13 294	250	u JB
12		UNKNOWN AMIDE	13 423	370	u JB
13		UNKNOWN AMIDE	14 736	5100	u JB
14		UNKNOWN AMIDE	14 887	220	u JB
15		UNKNOWN AMIDE	16 092	190	u JB
16		UNKNOWN	17 266	190	J
17		UNKNOWN AMIDE	17 362	2400	u JB
18		UNKNOWN	17 610	160	J
19		UNKNOWN	21 108	130	J
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1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

ETC04
WHSW1

ab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) WATER Lab Sample ID 23089 16

Sample wt/vol 1000 (g/mL) ML Lab File ID T10926 D

Level (low/med) LOW Date Received 08/02/95

% Moisture _____ decanted (Y/N)___ Date Extracted 08/07/95

Concentrated Extract Volume 1000(uL) Date Analyzed 08/09/95

Injection Volume 2 0(uL) Dilution Factor 1 0

GPC Cleanup (Y/N) N pH 8 1

CAS NO	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	25	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	25	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
99-09-2	3-Nitroaniline	25	U
83-32-9	Acenaphthene	10	U

FORM I SV-1 OLM03 0

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

ETC04
WHSW1

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) WATER Lab Sample ID 23089 16

Sample wt/vol 1000 (g/mL) ML Lab File ID T10926 D

Level (low/med) LOW Date Received 08/02/95

% Moisture _____ decanted (Y/N)___ Date Extracted 08/07/95

Concentrated Extract Volume 1000(uL) Date Analyzed 08/09/95

Injection Volume 2 0(uL) Dilution Factor 1 0

GPC Cleanup (Y/N) N pH 8 1

CAS NO	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg) UG/L	Q
51-28-5	2,4-Dinitrophenol	25	U
100-02-7	4-Nitrophenol	25	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	25	U
534-52-1	4,6-Dinitro-2-methylphenol	25	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	25	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	10 ~~2~~	u JB
117-84-0	Di-n-octylphthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenz(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

ac* 8-22-95

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 OLM03 0

2E
WATER PESTICIDE SURROGATE RECOVERY

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

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	PBLKWA	84	135	116	118			0
02	PBLKWB	81	137	105	106			0
03	EAFK2	85	134	125	126			0
04	EAFK7	82	151*	119	81			1
05	EAFK7MS	64	115	116	114			0
06	EAFK7MSD	73	127	116	120			0
07	EAFR1	78	130	115	118			0
08	EAFR2	76	127	108	111			0
09	EPK45	76	126	112	118			0
10	ETC04	78	138	113	116			0
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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

recycled paper

ecology and environment

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO

ETC04

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) WATER Lab Sample ID 23089 16

Sample wt/vol 1000 (g/mL) ML Lab File ID T10926 D

Level (low/med) LOW Date Received 08/02/95

% Moisture _____ decanted (Y/N)___ Date Extracted 08/07/95

Concentrated Extract Volume 1000(uL) Date Analyzed 08/09/95

Injection Volume 2 0(uL) Dilution Factor 1 0

GPC Cleanup (Y/N) N pH 8 1

Number TICs found 1

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

	CAS NUMBER	COMPOUND NAME	RT	EST CONC	Q
1		UNKNOWN ORGANIC ACID	8 954	8	u JB
2					
3					
4					
5					
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2F
SOIL PESTICIDE SURROGATE RECOVERY

b Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

GC Column(1) DB-17 ID 0 32(mm) GC Column(2) DB-1701 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	PBLKSN	64	62	78	91			0
02	EAFK1	79	78	102	105			0
03	EAFK5	68	68	90	95			0
04	EAFK6	70	66	106	113			0
05	EAFK9	57*	56*	105	112			0
06	ETC02	69	66	91	114			0
07	ETC03	71	72	102	101			0
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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

FORM II PEST-2 OLM03 0

recycled paper
ecology and environment

2F
SOIL PESTICIDE SURROGATE RECOVERY

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

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	PBLKSD	38*	69	62	60			0
02	EAFK4	57*	93	96	91			0
03	EAFK4MS	79	131	123	128			0
04	EAFK4MSD	57*	92	83	80			0
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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

3E

WATER PESTICIDE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix Spike - EPA Sample NO EAFK7

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC LIMITS REC
gamma-BHC(Lindane)	0 500	0	0 342	68	56-123
Heptachlor	0 500	0	0 357	71	40-131
Aldrin	0 500	0	0 346	69	40-120
Dieldrin	1 00	0	0 879	88	52-126
Endrin	1 00	0	0 891	89	56-121
4,4'-DDT	1 00	0	0 883	88	38-127

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC
gamma-BHC(Lindane)	0 500	0 385	77	12	15	56-123
Heptachlor	0 500	0 393	79	11	20	40-131
Aldrin	0 500	0 383	77	11	22	40-120
Dieldrin	1 00	0 943	94	6	18	52-126
Endrin	1 00	0 953	95	6	21	56-121
4,4'-DDT	1 00	0 953	95	8	27	38-127

Column to be used to flag recovery values

* Values outside of QC limits

RPD 0 out of 6 outside limits
Spike Recovery 0 out of 12 outside limits

Comments

recycled paper ecology and environment

3F

SOIL PESTICIDE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix Spike - EPA Sample NO EAFK4

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC LIMITS REC
gamma-BHC(Lindane)	19 6	0	21 6	110	46-127
Heptachlor	19 6	0	19 8	101	35-130
Aldrin	19 6	0	18 1	92	34-132
Dieldrin	39 2	0	52 0	132	31-134
Endrin	39 2	0	51 4	131	42-139
4,4'-DDT	39 2	0	49 4	126	23-134

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC
gamma-BHC(Lindane)	19 6	15 5	79	33	50	46-127
Heptachlor	19 6	14 3	73	32 *	31	35-130
Aldrin	19 6	11 8	60	42	43	34-132
Dieldrin	39 2	35 7	91	37	38	31-134
Endrin	39 2	36 0	92	35	45	42-139
4,4'-DDT	39 2	36 1	92	31	50	23-134

Column to be used to flag recovery values

* Values outside of QC limits

RPD 1 out of 6 outside limits
Spike Recovery 0 out of 12 outside limits

Comments

4C

PESTICIDE METHOD BLANK SUMMARY

EPA SAMPLE NO

PBLKSN

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Lab Sample ID PBLKSN Lab File ID 2_002929

Matrix (soil/water) SOIL Extraction (SepF/Cont/Sonc) SONC

Sulfur Cleanup (Y/N) Y Date Extracted 08/02/95

Date Analyzed (1) 08/09/95 Date Analyzed (2) 08/09/95

Time Analyzed (1) 1407 Time Analyzed (2) 1407

Instrument ID (1) HP_02A Instrument ID (2) HP_02B

GC Column (1) DB-17 ID 0 32(mm) GC Column (2) DB-1701 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	EAFK1	23089 01	08/09/95	08/09/95
02	EAFK5	23089 05	08/09/95	08/09/95
03	EAFK6	23089 06	08/09/95	08/09/95
04	EAFK9	23089 09	08/09/95	08/09/95
05	ETC02	23089 14	08/09/95	08/09/95
06	ETC03	23089 15	08/09/95	08/09/95
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Comments

4C
PESTICIDE METHOD BLANK SUMMARY

EPA SAMPLE NO

PBLKSD

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Lab Sample ID PBLKSD Lab File ID 1_001779

Matrix (soil/water) SOIL Extraction (SepF/Cont/Sonc) SONC

Sulfur Cleanup (Y/N) Y Date Extracted 08/10/95

Date Analyzed (1) 08/14/95 ate Analyzed (2) 08/14/95

Time Analyzed (1) 1528 Time Analyzed (2) 1528

Instrument ID (1) HP_01A Instrument ID (2) HP_01B

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	EAFK4	23089 04	08/14/95	08/14/95
02	EAFK4MS	23089 04MS	08/14/95	08/14/95
03	EAFK4MSD	23089 04MSD	08/14/95	08/14/95
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Comments

4C
PESTICIDE METHOD BLANK SUMMARY

EPA SAMPLE NO

PBLKWB

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Lab Sample ID PBLKWB Lab File ID 1_001663

Matrix (soil/water) WATER Extraction (SepF/Cont/Sonc) SEPF

Sulfur Cleanup (Y/N) Y Date Extracted 08/02/95

Date Analyzed (1) 08/05/95 Date Analyzed (2) 08/05/95

Time Analyzed (1) 0315 Time Analyzed (2) 0315

Instrument ID (1) HP_01A Instrument ID (2) HP_01B

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	EPK45	23089 13	08/05/95	08/05/95
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Comments

4C
PESTICIDE METHOD BLANK SUMMARY

EPA SAMPLE NO

PBLKWA

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Lab Sample ID PBLKWA Lab File ID 1_001662

Matrix (soil/water) WATER Extraction (SepF/Cont/Sonc) SEPF

Sulfur Cleanup (Y/N) N Date Extracted 08/02/95

Date Analyzed (1) 08/05/95 Date Analyzed (2) 08/05/95

Time Analyzed (1) 0244 Time Analyzed (2) 0244

Instrument ID (1) HP_01A Instrument ID (2) HP_01B

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	EAFK2	23089 02	08/05/95	08/05/95
02	EAFK7	23089 07	08/05/95	08/05/95
03	EAFK7MS	23089 07MS	08/05/95	08/05/95
04	EAFK7MSD	23089 07MSD	08/05/95	08/05/95
05	EAFR1	23089 10	08/05/95	08/05/95
06	EAFR2	23089 11	08/05/95	08/05/95
07	ETC04	23089 16	08/05/95	08/05/95
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Comments

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1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

PBLKSD

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) SOIL Lab Sample ID PBLKSD

Sample wt/vol 30 0 (g/mL) G Lab File ID _____

% Moisture _____ decanted (Y/N)___ Date Received _____

Extraction (SepF/Cont/Sonc) SONC Date Extracted 08/10/95

Concentrated Extract Volume 5000(uL) Date Analyzed 08/14/95

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

PBLKSN

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) SOIL Lab Sample ID PBLKSN

Sample wt/vol 30 0 (g/mL) G Lab File ID _____

% Moisture _____ decanted (Y/N)___ Date Received _____

Extraction (SepF/Cont/Sonc) SONC Date Extracted 08/02/95

Concentrated Extract Volume 5000(uL) Date Analyzed 08/09/95

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

PBLKWA

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) WATER Lab Sample ID PBLKWA

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

% Moisture _____ decanted (Y/N)___ Date Received _____

Extraction (SepF/Cont/Sonc) SEPF Date Extracted 08/02/95

Concentrated Extract Volume 10000(uL) Date Analyzed 08/05/95

Injection Volume 1 0(uL) Dilution Factor 1 0

GPC Cleanup (Y/N) N pH 7 0 Sulfur Cleanup (Y/N) N

CAS NO	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0 050	U
319-85-7	beta-BHC	0 050	U
319-86-8	delta-BHC	0 050	U
58-89-9	gamma-BHC (Lindane)	0 050	U
76-44-8	Heptachlor	0 050	U
309-00-2	Aldrin	0 050	U
1024-57-3	Heptachlor epoxide	0 050	U
959-98-8	Endosulfan I	0 050	U
60-57-1	Dieldrin	0 10	U
72-55-9	4,4'-DDE	0 10	U
72-20-8	Endrin	0 10	U
33213-65-9	Endosulfan II	0 10	U
72-54-8	4,4'-DDD	0 10	U
1031-07-8	Endosulfan sulfate	0 10	U
50-29-3	4,4'-DDT	0 10	U
72-43-5	Methoxychlor	0 50	U
53494-70-5	Endrin ketone	0 10	U
7421-93-4	Endrin aldehyde	0 10	U
5103-71-9	alpha-Chlordane	0 050	U
5103-74-2	gamma-Chlordane	0 050	U
8001-35-2	Toxaphene	5 0	U
12674-11-2	Aroclor-1016	1 0	U
11104-28-2	Aroclor-1221	2 0	U
11141-16-5	Aroclor-1232	1 0	U
53469-21-9	Aroclor-1242	1 0	U
12672-29-6	Aroclor-1248	1 0	U
11097-69-1	Aroclor-1254	1 0	U
11096-82-5	Aroclor-1260	1 0	U

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PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

PBLKWB

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) WATER Lab Sample ID PBLKWB

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

% Moisture _____ decanted (Y/N)___ Date Received _____

Extraction (SepF/Cont/Sonc) SEPF Date Extracted 08/02/95

Concentrated Extract Volume 10000(uL) Date Analyzed 08/05/95

Injection Volume 1 0(uL) Dilution Factor 1 0

GPC Cleanup (Y/N) N pH 7 0 Sulfur Cleanup (Y/N) Y

CAS NO	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0 050	U
319-85-7	beta-BHC	0 050	U
319-86-8	delta-BHC	0 050	U
58-89-9	gamma-BHC (Lindane)	0 050	U
76-44-8	Heptachlor	0 050	U
309-00-2	Aldrin	0 050	U
1024-57-3	Heptachlor epoxide	0 050	U
959-98-8	Endosulfan I	0 050	U
60-57-1	Dieldrin	0 10	U
72-55-9	4,4'-DDE	0 10	U
72-20-8	Endrin	0 10	U
33213-65-9	Endosulfan II	0 10	U
72-54-8	4,4'-DDD	0 10	U
1031-07-8	Endosulfan sulfate	0 10	U
50-29-3	4,4'-DDT	0 10	U
72-43-5	Methoxychlor	0 50	U
53494-70-5	Endrin ketone	0 10	U
7421-93-4	Endrin aldehyde	0 10	U
5103-71-9	alpha-Chlordane	0 050	U
5103-74-2	gamma-Chlordane	0 050	U
8001-35-2	Toxaphene	5 0	U
12674-11-2	Aroclor-1016	1 0	U
11104-28-2	Aroclor-1221	2 0	U
11141-16-5	Aroclor-1232	1 0	U
53469-21-9	Aroclor-1242	1 0	U
12672-29-6	Aroclor-1248	1 0	U
11097-69-1	Aroclor-1254	1 0	U
11096-82-5	Aroclor-1260	1 0	U

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PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

EAFK1
MLS2

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) SOIL Lab Sample ID 23089 01

Sample wt/vol 30 0 (g/mL) G Lab File ID _____

% Moisture 18 decanted (Y/N) N Date Received 08/02/95

Extraction (SepF/Cont/Sonc) SONC Date Extracted 08/02/95

Concentrated Extract Volume 5000(uL) Date Analyzed 08/09/95

Injection Volume 1 0(uL) Dilution Factor 1 0

GPC Cleanup (Y/N) Y pH 8 1 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 0	U
72-55-9	4,4'-DDE	4 0	U
72-20-8	Endrin	4 0	U
33213-65-9	Endosulfan II	4 0	U
72-54-8	4,4'-DDD	4 0	U
1031-07-8	Endosulfan sulfate	4 0	U
50-29-3	4,4'-DDT	4 0	U
72-43-5	Methoxychlor	21	U
53494-70-5	Endrin ketone	4 0	U
7421-93-4	Endrin aldehyde	4 0	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	40	U
11104-28-2	Aroclor-1221	82	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

EAFK2
MLSW1

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) WATER Lab Sample ID 23089 02

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

% Moisture _____ decanted (Y/N) __ Date Received 08/02/95

Extraction (SepF/Cont/Sonc) SEPF Date Extracted 08/02/95

Concentrated Extract Volume 10000(uL) Date Analyzed 08/05/95

Injection Volume 1 0(uL) Dilution Factor 1 0

GPC Cleanup (Y/N) N pH 8 2 Sulfur Cleanup (Y/N) N

CAS NO	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0 050	U
319-85-7	beta-BHC	0 050	U
319-86-8	delta-BHC	0 050	U
58-89-9	gamma-BHC (Lindane)	0 050	U
76-44-8	Heptachlor	0 050	U
309-00-2	Aldrin	0 050	U
1024-57-3	Heptachlor epoxide	0 050	U
959-98-8	Endosulfan I	0 050	U
60-57-1	Dieldrin	0 10	U
72-55-9	4,4'-DDE	0 10	U
72-20-8	Endrin	0 10	U
33213-65-9	Endosulfan II	0 10	U
72-54-8	4,4'-DDD	0 10	U
1031-07-8	Endosulfan sulfate	0 10	U
50-29-3	4,4'-DDT	0 10	U
72-43-5	Methoxychlor	0 50	U
53494-70-5	Endrin ketone	0 10	U
7421-93-4	Endrin aldehyde	0 10	U
5103-71-9	alpha-Chlordane	0 050	U
5103-74-2	gamma-Chlordane	0 050	U
8001-35-2	Toxaphene	5 0	U
12674-11-2	Aroclor-1016	1 0	U
11104-28-2	Aroclor-1221	2 0	U
11141-16-5	Aroclor-1232	1 0	U
53469-21-9	Aroclor-1242	1 0	U
12672-29-6	Aroclor-1248	1 0	U
11097-69-1	Aroclor-1254	1 0	U
11096-82-5	Aroclor-1260	1 0	U

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PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

EAFK4
MCLS1

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) SOIL Lab Sample ID 23089 04

Sample wt/vol 30 0 (g/mL) G Lab File ID _____

% Moisture 15 decanted (Y/N) N Date Received 08/02/95

Extraction (SepF/Cont/Sonc) SONC Date Extracted 08/10/95

Concentrated Extract Volume 5000(uL) Date Analyzed 08/14/95

Injection Volume 1 0(uL) Dilution Factor 1 0

GPC Cleanup (Y/N) Y pH 8 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 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	3 9	U
72-55-9	4,4'-DDE	3 9	U
72-20-8	Endrin	3 9	U
33213-65-9	Endosulfan II	3 9	U
72-54-8	4,4'-DDD	3 9	U
1031-07-8	Endosulfan sulfate	3 9	U
50-29-3	4,4'-DDT	3 9	U
72-43-5	Methoxychlor	20	U
53494-70-5	Endrin ketone	3 9	U
7421-93-4	Endrin aldehyde	3 9	U
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	39	U
11104-28-2	Aroclor-1221	79	U
11141-16-5	Aroclor-1232	39	U
53469-21-9	Aroclor-1242	39	U
12672-29-6	Aroclor-1248	39	U
11097-69-1	Aroclor-1254	39	U
11096-82-5	Aroclor-1260	39	U

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PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

EAFK5
MCL52

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) SOIL Lab Sample ID 23089 05

Sample wt/vol 30 0 (g/mL) G Lab File ID

% Moisture 28 decanted (Y/N) N Date Received 08/02/95

Extraction (SepF/Cont/Sonc) SONC Date Extracted 08/02/95

Concentrated Extract Volume 5000(uL) Date Analyzed 08/09/95

Injection Volume 1 0(uL) Dilution Factor 1 0

GPC Cleanup (Y/N) Y pH 7 7 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	93	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

EAFK6
MCLS3

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) SOIL Lab Sample ID 23089 06

Sample wt/vol 30 0 (g/mL) G Lab File ID

% Moisture 18 decanted (Y/N) N Date Received 08/02/95

Extraction (SepF/Cont/Sonc) SONC Date Extracted 08/02/95

Concentrated Extract Volume 5000(uL) Date Analyzed 08/09/95

Injection Volume 1 0(uL) Dilution Factor 1 0

GPC Cleanup (Y/N) Y pH 8 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 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 0	U
72-55-9	4,4'-DDE	4 0	U
72-20-8	Endrin	4 0	U
33213-65-9	Endosulfan II	4 0	U
72-54-8	4,4'-DDD	4 0	U
1031-07-8	Endosulfan sulfate	4 0	U
50-29-3	4,4'-DDT	4 0	U
72-43-5	Methoxychlor	21	U
53494-70-5	Endrin ketone	4 0	U
7421-93-4	Endrin aldehyde	4 0	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	40	U
11104-28-2	Aroclor-1221	82	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

EAFK7
MCLSW1

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) WATER Lab Sample ID 23089 07

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

% Moisture _____ decanted (Y/N) __ Date Received 08/02/95

Extraction (SepF/Cont/Sonc) SEPF Date Extracted 08/02/95

Concentrated Extract Volume 10000(uL) Date Analyzed 08/05/95

Injection Volume 1 0(uL) Dilution Factor 1 0

GPC Cleanup (Y/N) N pH 8 5 Sulfur Cleanup (Y/N) N

CAS NO	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0 050	U
319-85-7	beta-BHC	0 050	U
319-86-8	delta-BHC	0 050	U
58-89-9	gamma-BHC (Lindane)	0 050	U
76-44-8	Heptachlor	0 050	U
309-00-2	Aldrin	0 050	U
1024-57-3	Heptachlor epoxide	0 050	U
959-98-8	Endosulfan I	0 050	U
60-57-1	Dieldrin	0 10	U
72-55-9	4,4'-DDE	0 10	U
72-20-8	Endrin	0 10	U
33213-65-9	Endosulfan II	0 10	U
72-54-8	4,4'-DDD	0 10	U
1031-07-8	Endosulfan sulfate	0 10	U
50-29-3	4,4'-DDT	0 10	U
72-43-5	Methoxychlor	0 50	U
53494-70-5	Endrin ketone	0 10	U
7421-93-4	Endrin aldehyde	0 10	U
5103-71-9	alpha-Chlordane	0 050	U
5103-74-2	gamma-Chlordane	0 050	U
8001-35-2	Toxaphene	5 0	U
12674-11-2	Aroclor-1016	1 0	U
11104-28-2	Aroclor-1221	2 0	U
11141-16-5	Aroclor-1232	1 0	U
53469-21-9	Aroclor-1242	1 0	U
12672-29-6	Aroclor-1248	1 0	U
11097-69-1	Aroclor-1254	1 0	U
11096-82-5	Aroclor-1260	1 0	U

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PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

EAFK9
WHS1

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) SOIL Lab Sample ID 23089 09

Sample wt/vol 30 0 (g/mL) G Lab File ID

% Moisture 23 decanted (Y/N) N Date Received 08/02/95

Extraction (SepF/Cont/Sonc) SONC Date Extracted 08/02/95

Concentrated Extract Volume 5000(uL) Date Analyzed 08/09/95

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	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

EAFR1
WHSW1D

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) WATER Lab Sample ID 23089 10

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

% Moisture _____ decanted (Y/N) __ Date Received 08/02/95

Extraction (SepF/Cont/Sonc) SEPF Date Extracted 08/02/95

Concentrated Extract Volume 10000(uL) Date Analyzed 08/05/95

Injection Volume 1 0(uL) Dilution Factor 1 0

GPC Cleanup (Y/N) N pH 8 3 Sulfur Cleanup (Y/N) N

CAS NO	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0 050	U
319-85-7	beta-BHC	0 050	U
319-86-8	delta-BHC	0 050	U
58-89-9	gamma-BHC (Lindane)	0 050	U
76-44-8	Heptachlor	0 050	U
309-00-2	Aldrin	0 050	U
1024-57-3	Heptachlor epoxide	0 050	U
959-98-8	Endosulfan I	0 050	U
60-57-1	Dieldrin	0 10	U
72-55-9	4,4'-DDE	0 10	U
72-20-8	Endrin	0 10	U
33213-65-9	Endosulfan II	0 10	U
72-54-8	4,4'-DDD	0 10	U
1031-07-8	Endosulfan sulfate	0 10	U
50-29-3	4,4'-DDT	0 10	U
72-43-5	Methoxychlor	0 50	U
53494-70-5	Endrin ketone	0 10	U
7421-93-4	Endrin aldehyde	0 10	U
5103-71-9	alpha-Chlordane	0 050	U
5103-74-2	gamma-Chlordane	0 050	U
8001-35-2	Toxaphene	5 0	U
12674-11-2	Aroclor-1016	1 0	U
11104-28-2	Aroclor-1221	2 0	U
11141-16-5	Aroclor-1232	1 0	U
53469-21-9	Aroclor-1242	1 0	U
12672-29-6	Aroclor-1248	1 0	U
11097-69-1	Aroclor-1254	1 0	U
11096-82-5	Aroclor-1260	1 0	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

EAFR2
MLF1

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) WATER Lab Sample ID 23089 11

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

% Moisture _____ decanted (Y/N) __ Date Received 08/02/95

Extraction (SepF/Cont/Sonc) SEPF Date Extracted 08/02/95

Concentrated Extract Volume 10000(uL) Date Analyzed 08/05/95

Injection Volume 1 0(uL) Dilution Factor 1 0

GPC Cleanup (Y/N) N pH 8 2 Sulfur Cleanup (Y/N) N

CAS NO	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0 050	U
319-85-7	beta-BHC	0 050	U
319-86-8	delta-BHC	0 050	U
58-89-9	gamma-BHC (Lindane)	0 050	U
76-44-8	Heptachlor	0 050	U
309-00-2	Aldrin	0 050	U
1024-57-3	Heptachlor epoxide	0 050	U
959-98-8	Endosulfan I	0 050	U
60-57-1	Dieldrin	0 10	U
72-55-9	4,4'-DDE	0 10	U
72-20-8	Endrin	0 10	U
33213-65-9	Endosulfan II	0 10	U
72-54-8	4,4'-DDD	0 10	U
1031-07-8	Endosulfan sulfate	0 10	U
50-29-3	4,4'-DDT	0 10	U
72-43-5	Methoxychlor	0 50	U
53494-70-5	Endrin ketone	0 10	U
7421-93-4	Endrin aldehyde	0 10	U
5103-71-9	alpha-Chlordane	0 050	U
5103-74-2	gamma-Chlordane	0 050	U
8001-35-2	Toxaphene	5 0	U
12674-11-2	Aroclor-1016	1 0	U
11104-28-2	Aroclor-1221	2 0	U
11141-16-5	Aroclor-1232	1 0	U
53469-21-9	Aroclor-1242	1 0	U
12672-29-6	Aroclor-1248	1 0	U
11097-69-1	Aroclor-1254	1 0	U
11096-82-5	Aroclor-1260	1 0	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

EPK45
MCLSW2

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) WATER Lab Sample ID 23089 13

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

% Moisture _____ decanted (Y/N) __ Date Received 08/02/95

Extraction (SepF/Cont/Sonc) SEPF Date Extracted 08/02/95

Concentrated Extract Volume 10000(uL) Date Analyzed 08/05/95

Injection Volume 1 0(uL) Dilution Factor 1 0

GPC Cleanup (Y/N) N pH 8 6 Sulfur Cleanup (Y/N) Y

CAS NO	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0 050	U
319-85-7	beta-BHC	0 050	U
319-86-8	delta-BHC	0 050	U
58-89-9	gamma-BHC (Lindane)	0 050	U
76-44-8	Heptachlor	0 050	U
309-00-2	Aldrin	0 050	U
1024-57-3	Heptachlor epoxide	0 050	U
959-98-8	Endosulfan I	0 050	U
60-57-1	Dieldrin	0 10	U
72-55-9	4,4'-DDE	0 10	U
72-20-8	Endrin	0 10	U
33213-65-9	Endosulfan II	0 10	U
72-54-8	4,4'-DDD	0 10	U
1031-07-8	Endosulfan sulfate	0 10	U
50-29-3	4,4'-DDT	0 10	U
72-43-5	Methoxychlor	0 50	U
53494-70-5	Endrin ketone	0 10	U
7421-93-4	Endrin aldehyde	0 10	U
5103-71-9	alpha-Chlordane	0 050	U
5103-74-2	gamma-Chlordane	0 050	U
8001-35-2	Toxaphene	5 0	U
12674-11-2	Aroclor-1016	1 0	U
11104-28-2	Aroclor-1221	2 0	U
11141-16-5	Aroclor-1232	1 0	U
53469-21-9	Aroclor-1242	1 0	U
12672-29-6	Aroclor-1248	1 0	U
11097-69-1	Aroclor-1254	1 0	U
11096-82-5	Aroclor-1260	1 0	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

ETC02
WHS1D

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) SOIL Lab Sample ID 23089 14

Sample wt/vol 30 0 (g/mL) G Lab File ID _____

% Moisture 21 decanted (Y/N) N Date Received 08/02/95

Extraction (SepF/Cont/Sonc) SONC Date Extracted 08/02/95

Concentrated Extract Volume 5000(uL) Date Analyzed 08/09/95

Injection Volume 1 0(uL) Dilution Factor 1 0

GPC Cleanup (Y/N) Y pH 7 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 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 2	U
72-55-9	4,4'-DDE	4 2	U
72-20-8	Endrin	4 2	U
33213-65-9	Endosulfan II	4 2	U
72-54-8	4,4'-DDD	4 2	U
1031-07-8	Endosulfan sulfate	4 2	U
50-29-3	4,4'-DDT	4 2	U
72-43-5	Methoxychlor	22	U
53494-70-5	Endrin ketone	4 2	U
7421-93-4	Endrin aldehyde	4 2	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	42	U
11104-28-2	Aroclor-1221	85	U
11141-16-5	Aroclor-1232	42	U
53469-21-9	Aroclor-1242	42	U
12672-29-6	Aroclor-1248	42	U
11097-69-1	Aroclor-1254	42	U
11096-82-5	Aroclor-1260	42	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

ETC03
WH52

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) SOIL Lab Sample ID 23089 15

Sample wt/vol 30 0 (g/mL) G Lab File ID

% Moisture 18 decanted (Y/N) N Date Received 08/02/95

Extraction (SepF/Cont/Sonc) SONC Date Extracted 08/02/95

Concentrated Extract Volume 5000(uL) Date Analyzed 08/09/95

Injection Volume 1 0(uL) Dilution Factor 1 0

GPC Cleanup (Y/N) Y pH 7 7 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 0	U
72-55-9	4,4'-DDE	4 0	U
72-20-8	Endrin	4 0	U
33213-65-9	Endosulfan II	4 0	U
72-54-8	4,4'-DDD	4 0	U
1031-07-8	Endosulfan sulfate	4 0	U
50-29-3	4,4'-DDT	4 0	U
72-43-5	Methoxychlor	21	U
53494-70-5	Endrin ketone	4 0	U
7421-93-4	Endrin aldehyde	4 0	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	40	U
11104-28-2	Aroclor-1221	82	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

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

ETC04
WHSW1D

Lab Name SWL-TULSA Contract 68-D5-0026

Lab Code SWOK Case No 23857 SAS No SDG No EAFK1

Matrix (soil/water) WATER Lab Sample ID 23089 16

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

% Moisture _____ decanted (Y/N) __ Date Received 08/02/95

Extraction (SepF/Cont/Sonc) SEPF Date Extracted 08/02/95

Concentrated Extract Volume 10000(uL) Date Analyzed 08/05/95

Injection Volume 1 0(uL) Dilution Factor 1 0

GPC Cleanup (Y/N) N pH 8 1 Sulfur Cleanup (Y/N) N

CAS NO	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0 050	U
319-85-7	beta-BHC	0 050	U
319-86-8	delta-BHC	0 050	U
58-89-9	gamma-BHC (Lindane)	0 050	U
76-44-8	Heptachlor	0 050	U
309-00-2	Aldrin	0 050	U
1024-57-3	Heptachlor epoxide	0 050	U
959-98-8	Endosulfan I	0 050	U
60-57-1	Dieldrin	0 10	U
72-55-9	4,4'-DDE	0 10	U
72-20-8	Endrin	0 10	U
33213-65-9	Endosulfan II	0 10	U
72-54-8	4,4'-DDD	0 10	U
1031-07-8	Endosulfan sulfate	0 10	U
50-29-3	4,4'-DDT	0 10	U
72-43-5	Methoxychlor	0 50	U
53494-70-5	Endrin ketone	0 10	U
7421-93-4	Endrin aldehyde	0 10	U
5103-71-9	alpha-Chlordane	0 050	U
5103-74-2	gamma-Chlordane	0 050	U
8001-35-2	Toxaphene	5 0	U
12674-11-2	Aroclor-1016	1 0	U
11104-28-2	Aroclor-1221	2 0	U
11141-16-5	Aroclor-1232	1 0	U
53469-21-9	Aroclor-1242	1 0	U
12672-29-6	Aroclor-1248	1 0	U
11097-69-1	Aroclor-1254	1 0	U
11096-82-5	Aroclor-1260	1 0	U

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

ESD Central Regional Laboratory
Data Tracking Form for Contract Samples

Data Set No _____ CERCLIS No ILD980498125

Case No 23857 Site Name Location Macon Cty #2

Contractor or EPA Lab SWOK Data User E & E

No of Samples 16 Date Sampled or Data Received 8-16-95

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 16 No of samples received 16

Received by A. C Harvey Date 8-16-95

Received by LSSS Allison C Harvey Date 8-17-95

Review started 8-21-95 Reviewer Signature Allison C Harvey

Total time spent on review 16.5 hrs Date review completed 8-25-95

Copied by Lynette Burnett Date 8 31-95

Mailed to user by Lynette Burnett Date 8-31-95

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 Date _____

APPENDIX E

ENDANGERED SPECIES LIST FOR MACON COUNTY

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ENDANGERED SPECIES LIST FOR MACON COUNTY, ILLINOIS

Latin Name	Species Name	Habitat	Status
Camassia Angusta (Engelm & Gray) Blank	Wild Hyacinth	Bulbous perennial herb	E
Carex Austrina (Small) Mack	Southern Sedge	Perennial tufted to slightly rhizomatous sedge	E
Clonophis Kirtlandi (Kennicott)	Kirtland s Snake	Wet meadows open swamp forests reservoirs	T
Cypripedium Candidum	White Lady s Slipper	Rhizomatous perennial orchid	E
Lactuca Ludoviciana (Nutt) Riddell	Western Wild Lettuce	Biennial or short lived herb	E
Nyctanassa Violacea (Linnaeus)	Yellow-Crowned Nigh Heron	Marshes swamps lakes lagoons breeding in trees in wooded situations near water	T
Nycticorax Nycticorax (Linnaeus)	Black-Crowned Nigh Heron	Bottomland forest trees herbaceous marsh vegetation	E
Platanthera Leucophaea (Nutt) Lindl	Prairie White Fringed Orchid	Tuberous perennial orchid	E/FT
Polygonum Arifolium L	Halbred Leaved Tear Thumb	Perennial vinelike herb	E
Thryomanes Bewickii (Audubon)	Bewick s Wren	Bottomland forest trees herbaceous marsh vegetation	E

Key

E = Endangered Species
T = Threatened Species
FE = Federally Endangered Species

APPENDIX F

REFERENCE DOCUMENTATION

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CHICAGO ILLINOIS

TELEPHONE LOG

REFERENCE

CONTACT	COMPANY or AGENCY	POSITION
Linda Tucker	Harristown City Hall	Clerk

CONTACT ADDRESS	CONTACT PHONE NUMBER
P.O. Box 200 Harristown, IL 62537	217 963 2980

E&E EMPLOYEE	DATE	TIME
Alix Rauschman	5/8/95	1 17pm

PROJECT NUMBER	SITE NAME and LOCATION
ZT3051	Waste Hauling

DISCUSSION

They have wells NW of Harristown between Niantic & Harristown. Two wells - one old one which is @ 31 feet. Its not currently used, but will be re-utilized. The auxillary one - depth unknown. Harristown also utilizes Decatur water and vice-versa. We don't know when the shallow 31' well will be back in business.

SIGNATURE Alix Rauschman

PAGE 1 OF 1

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CHICAGO ILLINOIS

TELEPHONE LOG

REFERENCE

CONTACT	COMPANY or AGENCY	POSITION
Dustin Burger	IEPA	

CONTACT ADDRESS	CONTACT PHONE NUMBER
Champaign IL	217 333 8361

E&E EMPLOYEE	DATE	TIME
J Rauschman	May 18 1995	2:20pm

PROJECT NUMBER	SITE NAME and LOCATION
ZT3051	Waste Hauling, Inc - Decatur

DISCUSSION Dustin called to tell me he had analytical data and the leachate sample contained MEK @ 22ppm. The background sample had no MEK so it is observed. He will send me the data. As far as he knows, there is only one Monitoring well on-site. People are known to use offsite res wells as upgradient wells. There is no physical MW south of Area 3

SIGNATURE Celia Rausch

PAGE 1 OF 1

78h
6892

ecology and environment, inc. CHICAGO ILLINOIS	TELEPHONE LOG	REFERENCE

CONTACT	COMPANY or AGENCY	POSITION
Steve Townsend	IEPA	

CONTACT ADDRESS	CONTACT PHONE NUMBER
Springfield, Ill	(217) 786 6892

E&E EMPLOYEE	DATE	TIME
Alex Rauschman	5/18/95	2:00 pm

PROJECT NUMBER	SITE NAME and LOCATION
ZT3051	Waste Hauling, Inc.

DISCUSSION

~~He from~~ ASR sent file to Dustin Burger. Tom Davis was the Attorney @ site from Attorney Generals office. We can get file data from them if need be

SIGNATURE Alex Rauschman

PAGE 1 OF 1

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CHICAGO ILLINOIS

TELEPHONE LOG

REFERENCE: Ken Page

CONTACT	COMPANY or AGENCY	POSITION
Dustin Burger	IEPA	

CONTACT ADDRESS	CONTACT PHONE NUMBER
Champaign Office	217-333-8361

E&E EMPLOYEE	DATE	TIME
A Rauschman	May 18, 1995	1 40pm

PROJECT NUMBER	SITE NAME and LOCATION
ZT3051	Waste Hauling in Decatur, Il.

DISCUSSION

Pulled drums off-site Still stored in roll-off boxes.

807 under IEPA regs - need to do RCRA closure

major leachate problem. Bell sports put haz waste in Landfill.

Stream - bright orange in color, however, data is inconclusive of haz waste constituents. Therefore, I can't call the site haz w. or say I have an obs release

SIGNATURE: Alix Rauschman

PAGE 1 OF 1

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International Specialists in the Environment

FSIP

Job Number ZT3051/EIL0872VAA

WASTE HAULING

ILD 000 671 073

E & E Job Number ZT3051

Telephone Code Number

Site Name Waste Hauling Inc

City/State Decatur, IL

TDD 05-9503-249

PAN EIL0872VAA

SSID

Start / Finish Date 4-12-95 / 4-12-95

Book 1 of 1

E & E Emergency Response Center (716) 684-8940
E & E Corporate Center (716) 684-8060
MEDTOX Hotline (501) 370 8263
E & E Safety Director (Home) (716) 655-1260

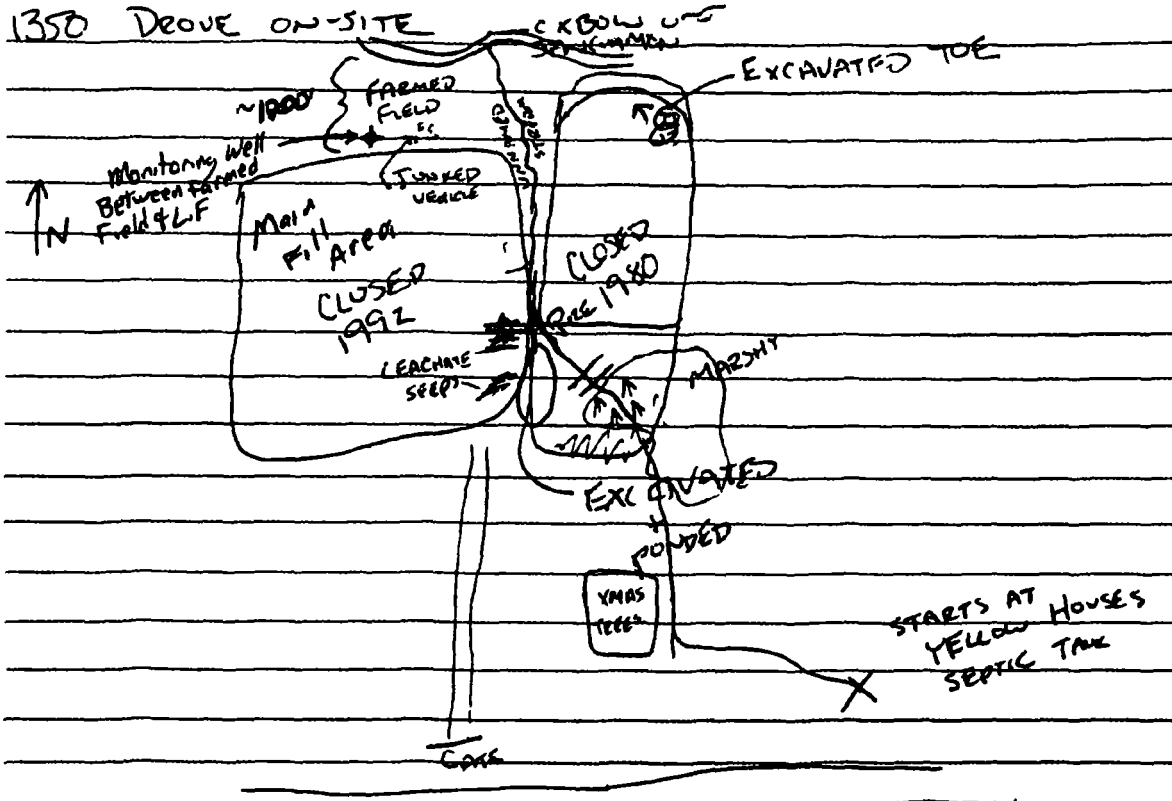
WEDNESDAY APRIL 12, 1995

1310 C EICH + R MEYERS (E+E) ARRIVE AT WASTE HAULING OFFICE TO MEET WITH JERRY CAMFIELD

1330 J CAMFIELD + BRAD BROWN ARRIVE AT OFFICE
BRAD WILL ACCOMPANY US ON WALKOVER.
2 PORTIONS OF SITE ONE CLOSED IN ~ 1980, 2ND CLOSED IN 1992. BATTLING W/ EPA OVER CLOSURE PLAN FOR 2ND AREA
1ST AREA WELL VEGETATED

1340 ARRIVED AT ENTRACE GATE TO SITE. ANOTHER VEHICLE PARKED AT GATE ASSUMED TO BE IEPA WHO REPORTEDLY ARE UNDER COURT ORDER NOT TO GO ON PROPERTY W/OUT AN ESCORT
J C ESCORTED HIM FROM SITE + HE LEFT

1350 DROVE ON-SITE



Wed. 4-12-95

~ 10/92 FINISHED A PERIMETER TRENCH AROUND OLD FILL AREA + COMPACTED REFILL.

RAM

26 PIEZOMETERS AROUND LANDFILL
2 MWs ONE NORTH, ONE SOUTH
GW FLOWS NW.

RAM

PHOTOS OF LEACHATE SEEP, DITCH, PONDED WATER IN BORROW PIT.

RAM

WE WALKED THE SITE WITH BRAD BROWN. WALKED FROM SSE. CORNER OF NEWER FILL AREA, BETWEEN NEW + OLD AREAS, DOWN TO THE OXBOW OF SANGAMON R WATER WAS FLOWING IN OXBOW, MOSTLY DUE TO SPRING TIME OF YEAR + HEAVY RAINS BB SAYS IN SUMMER WATER STAGNATES SOME LEACHATE WAS OBSERVED ALONG ESE SIDE OF TOE OF NEW FILL AREA. HAD "LANDFILL ODOR" BUT MEASURED 0ppm ON OVA. THE AREA NORTH OF LANDFILL, TO THE RIVER, CONTAINS SOME JUNKED VEHICLES BUT IS MOSTLY AG LAND BB PLANTS BEANS + CORN ~ 1200' TO RIVER FROM LANDFILL. SIDES OF LANDFILL SHOW EROSION + GULLIES BUT NO EXPOSED WASTES. THE DITCH BETWEEN FILL AREAS WAS FLOWING INTO THE RIVER. THE FLOW BEGINS OFF SITE AT A SEPTIC SYSTEM FROM A NEARBY HOME FLOWS ONSITE INTO A PREVIOUSLY EXCAVATED BORROW AREA, BETWEEN 2 FILL AREAS, WHICH NOW IS MARSHY + HAS AN ~ 75' x 40' PONDED AREA. FROM THERE, FLOWS BETWEEN FILL AREAS TO RIVER LEACHATE STAINED SOILS WERE OBSERVED LEADING INTO THE PONDED AREA. THE WATER IN THE DITCH WAS NOT DISCOLORED NOR DID IT ELICIT A RESPONSE ON THE OVA

WE FOLLOWED RIVER EAST ALONG OLD FILL AREA.

Robert A Meyers

4-12-95 Con't

THIS AREA WAS FILLED + CLOSED WHEN WASTE HAULING TOOK OVER. NO LEACHATE OBSERVED FROM OLD FILL AREA.

1430 COMPLETED WALKOVER. TOOK SOME MORE PHOTOS

1445 WENT BACK TO WASTE HAULING OFFICE. BB GAVE US AN AERIAL PHOTO OF AREA.

~~14~~ 1500 DEPART FOR MURREL SITE.

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Phone Log:

WASTE
ED

PHOTOS
BB

1400 Brad Brown 4/26/95 left
217 422 2715 message

9:30 " 4/27/95 left
messages

3 separate areas opened as McKinna

1972 – ~~1980~~
1972 – 1979

Started 1979 the 1992 area

access road = 1/4 mile

homes have wells

NW water flow

2 6" wells

26 piezometers

1980 Jerry bought rights to lease from Nita Noland

1988 bought 80 acres that borders rock springs road.

1990 Bought rest of 320 acres + L.F.

1990 IEPA inspection
leakage to waterway to river.

1992 Cutoff wall around old landfill areas.
15' wide. Put moat around LF w/ liner (Clay)

Berm all away around 1992 landfill

SKS Engineers

1992 has clay liner.

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4/28/95 ☎ 217 422 2715 7

9.05 - returning phone call from yesterday.

Q: explain the types of wastes excepted.

farm owner land owner

who was Nita Noland and was farmland what was her association with the site.

9.45 he called back

old McKinny's 40 acres around filled a hot

N = 8 acres officially accepted

S = 6.5 acres as closed

not offic closed

May 6 1992 = 14 acress

negotiations of closure

special waste

Close as haz waste b/c sp. w was a few ppm over. Only once.

after the 6th the Judge forced closure using IEPA.

217 422 2715

13:10 Called & left message w/ Brad Brown again regarding Nita Noland

15 15 got called back -

Remember Berm

Noland owned 320 acres,

Jerry had leased 80 acres of her land which included the landfill areas,

He bought 80 other ~~[illegible]~~ acres SW of the landfill area in 1988 This acreage belonged to someone else.

We don't know what was dumped @ the first 2 areas. Most likely, it was municipal waste, although Brown did not think that waste was categorized back then

ecology and environment, inc.

International Specialists in the Environment

Job Number 2T3051

Waste Haulers/
Murrell Landfill,
~~Macon County~~
~~Landfill~~

Leave relative @ 7:00am

Weather Sunny, 76-80°F, Humid

Arrive @ Waste Hauling @ 7:50 Meet w/ Brad Brown @ 8 am

8:34 Leave to go to downstream sampl site @ WH

8:54 arrive @ S[redacted]2 location to take sample.

0855 Take background reads with HIU 0 ppm

0900 - Alix collect WHSW2 for VOA, SVOA, METALS, QUY

9.13 finish sampling @ WHS2
Linda begins to labe
for CLP

0930 - Prepare trip blanks
WHW1. See page 45

10 00 After Alex spent time
looking for the Oxbow
to the Sangamon, Linda
& Alix drove to the spot
Alix found.

10.15 After putting on Tyvek
& high boots, Alix
and Linda took water
samples. Alix was in
Oxbow, and Linda took
samples and began
labelling.

10 34 Alix took sediment
samples and Linda
began to label waters.

4

Soil/Sediment/Surface Water # S2

Time 9:00 am Composite/Grab

Surface/Depth ---------- ft ~4 in

Technique Shovel/trowel/spoons/bowl/post hole digger/hand auger/other describe.

Collected by Alex Rauschman

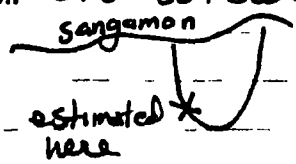
Location Downstream of Waste Hauling

Comments/Physical Description.

- No HNu readings
- Water & Sediment clean
- flow ~ 1 ft/6 sec.
- guppies along water
- Walleye present in places along here according to Brad.
- Heavily forested area.
- deer tracks - fresh.
- river about 50 feet across
- water clear
- Sediment type - sand.

[signature]

Soil/Sediment/Surface Water # SW7 + Dup
Time 10.15 Composite/Grab
Surface/Depth ---------- ft 4 in
Technique Shovel/trowel/spoons/bowl
post hole digger/hand auger/other describe
Collected by Alix Rauschman
Location @ Oxbow to W.H. Landfill
Comments/Physical Description on W. Side



Water was murky w/ a lot of brownish algae There were what appeared to be oil sheens thru water. Very slow to stagnant flow. river is only about 50 ft across and upstream of the oxbow @ the "U", the width of the river is only about 10 feet
- Deer tracks in the vicinity
- Water murky

Soil/Sediment/Surface Water # S1 + Dup

Time 10:34 Composite/Grab

Surface/Depth: 1 ft 0 ft

Technique: Shovel/trowel/spoons/bowl
post hole digger/hand auger/other describe.

Collected by Alix Rauschmeier

Location: Approx same location as S1 but ~ 1/2 upstream.

Comments/Physical Description

Soil had odor; could have been petroleum. Otherwise, the sediments were normally-looking sand make-up.

RJR

10.42 Felix finishes sed. sampling and aids in cleanup.

10 56 leave to do murrell samples. Meet w/ Brad Brown to help us.

11.00 went back to site location to take some quick photos

1116 Met w/ Brad @ his site and discussed that Murrell was dumping @ town lakes and Hill Road, and not @ Jaynt and Hill. Met put Murrell downstream of the oxbow instead of up-stream as we planned. The oxbow was stagnant, therefore any samples be take

GJR

downstream @ this point will not be disrupted. Samples will still be good

11:30 begin taking water samples in Sangamon supposedly just downstream of the Murrell landfill

11.40 begin taking soil samples in ~~sample~~ same location.

11.54 Cleanup to leave site.

12.00 Began to ice samples and prepare them for shipment

1244 Linda and Alex needed more distilled water and are currently buying water and

phoning other landfills saying that we are going to be late

101 (1300pm) Go over Murrell to take last sample.

1326 Alix declares property a physical hazard to sample. We cannot get to river. The garbage and overgrowth is to extensive. We will count SZ and SW1 sample we took in Sangamon while @ Brad Brown's

ALL SAMPLES TAKEN FROM SOUTH BANK

1333 Move to location to take more photos.

1340 Drive to see old Murrell residence @ Hill & Turnlakes Road.

STOP
1346 Linda is labelling samples as I write in log book

1350 W to go to MCL#2 we will start a new book now.

Murrell is box 159

AJR

9-25-95

The Waste Hauling, Inc. site was located along Rock Springs road to the west However, E & E TAT and Brad Brown Site owner, entered the site via Cantrell Road along the south border We drove in the entrance (a driveway blocked by a locked gate that Mr Brown had to unlock) and to the left (west). We folled in our van behind Mr Brown's truck literally along the perimeter of the corn fields that are adjacent and west of Landfill Area 3.

[illegible]

We drove to the west side of the cornfield and were along side the Sangamon River which was flowing south @ this point E&E TAT took the downstream sediment and surface water sample from this point. We then drove along the north side of the cornfields over some of the corn until we reached the oxbow. Brad Boron had gone off to run an errand at this point. We (E&E TAT) sampled the oxbow downstream from the confluence of the oxbow with the assumed location of the intermittent stream. ADR 9/26/95

Neither Linda nor I could see the intermittent stream. A row of trees blocked our view of the landfill, but we took our next sed & surface water samples due north of landfill area 3 which could be seen over the tree tops. The terrain was rough and it was difficult to drive the van through the corn. We wore tyvek to prevent being bitten by deer ticks.

9-25-95