US EPA RECORDS CENTER REGION 5
465755

June 1998 Upper and Lower Aquifer Monitoring Well Sample Data Comparison American Chemical Services, Inc. Griffith, Indiana

EPA Work Assignment 030-ROBF-05J7
BVSPC Project No. 46518

January 22, 1999

Prepared By

Black & Veatch Special Projects Corp.
101 North Wacker Drive, Suite 1100
Chicago, Illinois 60606

June 1998 Upper and Lower Aquifer Monitoring Well Sample Data Comparison American Chemical Services, Inc.

Introduction

Black & Veatch Special Projects Corp. (BVSPC), under the Alternative Remedial Contracting Strategy, has been tasked by the U.S. Environmental Protection Agency (EPA) to provide field oversight during the remedial design and expedited remedial action to EPA Region V in their endeavor to complete remediation of the American Chemical Services site. The Respondents are the American Chemical Services Technical Committee, and their contractor is Montgomery Watson (MW).

Purpose

The purpose of this document is to present BVSPC's evaluation and comparison of groundwater split sample analytical results with MW's data. BVSPC is tasked to provide this data evaluation report under it's Remedial Action Oversight work plan with the EPA.

Sampling Effort

During the weeks of June 1 and 8, 1998, BVSPC collected split samples from eight monitoring wells and four Town of Griffith Landfill monitoring wells during the field oversight. Sampling was performed in accordance with the EPA-approved Mini-Quality Assurance Project Plan (September 5, 1997).

Laboratory

The EPA split samples were analyzed by Contract Laboratory Program (CLP) analytical services in accordance with the procedures outlined in the User's Guide to the CLP, EPA, February 1995. American Analytical & Technical Services, Broken Arrow, Oklahoma, analyzed the organic samples. Sentinel, Incorporated, Huntsville, Alabama, analyzed the inorganic samples. MW's samples were analyzed by Quanterra Environmental Services Laboratory for organic and inorganic analyses.

Data Validation

EPA Region V Central Regional Laboratory validated the split sample data and BVSPC reviewed the validated data using the EPA CLP National Functional Guidelines

for Organic Data Review (EPA 540/R-94/012, February 1994) and EPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (EPA 540/R-94/013, February 1994). The MW analytical data used for comparison was provided in the Technical Memorandum, June 1998 Groundwater Sampling Results Report, submitted on December 21, 1998. The MW report states that their data was validated using the same functional guidelines referenced above.

The EPA split sample analytical results were acceptable; however, due to minor analytical quality control problems, some of the compounds/analytes were qualified.

- One volatile (VOA) low level water method blank reported a detectable amount of methylene chloride (1 ug/L) and no Tentatively Identified Compounds (TICs). Methylene chloride is a common laboratory contaminant. Therefore, the presence of this contaminant in samples associated with this blank is flagged as non-detected (U) when the sample results are less than ten times the blank concentration. Three other blanks were clean. Another blank is identified as a holding blank, which reported no detectable amounts of Target Compound List compounds or TICs.
- For the semivolatile (SVOA) fraction, one low level water blank reported a detectable amount of di-n-butylphthalate (0.8 ug/L), bis(2-ethylhexyl)phthalate (1 ug/L), and four TICs; Another blank reported a detectable amount of diethylphthalate (1 ug/L), bis(2-ethylhexyl)phthalate (2 ug/L), and six TICs. The above analytes are common laboratory contaminants. Therefore, the presence of these common contaminants in samples associated with these blanks is flagged as non-detected (U) when sample results are less than ten times the blank concentrations. The presence of the TICs in samples associated with the method blanks is flagged as non-detected (U) when the sample results are five times the blank concentrations.
- The matrix spike (MS) % recovery and the matrix spike duplicate (MSD) % recovery for trichloroethene and benzene were reported above the quality control (QC) limits. Therefore, positive results for these two analytes in the unspiked sample EWT99 are qualified as estimated (J) and non-detected results are not qualified. The relative percent difference (RPD) values for the VOA sample EWT99 met the required QC criteria. Therefore, the results are acceptable.

- For the SVOA fraction, the MS% recovery and the MSD% recovery of 4-nitrophenol exceeded the QC limit but was less than 100%; therefore, no qualification is required. The MS% recovery and the MSD% recovery of pentachlorophenol was reported above the QC limits. Therefore, positive results for pentachlorophenol in the unspiked sample EWT99 are qualified as estimated (J); non-detected results are not qualified.
- For the pesticide/PCB fraction, the RPD% recovery for all five analytes, gamma-BHC (lindane), heptachlor, aldrin, dieldrin, and endrin, were reported outside of the QC limits. Therefore, positive results for these analytes in the unspiked sample EARX6 are qualified as estimated (J); non-detected results are qualified as estimated (UJ). The MS% recovery and the MSD% recovery for all analytes were within the QC limits.
- The following inorganic samples are associated with a blank analyte with negative concentration whose absolute value is greater than the instrument detection limit (IDL). The sample concentration is greater than the IDL and less than five times the blank concentration. Hits are qualified estimated (J). Some non-detect reading may have caused the IDL to be elevated. These non-detects are flagged"UJ".

  Aluminum: META87, META98, META99, METB01, MEWZ38, MEXA83
  Potassium: MEWZ39
  Silver: METB01
  Sodium: MEWZ39
- The following inorganic samples are associated with a calibration, preparation, or field blank concentration which is greater than the IDL. The sample concentration is also greater than the IDL and less than five times the blank concentration. Hits are qualified estimated (J) and non-detects are not flagged.

  Barium: MEWZ39
  Iron: MEWZ39
  Magnesium: MEWZ39
  Manganese: MEWZ39
  Nickel: META87, META88, META98, META99, MEWZ38, MEXA35, MEXA78, MEXA83, METB01
  Thallium: MEXA83

Potassium: MEWZ39
Copper: META88, META98, META99, MEWZ39, MEXA83
Chromium: META87, META98, MEWZ38, MEXA35, MEXA83
Lead: META99, METB01
Zinc: META78, META88, META98, META99, METB01, MEWZ38, MEWZ39, MEXA35, MEXA78, MEXA83

- During review of the following inorganic samples, the reported IDL/default Contract Required Detection Limit value was used for cyanide.
  META87, META88, META98, META99, METB01, MEWZ38, MEWZ39, MEXA35, MEXA78, MEXA83
- The following inorganic samples are associated with duplicate results which did not meet absolute difference primary criteria. Hits and non-detects are qualified estimated (J).
  Zinc: META87, META88, META98, META99, METB01, MEWZ38, MEWZ39, MEXA35, MEXA78, MEXA83
- The following inorganic samples are associated with an ICP serial dilution percent difference which is not in control. The serial dilution result is greater than the sample result, indication a potential negative interference.
  Manganese: META87, META88, META98, META99, METB01, MEWZ38, MEWZ39, MEXA35, MEXA78, MEXA83

Appendix A contains a copy of the chain-of-custody records, the data validation narratives, and the raw data sheets from EPA for split samples. Qualifiers are fully explained in the narratives. The raw data sheets and data validation narratives for the MW data have not been appended to this report; however, the data are contained in the June 1998 Groundwater Sampling Results Report. Sample Management Officer (SMO) notified BVSPC that problems occurred during the shipment of two coolers containing samples collected on June 8, 1998. The cooler containing organic sample M-1S and M-4D was lost in transit to the lab. The cooler was eventually recovered by Federal Express and delivered to the lab three days later; however, the temperature of the samples was above 4°C. These samples were not analyzed.

Data Comparison

BVSPC compared the validated split sample data to MW's data. Summary comparison tables of the data were produced for each of the following analyses:

- Volatile Organic Compounds (Table 1).
- Semivolatile Organic Compounds (Table 2).
- Pesticides/PCBs (Table 3).
- Inorganic Analytes (Table 4).
- 30% Relative Percent Difference (Table 5).

Generally, both data sets were consistent.

Precision

Precision of the laboratory analyses was assessed by comparing the detected concentrations for each sample for organic and inorganic analysis. The relative percent difference (RPD) was calculated for each pair of results using the following equation:

$$RPD = \frac{Pc - Dc}{(Pc + Dc) / 2} \; x \; 100$$

where:

P_c = Primary Concentration (assumed EPA's data)
D_c = Duplicate Concentration (assumed MW's data)

Sample variation comparison RPD values for compounds/analytes that exceeded the 30% RPD criteria are highlighted in bold and italics in each table. All other compounds/analytes were consistent, comparable, and within the 30% RPD range between EPA and MW's data.

Conclusions

The overall sample analytical results between EPA and MW's data were comparable; however, differences in concentrations for some compounds/analytes were noted (see Table 5). These compounds/analytes should be viewed carefully in future sampling events.

The following issues were noted during the data evaluation:

- Trace levels of volatile organic compounds were detected in MW and the EPA equipment blank split sample. One compound, methylene chloride, is a common laboratory contaminant.

- Trace levels of the volatile organic compound methylene chloride, which is a common laboratory contaminant, were detected in all split sample trip blanks.
- MW submitted analytical data sheets for samples that had been diluted at the laboratory because one or more contaminants were present in the sample at a high level. The dilution could mask the presence of low levels of other compounds.
- BVSPC recognizes the list of concerns list on page 5 of MW Validation Narrative and Laboratory Reports and recommends greater attention be paid to MW's Quality Assurance project plan and the EPA's Statement of Work (SOW). The following are the concerns as stated in the MW report:

1. VOC samples shipped by Quanterra from Missouri to California developed air bubbles during shipment, indication the vials provided by the laboratory were of poor quality. Analytical results for all samples with air bubbles were qualified as estimated (UJ/J).
2. Several Sample bottles were shipped by the Missouri lab to the Sacramento lab in error, and had to be shipped back. Samples were shipped between laboratories without custody seals.
3. Sample log-in and internal custody procedures appear lax, as shown by the SVOA sample GWMW15-05, which was run and reported by method 8270 instead of the CLP SOW. Results for this sample were qualified as estimated (UJ/J). While validated as useable, this analysis did not meet the technical requirements of the SOW.
4. While validated as usable, all pesticide/PCB analyses were not technically in conformance with the SOW method and should have been repeated, due to the instrument problems with the confirmation column. No confirmation column results were reported. These results were qualified as usable but estimated because no peaks were observed in the quantitation run within the retention time windows at concentrations greater than 50% of the CRQL.
5. No QC summary packages were provided with the four SDG reports.
6. Electronic data deliverables (EDDs) for metals analyses reported the CRQLs instead of the required IDLs. The limits were corrected in the EDD by MW.

Table 1
June 1998 Upper and Lower Aquifer
Monitoring Well Sample Data Comparison
American Chemical Services, Inc.
Sample Location/Concentration (µg/l)

Compound/Analyte	MW19 (Upper Aquifer)		MW28 (Lower Aquifer)	
	EARX6	ACS-GWMW19-05	EARX7	ACS-GWMW28-05
	USEPA	PRP	USEPA	PRP
Chloromethane	10 U	10 UJ	10 U	10 UJ
Bromomethane	10 U	10 UJ	10 U	10 UJ
Vinyl chloride	10 U	10 UJ	10 U	10 UJ
Chloroethane	***10***	***16 J***	10 U	10 UJ
Methylene chloride	10 U	10 UJ	10 U	10 UJ
Acetone	10 U	10 UJ	10 U	10 UJ
Carbon disulfide	10 U	10 UJ	10 U	10 UJ
1,1-Dichloroethene	10 U	10 UJ	10 U	10 UJ
1,1-Dichloroethane	10 U	10 UJ	10 U	10 UJ
1,2-Dichloroethene (total)	10 U	10 UJ	10 U	10 UJ
Chloroform	10 U	10 UJ	10 U	10 UJ
1,2-Dichloroethane	10 U	10 UJ	10 U	10 UJ
2-Butanone	10 U	10 UJ	10 U	10 UJ
1,1,1-trichloroethane	10 U	10 UJ	10 U	10 UJ
Carbon tetrachloride	10 U	10 UJ	10 U	10 UJ
Bromodichloromethane	10 U	10 UJ	10 U	10 UJ
1,2-Dichloropropane	10 U	10 UJ	10 U	10 UJ
cis-1,3-dichloropropene	10 U	10 UJ	10 U	10 UJ
Trichloroethene	10 U	10 UJ	10 U	10 UJ
Dibromochloromethane	10 U	10 UJ	10 U	10 UJ
1,1,2-Trichloroethane	10 U	10 UJ	10 U	10 UJ
Benzene	6 J	8 J	10 U	10 UJ
trans-1,3-Dichloropropene	10 U	10 UJ	10 U	10 UJ
Bromoform	10 U	10 UJ	10 U	10 UJ
4-Methyl-2-pentanone	10 U	10 UJ	10 U	10 UJ
2-Hexanone	10 U	10 UJ	10 U	10 UJ
Tetrachloroethene	10 U	10 UJ	10 U	10 UJ
1,1,2,2-Tetrachloroethane	10 U	10 UJ	10 U	10 UJ
Toluene	10 U	10 UJ	10 U	10 UJ
Chlorobenzene	10 U	10 UJ	10 U	10 UJ
Ethylbenzene	10 U	10 UJ	10 U	10 UJ
Styrene	10 U	10 UJ	10 U	10 UJ
Xylene (total)	10 U	10 UJ	10 U	10 UJ
VOA TICs	1	3	1	1

Bold and italicized results have %RPD > 30%.

Table 1
June 1998 Upper and Lower Aquifer
Monitoring Well Sample Data Comparison
American Chemical Services, Inc.
Sample Location/Concentration (µg/l)

Compound/Analyte	MW48 (Upper Aquifer)		MW07 (Lower Aquifer)	
	EARX8	ACS-GWMW48-05	EARY0	ACS-GWMW07-05
	USEPA	PRP	USEPA	PRP
Chloromethane	400 U	500 U	10 U	10 UJ
Bromomethane	400 U	500 U	10 U	10 UJ
Vinyl chloride	400 U	500 U	10 U	10 UJ
Chloroethane	***240 J***	***720 JD***	10 U	10 UJ
Methylene chloride	400 U	500 U	3 J	10 UJ
Acetone	550	500 U	10 U	10 UJ
Carbon disulfide	400 U	500 U	10 U	10 UJ
1,1-Dichloroethene	400 U	61 JBD	10 U	10 UJ
1,1-Dichloroethane	400 U	500 U	10 U	10 UJ
1,2-Dichloroethene (total)	400 U	500 U	10 U	10 UJ
Chloroform	400 U	500 U	10 U	10 UJ
1,2-Dichloroethane	400 U	150 JD	10 U	10 UJ
2-Butanone	400 U	500 U	10 U	10 UJ
1,1,1-trichloroethane	400 U	500 U	10 U	10 UJ
Carbon tetrachloride	400 U	500 U	10 U	10 UJ
Bromodichloromethane	400 U	500 U	10 U	10 UJ
1,2-Dichloropropane	400 U	500 U	10 U	10 UJ
cis-1,3-dichloropropene	400 U	500 U	10 U	10 UJ
Trichloroethene	400 U	500 U	10 U	10 UJ
Dibromochloromethane	400 U	500 U	10 U	10 UJ
1,1,2-Trichloroethane	400 U	500 U	10 U	10 UJ
Benzene	***4,400***	***9,500 JD***	10 U	10 UJ
trans-1,3-Dichloropropene	400 U	500 U	10 U	10 UJ
Bromoform	400 U	500 U	10 U	10 UJ
4-Methyl-2-pentanone	400 U	500 U	10 U	10 UJ
2-Hexanone	400 U	500 U	10 U	10 UJ
Tetrachloroethene	400 U	500 U	10 U	10 UJ
1,1,2,2-Tetrachloroethane	400 U	500 U	10 U	10 UJ
Toluene	400 U	500 U	10 U	10 UJ
Chlorobenzene	400 U	500 U	10 U	10 UJ
Ethylbenzene	400 U	500 U	10 U	10 UJ
Styrene	400 U	500 U	10 U	10 UJ
Xylene (total)	400 U	500 U	10 U	10 UJ
VOA TICs	0	0	1	4

Bold and italicized results have %RPD > 30%.

Table 1
June 1998 Upper and Lower Aquifer
Monitoring Well Sample Data Comparison
American Chemical Services, Inc.
Sample Location/Concentration (µg/l)

Compound/Analyte	MW11 (Upper Aquifer)		MW51 (Lower Aquifer)	
	EARY3	ACS-GWMW11-05	EARY4	ACS-GWMW51-05
	USEPA	PRP	USEPA	PRP
Chloromethane	10 U	10 U	10 U	10 UJ
Bromomethane	10 U	10 U	10 U	10 UJ
Vinyl chloride	10 U	10 U	10 U	10 UJ
Chloroethane	10 U	10 U	10 U	10 UJ
Methylene chloride	3 J	10 U	2 J	10 UJ
Acetone	10 U	10 U	10 U	10 UJ
Carbon disulfide	10 U	10 U	10 U	10 UJ
1,1-Dichloroethene	10 U	10 U	10 U	1 UJB
1,1-Dichloroethane	10 U	10 U	10 U	10 UJ
1,2-Dichloroethene (total)	10 U	10 U	10 U	10 UJ
Chloroform	10 U	10 U	10 U	10 UJ
1,2-Dichloroethane	10 U	10 U	10 U	10 UJ
2-Butanone	10 U	10 U	10 U	10 UJ
1,1,1-trichloroethane	10 U	10 U	10 U	10 UJ
Carbon tetrachloride	10 U	10 U	10 U	10 UJ
Bromodichloromethane	10 U	10 U	10 U	10 UJ
1,2-Dichloropropane	10 U	10 U	10 U	10 UJ
cis-1,3-dichloropropene	10 U	10 U	10 U	10 UJ
Trichloroethene	10 U	10 U	10 U	10 UJ
Dibromochloromethane	10 U	10 U	10 U	10 UJ
1,1,2-Trichloroethane	10 U	10 U	10 U	10 UJ
Benzene	10 U	10 U	10 U	2 J
trans-1,3-Dichloropropene	10 U	10 U	10 U	10 UJ
Bromoform	10 U	10 U	10 U	10 UJ
4-Methyl-2-pentanone	10 U	10 U	10 U	2 J
2-Hexanone	10 U	10 U	10 U	10 UJ
Tetrachloroethene	10 U	10 U	10 U	10 UJ
1,1,2,2-Tetrachloroethane	10 U	10 U	10 U	10 UJ
Toluene	10 U	10 U	10 U	10 UJ
Chlorobenzene	10 U	10 U	10 U	10 UJ
Ethylbenzene	10 U	10 U	10 U	10 UJ
Styrene	10 U	10 U	10 U	10 UJ
Xylene (total)	10 U	10 U	10 U	10 UJ
VOA TICs	1	2	3	2

Bold and italicized results have %RPD > 30%.

Table 1

June 1998 Upper and Lower Aquifer

Monitoring Well Sample Data Comparison

American Chemical Services, Inc.

Sample Location/Concentration (µg/l)

Compound/Analyte	MW9R (Lower Aquifer)		MW06 (Upper Aquifer)	
	EWT99	ACS-GWMW9R-05	EWT78	ACS-GWMW06-05
	USEPA	PRP	USEPA	PRP
Chloromethane	100 U	200 U	20 U	50 U
Bromomethane	100 U	200 U	20 U	50 U
Vinyl chloride	100 U	200 U	20 U	50 U
Chloroethane	***970***	***1,400 JD***	***190***	***360***
Methylene chloride	17 J	200 U	***5 J***	***11 JB***
Acetone	100 U	200 U	20 U	50 U
Carbon disulfide	100 U	200 U	20 U	50 U
1,1-Dichloroethene	100 U	30 JDB	20 U	50 U
1,1-Dichloroethane	100 U	200 U	20 U	50 U
1,2-Dichloroethene (total)	100 U	200 U	5 J	50 U
Chloroform	100 U	200 U	20 U	50 U
1,2-Dichloroethane	100 U	200 U	20 U	50 U
2-Butanone	100 U	200 U	20 U	50 U
1,1,1-trichloroethane	100 U	200 U	20 U	50 U
Carbon tetrachloride	100 U	200 U	20 U	50 U
Bromodichloromethane	100 U	200 U	20 U	50 U
1,2-Dichloropropane	100 U	200 U	20 U	50 U
cis-1,3-dichloropropene	100 U	200 U	20 U	50 U
Trichloroethene	100 U	200 U	20 U	50 U
Dibromochloromethane	100 U	200 U	20 U	50 U
1,1,2-Trichloroethane	100 U	200 U	20 U	50 U
Benzene	100	100 JD	84	68
trans-1,3-Dichloropropene	100 U	200 U	20 U	50 U
Bromoform	100 U	200 U	20 U	50 U
4-Methyl-2-pentanone	100 U	200 U	20 U	50 U
2-Hexanone	100 U	200 U	20 U	50 U
Tetrachloroethene	100 U	200 U	20 U	50 U
1,1,2,2-Tetrachloroethane	100 U	200 U	20 U	50 U
Toluene	100 U	200 U	20 U	50 U
Chlorobenzene	100 U	200 U	20 U	50 U
Ethylbenzene	100 U	200 U	20 U	50 U
Styrene	100 U	200 U	20 U	50 U
Xylene (total)	100 U	200 U	20 U	50 U
VOA TICs	0	0	2	1

Bold and italicized results have %RPD > 30%.

Table 1
June 1998 Upper and Lower Aquifer
Monitoring Well Sample Data Comparison
American Chemical Services, Inc.

Compound/Analyte	Sample Location/Concentration (µg/l)				
	TB01	TB02	TB03	TB04	EB01
	EARY1	EWT79	EWW45	EACW4	EARY2
	USEPA	USEPA	USEPA	USEPA	USEPA
Volatile Organic Compounds					
Chloromethane	10 U	10 U	10 U	10 U	10 U
Bromomethane	10 U	10 U	10 U	10 U	10 U
Vinyl chloride	10 U	10 U	10 U	10 U	10 U
Chloroethane	10 U	10 U	10 U	10 U	10 U
Methylene chloride	10 U	4 J	4 J	3 J	4 J
Acetone	10 U	10 U	10 U	10 U	10 U
Carbon disulfide	10 U	10 U	10 U	10 U	10 U
1,1-Dichloroethene	10 U	10 U	10 U	10 U	10 U
1,1-Dichloroethane	10 U	10 U	10 U	10 U	10 U
1,2-Dichloroethene (total)	10 U	10 U	10 U	10 U	10 U
Chloroform	10 U	10 U	10 U	10 U	10 U
1,2-Dichloroethane	10 U	10 U	10 U	10 U	10 U
2-Butanone	10 U	10 U	10 U	10 U	10 U
1,1,1-trichloroethane	10 U	10 U	10 U	10 U	10 U
Carbon tetrachloride	10 U	10 U	10 U	10 U	10 U
Bromodichloromethane	10 U	10 U	10 U	10 U	10 U
1,2-Dichloropropane	10 U	10 U	10 U	10 U	10 U
cis-1,3-dichloropropene	10 U	10 U	10 U	10 U	10 U
Trichloroethene	10 U	10 U	10 U	10 U	10 U
Dibromochloromethane	10 U	10 U	10 U	10 U	10 U
1,1,2-Trichloroethane	10 U	10 U	10 U	10 U	10 U
Benzene	10 U	10 U	10 U	10 U	10 U
trans-1,3-Dichloropropene	10 U	10 U	10 U	10 U	10 U
Bromoform	10 U	10 U	10 U	10 U	10 U
4-Methyl-2-pentanone	10 U	10 U	10 U	10 U	10 U
2-Hexanone	10 U	10 U	10 U	10 U	10 U
Tetrachloroethene	10 U	10 U	10 U	10 U	10 U
1,1,2,2-Tetrachloroethane	10 U	10 U	10 U	10 U	10 U
Toluene	10 U	10 U	10 U	10 U	10 U
Chlorobenzene	10 U	10 U	10 U	10 U	10 U
Ethylbenzene	10 U	10 U	10 U	10 U	10 U
Styrene	10 U	10 U	10 U	10 U	10 U
Xylene (total)	10 U	10 U	10 U	10 U	10 U
VOA TICs	1	1	1	1	2

Bold and italicized results have %RPD > 30%.

Table 2a
June 1998 Upper and Lower Aquifer
Monitoring Well Sample Data Comparison
American Chemical Services, Inc.
Sample Location/Concentration (µg/l)

Compound/Analyte	MW19 (Upper Aquifer)		MW28 (Lower Aquifer)	
	EARX6	ACS-GWMW19-05	EARX7	ACS-GWMW28-05
	USEPA	PRP	USEPA	PRP
Semivolatile Organic Compounds				
Phenol	10 U	10 U	10 U	10 U
bis(2-Chloroethyl)ether	9 J	11	10 U	10 U
2-Chlorophenol	10 U	10 U	10 U	10 U
1,3-Dichlorobenzene	10 U	10 U	10 U	10 U
1,4-Dichlorobenzene	10 U	10 U	10 U	10 U
1,2-Dichlorobenzene	10 U	10 U	10 U	10 U
2-Methylphenol	10 U	10 U	10 U	10 U
2,2'-oxybis-(1-Chloropropane)	10 U	10 U	10 U	10 U
4-Methylphenol	10 U	10 U	10 U	10 U
N-Nitroso-di-n-propylamine	10 U	10 U	10 U	10 U
Hexachloroethane	10 U	10 U	10 U	10 U
Nitrobenzene	10 U	10 U	10 U	10 U
Isophorone	10 U	10 U	10 U	10 U
2-Nitrophenol	10 U	10 U	10 U	10 U
2,4-Dimethylphenol	10 U	10 U	10 U	10 U
bis(2-Chloroethoxy)methane	10 U	10 U	10 U	10 U
2,4-Dichlorophenol	10 U	10 U	10 U	10 U
1,2,4-Trichlorobenzene	10 U	10 U	10 U	10 U
Naphthalene	10 U	10 U	10 U	10 U
4-Chloroaniline	10 U	10 U	10 U	10 U
Hexachlorobutadiene	10 U	10 U	10 U	10 U
4-Chloro-3-methylphenol	10 U	10 U	10 U	10 U
2-Methylnaphthalene	10 U	10 U	10 U	10 U
Hexachlorocyclopentadiene	10 U	10 U	10 U	10 U
2,4,6-Trichlorophenol	10 U	10 U	10 U	10 U
2,4,5-Trichlorophenol	25 U	25 U	25 U	25 U
2-Chloronaphthalene	10 U	10 U	10 U	10 U
2-Nitroaniline	25 U	25 U	25 U	25 U
Dimethylphthalate	10 U	10 U	10 U	10 U
Acenaphthylene	10 U	10 U	10 U	10 U
2,6-Dinitrotoluene	10 U	10 U	10 U	10 U
3-Nitroaniline	25 U	25 U	25 U	25 U
Acenaphthene	10 U	10 U	10 U	10 U
2,4-Dinitrophenol	25 U	25 U	25 U	25 U
4-Nitrophenol	25 U	25 U	25 U	25 U
Dibenzofuran	10 U	10 U	10 U	10 U
2,4-Dinitrotoluene	10 U	10 U	10 U	10 U
Diethylphthalate	10 U	10 U	10 U	10 U
4-Chlorophenyl-phenylether	10 U	10 U	10 U	10 U

Bold and italicized results have %RPD > 30%.

Table 2a
June 1998 Upper and Lower Aquifer
Monitoring Well Sample Data Comparison
American Chemical Services, Inc.
Sample Location/Concentration (µg/l)

Compound/Analyte	MW48 (Upper Aquifer)		MW07 (Lower Aquifer)	
	EARX8	ACS-GWMW48-05	EARY0	ACS-GWMW07-05
	USEPA	PRP	USEPA	PRP
Semivolatile Organic Compounds				
Phenol	***64***	***36 B***	10 U	10 U
bis(2-Chloroethyl)ether	10 U	13	10 U	10 U
2-Chlorophenol	10 U	10 U	10 U	10 U
1,3-Dichlorobenzene	10 U	10 U	10 U	10 U
1,4-Dichlorobenzene	10 U	10 U	10 U	10 U
1,2-Dichlorobenzene	10 U	10 U	10 U	10 U
2-Methylphenol	10 U	10 U	10 U	10 U
2,2'-oxybis-(1-Chloropropane)	10 U	10 U	10 U	10 U
4-Methylphenol	10 U	10 U	10 U	10 U
N-Nitroso-di-n-propylamine	10 U	10 U	10 U	10 U
Hexachloroethane	10 U	10 U	10 U	10 U
Nitrobenzene	10 U	10 U	10 U	10 U
Isophorone	10 U	10 U	10 U	10 U
2-Nitrophenol	10 U	10 U	10 U	10 U
2,4-Dimethylphenol	2 J	10 U	10 U	10 U
bis(2-Chloroethoxy)methane	10 U	10 U	10 U	10 U
2,4-Dichlorophenol	10 U	10 U	10 U	10 U
1,2,4-Trichlorobenzene	10 U	10 U	10 U	10 U
Naphthalene	10 U	10 U	10 U	10 U
4-Chloroaniline	10 U	10 U	10 U	10 U
Hexachlorobutadiene	10 U	10 U	10 U	10 U
4-Chloro-3-methylphenol	10 U	10 U	10 U	10 U
2-Methylnaphthalene	10 U	10 U	10 U	10 U
Hexachlorocyclopentadiene	10 U	10 U	10 U	10 U
2,4,6-Trichlorophenol	10 U	10 U	10 U	10 U
2,4,5-Trichlorophenol	25 U	25 U	25 U	25 U
2-Chloronaphthalene	10 U	10 U	10 U	10 U
2-Nitroaniline	25 U	25 U	25 U	25 U
Dimethylphthalate	10 U	10 U	10 U	10 U
Acenaphthylene	10 U	10 U	10 U	10 U
2,6-Dinitrotoluene	10 U	10 U	10 U	10 U
3-Nitroaniline	25 U	25 U	25 U	25 U
Acenaphthene	10 U	10 U	10 U	10 U
2,4-Dinitrophenol	25 U	25 U	25 U	25 U
4-Nitrophenol	25 U	25 U	25 U	25 U
Dibenzofuran	10 U	10 U	10 U	10 U
2,4-Dinitrotoluene	10 U	10 U	10 U	10 U
Diethylphthalate	10 U	10 U	10 U	10 U
4-Chlorophenyl-phenylether	10 U	10 U	10 U	10 U

Bold and italicized results have %RPD > 30%.

Table 2a
June 1998 Upper and Lower Aquifer
Monitoring Well Sample Data Comparison
American Chemical Services, Inc.
Sample Location/Concentration (µg/l)

Compound/Analyte	MW11 (Upper Aquifer)		MW51 (Lower Aquifer)	
	EARY3	ACS-GWMW11-05	EARY4	ACS-GWMW51-05
	USEPA	PRP	USEPA	PRP
Semivolatile Organic Compounds				
Phenol	10 U	2 UJ	10 U	10 U
bis(2-Chloroethyl)ether	10 U	10 U	10 U	10 U
2-Chlorophenol	10 U	10 U	10 U	10 U
1,3-Dichlorobenzene	10 U	10 U	10 U	10 U
1,4-Dichlorobenzene	10 U	10 U	10 U	10 U
1,2-Dichlorobenzene	10 U	10 U	10 U	10 U
2-Methylphenol	10 U	10 U	10 U	10 U
2,2'-oxybis-(1-Chloropropane)	10 U	10 U	10 U	10 U
4-Methylphenol	10 U	10 U	10 U	10 U
N-Nitroso-di-n-propylamine	10 U	10 U	10 U	10 U
Hexachloroethane	10 U	10 U	10 U	10 U
Nitrobenzene	10 U	10 U	10 U	10 U
Isophorone	10 U	10 U	10 U	10 U
2-Nitrophenol	10 U	10 U	10 U	10 U
2,4-Dimethylphenol	10 U	10 U	10 U	10 U
bis(2-Chloroethoxy)methane	10 U	10 U	10 U	10 U
2,4-Dichlorophenol	10 U	10 U	10 U	10 U
1,2,4-Trichlorobenzene	10 U	10 U	10 U	10 U
Naphthalene	10 U	10 U	10 U	10 U
4-Chloroaniline	10 U	10 U	10 U	10 U
Hexachlorobutadiene	10 U	10 U	10 U	10 U
4-Chloro-3-methylphenol	10 U	10 U	10 U	10 U
2-Methylnaphthalene	10 U	10 U	10 U	10 U
Hexachlorocyclopentadiene	10 U	10 U	10 U	10 U
2,4,6-Trichlorophenol	10 U	10 U	10 U	10 U
2,4,5-Trichlorophenol	25 U	25 U	25 U	25 U
2-Chloronaphthalene	10 U	10 U	10 U	10 U
2-Nitroaniline	25 U	25 U	25 U	25 U
Dimethylphthalate	10 U	10 U	10 U	10 U
Acenaphthylene	10 U	10 U	10 U	10 U
2,6-Dinitrotoluene	10 U	10 U	10 U	10 U
3-Nitroaniline	25 U	25 U	25 U	25 U
Acenaphthene	10 U	10 U	10 U	10 U
2,4-Dinitrophenol	25 U	25 UJ	25 U	25 U
4-Nitrophenol	25 U	25 UJ	25 U	25 U
Dibenzofuran	10 U	10 U	10 U	10 U
2,4-Dinitrotoluene	10 U	10 U	10 U	10 U
Diethylphthalate	10 U	10 U	10 U	8 J
4-Chlorophenyl-phenylether	10 U	10 U	10 U	10 U

Bold and italicized results have %RPD > 30%.

Table 2a
June 1998 Upper and Lower Aquifer
Monitoring Well Sample Data Comparison
American Chemical Services, Inc.

Compound/Analyte	Sample Location/Concentration (µg/l)			
	MW9R (Lower Aquifer)		MW06 (Upper Aquifer)	
	EWT99	ACS-GWMW9R-05	EWT78	ACS-GWMW06-05
	USEPA	PRP	USEPA	PRP
Semivolatile Organic Compounds				
Phenol	10 U	10 U	10 U	10 U
bis(2-Chloroethyl)ether	14	15	***22***	***10 U***
2-Chlorophenol	10 U	10 U	10 U	10 U
1,3-Dichlorobenzene	10 U	10 U	10 U	10 U
1,4-Dichlorobenzene	10 U	10 U	10 U	10 U
1,2-Dichlorobenzene	10 U	10 U	10 U	10 U
2-Methylphenol	10 U	10 U	10 U	10 U
2,2'-oxybis-(1-Chloropropane)	10 U	10 U	10 U	10 U
4-Methylphenol	10 U	10 U	10 U	10 U
N-Nitroso-di-n-propylamine	10 U	10 U	10 U	10 U
Hexachloroethane	10 U	10 U	10 U	10 U
Nitrobenzene	10 U	10 U	10 U	10 U
Isophorone	10 U	10 U	10 U	10 U
2-Nitrophenol	10 U	10 U	10 U	10 U
2,4-Dimethylphenol	10 U	10 U	10 U	10 U
bis(2-Chloroethoxy)methane	10 U	10 U	10 U	10 U
2,4-Dichlorophenol	10 U	10 U	10 U	10 U
1,2,4-Trichlorobenzene	10 U	10 U	10 U	10 U
Naphthalene	10 U	10 U	10 U	10 U
4-Chloroaniline	10 U	10 U	10 U	10 U
Hexachlorobutadiene	10 U	10 U	10 U	10 U
4-Chloro-3-methylphenol	10 U	10 U	10 U	10 U
2-Methylnaphthalene	10 U	10 U	10 U	10 U
Hexachlorocyclopentadiene	10 U	10 U	10 U	10 U
2,4,6-Trichlorophenol	10 U	10 U	10 U	10 U
2,4,5-Trichlorophenol	25 U	25 U	25 U	25 U
2-Chloronaphthalene	10 U	10 U	10 U	10 U
2-Nitroaniline	25 U	25 U	25 U	25 U
Dimethylphthalate	10 U	10 U	10 U	10 U
Acenaphthylene	10 U	10 U	10 U	10 U
2,6-Dinitrotoluene	10 U	10 U	10 U	10 U
3-Nitroaniline	25 U	25 U	25 U	25 U
Acenaphthene	10 U	10 U	10 U	10 U
2,4-Dinitrophenol	25 U	25 U	25 U	25 U
4-Nitrophenol	25 U	25 U	25 U	25 U
Dibenzofuran	10 U	10 U	10 U	10 U
2,4-Dinitrotoluene	10 U	10 U	10 U	10 U
Diethylphthalate	10 U	10 U	0.5 J	10 U
4-Chlorophenyl-phenylether	10 U	10 U	10 U	10 U

Bold and italicized results have %RPD > 30%.

Table 2a
June 1998 Upper and Lower Aquifer
Monitoring Well Sample Data Comparison
American Chemical Services, Inc.
Sample Location/Concentration (µg/l)

Compound/Analyte	M3S (Upper Aquifer)		M4S (Upper Aquifer)	
	EARY7	ACS-GWM3S-05	EARY5	ACS-GWM4S-05
	USEPA	PRP	USEPA	PRP
Semivolatile Organic Compounds				
Phenol	10 U	10 U	10 U	20 U
bis(2-Chloroethyl)ether	10 U	10 U	***61***	***85 D***
2-Chlorophenol	10 U	10 U	10 U	20 U
1,3-Dichlorobenzene	10 U	10 U	10 U	20 U
1,4-Dichlorobenzene	10 U	10 U	10 U	20 U
1,2-Dichlorobenzene	10 U	10 U	10 U	20 U
2-Methylphenol	10 U	10 U	10 U	20 U
2,2'-oxybis-(1-Chloropropane)	10 U	3 J	10 U	20 U
4-Methylphenol	10 U	10 U	10 U	20 U
N-Nitroso-di-n-propylamine	10 U	10 U	10 U	20 U
Hexachloroethane	10 U	10 U	10 U	20 U
Nitrobenzene	10 U	10 U	10 U	20 U
Isophorone	10 U	10 U	10 U	20 U
2-Nitrophenol	10 U	10 U	10 U	20 U
2,4-Dimethylphenol	10 U	10 U	10 U	20 U
bis(2-Chloroethoxy)methane	10 U	10 U	10 U	20 U
2,4-Dichlorophenol	10 U	10 U	10 U	20 U
1,2,4-Trichlorobenzene	10 U	10 U	10 U	20 U
Naphthalene	10 U	10 U	10 U	20 U
4-Chloroaniline	10 U	10 U	10 U	20 U
Hexachlorobutadiene	10 U	10 U	10 U	20 U
4-Chloro-3-methylphenol	10 U	10 U	10 U	20 U
2-Methylnaphthalene	10 U	10 U	10 U	20 U
Hexachlorocyclopentadiene	10 U	10 U	10 U	20 U
2,4,6-Trichlorophenol	10 U	10 U	10 U	20 U
2,4,5-Trichlorophenol	25 U	25 U	25 U	50 U
2-Chloronaphthalene	10 U	10 U	10 U	20 U
2-Nitroaniline	25 U	25 U	25 U	50 U
Dimethylphthalate	10 U	10 U	10 U	20 U
Acenaphthylene	10 U	10 U	10 U	20 U
2,6-Dinitrotoluene	10 U	10 U	10 U	20 U
3-Nitroaniline	25 U	25 U	25 U	50 U
Acenaphthene	10 U	10 U	10 U	20 U
2,4-Dinitrophenol	25 U	25 U	25 U	50 U
4-Nitrophenol	25 U	25 U	25 U	50 U
Dibenzofuran	10 U	10 U	10 U	20 U
2,4-Dinitrotoluene	10 U	10 U	10 U	20 U
Diethylphthalate	10 U	10 U	10 U	20 U
4-Chlorophenyl-phenylether	10 U	10 U	10 U	20 U

Bold and italicized results have %RPD > 30%.

	Table 2a June 1998 Upper and Lower Aquifer Monitoring Well Sample Data Comparison American Chemical Services, Inc.		
Compound/Analyte	Sample Location/Concentration (µg/l)		
	M4D (Lower Aquifer)		EB01 (Equip Blank)
	EARY6 USEPA	ACS-GWM4D-05 PRP	EARY2 USEPA
Semivolatile Organic Compounds			
Phenol	10 U	10 U	10 U
bis(2-Chloroethyl)ether	10 U	10 U	10 U
2-Chlorophenol	10 U	10 U	10 U
1,3-Dichlorobenzene	10 U	10 U	10 U
1,4-Dichlorobenzene	10 U	10 U	10 U
1,2-Dichlorobenzene	10 U	10 U	10 U
2-Methylphenol	10 U	10 U	10 U
2,2'-oxybis-(1-Chloropropane)	10 U	10 U	10 U
4-Methylphenol	10 U	10 U	10 U
N-Nitroso-di-n-propylamine	10 U	10 U	10 U
Hexachloroethane	10 U	10 U	10 U
Nitrobenzene	10 U	10 U	10 U
Isophorone	10 U	10 U	10 U
2-Nitrophenol	10 U	10 U	10 U
2,4-Dimethylphenol	10 U	10 U	10 U
bis(2-Chloroethoxy)methane	10 U	10 U	10 U
2,4-Dichlorophenol	10 U	10 U	10 U
1,2,4-Trichlorobenzene	10 U	10 U	10 U
Naphthalene	10 U	10 U	10 U
4-Chloroaniline	10 U	10 U	10 U
Hexachlorobutadiene	10 U	10 U	10 U
4-Chloro-3-methylphenol	10 U	10 U	10 U
2-Methylnaphthalene	10 U	10 U	10 U
Hexachlorocyclopentadiene	10 U	10 U	10 U
2,4,6-Trichlorophenol	10 U	10 U	10 U
2,4,5-Trichlorophenol	25 U	25 U	25 U
2-Chloronaphthalene	10 U	10 U	10 U
2-Nitroaniline	25 U	25 U	25 U
Dimethylphthalate	10 U	10 U	10 U
Acenaphthylene	10 U	10 U	10 U
2,6-Dinitrotoluene	10 U	10 U	10 U
3-Nitroaniline	25 U	25 U	25 U
Acenaphthene	10 U	10 U	10 U
2,4-Dinitrophenol	25 U	25 U	25 U
4-Nitrophenol	25 U	25 U	25 U
Dibenzofuran	10 U	10 U	10 U
2,4-Dinitrotoluene	10 U	10 U	10 U
Diethylphthalate	10 UJB	10 U	10 U
4-Chlorophenyl-phenylether	10 U	10 U	10 U

Bold and italicized results have %RPD > 30%.

Table 2b
June 1998 Upper and Lower Aquifer
Monitoring Well Sample Data Comparison
American Chemical Services, Inc.
Sample Location/Concentration (µg/l)

Compound/Analyte	MW19 (Upper Aquifer)		MW28 (Lower Aquifer)	
	EARX6	ACS-GWMW19-05	EARX7	ACS-GWMW28-05
	USEPA	PRP	USEPA	PRP
Semivolatile Organic Compounds				
Fluorene	10 U	10 U	10 U	10 U
4-Nitroaniline	25 U	25 U	25 U	25 U
4,6-Dinitro-2-methylphenol	25 U	25 U	25 U	25 U
N-Nitrosodiphenylamine	10 U	10 U	10 U	10 U
4-Bromophenyl-phenylether	10 U	10 U	10 U	10 U
Hexachlorobenzene	10 U	10 U	10 U	10 U
Pentachlorophenol	25 U	25 U	25 U	25 U
Phenanthrene	10 U	10 U	10 U	10 U
Anthracene	10 U	10 U	10 U	10 U
Carbazole	10 U	10 U	10 U	10 U
Di-n-butylphthalate	10 UJB	10 U	10 U	10 U
Fluoranthene	10 U	10 U	10 U	10 U
Pyrene	10 U	10 U	10 U	10 U
Butylbenzylphthalate	10 U	10 U	10 U	10 U
3,3'-Dichlorobenzidine	10 U	10 U	10 U	10 U
Benzo(a)anthracene	10 U	10 U	10 U	10 U
Chrysene	10 U	10 U	10 UJB	10 U
bis(2-Ethylhexyl)phthalate	10 UJB	10 U	10 U	10 U
Di-n-octylphthalate	10 U	10 U	10 U	10 U
Benzo(b)fluoranthene	10 U	10 U	10 U	10 U
Benzo(k)fluoranthene	10 U	10 U	10 U	10 U
Benzo(a)pyrene	10 U	10 U	10 U	10 U
Indeno(1,2,3-cd)pyrene	10 U	10 U	10 U	10 U
Dibenzo(a,h)anthracene	10 U	10 U	10 U	10 U
Benzo(g,h,i)perylene	10 U	10 U	10 U	10 U
SVOA TICs	34	22	4	2

Bold and italicized results have %RPD > 30%.

Table 2b
June 1998 Upper and Lower Aquifer
Monitoring Well Sample Data Comparison
American Chemical Services, Inc.
Sample Location/Concentration (µg/l)

Compound/Analyte	MW48 (Upper Aquifer)		MW07 (Lower Aquifer)	
	EARX8	ACS-GWMW48-05	EARY0	ACS-GWMW07-05
	USEPA	PRP	USEPA	PRP
Semivolatile Organic Compounds				
Fluorene	10 U	10 U	10 U	10 U
4-Nitroaniline	25 U	25 U	25 U	25 U
4,6-Dinitro-2-methylphenol	25 U	25 U	25 U	25 U
N-Nitrosodiphenylamine	10 U	10 U	10 U	10 U
4-Bromophenyl-phenylether	10 U	10 U	10 U	10 U
Hexachlorobenzene	10 U	10 U	10 U	10 U
Pentachlorophenol	25 U	25 U	25 U	25 U
Phenanthrene	10 U	10 U	10 U	10 U
Anthracene	10 U	10 U	10 U	10 U
Carbazole	10 U	10 U	10 U	10 U
Di-n-butylphthalate	10 U	10 U	10 U	10 U
Fluoranthene	10 U	10 U	10 U	10 U
Pyrene	10 U	10 U	10 U	10 U
Butylbenzylphthalate	10 U	10 U	10 U	10 U
3,3'-Dichlorobenzidine	10 U	10 U	10 U	10 U
Benzo(a)anthracene	10 U	10 U	10 U	10 U
Chrysene	10 U	10 U	10 U	10 U
bis(2-Ethylhexyl)phthalate	14 UB	10 U	10 U	10 U
Di-n-octylphthalate	10 U	10 U	10 U	10 U
Benzo(b)fluoranthene	10 U	10 U	10 U	10 U
Benzo(k)fluoranthene	10 U	10 U	10 U	10 U
Benzo(a)pyrene	10 U	10 U	10 U	10 U
Indeno(1,2,3-cd)pyrene	10 U	10 U	10 U	10 U
Dibenzo(a,h)anthracene	10 U	10 U	10 U	10 U
Benzo(g,h,i)perylene	10 U	10 U	10 U	10 U
SVOA TICs	35	22	5	2

Bold and italicized results have %RPD > 30%.

Table 2b
June 1998 Upper and Lower Aquifer
Monitoring Well Sample Data Comparison
American Chemical Services, Inc.
Sample Location/Concentration (µg/l)

Compound/Analyte	MW11 (Upper Aquifer)		MW51 (Lower Aquifer)	
	EARY3	ACS-GWMW11-05	EARY4	ACS-GWMW51-05
	USEPA	PRP	USEPA	PRP
Semivolatile Organic Compounds				
Fluorene	10 U	10 U	10 U	10 U
4-Nitroaniline	25 U	25 U	25 U	25 U
4,6-Dinitro-2-methylphenol	25 U	25 UJ	25 U	25 U
N-Nitrosodiphenylamine	10 U	10 U	10 U	10 U
4-Bromophenyl-phenylether	10 U	10 U	10 U	10 U
Hexachlorobenzene	10 U	10 U	10 U	10 U
Pentachlorophenol	25 U	25 U	25 U	25 U
Phenanthrene	10 U	10 U	10 U	10 U
Anthracene	10 U	10 U	10 U	10 U
Carbazole	10 U	10 U	10 U	10 U
Di-n-butylphthalate	10 U	10 U	10 U	10 U
Fluoranthene	10 U	10 U	10 U	10 U
Pyrene	10 U	10 UJ	10 U	10 U
Butylbenzylphthalate	10 U	10 U	10 U	10 U
3,3'-Dichlorobenzidine	10 U	10 U	10 U	10 U
Benzo(a)anthracene	10 U	10 U	10 U	10 U
Chrysene	10 U	10 UJ	10 U	10 U
bis(2-Ethylhexyl)phthalate	10 UJB	1 J	10 UJB	1 UJ
Di-n-octylphthalate	10 U	10 U	10 U	10 U
Benzo(b)fluoranthene	10 U	10 U	10 U	10 U
Benzo(k)fluoranthene	10 U	10 U	10 U	10 U
Benzo(a)pyrene	10 U	10 U	10 U	10 U
Indeno(1,2,3-cd)pyrene	10 U	10 U	10 U	10 U
Dibenzo(a,h)anthracene	10 U	10 U	10 U	10 U
Benzo(g,h,i)perylene	10 U	10 U	10 U	10 U
SVOA TICs	3	0	34	22

Bold and italicized results have %RPD > 30%.

Table 2b
June 1998 Upper and Lower Aquifer
Monitoring Well Sample Data Comparison
American Chemical Services, Inc.
Sample Location/Concentration (µg/l)

Compound/Analyte	MW9R (Lower Aquifer)		MW06 (Upper Aquifer)	
	EWT99	ACS-GWMW9R-05	EWT78	ACS-GWMW06-05
	USEPA	PRP	USEPA	PRP
Semivolatile Organic Compounds				
Fluorene	10 U	10 U	10 U	10 U
4-Nitroaniline	25 U	25 U	25 U	25 U
4,6-Dinitro-2-methylphenol	25 U	25 U	25 U	25 U
N-Nitrosodiphenylamine	10 U	10 U	10 U	10 U
4-Bromophenyl-phenylether	10 U	10 U	10 U	10 U
Hexachlorobenzene	10 U	10 U	10 U	10 U
Pentachlorophenol	25 U	25 U	25 U	25 U
Phenanthrene	10 U	10 U	10 U	10 U
Anthracene	10 U	10 U	10 U	10 U
Carbazole	10 U	10 U	10 U	10 U
Di-n-butylphthalate	0.8 J	10 U	10 U	10 U
Fluoranthene	10 U	10 U	10 U	10 U
Pyrene	10 U	10 U	10 U	10 U
Butylbenzylphthalate	10 U	10 U	10 U	10 U
3,3'-Dichlorobenzidine	10 U	10 U	10 U	10 U
Benzo(a)anthracene	10 U	10 U	10 U	10 U
Chrysene	10 U	10 U	10 U	10 U
bis(2-Ethylhexyl)phthalate	10 UJB	10 U	***10 UJB***	***36***
Di-n-octylphthalate	10 U	10 U	10 U	10 U
Benzo(b)fluoranthene	10 U	10 U	10 U	10 U
Benzo(k)fluoranthene	10 U	10 U	10 U	10 U
Benzo(a)pyrene	10 U	10 U	10 U	10 U
Indeno(1,2,3-cd)pyrene	10 U	10 U	10 U	10 U
Dibenzo(a,h)anthracene	10 U	10 U	10 U	10 U
Benzo(g,h,i)perylene	10 U	10 U	10 U	10 U
SVOA TICs	34	22	30	22

Bold and italicized results have %RPD > 30%.

Table 2b
June 1998 Upper and Lower Aquifer
Monitoring Well Sample Data Comparison
American Chemical Services, Inc.
Sample Location/Concentration (µg/l)

Compound/Analyte	M3S (Upper Aquifer)		M4S (Upper Aquifer)	
	EARY7	ACS-GWM3S-05	EARY5	ACS-GWM4S-05
	USEPA	PRP	USEPA	PRP
Semivolatile Organic Compounds				
Fluorene	10 U	10 U	10 U	20 U
4-Nitroaniline	25 U	25 U	25 U	50 U
4,6-Dinitro-2-methylphenol	25 U	25 U	25 U	50 U
N-Nitrosodiphenylamine	10 U	10 U	10 U	20 U
4-Bromophenyl-phenylether	10 U	10 U	10 U	20 U
Hexachlorobenzene	10 U	10 U	10 U	20 U
Pentachlorophenol	25 U	25 U	25 U	50 U
Phenanthrene	10 U	10 U	10 U	20 U
Anthracene	10 U	10 U	10 U	20 U
Carbazole	10 U	10 U	10 U	20 U
Di-n-butylphthalate	10 U	10 U	10 U	20 U
Fluoranthene	10 U	10 U	10 U	20 U
Pyrene	10 U	10 U	10 U	20 U
Butylbenzylphthalate	10 U	10 U	10 U	20 U
3,3'-Dichlorobenzidine	10 U	10 U	10 U	20 U
Benzo(a)anthracene	10 U	10 U	10 U	20 U
Chrysene	10 U	10 U	10 U	20 U
bis(2-Ethylhexyl)phthalate	10 UJB	1 UJB	10 UJB	20 U
Di-n-octylphthalate	10 U	10 U	10 U	20 U
Benzo(b)fluoranthene	10 U	10 U	10 U	20 U
Benzo(k)fluoranthene	10 U	10 U	10 U	20 U
Benzo(a)pyrene	10 U	10 U	10 U	20 U
Indeno(1,2,3-cd)pyrene	10 U	10 U	10 U	20 U
Dibenzo(a,h)anthracene	10 U	10 U	10 U	20 U
Benzo(g,h,i)perylene	10 U	10 U	10 U	20 U
SVOA TICs	7	11	35	22

Bold and italicized results have %RPD > 30%.

	Table 2b June 1998 Upper and Lower Aquifer Monitoring Well Sample Data Comparison American Chemical Services, Inc.		
Compound/Analyte	Sample Location/Concentration (µg/l)		
	M4D (Lower Aquifer)		EB01 (Equip Blank)
	EARY6 USEPA	ACS-GWM4D-05 PRP	EB01 USEPA
Semivolatile Organic Compounds			
Fluorene	10 U	10 U	10 U
4-Nitroaniline	25 U	25 U	25 U
4,6-Dinitro-2-methylphenol	25 U	25 U	25 U
N-Nitrosodiphenylamine	10 U	10 U	10 U
4-Bromophenyl-phenylether	10 U	10 U	10 U
Hexachlorobenzene	10 U	10 U	10 U
Pentachlorophenol	25 U	25 U	25 U
Phenanthrene	10 U	10 U	10 U
Anthracene	10 U	10 U	10 U
Carbazole	10 U	10 U	10 U
Di-n-butylphthalate	10 U	10 U	10 U
Fluoranthene	10 U	10 U	10 U
Pyrene	10 U	10 U	10 U
Butylbenzylphthalate	10 U	10 U	10 U
3,3'-Dichlorobenzidine	10 U	10 U	10 U
Benzo(a)anthracene	10 U	10 U	10 U
Chrysene	10 U	10 U	10 U
bis(2-Ethylhexyl)phthalate	10 UJB	10 U	10 U
Di-n-octylphthalate	10 U	10 U	10 U
Benzo(b)fluoranthene	10 U	10 U	10 U
Benzo(k)fluoranthene	10 U	10 U	10 U
Benzo(a)pyrene	10 U	10 U	10 U
Indeno(1,2,3-cd)pyrene	10 U	10 U	10 U
Dibenzo(a,h)anthracene	10 U	10 U	10 U
Benzo(g,h,i)perylene	10 U	10 U	10 U
SVOA TICs	8	5	3

Bold and italicized results have %RPD > 30%.

Table 3
June 1998 Upper and Lower Aquifer
Monitoring Well Sample Data Comparison
American Chemical Services, Inc.
Sample Location/Concentration (µg/l)

Compound/Analyte	MW19 (Upper Aquifer)		MW28 (Lower Aquifer)	
	EARX6	ACS-GWMW19-05	EARX7	ACS-GWMW28-05
	USEPA	PRP	USEPA	PRP
Pesticides/PCBs				
Alpha-BHC	0.050 U	0.052 UJ	0.050 U	0.047 UJ
Beta-BHC	0.064 P	0.052 UJ	0.050 U	0.047 UJ
Delta-BHC	0.050 U	0.052 UJ	0.050 U	0.047 UJ
Lindane	0.050 U	0.052 UJ	0.050 U	0.047 UJ
Heptachlor	***0.082 P***	***0.052 UJ***	0.018 JP	0.047 UJ
Aldrin	0.050 U	0.052 UJ	0.050 U	0.047 UJ
Heptachlor Epoxide	0.050 U	0.052 UJ	0.050 U	0.047 UJ
Endosulfan I	0.050 U	0.052 UJ	0.050 U	0.047 UJ
Dieldrin	0.10 U	0.10 UJ	0.10 U	0.095 UJ
p,p'-DDE	0.10 U	0.10 UJ	0.10 U	0.095 UJ
Endrin	0.10 U	0.10 UJ	0.10 U	0.095 UJ
Endosulfan II	0.10 U	0.10 UJ	0.10 U	0.095 UJ
p,p'-DDD	0.10 U	0.10 UJ	0.10 U	0.095 UJ
Endosulfan Sulfate	0.10 U	0.10 UJ	0.10 U	0.095 UJ
p,p'-DDT	0.10 U	0.10 UJ	0.10 U	0.095 UJ
Methoxychlor	0.50 U	0.52 UJ	0.50 U	0.47 UJ
Endrin Ketone	0.10 U	0.10 UJ	0.10 U	0.095 UJ
Endrin Aldehyde	0.10 U	0.10 UJ	0.10 U	0.095 UJ
Alpha-chlordane	0.050 U	0.052 UJ	0.050 U	0.047 UJ
Gamma-chlordane	0.050 U	0.052 UJ	0.050 U	0.047 UJ
Toxaphene	5.0 U	5.2 UJ	5.0 U	4.7 UJ
Aroclor 1016	1.0 U	1.0 UJ	1.0 U	0.95 UJ
Aroclor 1221	2.0 U	2.1 UJ	2.0 U	1.9 UJ
Aroclor 1232	1.0 U	1.0 UJ	1.0 U	0.95 UJ
Aroclor 1242	1.0 U	1.0 UJ	1.0 U	0.95 UJ
Aroclor 1248	1.0 U	1.0 UJ	1.0 U	0.95 UJ
Aroclor 1254	1.0 U	1.0 UJ	1.0 U	0.95 UJ
Aroclor 1260	1.0 U	1.0 UJ	1.0 U	0.95 UJ

Bold and italicized results have %RPD > 30%.

Table 3
June 1998 Upper and Lower Aquifer
Monitoring Well Sample Data Comparison
American Chemical Services, Inc.
Sample Location/Concentration (µg/l)

Compound/Analyte	MW48 (Upper Aquifer)		MW07 (Lower Aquifer)	
	EARX8	ACS-GWMW48-05	EARY0	ACS-GWMW07-05
	USEPA	PRP	USEPA	PRP
Pesticides/PCBs				
Alpha-BHC	0.050 U	0.047 UJ	0.050 U	0.051 UJ
Beta-BHC	0.050 U	0.047 UJ	0.050 U	0.051 UJ
Delta-BHC	0.050 U	0.047 UJ	0.050 U	0.051 UJ
Lindane	0.050 U	0.047 UJ	0.050 U	0.051 UJ
Heptachlor	0.050 U	0.047 UJ	0.015 JP	0.051 UJ
Aldrin	0.050 U	0.047 UJ	0.050 U	0.051 UJ
Heptachlor Epoxide	0.050 U	0.047 UJ	0.050 U	0.051 UJ
Endosulfan I	0.050 U	0.047 UJ	0.050 U	0.051 UJ
Dieldrin	0.10 U	0.095 UJ	0.10 U	0.10 UJ
p,p'-DDE	0.10 U	0.095 UJ	0.10 U	0.10 UJ
Endrin	0.039 PJ	0.095 UJ	0.10 U	0.10 UJ
Endosulfan II	0.10 U	0.095 UJ	0.10 U	0.10 UJ
p,p'-DDD	0.10 U	0.095 UJ	0.10 U	0.10 UJ
Endosulfan Sulfate	0.10 U	0.095 UJ	0.10 U	0.10 UJ
p,p'-DDT	0.10 U	0.095 UJ	0.10 U	0.10 UJ
Methoxychlor	0.50 U	0.47 UJ	0.50 U	0.51 UJ
Endrin Ketone	0.10 U	0.095 UJ	0.10 U	0.10 UJ
Endrin Aldehyde	0.10 U	0.095 UJ	0.10 U	0.10 UJ
Alpha-chlordane	0.050 U	0.047 UJ	0.050 U	0.051 UJ
Gamma-chlordane	0.050 U	0.047 UJ	0.050 U	0.051 UJ
Toxaphene	5.0 U	4.7 UJ	5.0 U	5.1 UJ
Aroclor 1016	1.0 U	0.95 UJ	1.0 U	1.0 UJ
Aroclor 1221	2.0 U	1.9 UJ	2.0 U	2.0 UJ
Aroclor 1232	1.0 U	0.95 UJ	1.0 U	1.0 UJ
Aroclor 1242	1.0 U	0.95 UJ	1.0 U	1.0 UJ
Aroclor 1248	1.0 U	0.95 UJ	1.0 U	1.0 UJ
Aroclor 1254	1.0 U	0.95 UJ	1.0 U	1.0 UJ
Aroclor 1260	1.0 U	0.95 UJ	1.0 U	1.0 UJ

Bold and italicized results have %RPD > 30%.

Table 3
June 1998 Upper and Lower Aquifer
Monitoring Well Sample Data Comparison
American Chemical Services, Inc.
Sample Location/Concentration (µg/l)

Compound/Analyte	MW11 (Upper Aquifer)		MW51 (Lower Aquifer)	
	EARY3	ACS-GWMW11-05	EARY4	ACS-GWMW51-05
	USEPA	PRP	USEPA	PRP
Pesticides/PCBs				
Alpha-BHC	0.050 U	0.047 UJ	0.050 U	0.050 UJ
Beta-BHC	0.050 U	0.047 UJ	0.050 U	0.050 UJ
Delta-BHC	0.050 U	0.047 UJ	0.050 U	0.050 UJ
Lindane	0.050 U	0.047 UJ	0.050 U	0.050 UJ
Heptachlor	0.050 U	0.047 UJ	0.050 U	0.050 UJ
Aldrin	0.050 U	0.047 UJ	0.050 U	0.050 UJ
Heptachlor Epoxide	0.050 U	0.047 UJ	0.050 U	0.050 UJ
Endosulfan I	0.050 U	0.047 UJ	0.050 U	0.050 UJ
Dieldrin	0.10 U	0.094 UJ	0.10 U	0.10 UJ
p,p'-DDE	0.10 U	0.094 UJ	0.10 U	0.10 UJ
Endrin	0.10 U	0.094 UJ	0.10 U	0.10 UJ
Endosulfan II	0.10 U	0.094 UJ	0.10 U	0.10 UJ
p,p'-DDD	0.10 U	0.094 UJ	0.10 U	0.10 UJ
Endosulfan Sulfate	0.10 U	0.094 UJ	0.10 U	0.10 UJ
p,p'-DDT	0.10 U	0.094 UJ	0.10 U	0.10 UJ
Methoxychlor	0.50 U	0.47 UJ	0.50 U	0.50 UJ
Endrin Ketone	0.10 U	0.094 UJ	0.10 U	0.10 UJ
Endrin Aldehyde	0.10 U	0.094 UJ	0.10 U	0.10 UJ
Alpha-chlordane	0.050 U	0.047 UJ	0.050 U	0.050 UJ
Gamma-chlordane	0.050 U	0.047 UJ	0.050 U	0.050 UJ
Toxaphene	5.0 U	4.7 UJ	5.0 U	5.0 UJ
Aroclor 1016	1.0 U	0.94 UJ	1.0 U	1.0 UJ
Aroclor 1221	2.0 U	1.9 U	2.0 U	2.0 UJ
Aroclor 1232	1.0 U	0.94 U	1.0 U	1.0 UJ
Aroclor 1242	1.0 U	0.94 U	1.0 U	1.0 UJ
Aroclor 1248	1.0 U	0.94 U	1.0 U	1.0 UJ
Aroclor 1254	1.0 U	0.94 U	1.0 U	1.0 UJ
Aroclor 1260	1.0 U	0.94 U	1.0 U	1.0 UJ

Bold and italicized results have %RPD > 30%.

Table 3
June 1998 Upper and Lower Aquifer
Monitoring Well Sample Data Comparison
American Chemical Services, Inc.
Sample Location/Concentration (µg/l)

Compound/Analyte	MW9R (Lower Aquifer)		MW06 (Upper Aquifer)	
	EWT99	ACS-GWMW9R-05	EWT78	ACS-GWMW06-05
	USEPA	PRP	USEPA	PRP
Pesticides/PCBs				
Alpha-BHC	0.050 U	0.048 UJ	0.050 U	0.052 U
Beta-BHC	0.050 U	0.048 UJ	0.050 U	0.052 U
Delta-BHC	0.014 J	0.048 UJ	0.050 U	0.052 U
Lindane	0.050 U	0.048 UJ	0.050 U	0.052 U
Heptachlor	0.050 U	0.048 UJ	0.050 U	0.052 U
Aldrin	0.050 U	0.048 UJ	0.050 U	0.052 U
Heptachlor Epoxide	0.050 U	0.048 UJ	0.050 U	0.052 U
Endosulfan I	0.050 U	0.048 UJ	0.050 U	0.052 U
Dieldrin	0.10 U	0.095 UJ	0.10 U	0.10 U
p,p'-DDE	0.10 U	0.095 UJ	0.10 U	0.10 U
Endrin	0.10 U	0.095 UJ	0.10 U	0.10 U
Endosulfan II	0.10 U	0.095 UJ	0.10 U	0.10 U
p,p'-DDD	0.10 U	0.095 UJ	0.10 U	0.10 U
Endosulfan Sulfate	0.10 U	0.095 UJ	0.10 U	0.10 U
p,p'-DDT	0.10 U	0.095 UJ	0.10 U	0.10 U
Methoxychlor	0.50 U	0.48 UJ	0.50 U	0.52 U
Endrin Ketone	0.10 U	0.095 UJ	0.10 U	0.10 U
Endrin Aldehyde	0.10 U	0.095 UJ	0.10 U	0.10 U
Alpha-chlordane	0.050 U	0.048 UJ	0.050 U	0.052 U
Gamma-chlordane	0.050 U	0.048 UJ	0.050 U	0.052 U
Toxaphene	5.0 U	4.8 UJ	5.0 U	5.2 U
Aroclor 1016	1.0 U	0.95 UJ	1.0 U	1.0 U
Aroclor 1221	2.0 U	1.9 UJ	2.0 U	2.1 U
Aroclor 1232	1.0 U	0.95 UJ	1.0 U	1.0 U
Aroclor 1242	1.0 U	0.95 UJ	1.0 U	1.0 U
Aroclor 1248	1.0 U	0.95 UJ	1.0 U	1.0 U
Aroclor 1254	1.0 U	0.95 UJ	1.0 U	1.0 U
Aroclor 1260	1.0 U	0.95 UJ	1.0 U	1.0 U

Bold and italicized results have %RPD > 30%.

Table 3
June 1998 Upper and Lower Aquifer
Monitoring Well Sample Data Comparison
American Chemical Services, Inc.
Sample Location/Concentration (µg/l)

Compound/Analyte	M3S (Upper Aquifer)		M4S (Upper Aquifer)	
	EARY7	ACS-GWM3S-05	EARY5	ACS-GWM4S-05
	USEPA	PRP	USEPA	PRP
Pesticides/PCBs				
Alpha-BHC	0.050 U	0.050 UJ	0.050 U	0.048 UJ
Beta-BHC	0.050 U	0.050 UJ	0.064	0.048 UJ
Delta-BHC	0.026 J	0.050 UJ	0.050 U	0.048 UJ
Lindane	0.050 U	0.050 UJ	0.050 U	0.048 UJ
Heptachlor	***0.075 P***	***0.050 UJ***	0.050 U	0.048 UJ
Aldrin	0.050 U	0.050 UJ	0.050 U	0.048 UJ
Heptachlor Epoxide	0.050 U	0.040 UJ	0.050 U	0.048 UJ
Endosulfan I	0.050 U	0.050 UJ	0.050 U	0.048 UJ
Dieldrin	0.10 U	0.10 UJ	0.027 J	0.096 UJ
p,p'-DDE	0.10 U	0.10 UJ	0.10 U	0.096 UJ
Endrin	0.10 U	0.10 UJ	0.10 U	0.096 UJ
Endosulfan II	0.10 U	0.10 UJ	0.10 U	0.096 UJ
p,p'-DDD	0.10 U	0.10 UJ	0.10 U	0.096 UJ
Endosulfan Sulfate	0.10 U	0.10 UJ	0.10 U	0.096 UJ
p,p'-DDT	0.10 U	0.10 UJ	0.10 U	0.096 UJ
Methoxychlor	0.50 U	0.50 UJ	0.50 U	0.48 UJ
Endrin Ketone	0.10 U	0.10 UJ	0.10 U	0.096 UJ
Endrin Aldehyde	0.10 U	0.10 UJ	0.10 U	0.096 UJ
Alpha-chlordane	0.050 U	0.050 UJ	0.050 U	0.048 UJ
Gamma-chlordane	0.050 U	0.050 UJ	0.050 U	0.048 UJ
Toxaphene	5.0 U	5.0 UJ	5.0 U	4.8 UJ
Aroclor 1016	1.0 U	1.0 UJ	1.0 U	0.96 UJ
Aroclor 1221	2.0 U	2.0 UJ	2.0 U	1.9 UJ
Aroclor 1232	1.0 U	1.0 UJ	1.0 U	0.96 UJ
Aroclor 1242	1.0 U	1.0 UJ	1.0 U	0.96 UJ
Aroclor 1248	1.0 U	1.0 UJ	1.0 U	0.96 UJ
Aroclor 1254	1.0 U	1.0 UJ	1.0 U	0.96 UJ
Aroclor 1260	1.0 U	1.0 UJ	1.0 U	0.96 UJ

Bold and italicized results have %RPD > 30%.

	Table 3 June 1998 Upper and Lower Aquifer Monitoring Well Sample Data Comparison American Chemical Services, Inc.		
Compound/Analyte	Sample Location/Concentration (µg/l)		
	M4D (Lower Aquifer)		EB01 (Equip Blank)
	EARY6 USEPA	ACS-GWM4D-05 PRP	EARY2 USEPA
Pesticides/PCBs			
Alpha-BHC	0.050 U	0.048 UJ	0.050 U
Beta-BHC	0.050 U	0.048 UJ	0.050 U
Delta-BHC	0.050 U	0.048 UJ	0.050 U
Lindane	0.050 U	0.048 UJ	0.050 U
Heptachlor	0.050 U	0.048 UJ	0.050 U
Aldrin	0.050 U	0.048 UJ	0.050 U
Heptachlor Epoxide	0.050 U	0.048 UJ	0.050 U
Endosulfan I	0.050 U	0.048 UJ	0.050 U
Dieldrin	0.10 U	0.095 UJ	0.10 U
p,p'-DDE	0.10 U	0.095 UJ	0.10 U
Endrin	0.10 U	0.095 UJ	0.10 U
Endosulfan II	0.10 U	0.095 UJ	0.10 U
p,p'-DDD	0.10 U	0.095 UJ	0.10 U
Endosulfan Sulfate	0.10 U	0.095 UJ	0.10 U
p,p'-DDT	0.10 U	0.095 UJ	0.10 U
Methoxychlor	0.50 U	0.48 UJ	0.50 U
Endrin Ketone	0.10 U	0.095 UJ	0.10 U
Endrin Aldehyde	0.10 U	0.095 UJ	0.10 U
Alpha-chlordane	0.050 U	0.048 UJ	0.050 U
Gamma-chlordane	0.050 U	0.048 UJ	0.050 U
Toxaphene	5.0 U	4.8 UJ	5.0 U
Aroclor 1016	1.0 U	0.95 UJ	1.0 U
Aroclor 1221	2.0 U	1.9 UJ	2.0 U
Aroclor 1232	1.0 U	0.95 UJ	1.0 U
Aroclor 1242	1.0 U	0.95 UJ	1.0 U
Aroclor 1248	1.0 U	0.95 UJ	1.0 U
Aroclor 1254	1.0 U	0.95 UJ	1.0 U
Aroclor 1260	1.0 U	0.95 UJ	1.0 U

Bold and italicized results have %RPD > 30%.

Table 4
June 1998 Upper and Lower Aquifer
Monitoring Well Sample Data Comparison
American Chemical Services, Inc.
Sample Location/Concentration (µg/l)

Compound/Analyte	MW19 (Upper Aquifer)		MW28 (Lower Aquifer)	
	META98	ACS-GWMW19-05	META99	ACS-GWMW28-05
	USEPA	PRP	USEPA	PRP
Inorganic Analytes				
Aluminum	16.1 B	20.6 U	***85.5 B***	***52.8 UB***
Antimony	3.1 U	45.7 U	3.1 U	45.7 U
Arsenic	21.3	21.1	3.1 U	1.9 U
Barium	648	615	106 B	105 B
Beryllium	0.10 U	0.60 U	0.10 U	0.60 U
Cadmium	0.30 U	4.6 U	0.30 U	4.6 U
Calcium	71,900	72,900	72,600	78,600
Chromium	0.66 B	2.1 U	5.7 B	7.5 UB
Cobalt	2.5 B	3.8 U	1.9 B	3.8 U
Copper	2.2 B	3.6 U	4.8 B	4.3 UB
Iron	4,160	4,160	1,970	2,040
Lead	1.9 U	1.1 U	***3.2***	***1.1 U***
Magnesium	54,500	53,200	37,900	38,900
Manganese	215 E	196	49.7 E	44.8
Mercury	0.20 U	0.10 U	0.20 U	0.10 U
Nickel	***9.5 B***	***15.2 B***	4.6 B	14.2 U
Potassium	***71,800***	***51,600***	1,940 B	2,150 U
Selenium	2.0 U	3.1 U	2.0 U	3.1 U
Silver	0.80 U	5.1 U	0.80 U	5.1 U
Sodium	805,000	805,000	15,300	16,200
Thallium	4.6 U	3.1 U	4.6 U	3.1 U
Vanadium	0.80 U	4.4 U	0.80 U	4.4 U
Zinc	***25.0 ****	***9.5 UB***	***63.7 ****	***19.3 B***
Cyanide	***5.5 B***	***2.8 B***	***1.4 B***	***0.85 U***

Bold and italicized results have %RPD > 30%.

Table 4
June 1998 Upper and Lower Aquifer
Monitoring Well Sample Data Comparison
American Chemical Services, Inc.
Sample Location/Concentration (µg/l)

Compound/Analyte	MW48 (Upper Aquifer)		MW07 (Lower Aquifer)	
	META87	ACS-GWMW48-05	MEWZ38	ACS-GWMW07-05
	USEPA	PRP	USEPA	PRP
Inorganic Analytes				
Aluminum	***71.9 B***	***45.2 UB***	***91.6 B***	***28.8 UB***
Antimony	3.1 U	45.7 U	3.1 U	45.7 U
Arsenic	7.7 B	7.9 UB	3.1 U	2.9 UB
Barium	86.1 B	84.7 B	***121 B***	***108 B***
Beryllium	0.10 U	0.60 U	0.10 U	0.60 U
Cadmium	1.4 B	4.6 U	0.99 B	4.6 U
Calcium	84,600	93,000	79,000	86,500
Chromium	1.2 B	2.2 UB	2.3 B	2.1 U
Cobalt	3.4 B	3.8 U	4.9 B	3.8 U
Copper	***69.2***	***3.6 U***	***63.3***	***3.6 U***
Iron	17,100	17,500	2,770	2,970
Lead	***45.6***	***1.1 U***	***22.9***	***1.1 B***
Magnesium	12,600	13,400	28,000	28,500
Manganese	***384 E***	***622***	167 E	150
Mercury	0.20 U	0.10 U	0.20 U	0.10 U
Nickel	8.5 B	14.2 U	5.0 B	14.2 U
Potassium	5,350	6,200	1,430 B	2,150 U
Selenium	2.0 U	3.1 U	2.0 U	3.1 U
Silver	0.80 U	5.1 U	0.80 U	5.1 U
Sodium	28,000	29,800	18,700	19,500
Thallium	4.6 U	3.1 U	4.6 U	3.1 U
Vanadium	1.1 B	4.4 U	1.6 B	4.4 U
Zinc	***61.1 ****	***10.9 B***	***112 ****	***20.1***
Cyanide	***3.4 B***	***0.85 U***	***2.1 B***	***0.85 U***

Bold and italicized results have %RPD > 30%.

Table 4
June 1998 Upper and Lower Aquifer
Monitoring Well Sample Data Comparison
American Chemical Services, Inc.
Sample Location/Concentration (µg/l)

Compound/Analyte	MW11 (Upper Aquifer)		MW51 (Lower Aquifer)	
	MEXA35	ACS-GWMW11-05	MEXA78	ACS-GWMW51-05
	USEPA	PRP	USEPA	PRP
Inorganic Analytes				
Aluminum	506	437	***432***	***787***
Antimony	3.1 U	45.7 U	3.1 U	45.7 U
Arsenic	3.1 U	1.9 U	3.1 U	1.9 U
Barium	18.8 B	16.3 B	382	352
Beryllium	0.10 U	0.60 U	0.10 U	0.80 UB
Cadmium	0.30 U	4.6 U	0.38 B	4.6 U
Calcium	30,000	31,600	125,000	132,000
Chromium	2.6 B	2.1 U	9.4 B	9.2 UB
Cobalt	2.1 B	3.8 U	4.0 B	3.8 U
Copper	***27.5***	***10.6 UB***	***24.1 B***	***4.4 UB***
Iron	1,770	1,840	7,890	8,430
Lead	***25.1***	***1.4 UB***	***22.3***	***1.9 UB***
Magnesium	13,300	13,200	61,900	60,500
Manganese	106 E	109	107 E	111 JE
Mercury	0.20 U	0.10 U	0.20 U	0.10 U
Nickel	8.2 B	14.2 U	9.6 B	14.2 U
Potassium	1,760 B	2,150 U	2,670 B	2,150 U
Selenium	2.0 U	3.1 U	2.0 U	3.7 UB
Silver	0.80 U	5.1 U	0.80 U	5.1 U
Sodium	5,060	4,940 B	106,000	101,000
Thallium	4.6 U	3.1 U	4.6 U	3.3 UB
Vanadium	2.6 B	10.4 UB	0.80 U	12.2 UB
Zinc	***119 ****	***40.0***	***71.9 ****	***26.8 U***
Cyanide	1.0 U	0.85 U	1.6 B	1.9 UB

Bold and italicized results have %RPD > 30%.

Table 4
June 1998 Upper and Lower Aquifer
Monitoring Well Sample Data Comparison
American Chemical Services, Inc.
Sample Location/Concentration (µg/l)

Compound/Analyte	MW9R (Lower Aquifer)		MW06 (Upper Aquifer)	
	MEXA83	ACS-GWMW9R-05	METB01	ACS-GWMW06-05
	USEPA	PRP	USEPA	PRP
Inorganic Analytes				
Aluminum	57.4 B	100 UB	14.9 U	41.1 UB
Antimony	3.1 U	45.7 U	3.1 U	45.7 U
Arsenic	3.1 U	1.9 U	7.0 B	8.6 UB
Barium	242	227	231	231
Beryllium	0.10 U	0.60 U	0.10 U	0.86 UB
Cadmium	1.1 B	4.6 U	0.30 U	4.6 U
Calcium	115,000	128,000	209,000	240,000
Chromium	3.8 B	4.7 UB	***6.7 B***	***4.6 UB***
Cobalt	1.9 B	3.8 U	2.1 B	3.8 U
Copper	3.6 B	6.2 UB	8.8 B	11.3 UB
Iron	12,800	13,500	2,730	2,990
Lead	***14.3***	***1.1 U***	2.0 B	2.3 UB
Magnesium	30,600	31,300	44,200	47,000
Manganese	211 E	201 JE	818 E	803
Mercury	0.20 U	0.10 U	0.20 U	0.10 U
Nickel	8.3 B	14.2 U	***21.1 B***	***14.2 U***
Potassium	6,210	4,690 B	16,500	12,500
Selenium	2.0 U	3.1 U	2.0 U	3.1 U
Silver	0.80 U	5.1 U	0.80 U	5.7 UB
Sodium	68,800	68,400	568,000	601,000
Thallium	***4.8 B***	***3.1 U***	4.6 U	3.1 U
Vanadium	1.1 B	11.7 UB	0.80 U	20.9 UB
Zinc	***95.3 ****	***44.8 U***	185 *	206
Cyanide	***4.0 B***	***1.5 UB***	15.0	17.0

Bold and italicized results have %RPD > 30%.

Table 4
June 1998 Upper and Lower Aquifer
Monitoring Well Sample Data Comparison
American Chemical Services, Inc.
Sample Location/Concentration (µg/l)

Compound/Analyte	M1S (Upper Aquifer)		M4S (Upper Aquifer)	
	METC27	ACS-GWM1S-05	META29	ACS-GWM4S-05
	USEPA	PRP	USEPA	PRP
Inorganic Analytes				
Aluminum	128 B	125 UB	17.4 B	56.0 UB
Antimony	3.1 U	45.7 U	3.1 U	45.7 U
Arsenic	3.1 U	1.9 U	4.1 B	4.8 UB
Barium	591	518	580	519
Beryllium	0.10 U	0.60 U	0.10 U	0.88 UB
Cadmium	0.59 B	4.6 U	0.45 B	4.6 U
Calcium	216,000 E	225,000	327,000 E	350,000
Chromium	7.9 B	6.5 UB	1.5 B	2.1 U
Cobalt	4.4 B	5.6 UB	5.3 B	6.8 UB
Copper	4.1 B	5.9 UB	3.4 B	3.6 U
Iron	23,900	22,500	34,600	32,700
Lead	1.9 U	1.1 U	***2.4 B***	***1.1 U***
Magnesium	84,900	80,000	44,800	45,000
Manganese	639	567	426	388
Mercury	0.20 U*	0.10 U	0.20 U*	0.10 U
Nickel	10.6 B	14.2 U	11.8 B	14.2 U
Potassium	43,000	35,600	16,500	12,700
Selenium	2.0 UN	3.1 U	2.0 UN	3.1 U
Silver	0.85 B	5.1 U	0.80 U	5.1 U
Sodium	101,000	93,500	95,800	91,500
Thallium	4.6 U	3.1 U	4.6 U	3.1 U
Vanadium	2.4 B	12.9 UB	1.6 B	17.5 UB
Zinc	78.9	75.8	***46.7***	***65.0***
Cyanide	***6.5 B***	***0.85 U***	***6.0 B***	***3.3 UB***

Bold and italicized results have %RPD > 30%.

Table 4
June 1998 Upper and Lower Aquifer
Monitoring Well Sample Data Comparison
American Chemical Services, Inc.
Sample Location/Concentration (µg/l)

Compound/Analyte	M4D (Lower Aquifer)		M3S (Upper Aquifer)	
	META30	ACS-GWM4D-05	META31	ACS-GWM3S-05
	USEPA	PRP	USEPA	PRP
Inorganic Analytes				
Aluminum	***232***	***379***	40.4 B	110 UB
Antimony	3.1 U	45.7 U	3.1 U	45.7 U
Arsenic	3.1 U	1.9 U	4.1 B	4.7 UB
Barium	206	193 B	177 B	157 B
Beryllium	0.10 U	0.60 U	0.17 B	0.60 U
Cadmium	0.78 B	4.6 U	0.93 B	4.6 U
Calcium	84,900 E	90,200	77,200 E	79,200
Chromium	2.4 B	2.1 U	2.0 B	2.1 U
Cobalt	1.6 B	5.8 UB	3.5 B	4.8 UB
Copper	3.1 B	3.6 U	4.3 B	3.6 U
Iron	2,340	2,300	2,730	2,820
Lead	1.9 U	1.1 U	***2.9 B***	***1.1 U***
Magnesium	44,600	43,800	29,300	27,900
Manganese	45.3	38.0	760	699
Mercury	0.20 U*	0.10 U	0.20 U*	0.10 U
Nickel	3.2 B	14.2 U	8.5 B	14.2 U
Potassium	***4,070***	***2,940 B***	16,500	14,900
Selenium	2.0 UN	3.1 U	2.0 UN	3.1 U
Silver	0.80 U	5.1 U	0.80 U	5.1 U
Sodium	85,900	85,900	63,500	60,900
Thallium	4.6 U	3.1 U	4.6 U	3.1 U
Vanadium	0.80 U	6.3 UB	3.2 B	8.1 UB
Zinc	14.0 B	12.3 UB	***54.2***	***14.5 B***
Cyanide	1.0 U	2.1 UB	***1.4 B***	***0.85 U***

Bold and italicized results have %RPD > 30%.

	Table 4 June 1998 Upper and Lower Aquifer Monitoring Well Sample Data Comparison American Chemical Services, Inc.			
Compound/Analyte	Sample Location/Concentration (µg/l)			
	EB01 (Equipment Blank)			
	MEWZ39 USEPA			
Inorganic Analytes				
Aluminum	14.9 U			
Antimony	3.1 U			
Arsenic	3.1 U			
Barium	1.2 B			
Beryllium	0.10 U			
Cadmium	0.30 U			
Calcium	491 B			
Chromium	0.93 B			
Cobalt	1.2 U			
Copper	1.7 B			
Iron	50.8 B			
Lead	1.9 U			
Magnesium	94.3 B			
Manganese	1.8 BE			
Mercury	0.20 U			
Nickel	1.7 U			
Potassium	99.6 B			
Selenium	2.0 U			
Silver	0.80 U			
Sodium	615 B			
Thallium	4.6 U			
Vanadium	0.80 U			
Zinc	40.7 *			
Cyanide	1.0 U			

Bold and italicized results have %RPD > 30%.

	Table 5 June 1998 Upper and Lower Aquifer 30% Relative Percent Difference American Chemical Services, Inc.		
Compound/Analyte	USEPA	PRP	Well Location
Volatile Organic Compounds			
Benzene	4,400	9,500 JD	MW48
Chloroethane	10	16 J	MW19
	240 J	720 JD	MW48
	970	1,400 JD	MW9R
	190	360	MW06
Methylene chloride	5 J	11 JB	MW06
Semivolatile Organic Compounds			
Phenol	64	36 B	MW48
bis(2-Chloroethyl)ether	61	85 D	M4S
	22	10 U	MW06
bis(2-Ethylhexyl)phthalate	10 UJB	36	MW06
Pesticides/PCBs			
Heptachlor	0.075 P	0.05 UJ	M3S
	0.082 P	0.052 UJ	MW19
Inorganic Analytes			
Nickel	9.5 B	15.2 B	MW19
	21.1 B	14.2 U	MW06
Potassium	71,800	51,600	MW19
	4,070	2,940 B	M4D
Zinc	25.0 *	9.5 UB	MW19
	63.7 *	19.3 B	MW28
	61.1 *	10.9 B	MW48
	112 *	20.1	MW07
	119 *	40.0	MW11
	71.9 *	26.8 U	MW51
	95.3 *	44.8 U	MW9R
	46.7	65.0	M4S
	54.2	14.5 B	M3S

	Table 5 June 1998 Upper and Lower Aquifer 30% Relative Percent Difference American Chemical Services, Inc.		
Compound/Analyte	USEPA	PRP	Well Location
Cyanide	5.5 B	2.8 B	MW19
	1.4 B	0.85 U	MW28
	3.4B	0.85 U	MW48
	2.1 B	0.85 U	MW07
	4.0 B	1.5 UB	MW9R
	6.5 B	0.85 U	M1S
	6.0 B	3.3 UB	M4S
	1.4 B	0.85 U	M3S
Aluminum	85.5 B	52.8 UB	MW28
	71.9 B	45.2 UB	MW48
	91.6 B	28.8 UB	MW07
	432	787	MW51
	232	379	M4D
Copper	69.2	3.6 U	MW48
	63.3	3.6 U	MW07
	27.5	10.6 UB	MW11
	24.1 B	4.4 UB	MW51
Lead	45.6	1.1 U	MW48
	22.9	1.1 B	MW07
	25.1	1.4 UB	MW11
	22.3	1.9 UB	MW51
	14.3	1.1 U	MW9R
	2.4 B	1.1 U	M4S
	2.9 B	1.1 U	M3S
Manganese	384 E	622	MW48
Barium	121 B	108 B	MW07
Thallium	4.8 B	3.1 U	MW9R
Chromium	6.7 B	4.6 UB	MW06

Appendix A

Chain-of-Custody Records
Data Validation Narratives
Analytical Data Sheets
for
USEPA Split Samples

Regional Transmittal Form

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

DATE:

SUBJECT: Review of Data
Received for Review on July 15, 1998

FROM: Stephen L. Ostrodka, Chief (HSRL-5J) for Steve Ostrodka Richard L Byrd
Superfund Technical Support Section 8/3/98

TO: Data User: BHV

We have reviewed the data for the following case:

SITE NAME: American Chemical Serv. (IN)

CASE NUMBER: 26240 SDG NUMBER: EARX6

Number and Type of Samples: 17 (water)

Sample Numbers: EARX6-9 EARYD-7 EWW45 EWT78-79, 99 EACW4

Laboratory: SWDK Hrs. for Review: 25.5

Following are our findings:

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

Richard L Byrd

CC: Cecilia Moore
Region 5 TPO
Mail Code: SM-5J

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

1. HOLDING TIME

Seventeen (17) water samples, numbered EACW4, EARX6 - ERX9, EARY0 - EARY7, EWT78, EWT79, EWT99 and EWW45, were collected on June 2 - 5 and 8, 1998. AATS, of Broken Arrow, OK received the samples on June 3 - 8 and 11, 1998 in good condition. All samples were analyzed for the full list of organic analysts for all three fractions; VOA, SVOA and Pest/PCBs per CLP SOW OLM03.2 except for samples EWT79, EWW45, EARY1 and EACW4 which are Trip Blank samples and were analyzed for VOA only. Samples EARY5, EARY6 and EARY7 were analyzed for SVOA and pesticide/PCBs only.

The VOA samples were analyzed within the holding time of fourteen (14) days for preserved waters; therefore, the results are acceptable.

The SVOA and pesticide/PCB samples were extracted within the seven (7) days technical holding time. The extracts were then promptly analyzed, within 40 days; therefore, the results are acceptable.

2. GC/MS TUNING AND GC PERFORMANCE

GC/MS tuning complied with the mass list and ion abundance criteria for BFB and DFTPP.

DDT and Endrin degradation check using Performance Evaluation Mix on GC columns #1 and GC columns #2 were acceptable (<20%).

The GC Resolution Check mixtures met the 60% resolution criteria.

Reviewed by: W. Ira Wilson__Lockheed-Matrin/ESAT

Date:__July 23, 1998__

associated with Blanks SBLK1, SBLK2, SBLK3 is flagged as non-detected (U) when sample results are less than 10 times the Blank concentrations. The presence of the TICs in samples associated with the Method Blanks is flagged as non-detected (U) when the sample results are 5 times the Blank concentrations.

Please refer to Form-IV SVOA for a list of associated samples.

For the Pest/PCB fraction, PBLKWH, PBLKWE, PBLKWD and PBLKWA are the Method Blanks in which no detectable amounts of any TCL compounds were reported.

Please refer to Form-IV Pest/PCB for a list of associated samples.

5. SURROGATE RECOVERY AND SYSTEM MONITORING COMPOUNDS

The recovery of the System Monitoring Compounds for the volatile analysis for the low level water samples met the required QC limits. Therefore, the results are acceptable.

For the SVOA fraction, the recovery of S3 (TPH) = Terphenyl-d14 of the base neutral fraction was reported below the QC limits in sample EARY7. One outlier in the base neutral or acid fraction is permitted. Therefore, no qualification is recommended. The surrogate recoveries for all of the other samples were within the the required QC limits and therefore, the results are acceptable.

The surrogate recoveries for all of the pesticide/PCB samples were within the required QC limits and therefore, the results are acceptable.

6. MATRIX SPIKE/MSD SAMPLES

Samples EWT79, EWW45, EARY1 and EACW4 are identified as Trip Blanks and are analyzed for volatiles only. Sample EARX9 is identified as a duplicate of samples EARX8.

VOA Analysis:

Samples EWT79 and EWW45 each reported methylene chloride at 4µg/L and one TIC. Sample EARY1 reported no TCLs and one TIC. Sample EACW4 reported methylene chloride at 3µg/L and one TIC.

The duplicate samples EARX9 and EARX8, both reported three (3) TCLs and no TICs.

SVOA Analysis:

Sample EARX9 reported two (2) TCLs and 32 TICs; sample EARX8 reported two (2) TCLs and 33 TICs.

Pesticide/PCB Analysis:

Both duplicate samples, EARX9 and EARX8 reported one (1) TCL.

8. INTERNAL STANDARDS

The internal standard retention times and area counts for the volatile and the semivolatile samples were within the required QC limits; therefore, the results are acceptable.

9. COMPOUND IDENTIFICATION

Target compounds and TICs were correctly identified by "best fit" library search method.

10. COMPOUND QUANTITATION AND REPORTED DETECTION LIMITS

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

CALIBRATION OUTLIER
Volatile TCL
(Page 1 of 1)

CASE/SAS #: 26240
COLUMN: DB624
HEATED PURGE (Y/N) N

LABORATORY: AATS
SITE NAME: American Chemical Service

Instrument ID: L		Initial Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.		
Date:		6/12/98			6/12/98			6/15/98			6/16/98					
Time:		0524			1720			1024			0710					
	#	RF	%RSD	*	RF	%D	*	RF	%D	*	RF	%D	*	RF	%D	*
Chloromethane	0.010															
Bromomethane	0.100															
Vinyl Chloride	0.100															
Chloroethane	0.010															
Methylene Chloride	0.010															
Acetone	0.010															
Carbon Disulfide	0.010															
1,1-Dichloroethene	0.100															
1,1-Dichloroethane	0.200															
1,2-Dichloroethene (total)	0.010															
Chloroform	0.200															
1,2-Dichloroethane	0.100															
2-Butanone	0.010															
1,1,1-Trichloroethane	0.100															
Carbon Tetrachloride	0.100															
Bromodichloromethane	0.200															
1,2-Dichloropropane	0.010															
cis-1,3-Dichloropropene	0.200															
Trichloroethene	0.300															
Dibromochloromethane	0.100															
1,1,2-Trichloroethane	0.100															
Benzene	0.500															
trans-1,3-Dichloropropene	0.100															
Bromoform	0.100															
4-Methyl-2-Pentanone	0.010	0.178						0.123	30.9	J						
2-Hexanone	0.010	0.117	36.0	J	0.121			0.081	30.8	J	0.098					
Tetrachloroethene	0.200															
1,1,2,2-Tetrachloroethane	0.300															
Toluene	0.400															
Chlorobenzene	0.500															
Ethylbenzene	0.100															
Styrene	0.300															
Xylene (total)	0.300															
Toluene-d_8	0.010															
Bromofluorobenzene	0.200															
1,2-Dichloroethane-d_4	0.010															

Affected Samples:

	VBLK2	VBLK3	VBLK4
	EARY0, Y2, Y4	EACW4	VHBLK1
	EWT79	EARY3	
	EWW45	EWT78, 99	
	EARX8, X9	EWT99MS/MSD	

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

Reviewer's Init/Date: WLee 7/20/98

CALIBRATION OUTLIER
Semivolatile TCL
(Page 1 of 2)

CASE/SAS #: 26240
COLUMN:

LABORATORY: AATS
SITE NAME: American Chemical Sea

Instrument ID: T		Initial Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.		
Date:		5/12/98			6/8/98			6/9/98			6/12/98			6/15/98		
Time:		1343			1008			1659			1716			1257		
	#	RF	%RSD	*	RF	%D	*	RF	%D	*	RF	%D	*	RF	%D	*
Phenol	0.800															
bis(2-Chloroethyl)ether	0.700															
2-Chlorophenol	0.800															
1,3-Dichlorobenzene	0.600															
1,4-Dichlorobenzene	0.500															
1,2-Dichlorobenzene	0.400															
2-Methylphenol	0.700															
2,2-oxybis(1-Chloropropane)	0.010															
4-Methylphenol	0.600				WKW 7/20/98											
N-Nitroso-di-n-propylamine	0.500	1.174			0.861	26.7	J	0.861	26.7	J	1.006					
Hexachloroethane	0.300															
Nitrobenzene	0.200															
Isophorone	0.400															
2-Nitrophenol	0.100	0.214												0.158	26.4	J
2,4-Dimethylphenol	0.200															
bis(2-Chloroethoxy)methane	0.300															
2,4-Dichlorophenol	0.200															
1,2,4-Trichlorobenzene	0.200															
Naphthalene	0.700															
4-Chloroaniline	0.010															
Hexachlorobutadiene	0.010															
4-Chloro-3-methylphenol	0.200															
2-Methylnaphthalene	0.400															
Hexachlorocyclopentadiene	0.010	0.228												0.128	44.0	J
2,4,6-Trichlorophenol	0.200															
2,4,5-Trichlorophenol	0.200															
2-Chloronaphthalene	0.800															
2-Nitroaniline	0.010															
Dimethylphthalate	0.010															
Acenaphthylene	0.900															
2,6-Dinitrotoluene	0.200															
3-Nitroaniline	0.010															
Acenaphthene	0.900															
2,4-Dinitrophenol	0.010	0.192			0.140	27.4	J	0.067	65.4	J	0.128	33.5	J	0.070	63.4	J

Affected Samples:

	SBLK1	SBLK2	EARY6	EARY5
	EARX6	EARX9	EARY7	
	EARX7	EARY0, Y2, Y3, Y4		
	EARX8	EWT98, 99		
		EWT99MS		
		EWT99MSD		

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

Reviewer's Init/Date: WKW 7/20/98

CALIBRATION OUTLIER
Semivolatile TCL
(Page 1 of 2)

SESAS #: 216240
LUMN:

LABORATORY: ABTS
SITE NAME: American Chemical Svcs

Instrument ID: T		Initial Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.		
Date:		5/12/98			6/17/98											
Time:		13:43			15:37											
	#	RF	%RSD	*	RF	%D	*	RF	%D	*	RF	%D	*	RF	%D	*
Phenol	0.800															
bis(2-Chloroethyl)ether	0.700															
2-Chlorophenol	0.800															
1,3-Dichlorobenzene	0.600															
1,4-Dichlorobenzene	0.500															
1,2-Dichlorobenzene	0.400															
2-Methylphenol	0.700															
2,2-oxybis(1-Chloropropane)	0.010															
4-Methylphenol	0.600															
N-Nitroso-di-n-propylamine	0.500															
Hexachloroethane	0.300															
Nitrobenzene	0.200															
Isophorone	0.400															
2-Nitrophenol	0.100															
2,4-Dimethylphenol	0.200															
bis(2-Chloroethoxy)methane	0.300															
2,4-Dichlorophenol	0.200															
1,2,4-Trichlorobenzene	0.200															
Naphthalene	0.700															
4-Chloroaniline	0.010															
Hexachlorobutadiene	0.010															
4-Chloro-3-methylphenol	0.200															
2-Methylnaphthalene	0.400															
Hexachlorocyclopentadiene	0.010	0.228			0.125	45.4	J									
2,4,6-Trichlorophenol	0.200															
2,4,5-Trichlorophenol	0.200															
2-Chloronaphthalene	0.800															
2-Nitroaniline	0.010															
Dimethylphthalate	0.010															
Acenaphthylene	0.900															
2,6-Dinitrotoluene	0.200															
3-Nitroaniline	0.010															
Acenaphthene	0.900															
2,4-Dinitrophenol	0.010	0.192			0.099	48.3	J									

Affected Samples:

	SBLK3			

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

Reviewer's Init/Date: 6/20/98

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

CASE\SAS#: 26240
COLUMN: RTX-CLP PEST

LABORATORY: AATS
SITE NAME: AMERICAN Chemica

Instrument# HP-16A		Initial Cal.			Contin. Cal.			Contin. Cal.			Contin. Cal.			Contin. Cal.		
Date/Time:		6/9/98-1908			6/10/98-0655			6/10/98-1109			6/10/98-1255					
	#	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:

	PBLKWD	PBLKWE	PBLKWH
	EARX6	EARY4	EARY3
	EARX6MS/MSD		EWT78
	EARX6		EWT99
	EARX7		EWT99MS
	EARX9		EWT99MSD
	EARYD		
	EARY2		
	~~PBLKWE~~		
	~~EARYA~~		
	EARX8		

Reviewer's Init/Date: WAW 7/20/98

* 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#: 26240
COLUMN: RTX-CLP PEST II

LABORATORY: AATS
SITE NAME: AMERICAN Chemical

Instrument# HP-16		Initial Cal.			Contin. Cal.			Contin. Cal.			Contin. Cal.			Contin. Cal.		
Date/Time:		6/9/98-1908			6/10/98-0655			6/10/98-1109			6/10/98-1255					
	#	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:				
	PBLKWD	PBLKWE	PBLKWH	
	EARX6	EARY4	EARY3	
	EARX6MS/MSD		EWT78	
	EARX6		EWT99	
	EARX7		EWT99MS	
	EARX9		EWT99MSD	
	EARYD			
	EARY2			
	~~PBLKWE~~			
	~~EARYA~~			
7/20/98	EARX8			

Reviewer's Init/Date: WAW 7/20/98

* 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 used in this document, the following code letters and associated definitions are provided:

VALUE - when/if the result of a value is 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 where 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 in 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.

ORGANIC DATA QUALIFIER DEFINITIONS

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

VALUE - when/if the result of a value is 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 where 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 in 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.

AMERICAN ANALITICAL AND TECHNICIAL SERVICES
1700 West Albany, Suite A / Broken Arrow, OK 74012
918-251-2858

SDG NARRATIVE

June 23, 1998

CONTRACT NO.: 68-D5-0022

CASE NO.: 26240

SAMPLE NOS.: EARX6, EARX7, EARX8, EARX9, EARY0, EARY2, EARY3, EARY4, EARY5, EARY6, EARY7, EWT78, EWT99, EWT99MS and EWT99MSD.

SDG NO.: EARX6

Thirteen water samples were submitted for semivolatile organic analyses. The samples were analyzed by GC/MS following the OLM03.2 CLP Organic Statement of Work.

The following column is used for the semivolatile analysis: Restek 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. Sample coolers arrived at 2, 3, 4, 5, 6, 7, 8 and 14.6 degrees Celsius. Samples that arrived on 6/9/98 arrived with no traffic reports, and as per CLASS these samples were logged as arriving on 6/11/98 on the day that the traffic reports arrived at the laboratory (see phone log). The samples that arrived on 6/11/98 arrived at a cooler temperature of 14.6 degrees. These samples were cancelled by the region (see phone log).

The following samples had alkanes reported and the reports are included at the end of this SDG Narrative: EARX6, EARX7, EARX8, EARX9, EARY0, EARY2, EARY3, EARY4, EARY5, EARY6, EARY7, EWT78, EWT99, SBLK1and SBLK3.

Blanks: SBLK1, SBLK2 and SBLK3 had low level phthalate contamination below CRQL.

Surrogates: EARY7 had low recovery for terphenyl-d14 at 30%.

Matrix Spikes: EWT99MS/MSD had high spike recovery for 4-nitrophenol at 88% and 84% and pentachlorophenol at 133% and 125%, respectively.

Internal standards: No Problems.

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

June 23, 1998

HB 7-14-9
2

SDG Narrative

Case: 26240
SDG: EARX6
Contract: 68-D5-0022
Samples: EARX6, EARX7, EARX8, EARX9, EARY0, EARY2, EARY4, EARY3, EWT78, EWT99, EARY5, EARY6, EARY7.
Fraction: Pesticide/PCB

SDG EARX6 consisted of 13 water samples that were analyzed for pesticide/PCBs. All samples, blanks and spikes were extracted and analyzed according to EPA SOW OLM03.2. The samples were analyzed on J&W Scientific/Restek dual analytical columns (30m x 0.32mm ID, 0.25µm film thickness, RTX-CLP PEST and RTX-CLP PEST II). The RTX-CLP PEST and RTX-CLP PEST II are proprietary phases. 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. Hydrogen was used as the carrier gas for instruments HP-2, HP-4, HP-7, HP-15, and HP-16. Helium was used as the carrier gas for all other instruments.

No corrective actions were required.

All surrogate and matrix spike recoveries were within advisory control limits.

The following tables list the total nanograms injected on column for each calibration standard based upon amount injected on column, 0.5µL, 1µL, or 2µL:

RESOLUTION CHECK

Compounds	Total nanograms (0.5µL)	Total nanograms (1µL)	Total nanograms (2µL)
gamma-Chlordane	0.005	0.01	0.02
Endosulfan I	0.005	0.01	0.02
4,4'-DDE	0.01	0.02	0.04
Dieldrin	0.01	0.02	0.04
Endosulfan Sulfate	0.01	0.02	0.04
Endrin Ketone	0.01	0.02	0.04
Methoxychlor	0.5	0.1	0.2
Tetrachloro-m-xylene	0.01	0.02	0.04
Decachlorobiphenyl	0.01	0.02	0.04

PERFORMANCE EVALUATION

Compounds	Total nanograms (0.5µL)	Total nanograms (1µL)	Total nanograms (2µL)
gamma-BHC	0.005	0.01	0.02
alpha-BHC	0.005	0.01	0.02

JB 7-14-98
3

4,4'-DDT	0.05	0.1	.02
beta-BHC	0.005	0.01	0.02
Endrin	0.025	0.05	0.1
Methoxychlor	0.125	0.25	0.5
Tetrachloro-m-xylene	0.01	0.02	0.04
Decachlorobiphenyl	0.01	0.02	0.04

INDIVIDUAL STANDARD MIXTURE A -- LOW

Compounds	Total nanograms (0.5µL)	Total nanograms (1µL)	Total nanograms (2µL)
alpha-BHC	0.0025	0.005	0.01
Heptachlor	0.0025	0.005	0.01
gamma-BHC	0.0025	0.005	0.01
Endosulfan I	0.0025	0.005	0.01
Dieldrin	0.005	0.01	0.02
Endrin	0.005	0.01	0.02
4,4'-DDD	0.005	0.01	0.02
4,4'-DDT	0.005	0.01	0.02
Methoxychlor	0.025	0.05	0.1
Tetrachloro-m-xylene	0.0025	0.005	0.01
Decachlorobiphenyl	0.005	0.01	0.02

INDIVIDUAL STANDARD MIXTURE B -- LOW

Compounds	Total nanograms (0.5µL)	Total nanograms (1µL)	Total nanograms (2µL)
beta-BHC	0.0025	0.005	0.01
delta-BHC	0.0025	0.005	0.01
Aldrin	0.0025	0.005	0.01
Heptachlor epoxide	0.0025	0.005	0.01
alpha-Chlordane	0.0025	0.005	0.01
gamma-Chlordane	0.0025	0.005	0.01
4,4'-DDE	0.005	0.01	0.02
Endosulfan sulfate	0.005	0.01	0.02
Endrin aldehyde	0.005	0.01	0.02
Endrin ketone	0.005	0.01	0.02
Endosulfan II	0.005	0.01	0.02
Tetrachloro-m-xylene	0.0025	0.005	0.01
Decachlorobiphenyl	0.005	0.01	0.02

INDIVIDUAL STANDARD MIXTURE A -- MEDIUM

Compounds	Total nanograms (0.5µL)	Total nanograms (1µL)	Total nanograms (2µL)
alpha-BHC	0.01	0.02	0.04
Heptachlor	0.01	0.02	0.04
gamma-BHC	0.01	0.02	0.04
Endosulfan I	0.01	0.02	0.04

JB 7-14-9
4

Dieldrin	0.02	0.04	0.08
Endrin	0.02	0.04	0.08
4,4'-DDD	0.02	0.04	0.08
4,4'-DDT	0.02	0.04	0.08
Methoxychlor	0.1	0.2	0.4
Tetrachloro-m-xylene	0.01	0.02	0.04
Decachlorobiphenyl	0.02	0.04	0.08

INDIVIDUAL STANDARD MIXTURE B -- MEDIUM

Compounds	Total nanograms (0.5µL)	Total nanograms (1µL)	Total nanograms (2µL)
beta-BHC	0.01	0.02	0.04
delta-BHC	0.01	0.02	0.04
Aldrin	0.01	0.02	0.04
Heptachlor epoxide	0.01	0.02	0.04
alpha-Chlordane	0.01	0.02	0.04
gamma-Chlordane	0.01	0.02	0.04
4,4'-DDE	0.02	0.04	0.08
Endosulfan sulfate	0.02	0.04	0.08
Endrin aldehyde	0.02	0.04	0.08
Endrin ketone	0.02	0.04	0.08
Endosulfan II	0.02	0.04	0.08
Tetrachloro-m-xylene	0.01	0.02	0.04
Decachlorobiphenyl	0.02	0.04	0.08

INDIVIDUAL STANDARD MIXTURE A -- HIGH

Compounds	Total nanograms (0.5µL)	Total nanograms (1µL)	Total nanograms (2µL)
alpha-BHC	0.04	0.08	0.16
Heptachlor	0.04	0.08	0.16
gamma-BHC	0.04	0.08	0.16
Endosulfan I	0.04	0.08	0.16
Dieldrin	0.08	0.16	0.32
Endrin	0.08	0.16	0.32
4,4'-DDD	0.08	0.16	0.32
4,4'-DDT	0.08	0.16	0.32
Methoxychlor	0.4	0.8	1.6
Tetrachloro-m-xylene	0.04	0.08	0.16
Decachlorobiphenyl	0.08	0.16	0.32

INDIVIDUAL STANDARD MIXTURE B -- HIGH

Compounds	Total nanograms (0.5µL)	Total nanograms (1µL)	Total nanograms (2µL)
beta-BHC	0.04	0.08	0.16
delta-BHC	0.04	0.08	0.16
Aldrin	0.04	0.08	0.16

Heptachlor epoxide	0.04	0.08	0.16
alpha-Chlordane	0.04	0.08	0.16
gamma-Chlordane	0.04	0.08	0.16
4,4'-DDE	0.08	0.16	0.32
Endosulfan sulfate	0.08	0.16	0.32
Endrin aldehyde	0.08	0.16	0.32
Endrin ketone	0.08	0.16	0.32
Endosulfan II	0.08	0.16	0.32
Tetrachloro-m-xylene	0.04	0.08	0.16
Decachlorobiphenyl	0.08	0.16	0.32

MULTI-RESPONSE STANDARD MIXTURES

Compounds	Total nanograms (0.5µL)	Total nanograms (1µL)	Total nanograms (2µL)
Aroclor-1016	0.05	0.1	0.2
Aroclor-1221	0.1	0.2	0.4
Aroclor-1232	0.05	0.1	0.2
Aroclor-1242	0.05	0.1	0.2
Aroclor-1248	0.05	0.1	0.2
Aroclor-1254	0.05	0.1	0.2
Aroclor-1260	0.05	0.1	0.2
Toxaphene	0.25	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 Laboratory Supervisor
June 23, 1998

JB 7-14-98
7-16

Alkane Report for Sample : EARX6 Page: 1

Data file : t27769.d Matrix : WATER

CAS #	Compound	R.T.	Estimated Conc.
			060998
~~1) 7778-85-0~~	~~Propane, 1,2-dimethoxy~~	~~8.363~~	~~2.15~~
2) 629-59-4	Tetradecane	9.844	2.10
~~3) 16654-49-2~~	~~Silane, trimethyl(3-phenoxypropoxy)-~~	~~12.04~~	~~3.04~~
			060998

Concentration Units: Water: UG/L Soil: UG/KG

Alkane Report for Sample : EARX8

Data file : t27774.d Matrix : WATER

	CAS #	Compound	R.T.	Estimated Conc.
1)	6983-03-5	Cyclopentane, 1,2-dimethyl-3-(1-methylet	3.713	3.50
2)	565-75-3	Pentane, 2,3,4-trimethyl-	3.745	21.57

Concentration Units: Water: UG/L Soil: UG/KG

Alkane Report for Sample : EARX9 Page: 1

Data file : t27784.d Matrix : WATER

	CAS #	Compound	R.T.	Estimated Conc.
1)	16703-32-5	Hexane, 1,1-dichloro-3-methyl-	3.455	2.50
2)	3173-53-3	Cyclohexane, isocyanato-	4.110	6.05
~~3)~~	~~57633-64-4~~	~~1,3,2-Dioxaborolane, 2-ethyl-4,5-dimethy~~	~~5.333~~	~~2.71~~
4)	19780-80-4	Tridecane, 7-methylene-	5.687	2.49
~~5)~~	~~29887-57-8~~	~~Cyclopentane, 1,3-dimethoxy-, trans-~~	~~7.963~~	~~3.66~~

Concentration Units: Water: UG/L Soil: UG/KG

Álkane Report for Sample : EARY0

Data file : t27785.d Matrix : WATER

	CAS #	Compound	R.T.	Estimated Conc.
1)	36839-67-5	Pentane, 3-methoxy-	3.004	2.28

Concentration Units: Water: UG/L Soil: UG/KG

Alkane Report for Sample : EARY2

Data file : t27786.d Matrix : WATER

	CAS #	Compound	R.T.	Estimated Conc.
1)	24519-04-8	Cyclopropane, tetramethylpropylidene-	3.369	11.14

Concentration Units: Water: UG/L Soil: UG/KG

Álkane Report for Sample : EARY4 Page: 1

Data file : t27787.d Matrix : WATER

	CAS #	Compound	R.T.	Estimated Conc.
1)	10143-66-5	Butane, 1,3-dimethoxy-	3.609	16.93
2)	584-94-1	Hexane, 2,3-dimethyl-	3.727	26.11
3)	26243-72-1	1,3-Dioxane, 2-ethenyl-4,6-dimethyl-, (2	4.929	2.72
4)	13188-85-7	3,3-Dimethylthietane	5.144	3.11
~~5)~~	~~628-30-8~~	~~Propane, 1-isothiocyanato-~~	~~5.166~~	~~2.53~~
6)	5756-37-6	Pentane, 1-(1-methylethoxy)-	7.344	4.10

Concentration Units: Water: UG/L Soil: UG/KG

Alkane Report for Sample : EARY5

Data file : t27843.d

Matrix : WATER

	CAS #	Compound	R.T.	Estimated Conc.
1)	110-54-3	Hexane	5.023	27.39
2)	999-65-5	Butane, 1-(1-methylpropoxy)-	5.967	8.01

Concentration Units: Water: UG/L Soil: UG/KG

Álkane Report for Sample : EARY7 Page: 1

Data file : t27832.d Matrix : WATER

	CAS #	Compound	R.T.	Estimated Conc.
1)	590-66-9	Cyclohexane, 1,1-dimethyl-	3.713	9.95

Concentration Units: Water: UG/L Soil: UG/KG

Álkane Report for Sample : EWT99 Page: 1

Data file : t27790.d Matrix : WATER

	CAS #	Compound	R.T.	Estimated Conc.
1)	110-54-3	Hexane	5.311	3.65
2)	629-50-5	Tridecane	7.565	2.98

Concentration Units: Water: UG/L Soil: UG/KG

Alkane Report for Sample : SBLK

Data file : t27768.d Matrix : WATER

	CAS #	Compound	R.T.	Estimated Conc.
1)	4923-77-7	Cyclohexane, 1-ethyl-2-methyl-, cis-	3.766	6.61

Concentration Units: Water: UG/L Soil: UG/KG

Alkane Report for Sample : SBLK3

Data file : t27903.d Matrix : WATER

	CAS #	Compound	R.T.	Estimated Conc.
1)	4126-78-7	Cycloheptane, methyl-	3.670	6.33

Concentration Units: Water: UG/L Soil: UG/KG

2A
WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

	EPA SAMPLE NO.	SMC1 (TOL) #	SMC2 (BFB) #	SMC3 (DCE) #	OTHER	TOT OUT
01	VBLK1	102	102	93		0
02	EARX6	1[illegible]	103	95		0
03	EARX7	102	104	95		0
04	EARY1	101	103	92		0
05	VBLK2	97	108	94		0
06	EARY0	96	109	96		0
07	EARY2	97	109	94		0
08	EWT79	99	107	92		0
09	EWW45	98	109	95		0
10	EARY4	100	109	94		0
11	EARX8	100	108	92		0
12	EARX9	100	110	91		0
13	VBLK3	97	109	94		0
14	EACW4	96	109	95		0
15	EARY3	96	112	95		0
16	EWT78	99	110	93		0
17	EWT99	96	111	96		0
18	EWT99MS	98	110	94		0
19	EWT99MSD	97	111	94		0
20	VBLK4	97	101	95		0
21	VHBLK1	99	106	97		0
22						
23						
24						
25						
26						
27						
28						
29						
30						

		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

3A
WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix Spike - EPA Sample No.: EWT99

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
1,1-Dichloroethene	500	0	540	108	61-145
Trichloroethene	500	0	650	130*	71-120
Benzene	500	100	740	128*	76-127
Toluene	500	0	530	106	76-125
Chlorobenzene	500	0	560	112	75-130

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	500	530	106	2	14	61-145
Trichloroethene	500	640	128*	2	14	71-120
Benzene	500	750	130*	2	11	76-127
Toluene	500	530	106	0	13	76-125
Chlorobenzene	500	560	112	0	13	75-130

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

* Values outside of QC limits

RPD: 0 out of 5 outside limits
Spike Recovery: 4 out of 10 outside limits

COMMENTS: _____

4A
VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLK1

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Lab File ID: L31926.D Lab Sample ID: L980604A

Date Analyzed: 06/04/98 Time Analyzed: 1133

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

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	EARX6	34226.01	L31937.D	1646
02	EARX7	34226.02	L31938.D	1711
03	EARY1	34226.03	L31939.D	1736
04				
05				
06				
07				
08				
09				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

COMMENTS:

4A
VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLK2

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Lab File ID: L32043.D Lab Sample ID: L980612B

Date Analyzed: 06/12/98 Time Analyzed: 1812

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

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	EARY0	34243.03	L32046.D	1928
02	EARY2	34243.04	L32047.D	1954
03	EWT79	34243.05	L32048.D	2019
04	EWW45	34269.02	L32049.D	2045
05	EARY4	34269.01	L32050.D	2110
06	EARX8	34243.01	L32058.D	0055
07	EARX9	34243.02	L32059.D	0121
08				
09				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

COMMENTS:

page 01 of 01

4A

VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLK3

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Lab File ID: L32102.D Lab Sample ID: L980615A

Date Analyzed: 06/15/98 Time Analyzed: 1124

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

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	EACW4	34283.01	L32111.D	1627
02	EARY3	34283.02	L32112.D	1652
03	EWT78	34283.03	L32113.D	1721
04	EWT99	34283.04	L32114.D	1747
05	EWT99MS	34283.04MS	L32115.D	1818
06	EWT99MSD	34283.04MSD	L32116.D	1843
07				
08				
09				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

COMMENTS:

4A
VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLK4

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Lab File ID: L32147.D Lab Sample ID: L980616A

Date Analyzed: 06/16/98 Time Analyzed: 1008

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

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	VHBLK1	VHBLK1	L32164.D	1747
02				
03				
04				
05				
06				
07				
08				
09				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

COMMENTS:

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK1

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: L980604A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: L31926.D

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

% Moisture: not dec. _____ Date Analyzed: 06/04/98

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

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLK1

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: L980604A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: L31926.D

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

% Moisture: not dec. _____ Date Analyzed: 06/04/98

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.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK2

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: L980612B

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: L32043.D

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

% Moisture: not dec. _____ Date Analyzed: 06/12/98

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
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-D5-0022

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: L980612B

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: L32043.D

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

% Moisture: not dec. _____ Date Analyzed: 06/12/98

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.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK3

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: L980615A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: L32102.D

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

% Moisture: not dec. _____ Date Analyzed: 06/15/98

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
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.

VBLK3

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: L980615A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: L32102.D

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

% Moisture: not dec. _____ Date Analyzed: 06/15/98

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.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK4

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: L980616A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: L32147.D

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

% Moisture: not dec. _____ Date Analyzed: 06/16/98

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

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLK4

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: L980616A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: L32147.D

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

% Moisture: not dec. _____ Date Analyzed: 06/16/98

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.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VHBLK1

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: VHBLK1

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: L32164.D

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

% Moisture: not dec. _____ Date Analyzed: 06/16/98

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
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.

VHBLK1

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: VHBLK1

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: L32164.D

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

% Moisture: not dec. _____ Date Analyzed: 06/16/98

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.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EACW4

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

TB04

Matrix: (soil/water) WATER Lab Sample ID: 34283.01

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: L32111.D

Level: (low/med) LOW Date Received: 06/06/98

% Moisture: not dec. _____ Date Analyzed: 06/15/98

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	3	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

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EACW4

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34283.01 TB04

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: L32111.D

Level: (low/med) LOW Date Received: 06/06/98

% Moisture: not dec. _____ Date Analyzed: 06/15/98

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	16.652	6	J
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

FORM I VOA-TIC OLM0?

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EARX6

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34226.01 MW19

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: L31937.D

Level: (low/med) LOW Date Received: 06/03/98

% Moisture: not dec. _____ Date Analyzed: 06/04/98

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	
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	6	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

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EARX6

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34226.01 MW19

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: L31937.D

Level: (low/med) LOW Date Received: 06/03/98

% Moisture: not dec. _____ Date Analyzed: 06/04/98

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	17.092	17	J
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EARX7

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34226.02

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: L31938.D

Level: (low/med) LOW Date Received: 06/03/98

% Moisture: not dec. _____ Date Analyzed: 06/04/98

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

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

MW28

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	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.

EARX7

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34226.02

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: L31938.D

Level: (low/med) LOW Date Received: 06/03/98 MW28

% Moisture: not dec. _____ Date Analyzed: 06/04/98

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	17.088	10	J
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

FORM I VOA-TIC OLM0

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EARX8

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

MW48

Matrix: (soil/water) WATER Lab Sample ID: 34243.01

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: L32058.D

Level: (low/med) LOW Date Received: 06/04/98

% Moisture: not dec. _____ Date Analyzed: 06/13/98

GC Column:DB-624 ID: 0.53 (mm) Dilution Factor: 40.0

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	400	U
74-83-9	Bromomethane	400	U
75-01-4	Vinyl Chloride	400	U
75-00-3	Chloroethane	240	J
75-09-2	Methylene Chloride	400	U
67-64-1	Acetone	550	
75-15-0	Carbon Disulfide	400	U
75-35-4	1,1-Dichloroethene	400	U
75-34-3	1,1-Dichloroethane	400	U
540-59-0	1,2-Dichloroethene (total)	400	U
67-66-3	Chloroform	400	U
107-06-2	1,2-Dichloroethane	400	U
78-93-3	2-Butanone	400	U
71-55-6	1,1,1-Trichloroethane	400	U
56-23-5	Carbon Tetrachloride	400	U
75-27-4	Bromodichloromethane	400	U
78-87-5	1,2-Dichloropropane	400	U
10061-01-5	cis-1,3-Dichloropropene	400	U
79-01-6	Trichloroethene	400	U
124-48-1	Dibromochloromethane	400	U
79-00-5	1,1,2-Trichloroethane	400	U
71-43-2	Benzene	4400	
10061-02-6	trans-1,3-Dichloropropene	400	U
75-25-2	Bromoform	400	U
108-10-1	4-Methyl-2-Pentanone	400	U
591-78-6	2-Hexanone	400	U
127-18-4	Tetrachloroethene	400	U
79-34-5	1,1,2,2-Tetrachloroethane	400	U
108-88-3	Toluene	400	U
108-90-7	Chlorobenzene	400	U
100-41-4	Ethylbenzene	400	U
100-42-5	Styrene	400	U
1330-20-7	Xylene (Total)	400	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EARX8

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34243.01

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: L32058.D

Level: (low/med) LOW Date Received: 06/04/98

% Moisture: not dec. _____ Date Analyzed: 06/13/98

GC Column:DB-624 ID: 0.53 (mm) Dilution Factor: 40.0

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.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EARX9

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34243.02

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: L32059.D

Level: (low/med) LOW Date Received: 06/04/98

% Moisture: not dec. _____ Date Analyzed: 06/13/98

GC Column:DB-624 ID: 0.53 (mm) Dilution Factor: 40.0

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

MW8 dupl.

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	400	U
74-83-9	Bromomethane	400	U
75-01-4	Vinyl Chloride	400	U
75-00-3	Chloroethane	260	J
75-09-2	Methylene Chloride	400	U
67-64-1	Acetone	400	U
75-15-0	Carbon Disulfide	400	U
75-35-4	1,1-Dichloroethene	400	U
75-34-3	1,1-Dichloroethane	400	U
540-59-0	1,2-Dichloroethene (total)	400	U
67-66-3	Chloroform	400	U
107-06-2	1,2-Dichloroethane	100	J
78-93-3	2-Butanone	400	U
71-55-6	1,1,1-Trichloroethane	400	U
56-23-5	Carbon Tetrachloride	400	U
75-27-4	Bromodichloromethane	400	U
78-87-5	1,2-Dichloropropane	400	U
10061-01-5	cis-1,3-Dichloropropene	400	U
79-01-6	Trichloroethene	400	U
124-48-1	Dibromochloromethane	400	U
79-00-5	1,1,2-Trichloroethane	400	U
71-43-2	Benzene	5100	
10061-02-6	trans-1,3-Dichloropropene	400	U
75-25-2	Bromoform	400	U
108-10-1	4-Methyl-2-Pentanone	400	U
591-78-6	2-Hexanone	400	U
127-18-4	Tetrachloroethene	400	U
79-34-5	1,1,2,2-Tetrachloroethane	400	U
108-88-3	Toluene	400	U
108-90-7	Chlorobenzene	400	U
100-41-4	Ethylbenzene	400	U
100-42-5	Styrene	400	U
1330-20-7	Xylene (Total)	400	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EARX9

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34243.02

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: L32059.D

Level: (low/med) LOW Date Received: 06/04/98

% Moisture: not dec. _____ Date Analyzed: 06/13/98

GC Column:DB-624 ID: 0.53 (mm) Dilution Factor: 40.0

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

MW48 dupl.

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.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EARY0

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34243.03

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: L32046.D

Level: (low/med) LOW Date Received: 06/04/98

% Moisture: not dec. _____ Date Analyzed: 06/12/98

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

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

MW07

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	3	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

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EARY0

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34243.03

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: L32046.D MW07

Level: (low/med) LOW Date Received: 06/04/98

% Moisture: not dec. _____ Date Analyzed: 06/12/98

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.	76-13-1	Ethane, 1,1,2-trichloro-1,2,	6.019	8	NJ
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EARY1

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34226.03 TB01

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: L31939.D

Level: (low/med) LOW Date Received: 06/03/98

% Moisture: not dec. _____ Date Analyzed: 06/04/98

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
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.

EARY1

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34226.03

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: L31939.D TB01

Level: (low/med) LOW Date Received: 06/03/98

% Moisture: not dec. _____ Date Analyzed: 06/04/98

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	17.088	12	J
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

FORM I VOA-TIC OLM03

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EARY2

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34243.04

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: L32047.D

EBØ1

Level: (low/med) LOW Date Received: 06/04/98

% Moisture: not dec. _____ Date Analyzed: 06/12/98

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	4	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

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EARY2

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34243.04

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: L32047.D EB01

Level: (low/med) LOW Date Received: 06/04/98

% Moisture: not dec. _____ Date Analyzed: 06/12/98

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

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

Number TICs found: 2

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 76-13-1	Ethane, 1,1,2-trichloro-1,2,	6.019	10	NJ
2.	UNKNOWN	9.359	5	J
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.				

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EARY3

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34283.02 MW11

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: L32112.D

Level: (low/med) LOW Date Received: 06/06/98

% Moisture: not dec. _____ Date Analyzed: 06/15/98

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	3	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

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EARY3

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34283.02

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: L32112.D MW11

Level: (low/med) LOW Date Received: 06/06/98

% Moisture: not dec. _____ Date Analyzed: 06/15/98

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	16.680	6	J
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EARY4

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34269.01 MW51

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: L32050.D

Level: (low/med) LOW Date Received: 06/05/98

% Moisture: not dec. _____ Date Analyzed: 06/12/98

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	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.

EARY4

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34269.01

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: L32050.D MW51

Level: (low/med) LOW Date Received: 06/05/98

% Moisture: not dec. _____ Date Analyzed: 06/12/98

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

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

Number TICs found: 3

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	60-29-7	Ether	5.616	3700	NJ
2.	109-99-9	Furan, tetrahydro-	9.023	29	NJ
3.	123-91-1	1,4-Dioxane	10.878	6	NJ
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.					

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EWT78

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34283.03

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: L32113.D

Level: (low/med) LOW Date Received: 06/06/98

% Moisture: not dec. _____ Date Analyzed: 06/15/98

GC Column:DB-624 ID: 0.53 (mm) Dilution Factor: 2.0

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	20	U
74-83-9	Bromomethane	20	U
75-01-4	Vinyl Chloride	20	U
75-00-3	Chloroethane	190	
75-09-2	Methylene Chloride	5	J
67-64-1	Acetone	20	U
75-15-0	Carbon Disulfide	20	U
75-35-4	1,1-Dichloroethene	20	U
75-34-3	1,1-Dichloroethane	20	U
540-59-0	1,2-Dichloroethene (total)	5	J
67-66-3	Chloroform	20	U
107-06-2	1,2-Dichloroethane	20	U
78-93-3	2-Butanone	20	U
71-55-6	1,1,1-Trichloroethane	20	U
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	20	U
124-48-1	Dibromochloromethane	20	U
79-00-5	1,1,2-Trichloroethane	20	U
71-43-2	Benzene	84	
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	20	U
108-90-7	Chlorobenzene	20	U
100-41-4	Ethylbenzene	20	U
100-42-5	Styrene	20	U
1330-20-7	Xylene (Total)	20	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EWT78

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34283.03

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: L32113.D

MW06

Level: (low/med) LOW Date Received: 06/06/98

% Moisture: not dec. _____ Date Analyzed: 06/15/98

GC Column:DB-624 ID: 0.53 (mm) Dilution Factor: 2.0

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

Number TICs found: 2

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	593-70-4	Methane, chlorofluoro-	2.443	13	NJ
2.	60-29-7	Ether	5.549	19	NJ
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.					

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EWT79

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34243.05 TB02

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: L32048.D

Level: (low/med) LOW Date Received: 06/04/98

% Moisture: not dec. _____ Date Analyzed: 06/12/98

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	4	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

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EWT79

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34243.05

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: L32048.D TBØ2

Level: (low/med) LOW Date Received: 06/04/98

% Moisture: not dec. _____ Date Analyzed: 06/12/98

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. 76-13-1	Ethane, 1,1,2-trichloro-1,2,	6.038	11	NJ
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EWT99

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34283.04 MW9R

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: L32114.D

Level: (low/med) LOW Date Received: 06/06/98

% Moisture: not dec. _____ Date Analyzed: 06/15/98

GC Column:DB-624 ID: 0.53 (mm) Dilution Factor: 10.0

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	100	U
74-83-9	Bromomethane	100	U
75-01-4	Vinyl Chloride	100	U
75-00-3	Chloroethane	970	
75-09-2	Methylene Chloride	17	J
67-64-1	Acetone	100	U
75-15-0	Carbon Disulfide	100	U
75-35-4	1,1-Dichloroethene	100	U
75-34-3	1,1-Dichloroethane	100	U
540-59-0	1,2-Dichloroethene (total)	100	U
67-66-3	Chloroform	100	U
107-06-2	1,2-Dichloroethane	100	U
78-93-3	2-Butanone	100	U
71-55-6	1,1,1-Trichloroethane	100	U
56-23-5	Carbon Tetrachloride	100	U
75-27-4	Bromodichloromethane	100	U
78-87-5	1,2-Dichloropropane	100	U
10061-01-5	cis-1,3-Dichloropropene	100	U
79-01-6	Trichloroethene	100	U
124-48-1	Dibromochloromethane	100	U
79-00-5	1,1,2-Trichloroethane	100	U
71-43-2	Benzene	100	
10061-02-6	trans-1,3-Dichloropropene	100	U
75-25-2	Bromoform	100	U
108-10-1	4-Methyl-2-Pentanone	100	U
591-78-6	2-Hexanone	100	U
127-18-4	Tetrachloroethene	100	U
79-34-5	1,1,2,2-Tetrachloroethane	100	U
108-88-3	Toluene	100	U
108-90-7	Chlorobenzene	100	U
100-41-4	Ethylbenzene	100	U
100-42-5	Styrene	100	U
1330-20-7	Xylene (Total)	100	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EWT99

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34283.04

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: L32114.D

Level: (low/med) LOW Date Received: 06/06/98 MW9R

% Moisture: not dec. _____ Date Analyzed: 06/15/98

GC Column:DB-624 ID: 0.53 (mm) Dilution Factor: 10.0

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.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

FORM I VOA-TIC OLM0

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EWW45

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34269.02

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: L32049.D

Level: (low/med) LOW Date Received: 06/05/98

% Moisture: not dec. _____ Date Analyzed: 06/12/98 TBØ3

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	4	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

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EWW45

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34269.02

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: L32049.D

Level: (low/med) LOW Date Received: 06/05/98

% Moisture: not dec. _____ Date Analyzed: 06/12/98

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

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

TB03

Number TICs found: 1

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	76-13-1	Ethane, 1,1,2-trichloro-1,2,	6.048	10	NJ
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EWT99MS

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34283.04MS

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: L32115.D

Level: (low/med) LOW Date Received: 06/06/98

% Moisture: not dec. _____ Date Analyzed: 06/15/98

GC Column:DB-624 ID: 0.53 (mm) Dilution Factor: 10.0

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

MW 9R MS

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	100	U
74-83-9	Bromomethane	100	U
75-01-4	Vinyl Chloride	100	U
75-00-3	Chloroethane	1000	
75-09-2	Methylene Chloride	14	J
67-64-1	Acetone	100	U
75-15-0	Carbon Disulfide	100	U
75-35-4	1,1-Dichloroethene	540	
75-34-3	1,1-Dichloroethane	100	U
540-59-0	1,2-Dichloroethene (total)	100	U
67-66-3	Chloroform	100	U
107-06-2	1,2-Dichloroethane	100	U
78-93-3	2-Butanone	100	U
71-55-6	1,1,1-Trichloroethane	100	U
56-23-5	Carbon Tetrachloride	100	U
75-27-4	Bromodichloromethane	100	U
78-87-5	1,2-Dichloropropane	100	U
10061-01-5	cis-1,3-Dichloropropene	100	U
79-01-6	Trichloroethene	650	
124-48-1	Dibromochloromethane	100	U
79-00-5	1,1,2-Trichloroethane	100	U
71-43-2	Benzene	740	
10061-02-6	trans-1,3-Dichloropropene	100	U
75-25-2	Bromoform	100	U
108-10-1	4-Methyl-2-Pentanone	100	U
591-78-6	2-Hexanone	100	U
127-18-4	Tetrachloroethene	100	U
79-34-5	1,1,2,2-Tetrachloroethane	100	U
108-88-3	Toluene	530	
108-90-7	Chlorobenzene	560	
100-41-4	Ethylbenzene	100	U
100-42-5	Styrene	100	U
1330-20-7	Xylene (Total)	100	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EWT99MSD

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34283.04MSD

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: L32116.D

Level: (low/med) LOW Date Received: 06/06/98

% Moisture: not dec. _____ Date Analyzed: 06/15/98

GC Column:DB-624 ID: 0.53 (mm) Dilution Factor: 10.0

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

MW 9K

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	100	U
74-83-9	Bromomethane	100	U
75-01-4	Vinyl Chloride	100	U
75-00-3	Chloroethane	1200	
75-09-2	Methylene Chloride	17	J
67-64-1	Acetone	100	U
75-15-0	Carbon Disulfide	100	U
75-35-4	1,1-Dichloroethene	530	
75-34-3	1,1-Dichloroethane	100	U
540-59-0	1,2-Dichloroethene (total)	100	U
67-66-3	Chloroform	100	U
107-06-2	1,2-Dichloroethane	100	U
78-93-3	2-Butanone	100	U
71-55-6	1,1,1-Trichloroethane	100	U
56-23-5	Carbon Tetrachloride	100	U
75-27-4	Bromodichloromethane	100	U
78-87-5	1,2-Dichloropropane	100	U
10061-01-5	cis-1,3-Dichloropropene	100	U
79-01-6	Trichloroethene	640	
124-48-1	Dibromochloromethane	100	U
79-00-5	1,1,2-Trichloroethane	100	U
71-43-2	Benzene	750	
10061-02-6	trans-1,3-Dichloropropene	100	U
75-25-2	Bromoform	100	U
108-10-1	4-Methyl-2-Pentanone	100	U
591-78-6	2-Hexanone	100	U
127-18-4	Tetrachloroethene	100	U
79-34-5	1,1,2,2-Tetrachloroethane	100	U
108-88-3	Toluene	530	
108-90-7	Chlorobenzene	560	
100-41-4	Ethylbenzene	100	U
100-42-5	Styrene	100	U
1330-20-7	Xylene (Total)	100	U

2C
WATER SEMIVOLATILE SURROGATE RECOVERY

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

	EPA SAMPLE NO.	S1 (NBZ)#	S2 (FBP)#	S3 (TPH)#	S4 (PHL)#	S5 (2FP)#	S6 (TBP)#	S7 (2CP)#	S8 (DCB)#	TOT OUT
01	SBLK1	60	58	96	72	67	70	64	47	0
02	EARX6	66	68	38	81	73	94	71	52	0
03	EARX7	66	69	81	80	76	87	74	52	0
04	EARX8	76	77	55	89	81	95	78	66	0
05	SBLK2	56	62	104	76	68	76	64	53	0
06	EARX9	64	73	46	79	76	93	71	62	0
07	EARY0	67	77	67	93	89	97	80	70	0
08	EARY2	70	78	92	94	87	91	81	72	0
09	EARY4	60	67	56	77	74	86	69	61	0
10	EARY3	64	68	67	77	76	89	72	59	0
11	EWT78	70	52	50	82	79	94	73	63	0
12	EWT99	65	62	41	82	76	96	72	62	0
13	EWT99MS	76	72	49	93	85	113	83	68	0
14	EWT99MSD	74	68	48	88	81	103	79	66	0
15	EARY6	48	47	54	59	59	62	55	43	0
16	EARY7	65	59	30*	74	80	70	72	59	1
17	EARY5	52	54	36	40	65	83	62	54	0
18	SBLK3	46	43	76	53	45	55	46	35	0
19										
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										

		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

3C

WATER SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix Spike - EPA Sample No.: EWT99

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
Phenol	75	0	62	83	12-110
2-Chlorophenol	75	0	62	83	27-123
1,4-Dichlorobenzene	50	0	34	68	36- 97
N-Nitroso-di-n-prop.(1)	50	0	40	80	41-116
1,2,4-Trichlorobenzene	50	0	37	74	39- 98
4-Chloro-3-Methylphenol	75	0	72	96	23- 97
Acenaphthene	50	0	39	78	46-118
4-Nitrophenol	75	0	66	88*	10- 80
2,4-Dinitrotoluene	50	0	43	86	24- 96
Pentachlorophenol	75	0	100	133*	9-103
Pyrene	50	0	51	102	26-127

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Phenol	75	58	77	8	42	12-110
2-Chlorophenol	75	58	77	8	40	27-123
1,4-Dichlorobenzene	50	32	64	6	28	36- 97
N-Nitroso-di-n-prop.(1)	50	36	72	10	38	41-116
1,2,4-Trichlorobenzene	50	36	72	3	28	39- 98
4-Chloro-3-Methylphenol	75	64	85	12	42	23- 97
Acenaphthene	50	36	72	8	31	46-118
4-Nitrophenol	75	63	84*	5	50	10- 80
2,4-Dinitrotoluene	50	40	80	7	38	24- 96
Pentachlorophenol	75	94	125*	6	50	9-103
Pyrene	50	47	94	8	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: 4 out of 22 outside limits

COMMENTS: _____

4B
SEMIVOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

SBLK1

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Lab File ID: T27768.D Lab Sample ID: BL0604WB

Instrument ID: T Date Extracted: 06/04/98

Matrix: (soil/water) WATER Date Analyzed: 06/08/98

Level:(low/med) LOW Time Analyzed: 1851

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	EARX6	34226.01	T27769.D	06/08/98
02	EARX7	34226.02	T27770.D	06/08/98
03	EARX8	34243.01	T27774.D	06/08/98
04	EARX9	34243.02	T27784.D	06/09/98
05	EARY0	34243.03	T27785.D	06/09/98
06	EARY2	34243.04	T27786.D	06/09/98
07				
08				
09				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

COMMENTS:

4B
SEMIVOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

SBLK2

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Lab File ID: T27783.D Lab Sample ID: BL0608WE

Instrument ID: T Date Extracted: 06/08/98

Matrix: (soil/water) WATER Date Analyzed: 06/09/98

Level:(low/med) LOW Time Analyzed: 1729

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	EARY4	34269.01	T27787.D	06/09/98
02	EARY3	34283.02	T27788.D	06/09/98
03	EWT78	34283.03	T27789.D	06/09/98
04	EWT99	34283.04	T27790.D	06/09/98
05	EWT99MS	34283.04MS	T27791.D	06/09/98
06	EWT99MSD	34283.04MSD	T27792.D	06/09/98
07				
08				
09				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

COMMENTS:

page 01 of 01

4B

SEMIVOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

SBLK3

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Lab File ID: T27903.D Lab Sample ID: BL0611WG

Instrument ID: T Date Extracted: 06/11/98

Matrix: (soil/water) WATER Date Analyzed: 06/17/98

Level:(low/med) LOW Time Analyzed: 1626

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	EARY6	34333.02	T27831.D	06/12/98
02	EARY7	34333.03	T27832.D	06/12/98
03	EARY5	34333.01	T27843.D	06/15/98
04				
05				
06				
07				
08				
09				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

COMMENTS:

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK1

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: BL0604WB

Sample wt/vol: 1000 (g/mL) ML Lab File ID: T27768.D

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

% Moisture: _____ decanted: (Y/N)___ Date Extracted:06/04/98

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/08/98

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.

SBLK1

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: BL0604WB

Sample wt/vol: 1000 (g/mL) ML Lab File ID: T27768.D

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

% Moisture: _____ decanted: (Y/N)___ Date Extracted:06/04/98

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/08/98

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	0.8	J
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.

SBLK1

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: BL0604WB

Sample wt/vol: 1000 (g/mL) ML Lab File ID: T27768.D

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

% Moisture: _____ decanted: (Y/N)___ Date Extracted:06/04/98

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/08/98

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

Number TICs found: 5

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	3.380	5	J
2.	UNKNOWN	3.552	12	J
3.	UNKNOWN ORGANIC ACID	12.933	3	J
4. 0-00-0	Butyl tetradecanoate (myrist	14.339	3	NJ
5.	Tridecatrienenitrile, trim	17.108	4	J
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.				

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK2

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: BL0608WE

Sample wt/vol: 1000 (g/mL) ML Lab File ID: T27783.D

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

% Moisture: _____ decanted: (Y/N)___ Date Extracted:06/08/98

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/09/98

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-D5-0022

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: BL0608WE

Sample wt/vol: 1000 (g/mL) ML Lab File ID: T27783.D

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

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 06/08/98

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/09/98

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

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SBLK2

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: BL0608WE

Sample wt/vol: 1000 (g/mL) ML Lab File ID: T27783.D

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

% Moisture: _____ decanted: (Y/N)___ Date Extracted:06/08/98

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/09/98

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

Number TICs found: 4

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	3.371	10	J
2.	UNKNOWN	3.532	33	J
3.	UNKNOWN	3.618	6	J
4. 54063-09-1	Diisoamylene	3.736	21	NJ
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.				

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK3

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: BL0611WG

Sample wt/vol: 1000 (g/mL) ML Lab File ID: T27903.D

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

% Moisture: _____ decanted: (Y/N)___ Date Extracted:06/11/98

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/17/98

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.

SBLK3

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: BL0611WG

Sample wt/vol: 1000 (g/mL) ML Lab File ID: T27903.D

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

% Moisture: _____ decanted: (Y/N)___ Date Extracted:06/11/98

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/17/98

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	1	J
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	2	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.

SBLK3

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: BL0611WG

Sample wt/vol: 1000 (g/mL) ML Lab File ID: T27903.D

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

% Moisture: _____ decanted: (Y/N)___ Date Extracted:06/11/98

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/17/98

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

Number TICs found: 6

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	3.294	4	J
2.		UNKNOWN	3.455	11	J
3.	126-73-8	Phosphoric acid tributyl est	8.564	2	NJ
4.		UNKNOWN	12.782	21	J
5.	0-00-0	Butyl tetradecanoate (myrist	14.178	45	NJ
6.		UNKNOWN	16.947	3	J
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EARX6

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

MW19

Matrix: (soil/water) WATER Lab Sample ID: 34226.01

Sample wt/vol: 1000 (g/mL) ML Lab File ID: T27769.D

Level: (low/med) LOW Date Received: 06/03/98

% Moisture: _____ decanted: (Y/N)___ Date Extracted:06/04/98

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/08/98

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.8

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	9	J
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.

EARX6

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34226.01

Sample wt/vol: 1000 (g/mL) ML Lab File ID: T27769.D

Level: (low/med) LOW Date Received: 06/03/98

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 06/04/98

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/08/98

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.8

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 ~~0.6~~	JB
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~~	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

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EARX6

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34226.01 MW19

Sample wt/vol: 1000 (g/mL) ML Lab File ID: T27769.D

Level: (low/med) LOW Date Received: 06/03/98

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 06/04/98

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/08/98

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.8

Number TICs found: 34

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q	7/17/9
1. 15980-15-1	1,4-Oxathiane	3.319	6	NJ	
2.	UNKNOWN	3.383	4	JB	U
3.	UNKNOWN	3.555	11	JB	U
4.	Hexene, dimethyl-	3.748	10	J	
5. 20324-32-7	2-Propanol, 1-(2-methoxy-1-m	4.134	5	NJ	
6.	UNKNOWN	4.156	4	J	
7. 111-90-0	Ethanol, 2-(2-ethoxyethoxy)-	4.596	21	NJ	
8. 3302-10-1	Hexanoic acid, 3,5,5-trimeth	4.972	6	NJ	
9.	UNKNOWN	5.315	9	J	
10. 1696-20-4	Morpholine, 4-acetyl-	5.347	5	NJ	
11.	UNKNOWN ORGANIC ACID	5.744	4	J	
12.	UNKNOWN	5.830	3	J	
13.	UNKNOWN	5.916	16	J	
14.	UNKNOWN	6.023	3	J	
15.	UNKNOWN	6.045	7	J	
16.	UNKNOWN	6.592	10	J	
17. 0-00-0	Butanamide, N-acetyl-N-(4-hy	6.871	430	NJ	
18. 480-63-7	Benzoic acid, 2,4,6-trimethy	6.925	5	NJ	
19.	UNKNOWN	6.979	4	J	
20.	Benzoic acid, trimethyl-	7.129	3	J	
21.	Ethane, 1,1'-oxybis[ethoxy-]	7.215	2	J	
22. 98-73-7	Benzoic acid, p-tert-butyl-	7.537	19	NJ	
23. 101-10-0	Propanoic acid, 2-(3-chlorop	8.310	10	NJ	
24.	Propanol, [(methyl-ethanedi	8.363	2	J	
25.	UNKNOWN	8.546	3	J	
26.	Benzene, methyl-nitro-	8.921	6	J	
27. 946-80-5	Benzene, (phenoxymethyl)-	9.415	3	NJ	
28.	UNKNOWN	9.791	4	J	
29. 76-73-3	Secobarbital	10.156	4	NJ	

297

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EARX6

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34226.01

Sample wt/vol: 1000 (g/mL) ML Lab File ID: T27769.D

Level: (low/med) LOW Date Received: 06/03/98

% Moisture: _____ decanted: (Y/N)___ Date Extracted:06/04/98

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/08/98

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.8

MW19

Number TICs found: 34

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	10.499	3	J
2.	50-06-6	Phenobarbital	11.691	32	NJ
3.		UNKNOWN	12.045	3	J
4.	10544-50-0	Sulfur, mol. (S8)	12.109	4	NJ
5.		UNKNOWN	14.030	4	J
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.					

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EARX7

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34226.02

Sample wt/vol: 1000 (g/mL) ML Lab File ID: T27770.D

Level: (low/med) LOW Date Received: 06/03/98

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 06/04/98

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/08/98

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.9

MW28

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.

EARX7

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34226.02

Sample wt/vol: 1000 (g/mL) ML Lab File ID: T27770.D

Level: (low/med) LOW Date Received: 06/03/98

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 06/04/98

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/08/98

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.9

MW28

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 ~~0.9~~	JB 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

7/20/4 wfu

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EARX7

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34226.02

Sample wt/vol: 1000 (g/mL) ML Lab File ID: T27770.D

Level: (low/med) LOW Date Received: 06/03/98 HW28

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 06/04/98

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/08/98

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.9

Number TICs found: 4

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNWON	3.383	5	J
2.	UNKNOWN	3.555	14	JB
3.	Decenal,	3.641	2	J
4. 54063-09-1	Diisoamylene	3.759	8	NJ
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.				

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EARX8

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34243.01

Sample wt/vol: 1000 (g/mL) ML Lab File ID: T27774.D MW48

Level: (low/med) LOW Date Received: 06/04/98

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 06/04/98

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/08/98

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	64	
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	2	J
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.

EARX8

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34243.01

Sample wt/vol: 1000 (g/mL) ML Lab File ID: T27774.D MW48

Level: (low/med) LOW Date Received: 06/04/98

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 06/04/98

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/08/98

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

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	14	B 4
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.

EARX8

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34243.01

Sample wt/vol: 1000 (g/mL) ML Lab File ID: T27774.D

Level: (low/med) LOW Date Received: 06/04/98

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 06/04/98

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/08/98

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

MW48

Number TICs found: 35

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	3.188	3	J
2. 687-48-9	Carbamic acid, dimethyl-, et	3.338	5	NJ
3.	UNKNOWN	3.381	11	JB
4.	UNKNOWN	3.553	32	JB
5. 110-81-6	Disulfide, diethyl	3.596	13	NJ
6.	UNKNOWN	4.143	6	J
7. 873-94-9	Cyclohexanone, 3,3,5-trimeth	4.390	200	NJ
8.	UNKNOWN	4.540	3	J
9. 112-36-7	Ethane, 1,1'-oxybis[2-ethoxy	4.594	14	NJ
10.	UNKNOWN	4.658	4	J
11. 111-76-2	Ethanol, 2-butoxy-	4.733	13	NJ
12.	Phenol, dimethyl-	4.798	2	J
13.	Hexanoic acid, trimethyl-	4.948	7	J
14.	UNKNOWN	4.991	23	J
15. 108-68-9	Phenol, 3,5-dimethyl-	5.141	6	NJ
16.	UNKNOWN	5.431	9	J
17.	UNKNOWN	5.614	3	J
18.	UNKNOWN	5.646	3	J
19.	UNKNOWN	5.732	2	J
20.	UNKNOWN	5.828	9	J
21.	UNKNOWN	5.925	4	J
22. 83-33-0	1H-Inden-1-one, 2,3-dihydro-	5.946	3	NJ
23.	UNKNOWN	6.064	3	J
24. 74-11-3	Benzoic acid, 4-chloro-	6.311	17	NJ
25. 492-37-5	Benzeneacetic acid, .alpha.-	6.354	5	NJ
26. 529-65-7	Acetamide, n-ethyl-N-phenyl-	6.418	3	NJ
27.	UNKNOWN	6.698	12	J
28. 499-06-9	Benzoic acid, 3,5-dimethyl-	6.762	3	J
29.	Ethyl methylbenzoate	7.041	2	J
30.	UNKNOWN	7.760	8	J

JB 7-14-98

355

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EARX8

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34243.01

Sample wt/vol: 1000 (g/mL) ML Lab File ID: T27774.D

Level: (low/med) LOW Date Received: 06/04/98

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 06/04/98 MW48

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/08/98

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

Number TICs found: 35

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	8.018	7	J
2. 101-10-0	Propanoic acid, 2-(3-chlorop	8.286	7	NJ
3. 76-73-3	Secobarbital	10.143	9	NJ
4.	UNKNOWN	10.841	12	J
5.	UNKNOWN	14.479	37	J
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.				

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EARX9

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34243.02

Sample wt/vol: 1000 (g/mL) ML Lab File ID: T27784.D

Level: (low/med) LOW Date Received: 06/04/98

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 06/04/98

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/09/98

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 6.4

MW4B duplicate

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	39	
111-44-4	bis(2-Chloroethyl)Ether	14	
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.

EARX9

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34243.02

Sample wt/vol: 1000 (g/mL) ML Lab File ID: T27784.D

Level: (low/med) LOW Date Received: 06/04/98

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 06/04/98

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/09/98

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 6.4

MW48 dup.

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 ~~0.9~~	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

Wfw 7/20/98

(1) - Cannot be separated from Diphenylamine

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EARX9

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34243.02

Sample wt/vol: 1000 (g/mL) ML Lab File ID: T27784.D

Level: (low/med) LOW Date Received: 06/04/98

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 06/04/98

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/09/98

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 6.4

MW48 dupl.

Number TICs found: 34

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	Thiophene, tetrahydro-methyl	3.176	4	J
2.	UNKNOWN	3.369	10	JB
3.	UNKNOWN	3.530	32	JB
4. 110-81-6	Disulfide, diethyl	3.584	13	NJ
5.	UNKNOWN	3.691	4	J
6. 54063-09-1	Diisoamylene	3.734	24	NJ
7.	UNKNOWN	4.271	2	J
8. 873-94-9	Cyclohexanone, 3,3,5-trimeth	4.368	190	NJ
9. 116-02-9	Cyclohexanol, 3,3,5-trimethy	4.432	210	NJ
10. 112-36-7	Ethane, 1,1'-oxybis[2-ethoxy	4.572	11	NJ
11.	UNKNOWN	4.700	11	J
12.	Phenol, dimethyl-	4.776	3	J
13.	UNKNOWN ORGANIC ACID	4.915	5	J
14.	UNKNOWN	4.969	16	J
15. 108-68-9	Phenol, 3,5-dimethyl-	5.119	4	NJ
16.	UNKNOWN	5.280	2	J
17.	UNKNOWN	5.334	3	J
18.	UNKNOWN	5.398	6	J
19.	UNKNOWN	5.623	3	J
20.	UNKNOWN	5.774	3	J
21. 112-26-5	Ethane, 1,2-bis(2-chloroetho	5.806	4	NJ
22. 83-33-0	1H-Inden-1-one, 2,3-dihydro-	5.913	2	NJ
23. 74-11-3	Benzoic acid, 4-chloro-	6.235	15	NJ
24. 621-36-3	m-Tolylacetic acid	6.289	4	NJ
25.	UNKNOWN	6.321	2	J
26.	Benzenamine, ethyl-	6.375	2	J
27.	UNKNOWN	6.654	11	J
28. 499-06-9	Benzoic acid, 3,5-dimethyl-	6.697	3	NJ
29. 528-90-5	Benzoic acid, 2,4,5-trimethy	7.287	3	NJ
30.	UNKNOWN	7.706	4	J

CAA 7/20/98

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EARX9

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34243.02

Sample wt/vol: 1000 (g/mL) ML Lab File ID: T27784.D

MW48 dupl.

Level: (low/med) LOW Date Received: 06/04/98

% Moisture: _____ decanted: (Y/N)___ Date Extracted:06/04/98

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/09/98

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 6.4

Number TICs found: 34

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	7.963	4	J
2. 101-10-0	Propanoic acid, 2-(3-chlorop	8.221	6	NJ
3. 76-73-3	Secobarbital	10.067	7	NJ
4.	UNKNOWN	10.775	11	J
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.				

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EARY0

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34243.03

Sample wt/vol: 1000 (g/mL) ML Lab File ID: T27785.D

Level: (low/med) LOW Date Received: 06/04/98

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 06/04/98

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/09/98

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.7

MW7

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.

EARY0

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

ab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34243.03

Sample wt/vol: 1000 (g/mL) ML Lab File ID: T27785.D

MW7

Level: (low/med) LOW Date Received: 06/04/98

% Moisture: _____ decanted: (Y/N)___ Date Extracted:06/04/98

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/09/98

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.7

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.

EARY0

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34243.03

Sample wt/vol: 1000 (g/mL) ML Lab File ID: T27785.D MW7

Level: (low/med) LOW Date Received: 06/04/98

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 06/04/98

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/09/98

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.7

Number TICs found: 5

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	3.369	9	JB 4
2.	UNKNOWN	3.530	36	JB 4
3.	UNKNOWN	3.616	5	JB 4
4. 54063-09-1	Diisoamylene	3.734	20	NJ
5.	UNKNOWN	5.720	2	J
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.				

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EARY2

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34243.04

Sample wt/vol: 1000 (g/mL) ML Lab File ID: T27786.D FBØ1

Level: (low/med) LOW Date Received: 06/03/98

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 06/04/98

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/09/98

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 8.4

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.

EARY2

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34243.04

Sample wt/vol: 1000 (g/mL) ML Lab File ID: T27786.D

Level: (low/med) LOW Date Received: 06/03/98

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 06/04/98

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/09/98

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 8.4

EB01

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.

EARY2

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34243.04

Sample wt/vol: 1000 (g/mL) ML Lab File ID: T27786.D EB01

Level: (low/med) LOW Date Received: 06/03/98

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 06/04/98

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/09/98

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 8.4

Number TICs found: 3

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

wfa 7/24/

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q	
1.	UNKNOWN	3.530	37	JB	U
2.	UNKNOWN	3.616	6	JB	U
3. 54063-09-1	Diisoamylene	3.734	20	NJ	
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.					

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EARY3

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34283.02

Sample wt/vol: 1000 (g/mL) ML Lab File ID: T27788.D

Level: (low/med) LOW Date Received: 06/06/98

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 06/08/98

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/09/98

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 6.7

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.

EARY3

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34283.02

Sample wt/vol: 1000 (g/mL) ML Lab File ID: T27788.D

Level: (low/med) LOW Date Received: 06/06/98 MW11

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 06/08/98

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/09/98

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 6.7

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~~	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

Water 7/20/98

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EARY3

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34283.02

Sample wt/vol: 1000 (g/mL) ML Lab File ID: T27788.D

Level: (low/med) LOW Date Received: 06/06/98

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 06/08/98

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/09/98

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 6.7

MW11

Number TICs found: 3

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	3.380	10	JB U
2.	UNKNOWN	3.530	36	JB U
3.	Ethyl-hexene	3.616	6	J
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.				

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EARY4

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34269.01

Sample wt/vol: 1000 (g/mL) ML Lab File ID: T27787.D

MW51

Level: (low/med) LOW Date Received: 06/05/98

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 06/08/98

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/09/98

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

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.

EARY4

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34269.01

Sample wt/vol: 1000 (g/mL) ML Lab File ID: T27787.D

Level: (low/med) LOW Date Received: 06/05/98

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 06/08/98

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/09/98

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

MWSI

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~~	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

Wdw 7/20/98

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EARY4

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34269.01

Sample wt/vol: 1000 (g/mL) ML Lab File ID: T27787.D

MW51

Level: (low/med) LOW Date Received: 06/05/98

% Moisture: _____ decanted: (Y/N)___ Date Extracted:06/08/98

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/09/98

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

Number TICs found: 34

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	2.880	9	J
2.	UNKNOWN	3.363	11	JB
3.	UNKNOWN	3.535	35	JB
4.	UNKNOWN	3.685	8	JB
5.	Propanol, (ethoxypropoxy)-	4.114	10	J
6.	Propanol, (methoxy-methyleth	4.136	12	J
7.	UNKNOWN ALCOHOL	4.275	8	J
8.	UNKNOWN ALCOHOL	4.393	4	J
9.	UNKNOWN	4.554	17	J
10.	UNKNOWN ORGANIC ACID	4.694	16	J
11.	UNKNOWN	4.758	74	J
12.	UNKNOWN	4.866	3	J
13.	Pentanediol, trimethyl-	5.027	7	J
14.	UNKNOWN ALCOHOL	5.284	6	J
15.	Acetyl-methylthiophene	5.370	4	J
16.	UNKNOWN ORGANIC ACID	5.574	4	J
17.	UNKNOWN	5.617	7	J
18.	UNKNOWN ALDEHYDE	5.735	13	J
19. 20324-33-8	2-Propanol, 1-[2-(2-methoxy-	5.885	4	NJ
20. 110-98-5	2-Propanol, 1,1'-oxybis-	6.014	5	NJ
21.	UNKNOWN	6.035	7	J
22. 632-46-2	Benzoic acid, 2,6-dimethyl-	6.121	6	NJ
23. 610-72-0	Benzoic acid, 2,5-dimethyl-	6.282	5	NJ
24.	UNKNOWN	6.851	16	J
25. 528-90-5	Benzoic acid, 2,4,5-trimethy	7.066	4	NJ
26.	UNKNOWN	7.549	4	J
27.	UNKNOWN	8.150	6	J
28.	UNKNOWN	8.204	4	J
29.	UNKNOWN ALCOHOL	8.257	8	J

7/20/

488

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EARY4

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34269.01

Sample wt/vol: 1000 (g/mL) ML Lab File ID: T27787.D

Level: (low/med) LOW Date Received: 06/05/98

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 06/08/98

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/09/98

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

MW51

Number TICs found: 34

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 1638-16-0	2-Propanol, 1,1'-[(1-methyl-	8.300	7	NJ
2.	UNKNOWN	8.515	8	J
3.	UNKNOWN	10.554	11	J
4.	UNKNOWN	10.618	6	J
5.	UNKNOWN	10.651	4	J
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.				

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EARY5

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34333.01 M4S

Sample wt/vol: 1000 (g/mL) ML Lab File ID: T27843.D

Level: (low/med) LOW Date Received: 06/11/98

% Moisture: _____ decanted: (Y/N)___ Date Extracted:06/11/98

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/15/98

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 6.0

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	61	
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.

EARY5

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34333.01

Sample wt/vol: 1000 (g/mL) ML Lab File ID: T27843.D

Level: (low/med) LOW Date Received: 06/11/98

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 06/11/98

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/15/98

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 6.0

MAS

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 ~~1~~	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

Wdw 7/20/98

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EARY5

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34333.01

Sample wt/vol: 1000 (g/mL) ML Lab File ID: T27843.D M4S

Level: (low/med) LOW Date Received: 06/11/98

% Moisture: _____ decanted: (Y/N)___ Date Extracted:06/11/98

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/15/98

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 6.0

Number TICs found: 35

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	Carbamic acid, ester	3.274	14	J
2.	UNKNOWN ALCOHOL	3.327	12	J
3.	UNKNOWN	3.499	11	JB
4.	UNKNOWN	3.682	41	J
5.	UNKNOWN	3.735	35	J
6.	-Propanol, -(-methoxy--methy	4.100	69	J
7.	UNKNOWN	4.175	31	J
8. 873-94-9	Cyclohexanone, 3,3,5-trimeth	4.336	24	NJ
9. 116-02-9	Cyclohexanol, 3,3,5-trimethy	4.412	19	NJ
10. 111-90-0	Ethanol, 2-(2-ethoxyethoxy)-	4.540	22	NJ
11.	UNKNONW	4.916	550	J
12.	UNKNOWN	4.948	10	J
13.	UNKNOWN	5.141	11	J
14.	UNKNOWN	5.238	16	J
15.	UNKNOWN	5.281	11	J
16.	UNKNOWN	5.302	10	J
17.	Morpholine, -acetyl-	5.356	17	J
18.	UNKNOWN	5.399	12	J
19.	UNKNOWN	5.592	16	J
20.	UNKNOWN	5.657	18	J
21.	UNKNOWN	5.742	30	J
22.	UNKNOWN	5.850	13	J
23.	UNKNOWN	5.882	27	J
24.	UNKNOWN	6.011	15	J
25.	UNKNOWN	6.032	17	J
26. 85-44-9	Phthalic anhydride	6.140	18	NJ
27.	UNKNOWN	6.365	24	J
28.	UNKNOWN	6.494	28	J
29.	UNKNOWN	6.730	12	J
30.	UNKNOWN	6.880	23	J

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EARY5

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34333.01

Sample wt/vol: 1000 (g/mL) ML Lab File ID: T27843.D

Level: (low/med) LOW Date Received: 06/11/98

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 06/11/98

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/15/98

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 6.0

M45

Number TICs found: 35

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	7.020	12	J
2.		UNKNOWN	7.106	8	J
3.		UNKNOWN	7.342	16	J
4.	98-73-7	Benzoic acid, p-tert-butyl-	7.449	11	NJ
5.	309-43-3	Secobarbital Sodium	10.068	24	NJ
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.					

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EARY6

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34333.02

Sample wt/vol: 1000 (g/mL) ML Lab File ID: T27831.D

Level: (low/med) LOW Date Received: 06/11/98

% Moisture: _____ decanted: (Y/N)___ Date Extracted:06/11/98

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/12/98

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.6

M4D

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.

EARY6

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34333.02

Sample wt/vol: 1000 (g/mL) ML Lab File ID: T27831.D MAD

Level: (low/med) LOW Date Received: 06/11/98

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 06/11/98

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/12/98

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.6

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 ~~0.7~~	JB	4
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	wlw 7/20/9
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 ~~1~~	JB	4
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.

EARY6

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34333.02

Sample wt/vol: 1000 (g/mL) ML Lab File ID: T27831.D M4D

Level: (low/med) LOW Date Received: 06/11/98

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 06/11/98

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/12/98

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.6

Number TICs found: 8

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	2.684	4	J
2.	Unknown	2.920	21	J
3.	UNKNOWN	3.328	8	JB
4.	UNKNOWN	3.499	11	JB
5.	-Nonenal,	3.585	2	J
6.	Pentene, -trimethyl-	3.714	7	J
7.	UNKNOWN	4.702	26	J
8.	UNKNOWN ORGANIC ACID	8.222	2	J
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EARY7

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34333.03

Sample wt/vol: 1000 (g/mL) ML Lab File ID: T27832.D

Level: (low/med) LOW Date Received: 06/11/98

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 06/11/98

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/12/98

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.2

M3S

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.

EARY7

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

ab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34333.03

Sample wt/vol: 1000 (g/mL) ML Lab File ID: T27832.D M35

Level: (low/med) LOW Date Received: 06/11/98

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 06/11/98

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/12/98

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.2

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 ~~2~~	JB 4
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

601

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EARY7

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34333.03

Sample wt/vol: 1000 (g/mL) ML Lab File ID: T27832.D

Level: (low/med) LOW Date Received: 06/11/98

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 06/11/98

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/12/98

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.2

M3S

Number TICs found: 7

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	2.694	5	J
2.	Unknown	2.769	4	J
3.	Unknown	2.909	21	J
4.	UNKNOWN	3.327	11	JB 4
5.	UNKNOWN	3.499	18	JB 4
6.	UNKNOWN	3.585	4	J
7. 112-36-7	Ethane, 1,1'-oxybis[2-ethoxy	4.551	4	NJ
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

JB 602
7-14-98 ~~602~~

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EWT78

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34283.03

Sample wt/vol: 1000 (g/mL) ML Lab File ID: T27789.D MW6

Level: (low/med) LOW Date Received: 06/06/98

% Moisture: _____ decanted: (Y/N)___ Date Extracted:06/08/98

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/09/98

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 6.5

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	22	
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.

EWT78

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34283.03

Sample wt/vol: 1000 (g/mL) ML Lab File ID: T27789.D

Level: (low/med) LOW Date Received: 06/06/98 MWb

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 06/08/98

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/09/98

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 6.5

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	0.5	J
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~~	JB 4
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.

EWT78

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34283.03

Sample wt/vol: 1000 (g/mL) ML Lab File ID: T27789.D MW6

Level: (low/med) LOW Date Received: 06/06/98

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 06/08/98

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/09/98

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 6.5

Number TICs found: 30

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	3.381	13	JB
2.	UNKNOWN	3.531	35	JB
3.	UNKNOWN	3.617	6	JB
4.	UNKNOWN	3.735	25	J
5.	UNKNOWN	4.314	6	J
6. 873-94-9	Cyclohexanone, 3,3,5-trimeth	4.379	5	NJ
7. 54518-04-6	Methanol, dibutoxy-	4.443	2	NJ
8. 112-36-7	Ethane, 1,1'-oxybis[2-ethoxy	4.572	50	NJ
9.	UNKNOWN	4.701	7	J
10.	UNKNOWN	4.797	3	J
11.	Phenol, (methylethyl)-	5.302	6	J
12. 768-95-6	1-Adamantanol	5.742	2	NJ
13.	UNKNOWN	5.881	7	J
14.	UNKNOWN	6.032	4	J
15.	UNKNOWN	6.805	590	J
16.	UNKNOWN	6.880	24	J
17.	UNKNOWN	6.923	5	J
18.	UNKNOWN	7.084	3	J
19. 100-61-8	Aniline, N-methyl-	7.406	55	NJ
20.	UNKNOWN	7.674	4	J
21.	Inden-one, dihydro-dimethyl	8.146	3	J
22. 101-10-0	Propanoic acid, 2-(3-chlorop	8.232	8	NJ
23.	UNKNOWN	8.414	4	J
24.	Benzenesulfonamide,trimethyl	8.865	6	J
25. 934-34-9	2(3H)-Benzothiazolone	8.994	3	NJ
26. 80-39-7	Benzenesulfonamide, N-ethyl-	9.359	5	NJ
27.	UNKNOWN	9.702	3	J
28. 309-43-3	Secobarbital Sodium	10.089	18	NJ
29.	UNKNOWN	11.184	2	J
30. 50-06-6	Phenobarbital	11.581	13	NJ

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EWT99

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34283.04

Sample wt/vol: 1000 (g/mL) ML Lab File ID: T27790.D

Level: (low/med) LOW Date Received: 06/06/98

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 06/08/98

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/09/98

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

MW9R

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	14	
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.

EWT99

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34283.04

Sample wt/vol: 1000 (g/mL) ML Lab File ID: T27790.D

Level: (low/med) LOW Date Received: 06/06/98

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 06/08/98

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/09/98

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

MW9R

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	0.8	J
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 ~~4~~	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

WLW 7/20/99

U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EWT99

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34283.04

Sample wt/vol: 1000 (g/mL) ML Lab File ID: T27790.D

Level: (low/med) LOW Date Received: 06/06/98 MW9R

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 06/08/98

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/09/98

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

Number TICs found: 34

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 687-48-9	Carbamic acid, dimethyl-, et	3.326	10	NJ
2.	UNKNOWN	3.380	11	JB
3.	UNKNOWN	3.541	30	JB
4.	UNKNOWN	3.627	5	JB
5.	UNKNOWN	3.745	23	J
6. 20324-32-7	2-Propanol, 1-(2-methoxy-1-m	4.120	7	NJ
7.	Propanol, (methoxy-methyleth	4.142	7	J
8.	UNKNOWN	4.314	6	J
9. 873-94-9	Cyclohexanone, 3,3,5-trimeth	4.367	16	NJ
10. 116-02-9	Cyclohexanol, 3,3,5-trimethy	4.442	5	NJ
11. 112-36-7	Ethane, 1,1'-oxybis[2-ethoxy	4.582	11	NJ
12. 111-76-2	Ethanol, 2-butoxy-	4.743	32	NJ
13.	Hexanoic acid, trimethyl-	4.936	4	J
14. 65-85-0	Benzoic Acid	5.129	2	NJ
15.	UNKNOWN	5.795	2	J
16.	Propanol, [methyl-(propenylo	5.891	14	J
17.	UNKNOWN	6.020	7	J
18.	Benzoic acid, dimethyl-	6.342	7	J
19.	Benzoic acid, trimethyl-	6.879	9	J
20.	UNKNOWN	7.008	5	J
21.	Benzoic acid, trimethyl-	7.083	4	J
22.	UNKNOWN	7.222	10	J
23.	UNKNOWN	7.373	5	J
24.	UNKNOWN	7.534	2	J
25. 101-10-0	Propanoic acid, 2-(3-chlorop	8.242	10	NJ
26. 1638-16-0	2-Propanol, 1,1'-[(1-methyl-	8.306	2	NJ
27. 88-19-7	Benzenesulfonamide, 2-methyl	8.639	2	NJ
28. 309-43-3	Secobarbital Sodium	10.088	4	NJ
29.	UNKNOWN	10.571	5	J

wh 7/20

JB 658
7-14-98

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EWT99

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34283.04

Sample wt/vol: 1000 (g/mL) ML Lab File ID: T27790.D

MW9R

Level: (low/med) LOW Date Received: 06/06/98

% Moisture: _____ decanted: (Y/N)___ Date Extracted:06/08/98

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/09/98

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

Number TICs found: 34

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	10.614	6	J
2.		UNKNOWN	10.796	8	J
3.	10544-50-0	Sulfur, mol. (S8)	12.052	5	NJ
4.		UNKNOWN ORGANIC ACID	12.567	7	J
5.		UNKNOWN	14.424	14	J
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.					

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EWT99MS

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34283.04MS

Sample wt/vol: 1000 (g/mL) ML Lab File ID: T27791.D

Level: (low/med) LOW Date Received: 06/06/98

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 06/08/98

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/09/98

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	62	
111-44-4	bis(2-Chloroethyl)Ether	16	
95-57-8	2-Chlorophenol	62	
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	34	
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	40	
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	37	
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	72	
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	39	

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EWT99MS

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34283.04MS

Sample wt/vol: 1000 (g/mL) ML Lab File ID: T27791.D

Level: (low/med) LOW Date Received: 06/06/98

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 06/08/98

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/09/98

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	66	
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	43	
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	100	E
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	51	
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 ~~1~~	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

W.Lu 7/20/98 U

(1) - Cannot be separated from Diphenylamine

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EWT99MSD

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34283.04MSD

Sample wt/vol: 1000 (g/mL) ML Lab File ID: T27792.D

Level: (low/med) LOW Date Received: 06/05/98

% Moisture: _____ decanted: (Y/N)___ Date Extracted:06/08/98

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/09/98

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	58	
111-44-4	bis(2-Chloroethyl)Ether	15	
95-57-8	2-Chlorophenol	58	
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	32	
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	36	
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	36	
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	64	
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	36	

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EWT99MSD

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34283.04MSD

Sample wt/vol: 1000 (g/mL) ML Lab File ID: T27792.D

Level: (low/med) LOW Date Received: 06/05/98

% Moisture: _____ decanted: (Y/N)___ Date Extracted:06/08/98

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/09/98

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	63	
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	40	
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	94	E
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	47	
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~~	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

(1) - Cannot be separated from Diphenylamine

7/20/9

2E
WATER PESTICIDE SURROGATE RECOVERY

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

GC Column(1): RTX-CLP PEST ID: 0.32(mm) GC Column(2): RTX-CLP PEST II ID: 0.3

	EPA SAMPLE NO.	TCX 1 %REC #	TCX 2 %REC #	DCB 1 %REC #	DCB 2 %REC #	OTHER (1)	OTHER (2)	TOT OUT
01	PBLKWD	86	76	94	91			0
02	PBLKWE	69	68	100	97			0
03	PBLKWH	59	59	79	79			0
04	EARX6	57	56	77	70			0
05	EARX6MS	54	52	73	65			0
06	EARX6MSD	75	68	80	71			0
07	EARX7	50	46	59	60			0
08	EARX8	84	84	92	87			0
09	EARX9	80	79	83	82			0
10	EARY0	78	76	100	94			0
11	EARY2	66	59	72	68			0
12	EARY4	57	49	79	78			0
13	EARY3	60	59	54	53			0
14	EWT78	61	51	81	78			0
15	EWT99	51	49	71	68			0
16	EWT99MS	52	49	75	72			0
17	EWT99MSD	50	48	72	70			0
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

QC LIMITS

TCX = Tetrachloro-m-xylene (30-150)
DCB = Decachlorobiphenyl (30-150)

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

2E
WATER PESTICIDE SURROGATE RECOVERY

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

GC Column(1): RTX-CLPPEST ID: 0.32(mm) GC Column(2): RTX-CLPPEST II ID: 0.32(

	EPA SAMPLE NO.	TCX 1 %REC #	TCX 2 %REC #	DCB 1 %REC #	DCB 2 %REC #	OTHER (1)	OTHER (2)	TOT OUT
01	PBLKWA	88	88	112	113			0
02	EARY5	90	76	109	96			0
03	EARY6	85	85	116	111			0
04	EARY7	98	90	122	116			0
05								
06								
07								
08								
09								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

QC LIMITS

TCX = Tetrachloro-m-xylene (30-150)
DCB = Decachlorobiphenyl (30-150)

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

3E

WATER PESTICIDE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix Spike - EPA Sample NO.: EARX6

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
gamma-BHC(Lindane)	0.500	0	0.313	62	56-123
Heptachlor	0.500	0	0.364	73	40-131
Aldrin	0.500	0	0.292	58	40-120
Dieldrin	1.00	0	0.704	70	52-126
Endrin	1.00	0	0.846	85	56-121
4,4'-DDT	1.00	0	0.816	82	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	0.417	83	29 *	15	56-123
Heptachlor	0.500	0.473	95	26 *	20	40-131
Aldrin	0.500	0.399	80	32 *	22	40-120
Dieldrin	1.00	0.923	92	27 *	18	52-126
Endrin	1.00	1.12	112	27 *	21	56-121
4,4'-DDT	1.00	1.03	103	23	27	38-127

Column to be used to flag recovery values

* Values outside of QC limits

RPD: 5 out of 6 outside limits
Spike Recovery: 0 out of 12 outside limits

Comments: _____

3E

WATER PESTICIDE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix Spike - EPA Sample NO.: EWT99

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
gamma-BHC(Lindane)	0.500	0	0.301	60	56-123
Heptachlor	0.500	0	0.350	70	40-131
Aldrin	0.500	0	0.300	60	40-120
Dieldrin	1.00	0	0.684	68	52-126
Endrin	1.00	0	0.858	86	56-121
4,4'-DDT	1.00	0	0.805	80	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	0.296	59	2	15	56-123
Heptachlor	0.500	0.346	69	1	20	40-131
Aldrin	0.500	0.292	58	3	22	40-120
Dieldrin	1.00	0.672	67	1	18	52-126
Endrin	1.00	0.848	85	1	21	56-121
4,4'-DDT	1.00	0.792	79	1	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:

4C
PESTICIDE METHOD BLANK SUMMARY

EPA SAMPLE NO.

PBLKWH

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Lab Sample ID: PBLKWH Lab File ID: 16_13731

Matrix: (soil/water) WATER Extraction: (SepF/Cont/Sonc) SEPF

Sulfur Cleanup: (Y/N) N Date Extracted: 06/08/98

Date Analyzed (1): 06/10/98 Date Analyzed (2): 06/10/98

Time Analyzed (1): 1443 Time Analyzed (2): 1443

Instrument ID (1): HP_16A Instrument ID (2): HP_16B

GC Column (1): RTX-CLP PEST ID: 0.32(mm) GC Column (2): RTX-CLP PEST II ID: 0

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

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
01	EARY3	34283.02	06/10/98	06/10/98
02	EWT78	34283.03	06/10/98	06/10/98
03	EWT99	34283.04	06/10/98	06/10/98
04	EWT99MS	34283.04MS	06/10/98	06/10/98
05	EWT99MSD	34283.04MSD	06/10/98	06/10/98
06				
07				
08				
09				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				

Comments:

4C
PESTICIDE METHOD BLANK SUMMARY

EPA SAMPLE NO.

PBLKWE

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Lab Sample ID: PBLKWE Lab File ID: 16_13721

Matrix: (soil/water) WATER Extraction: (SepF/Cont/Sonc) SEPF

Sulfur Cleanup: (Y/N) N Date Extracted: 06/05/98

Date Analyzed (1): 06/10/98 Date Analyzed (2): 06/10/98

Time Analyzed (1): 1109 Time Analyzed (2): 1109

Instrument ID (1): HP_16A Instrument ID (2): HP_16B

GC Column (1): RTX-CLP PEST ID: 0.32(mm) GC Column (2): RTX-CLP PEST II ID: 0

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

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
01	EARY4	34269.01	06/10/98	06/10/98
02				
03				
04				
05				
06				
07				
08				
09				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				

Comments:

4C
PESTICIDE METHOD BLANK SUMMARY

EPA SAMPLE NO.

PBLKWD

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Lab Sample ID: PBLKWD Lab File ID: 16_13711

Matrix: (soil/water) WATER Extraction: (SepF/Cont/Sonc) SEPF

Sulfur Cleanup: (Y/N) N Date Extracted: 06/04/98

Date Analyzed (1): 06/10/98 Date Analyzed (2): 06/10/98

Time Analyzed (1): 0748 Time Analyzed (2): 0748

Instrument ID (1): HP_16A Instrument ID (2): HP_16B

GC Column (1): RTX-CLP PEST ID: 0.32(mm) GC Column (2): RTX-CLP PEST II ID: 0

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

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
01	EARX6	34226.01	06/10/98	06/10/98
02	EARX6MS	34226.01MS	06/10/98	06/10/98
03	EARX6MSD	34226.01MSD	06/10/98	06/10/98
04	EARX7	34226.02	06/10/98	06/10/98
05	EARX8	34243.01	06/10/98	06/10/98
06	EARX9	34243.02	06/10/98	06/10/98
07	EARY0	34243.03	06/10/98	06/10/98
08	EARY2	34243.04	06/10/98	06/10/98
09				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				

Comments:

4C

PESTICIDE METHOD BLANK SUMMARY

EPA SAMPLE NO.

PBLKWA

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Lab Sample ID: PBLKWA Lab File ID: 15_13827

Matrix: (soil/water) WATER Extraction: (SepF/Cont/Sonc) SEPF

Sulfur Cleanup: (Y/N) N Date Extracted: 06/12/98

Date Analyzed (1): 06/18/98 Date Analyzed (2): 06/18/98

Time Analyzed (1): 2300 Time Analyzed (2): 2300

Instrument ID (1): HP_15A Instrument ID (2): HP_15B

GC Column (1): RTX-CLPPEST ID: 0.32(mm) GC Column (2): RTX-CLPPEST II ID: 0.3

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

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
01	EARY5	34333.01	06/18/98	06/18/98
02	EARY6	34333.02	06/18/98	06/18/98
03	EARY7	34333.03	06/19/98	06/19/98
04				
05				
06				
07				
08				
09				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				

Comments:

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PBLKWA

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

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: 06/12/98

Concentrated Extract Volume: 10000(uL) Date Analyzed: 06/18/98

Injection Volume: 0.5(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 6.5 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

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PBLKWD

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

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

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

% Moisture: _____ decanted: (Y/N)___ Date Received: _____

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted:06/04/98

Concentrated Extract Volume: 10000(uL) Date Analyzed: 06/10/98

Injection Volume: 0.5(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

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PBLKWE

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

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

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

% Moisture: _____ decanted: (Y/N)___ Date Received: _____

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted:06/05/98

Concentrated Extract Volume: 10000(uL) Date Analyzed: 06/10/98

Injection Volume: 0.5(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

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PBLKWH

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

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

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

% Moisture: _____ decanted: (Y/N)___ Date Received: _____

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 06/08/98

Concentrated Extract Volume: 10000(uL) Date Analyzed: 06/10/98

Injection Volume: 0.5(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

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EARX6

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34226.01

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____ MW19

% Moisture: _____ decanted: (Y/N) __ Date Received: 06/03/98

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 06/04/98

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 06/10/98

Injection Volume: 0.5 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.8 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	0.064	P
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.082	P
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.

EARX7

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34226.02

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____ MW28

% Moisture: _____ decanted: (Y/N) __ Date Received: 06/03/98

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 06/04/98

Concentrated Extract Volume: 10000(uL) Date Analyzed: 06/10/98

Injection Volume: 0.5(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.9 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	0.018	PJ
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.

EARX8

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34243.01

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

% Moisture: _____ decanted: (Y/N) __ Date Received: 06/04/98 MW48

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 06/04/98

Concentrated Extract Volume: 10000(uL) Date Analyzed: 06/10/98

Injection Volume: 0.5(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 6.9 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	0.039	PJ
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.

EARX9

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34243.02

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

% Moisture: _____ decanted: (Y/N) __ Date Received: 06/04/98

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 06/04/98

Concentrated Extract Volume: 10000(uL) Date Analyzed: 06/10/98

Injection Volume: 0.5(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 6.4 Sulfur Cleanup: (Y/N) N

MW48 dupli.

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	0.014	PJ
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.

EARY0

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34243.03

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

% Moisture: _____ decanted: (Y/N) __ Date Received: 06/04/98

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 06/04/98

Concentrated Extract Volume: 10000(uL) Date Analyzed: 06/10/98

Injection Volume: 0.5(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.7 Sulfur Cleanup: (Y/N) N

MW7

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	0.015	PJ
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.

EARY2

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34243.04

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____ EB01

% Moisture: _____ decanted: (Y/N) __ Date Received: 06/04/98

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 06/04/98

Concentrated Extract Volume: 10000(uL) Date Analyzed: 06/10/98

Injection Volume: 0.5(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 8.4 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.

EARY3

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34283.02

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

% Moisture: _____ decanted: (Y/N) __ Date Received: 06/06/98

MW11

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 06/08/98

Concentrated Extract Volume: 10000(uL) Date Analyzed: 06/10/98

Injection Volume: 0.5(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 6.7 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	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.

EARY4

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34269.01

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

% Moisture: _____ decanted: (Y/N) __ Date Received: 06/05/98

MW51

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 06/05/98

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 06/10/98

Injection Volume: 0.5 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 6.4 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.

EARY5

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34333.01

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

% Moisture: _____ decanted: (Y/N) __ Date Received: 06/11/98

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 06/12/98

Concentrated Extract Volume: 10000(uL) Date Analyzed: 06/18/98

Injection Volume: 0.5(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 6.5 Sulfur Cleanup: (Y/N) N

M4S

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	0.064	
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	0.027	J
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.

EARY6

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

M4D

Matrix: (soil/water) WATER Lab Sample ID: 34333.02

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

% Moisture: _____ decanted: (Y/N) __ Date Received: 06/11/98

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 06/12/98

Concentrated Extract Volume: 10000(uL) Date Analyzed: 06/18/98

Injection Volume: 0.5(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.8 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.

EARY7

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34333.03 M3S

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

% Moisture: _____ decanted: (Y/N) __ Date Received: 06/11/98

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 06/12/98

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 06/19/98

Injection Volume: 0.5 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.3 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	0.026	J
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.075	P
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.

EWT78

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34283.03

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____ MW6

% Moisture: _____ decanted: (Y/N) __ Date Received: 06/06/98

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 06/08/98

Concentrated Extract Volume: 10000(uL) Date Analyzed: 06/10/98

Injection Volume: 0.5(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 6.5 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

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EWT99

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34283.04

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

% Moisture: _____ decanted: (Y/N) __ Date Received: 06/06/98 14W9R

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 06/08/98

Concentrated Extract Volume: 10000(uL) Date Analyzed: 06/10/98

Injection Volume: 0.5(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	0.014	J
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.

EARX6MS

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34226.01MS

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

% Moisture: _____ decanted: (Y/N) __ Date Received: 06/03/98

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 06/04/98

Concentrated Extract Volume: 10000(uL) Date Analyzed: 06/10/98

Injection Volume: 0.5(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.8 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)	0.31	
76-44-8	Heptachlor	0.36	P
309-00-2	Aldrin	0.29	
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.70	
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.85	
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	0.82	
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.032	J
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.

EARX6MSD

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34226.01MSD

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

% Moisture: _____ decanted: (Y/N) __ Date Received: 06/03/98

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 06/04/98

Concentrated Extract Volume: 10000(uL) Date Analyzed: 06/10/98

Injection Volume: 0.5(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.8 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.012	PJ
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.42	
76-44-8	Heptachlor	0.47	P
309-00-2	Aldrin	0.40	
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.92	
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	1.1	
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	1.0	
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.

EWT99MS

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34283.04MS

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

% Moisture: _____ decanted: (Y/N) __ Date Received: 06/06/98

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 06/08/98

Concentrated Extract Volume: 10000(uL) Date Analyzed: 06/10/98

Injection Volume: 0.5(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)	0.30	
76-44-8	Heptachlor	0.35	P
309-00-2	Aldrin	0.30	
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.68	
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.86	
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	0.80	
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.025	J
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.

EWT99MSD

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

Lab Code: AATS Case No.: 26240 SAS No.: SDG No.: EARX6

Matrix: (soil/water) WATER Lab Sample ID: 34283.04MSD

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

% Moisture: _____ decanted: (Y/N) __ Date Received: 06/06/98

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 06/08/98

Concentrated Extract Volume: 10000(uL) Date Analyzed: 06/10/98

Injection Volume: 0.5(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)	0.30	
76-44-8	Heptachlor	0.34	P
309-00-2	Aldrin	0.29	
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.67	
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.85	
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	0.79	
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.024	J
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

EPA United States Environmental Protection Agency
Contract Laboratory Program

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

SAS No. (if applicable):

Case No.: 26240

1. Project Code	Account Code	2. Region No.: 5	Sampling Co.: BVSPC	4. Date Shipped: 6-2-98	Carrier: Federal Express
Regional Information: TGB102		Sampler (Name): Steve Mrtvicka		Airbill Number: 5654191130	
Non-Superfund Program		Sampler Signature: [signature]		5. Ship To: Am Analytical & Tech. Services, 1700 West Albany, Suite C, Broken Arrow, OK 74012 ATTN: Harry Borg	
Site Name: American Chemical Services		3. Purpose* Lead: SF, [X] PRP, ST, FED; Early Action: CLEM, PA, REM, RI, SI, ESI; Long-Term Action: FS, [X] RD, [X] RA, O&M, NPLD			
City, State: Griffith, IN	Site Spill ID: J7				

6. 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)

7. 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

CLP Sample Numbers (from labels)	A Matrix (from Box 6) Other:	B Conc.: Low Med High	C Sample Type: Comp./ Grab	D Preservative (from Box 7) 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 Field QC Qualifier (B = Blank S = Spike D = Duplicate R = Rinsate PE = Perform. Eval — = Not a QC Sample)
EARX6	2	L	G	1	X				5-132101, 2	ACS-GW01-001	6-2-98 1345	META98	SRM	—
EARX6	2	L	G	6		X	X		5-132103-6	↓	↓	↓	↓	—
EARX7	2	L	G	1	X				5-132109, 10	ACS-GW02-001	6-2-98 1602	META99	SRM	—
EARX7	2	L	G	6		X	X		5-132111-4	↓	↓	↓	↓	—
EARY1	2	L	G	1	X				5-132130, 1	ACS-TB01-201	6-2-98 1445	—	SRM	B

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

Page 1 of 1

Sample(s) to be Used for Laboratory QC:

Additional Sampler Signatures:

Chain of Custody Seal Number(s): 153295, 153296, 153297, 153298

CHAIN OF CUSTODY RECORD

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[signature]	6-2-98 1730				
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	

A21-012-3 REV 3.93

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

EPA Form 9110-2

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

359296

United States Environmental Protection Agency
Contract Laboratory Program

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

SAS No. (if applicable):

Case No.: 26240

1. Project Code:
Account Code:
2. Region No.: 5
Sampling Co.: BVSPC
4. Date Shipped: 6-4-98
Carrier: Federal Express

Regional Information: TGB102
Sampler (Name): Steve Mrkvicka
Airbill Number: 8034899006 96

Non-Superfund Program
Sampler Signature: [signature]
5. Ship To: Amer. Analyt. & Tech. Services, Inc.
1700 West Albany, Suite C
Broken Arrow, OK 74012
ATTN: Harry Borg

Site Name: American Chemical Services
City, State: Griffith, IN
Site Spill ID: J7

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

6. 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)

7. 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

CLP Sample Numbers (from labels)	A Matrix (from Box 6) Other:	B Conc.: Low Med High	C Sample Type: Comp./ Grab	D Preservative (from Box 7) 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 Field QC Qualifier (B = Blank S = Spike D = Duplicate R = Rinsate PE = Perform. Eval — = Not a QC Sample)
EARY4	2	L	G	1	X				5-132160,1	ACS-GW06-001	6-4-98 0835	MEXA78	SRM	—
EARY4	2	L	G	6		X	X		5-132162-5	↓	↓	↓	↓	—
EWW45	2	L	G	1	X				5-132214,5	ACS-TB03-201	6-4-98 1045	—	SRM	B

Shipment for Case Complete? (Y/N): N
Page 1 of 1
Sample(s) to be Used for Laboratory QC:
Additional Sampler Signatures:
Chain of Custody Seal Number(s): 158681, 158682

CHAIN OF CUSTODY RECORD

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[signature]	6-4-98 1100				
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	

A21-012-3 REV 3.93

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

EPA Form 9110-2

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

359298

United States Environmental Protection Agency
Contract Laboratory Program

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

SAS No. (if applicable):

Case No.: 26240

1. Project Code	Account Code	2. Region No.: 5	Sampling Co.: BVSPC	4. Date Shipped: 6-5-98	Carrier: Federal Express
Regional Information: TGB102		Sampler (Name): Steve Mrkvicka		Airbill Number: 8034899007 00	
Non-Superfund Program		Sampler Signature: [signature]		5. Ship To: Amer. Analytical & Tech. Services, 1700 West Albany, Suite C, Broken Arrow, OK 74012	
Site Name: American Chemical Services		3. Purpose*		ATTN: Harry Borg	
City, State: Griffith, IN	Site Spill ID: J7				

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

6. 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)

7. 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

CLP Sample Numbers (from labels)	A Matrix (from Box 6) / Other:	B Conc.: Low Med High	C Sample Type: Comp./ Grab	D Preservative (from Box 7) / 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 Field QC Qualifier (B = Blank, S = Spike, D = Duplicate, R = Rinsate, PE = Perform. Eval, — = Not a QC Sample)
EWT99	2	L	G	1	X				5-132168-73	ACS-GW07-001	6-4-98 1520	MEXA83	SRM	—
EWT99	2	L	G	6		X	X		5-132174-85	↓	↓	↓	↓	—
EARY3	2	L	G	1	X				5-132152,3	ACS-GW05-001	6-5-98 0855	MEXA35	SRM	—
EARY3	2	L	G	6		X	X		5-132154-7	↓	↓	↓	↓	—
EWT78	2	L	G	1	X				5-132198,9	ACS-GW08-001	6-5-98 1140	METB01	SRM	—
EWT78	2	L	G	6		X	X		5-132200-3	↓	↓	↓	↓	—
EACW4	2	L	G	1	X				5-132216,7	ACS-TB04-201	6-5-98 1515	—	SRM	B

Shipment for Case Complete? (Y/N): Y(N)	Page 1 of 1	Sample(s) to be Used for Laboratory QC: EWT99	Additional Sampler Signatures	Chain of Custody Seal Number(s): 158689, 158690-6

CHAIN OF CUSTODY RECORD

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[signature]	6-5-98 1530				
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	

A21-012-3 REV 3.93

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

EPA Form 9110-2

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

359299

United States Environmental Protection Agency
Contract Laboratory Program

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

SAS No. (if applicable):

Case N: 26240

1. Project Code:
Account Code:
2. Region No.: 5
Sampling Co.: BVSPC
4. Date Shipped: 6-8-98
Carrier: Federal Express

Regional Information: TGB102
Sampler (Name): Steve Mrkvicka
Airbill Number: 8034899007 11

Non-Superfund Program
Sampler Signature:

Site Name: American Chemical Services
City, State: Griffith, IN
Site Spill ID: J7

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

5. Ship To
American Analyt. & Tech. Services
1700 West Albany, Suite C
Broken Arrow, OK 74012
ATTN: Harry Borg

6. 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)

7. 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

CLP Sample Numbers (from labels)	A Matrix (from Box 6) / Other:	B Conc.: Low Med High	C Sample Type: Comp./Grab	D Preservative (from Box 7) / 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 Field QC Qualifier (B = Blank, S = Spike, D = Duplicate, R = Rinsate, PE = Perform. Eval, — = Not a QC Sample)
EYB55	2	L	G	1	X				5-132206,7	ACS-GW09-001	6-8-98 0830	METC27	SRM	—
EYB55	2	L	G	6		X	X		5-132208-11	↓	↓	↓	↓	—
EARY5	2	L	G	1	X				5-132218,9	ACS-GW10-001	6-8-98 1000	META29	SRM	—
EARY5	2	L	G	6		X	X		5-13220-3	↓	↓	↓	↓	—
EARY6	2	L	G	1	X				5-132226,7	ACS-GW11-001	6-8-98 1045	META30	SRM	—
EARY6	2	L	G	6		X	X		5-132228-31	↓	↓	↓	↓	—
EARX2	4	L	G	1	X				5-132242,3	ACS-TB05-201	6-8-98 1130	—	SRM	B
EARY7	2	L	G	1	X				5-132234,5	ACS-GW12-001	6-8-98 1150	META31	SRM	—
EARY7	2	L	G	6		X	X		5-132236-9	↓	↓	↓	↓	—

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): 158697, 158698, 158592-7

CHAIN OF CUSTODY RECORD

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
	6-8-98 1440				
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	

A21-012-3 REV 3.93

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

EPA Form 9110-2

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

359300

EPA United States Environmental Protection Agency
Contract Laboratory Program

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

SAS No. (if applicable):

Case No.: 26240

1. Project Code:
Account Code:
2. Region No.: 5
Sampling Co.: BVSPC
4. Date Shipped: 6-3-98
Carrier: Federal Express

Regional Information: TGB102
Sampler (Name): Steve Mrkvicka
Airbill Number: 803489900663

Non-Superfund Program:
Sampler Signature:
5. Ship To: Amer. Analytical & Tech. Services, 1700 West Albany, Suite C, Broken Arrow, OK 74012
ATTN: Harry Borg

Site Name: American Chemical Services
City, State: Griffith, IN
Site Spill ID: J7

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

6. 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)

7. 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

CLP Sample Numbers (from labels)	A Matrix (from Box 6) Other:	B Conc.: Low Med High	C Sample Type: Comp./ Grab	D Preservative (from Box 7) 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 Field QC Qualifier (B = Blank S = Spike D = Duplicate R = Rinsate PE = Perform Eval — = Not a QC Sample)
EARY2	2	L	G	1	X				5-132144,5	ACS-EB01-201	6-3-98 0735	MEWZ39	SRM	R
EARY2	2	L	G	6		X	X		5-132146-9	↓	↓	↓	↓	↓
EARYØ	2	L	G	1	X				5-132132,3	ACS-GW04-001	6-3-98 0900	MEWZ38	SRM	—
EARYØ	2	L	G	6		X	X		5-132138-41	ACS-GW04-001	↓	↓	↓	—
EARX8	2	L	G	1	X				5-132117,8	ACS-GW03-001	6-3-98 1340	META87	SRM	—
EARX8	2	L	G	6		X	X		5-132119-22	↓	↓	↓	↓	—
EARX9	2	L	G	1	X				5-132125,6	ACS-GW03-101	6-3-98 1340	META88	SRM	D
EARX9	2	L	G	6		X	X		5-132127-9,34	↓	↓	↓	↓	D
EWT79	2	L	G	1	X				5-132196,7	ACS-TB02-201	6-3-98 1505	—	SRM	B

Shipment for Case Complete? (Y/N): N
Page 1 of 1
Sample(s) to be Used for Laboratory QC:
Additional Sampler Signatures:
Chain of Custody Seal Number(s): 153299, 153300, 158677, 158678, 158679, 158680

CHAIN OF CUSTODY RECORD

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[signature]	6-3-98 1535				
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	

A21-012-3 REV 3-93

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

EPA Form 9110-2

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

359297

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

ESD Central Regional Laboratory
Data Tracking Form for Contract Samples

Data Set No: _____ CERCLIS No: IN/05J7

Case No: 36240 Site Name Location: American Chemical

Contractor or EPA Lab: SWOK Data User: BHV

No. of Samples: 17 Date Sampled or Data Received: 7-15-98

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: 17 No. of samples received: 17

Received by: Lynette Burnett Date: 7-15-98

Received by LSSS: Lynette Burnett Date: 7-15-98

Review started: 7-20-98 Reviewer Signature: [illegible]

Total time spent on review: 25.5 Date review completed: 7-27-[illegible]

Copied by: Lynette Burnett Date: 8-5-98

Mailed to user by: Lynette Burnett Date: 8-5-98

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

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

_____

_____

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

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

DATE: 07-16-98

SUBJECT: Review of Data
Received for Review on 07-08-98

FROM: Stephen L. Ostrodka, Chief (SRT-4J)
Superfund Technical Support Section / L.F

TO: Data User: B & V

We have reviewed the data by CADRE for the following case:

SITE NAME: American Chemical Service (IN)

CASE NUMBER: 26240 SDG NUMBER: META87

Number and Type of Samples: 10 (Water)

Sample Numbers: META87-88, 98-99, METB01, MEWZ38-39, MEXA35, 78,83

Laboratory: Sentinel Hrs. for Review: 8.5 +1

Following are our findings:

All data are usable with the qualifications described in the attached narrative.

L. Finkelberg
07-24-98

CC: Cecilia Moore
Region 5 TPO
Mail Code: SM-5J

Case Number :26240
Site Name: American Chemical Service

SDG Number: META87
Laboratory: Sentinel

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

Ten soil samples, META87, 88, 98, 99, METB01, MEWZ38, 39, MEXA35, 78 and 83 were collected on 06-02-98 through 06-05-98. The lab received the samples on 06-04-98 and 06-06-98 in good condition. All samples were analyzed for metals and cyanide. All samples were analyzed using CLP SOW ILM04.0 analysis procedure.

Mercury analysis was performed using a Cold Vapor AA Technique. Cyanide analysis was performed using *MIDI Distillation* procedure. The remaining inorganic analyses were performed using an Inductively Coupled Plasma-Atomic Emission Spectrometric procedure.

Case Number :26240
Site Name: American Chemical Service

SDG Number: META87
Laboratory: Sentinel

1. HOLDING TIME:

HOLDING TIME CRITERIA

Inorganic

	-- Holding Time --		------- pH -------	
	Primary	Expanded	Primary	Expanded
Metals	180	0	2.0	0.0
Mercury	28	0	2.0	0.0
Cyanide	14	0	12.0	0.0

No problems were found for this qualification.

2. CALIBRATIONS:

CALIBRATION CRITERIA

Inorganic

Percent Recovery Limits

	--- Primary ---		-- Expanded ---	
	Low	High	Low	High
Cyanide	85.00	115.00	70.00	130.00
ICP	90.00	110.00	75.00	125.00
Mercury	80.00	120.00	65.00	135.00

No problems were found for this qualification.

Reviewed By: B. Yner
Date: 7-16-98

Case Number :26240
Site Name: American Chemical Service

SDG Number: META87
Laboratory: Sentinel

. BLANKS:

LABORATORY BLANKS CRITERIA

DC-283: The following inorganic samples are associated with a blank analyte with negative concentration whose absolute value is greater than the instrument detection limit (IDL). The sample concentration is greater than the IDL and less than five times the blank concentration. Hits are qualified "J". Some non-detect concentration readings are sufficiently high that the negative blank reading may have caused the IDL to be elevated. These non-detects are flagged "UJ".

Aluminum
META87, META98, META99, METB01, MEWZ38
MEXA83

Potassium
MEWZ39

Silver
METB01

Sodium
MEWZ39

DC-284: The following inorganic samples are associated with a calibration, preparation, or field blank (MEWZ39) concentration which is greater than the instrument detection limit (IDL). The sample concentration is also greater than the IDL and less than five times the blank concentration.
Hits are qualified "J" and non-detects are not flagged.

Barium
MEWZ39

Iron
MEWZ39

Magnesium
MEWZ39

Reviewed By: B. Yuen
Date: 7-16-98

Case Number :26240
Site Name: American Chemical Service

SDG Number: META87
Laboratory: Sentinel

Manganese
MEWZ39

Nickel
META87, META88, META98, META99, MEWZ38, MEXA35
MEXA78, MEXA83, METB01

Thallium
MEXA83

Potassium
MEWZ39

Copper
META88, META98, META99, MEWZ39, MEXA83

Chromium
META87, META98, MEWZ38, MEXA35, MEXA83

Lead
META99, METB01

Zinc
META87, META88, META98, META99, METB01
MEWZ38, MEWZ39, MEXA35, MEXA78, MEXA83

DC-338: During review of the following inorganic samples, the reported IDL/default CRDL value was used for cyanide.

META87, META88, META98, META99, METB01, MEWZ38
MEWZ39, MEXA35, MEXA78, MEXA83

4. MATRIX SPIKE/MATRIX SPIKE DUPLICATE AND LAB CONTROL SAMPLE:

MATRIX SPIKE CRITERIA

Inorganic

Percent Recovery Limits

Upper 125.0

Reviewed By: B. Lynn
Date: 7-16-98

Case Number :26240
Site Name: American Chemical Service

SDG Number: META87
Laboratory: Sentinel

Lower	75.0
Extreme lower	30.0

No problems were found for this qualification.

5. LABORATORY AND FIELD DUPLICATE

DC-330: The following inorganic samples are associated with duplicate results which did not meet absolute difference (AD) primary criteria.
Hits and non-detects are qualified "J".

Zinc
META87, META88, META98, META99, METB01, MEWZ38
MEWZ39, MEXA35, MEXA78, MEXA83

6. ICP ANALYSIS

DC-295: The following inorganic samples are associated with an ICP serial dilution percent difference which is not in control. The serial dilution result is greater than the sample result, indicating a potential negative interference. The data must be qualified using professional judgement. Hits and non-detects are flagged "J".

Manganese
META87, META88, META98, META99, METB01, MEWZ38
MEWZ39, MEXA35, MEXA78, MEXA83

7. GFAA ANALYSIS

No GFAA analyses were performed for this data set.

8. SAMPLE RESULTS

All data, except those qualified above, are acceptable.

Reviewed By: B. Yuen
Date: 7-16-98

CADRE Data Qualifier Sheet

Qualifiers	Data Qualifier Definitions
U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
J	The analyte was positively identified; the associated numerical value is an approximate concentration of the analyte in the sample.
UJ	The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the action limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
R	The data are unusable. (The compound may or may not be present)

FILE NAME: META87 DATE: 07/16/98 TIME: 09:39

CRITERIA FILE: FGDRI94

DATA

Original	X Qualified

QUALIFICATIONS PERFORMED

	Quantitation Limit		CRDL Standards
	Percent Moisture	X	ICS
X	Holding Time	X	LCS
X	Calibrations	X	Duplicates
X	Matrix Spikes	X	Furnace AA QC
	IPC	X	ICP Serial Dilutions
	Internal Standards	X	Sample Results Verification
	SMC/Surrogates	X	Laboratory Blanks
	System Performance		Field QC
	Sample Cleanup		

PRINT NON-DETECTS

X Yes	No

PRINT REJECTED RESULTS

X Yes	No

TAL QUALIFIED SPREADSHEET

Case No: 26240
SDG No: META87

Site: AMERICAN CHEMICAL SERVICE (IN)
Laboratory: SENTINEL, INC.

EPA SAMPLE NUMBER:	META87		META88		META98		META99		METB01	
REGIONAL SAMPLE NUMBER:										
SAMPLE LOCATION:										
SAMPLE TYPE:	Routine Sample		Routine Sample		Routine Sample		Routine Sample		Routine Sample	
MATRIX/ANALYSIS:	Water/Low		Water/Low		Water/Low		Water/Low		Water/Low	
DILUTION FACTOR:										
PERCENT SOLID:										
INORG										
Aluminum	71.9	J	14.9	U	16.1	UJ	85.5	J	14.9	UJ
Antimony	3.1	U	3.1	U	3.1	U	3.1	U	3.1	U
Arsenic	7.7		5.3		21.3		3.1	U	7	
Barium	86.1		88		648		106		231	
Beryllium	0.10	U	0.10	U	0.10	U	0.10	U	0.10	U
Cadmium	1.4		0.40		0.30	U	0.30	U	0.30	U
Calcium	84600		88800		71900		72600		209000	
Chromium	1.2	J	0.60	U	0.60	J	5.7		6.6	
Cobalt	3.4		2.6		2.5		1.9		2.1	
Copper	69.2		0.80	J	2.2	J	4.8	J	8.8	
Iron	17100		18000		4160		1970		2730	
Lead	45.6		1.9	U	1.9	U	3.2	J	2	J
Magnesium	12600		13200		54400		37900		44200	
Manganese	384	J	405	J	215	J	49.7	J	818	J
Mercury	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U
Nickel	8.5	J	10	J	9.5	J	4.6	J	21.1	J
Potassium	5350		5540		71800		1940		16500	
Selenium	2	U	2	U	2	U	2	U	2	U
Silver	0.80	U	0.80	U	0.80	U	0.80	U	0.80	UJ
Sodium	28000		29300		804000		15300		568000	
Thallium	4.6	U	4.6	U	4.6	U	4.6	U	4.6	U
Vanadium	1.1		0.80	U	0.80	U	0.80	U	0.80	U
Zinc	61.1	J	20	J	25	J	63.7	J	185	J
Cyanide	3.4		3.8		5.5		1.4		15	

FILE NAME: META87 DATE: 07/16/98 TIME: 09:39 CADRE98

Water units are reported in ug/L.
Soil units are reported in mg/Kg.

TAL QUALIFIED SPREADSHEET

Case No: 26240
SDG No: META87

Site: AMERICAN CHEMICAL SERVICE (IN)
Laboratory: SENTINEL, INC.

EPA SAMPLE NUMBER:	MEWZ38		MEWZ39		MEXA35		MEXA78		MEXA83	
REGIONAL SAMPLE NUMBER:										
SAMPLE LOCATION:										
SAMPLE TYPE:	Routine Sample		Routine Sample		Routine Sample		Routine Sample		Routine Sample	
MATRIX/ANALYSIS:	Water/Low		Water/Low		Water/Low		Water/Low		Water/Low	
DILUTION FACTOR:										
PERCENT SOLID:										
INORG										
Aluminum	91.6	J	14.9	U	506		432		57.4	J
Antimony	3.1	U	3.1	U	3.1	U	3.1	U	3.1	U
Arsenic	3.1	U	3.1	U	3.1	U	3.1	U	3.1	U
Barium	121		1.2	J	18.8		382		242	
Beryllium	0.10	U	0.10	U	0.10	U	0.10	U	0.10	U
Cadmium	1		0.30	U	0.30	U	0.40		1.1	
Calcium	79000		491		30000		125000		115000	
Chromium	2.3	J	0.90		2.6	J	9.4		3.8	J
Cobalt	4.9		1.2	U	2.1		4		1.9	
Copper	63.3		1.7	J	27.6		24.1		3.6	J
Iron	2770		50.8	J	1760		7890		12800	
Lead	22.9		1.9	U	25.1		22.2		14.3	
Magnesium	28000		94.3	J	13300		61900		30600	
Manganese	166	J	1.8	J	106	J	107	J	211	J
Mercury	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U
Nickel	5	J	1.7	U	8.2	J	9.6	J	8.3	J
Potassium	1420		99.6	J	1760		2670		6210	
Selenium	2	U	2	U	2	U	2	U	2	U
Silver	0.80	U	0.80	U	0.80	U	0.80	U	0.80	U
Sodium	18700		615	J	5060		106000		68800	
Thallium	4.6	U	4.6	U	4.6	U	4.6	U	4.8	J
Vanadium	1.6		0.80	U	2.6		0.80	U	1.1	
Zinc	112	J	40.7	J	119	J	71.9	J	95.3	J
Cyanide	2.1		1	U	1	U	1.6		4	

FILE NAME: META87 DATE: 07/16/98 TIME: 09:39 CADRE98

Water units are reported in ug/L.
Soil units are reported in mg/Kg.

QC EXCEPTION SUMMARY REPORT

ASE\SAS#: 26240
ATA SET:
AB QC # META87
ATE: 7-15-98

SITE: American Chemical Service (IN)
LAB: Sentinel
REVIEWED BY: B. L Jones

MATRIX: Water
CONC: Low

WATER SAMPLE SPK:
WATER SAMPLE DUP:
SOIL SAMPLE SPK:
SOIL SAMPLE DUP:

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	COMMENTS
ELEMENT	HOLD TIME	INITIAL CALIB	CONTIN CALIB	CALIB BLANK	PREP WATER BLANK	PREP SOIL BLANK	ICS %R	SOIL SPIKE %R	SOIL DUP RPD	ICS AQ	ICS SOIL	SERIAL DILUTION AQUEOUS	SERIAL DILUTION SOIL	AQ DUP %R	AQ SPIKE %R	BLANK	DUP RPD	BLANK	DUP RPD	
ALUMINUM				-27.1																
ANTIMONY																				
ARSENIC																				
BARIUM				1.3																
BERYLLIUM																				
CADMIUM																				
CALCIUM																				
CHROMIUM																0.93				
COBALT																				
COPPER				0.8												1.7				
IRON				31.5																
LEAD				2.4																
MAGNESIUM				78.4																
MANGANESE					1.072							12.2								
MERCURY																				
NICKEL				27.6																
POTASSIUM				27.7 -26.676																
SELENIUM																				
SILVER				-0.806																
SODIUM				-322.6																
THALLIUM				7.3																
TIN																				
VANADIUM																				
ZINC														23.8		40.7				
CYANIDE																				

(-BBL) AL: [illegible] A87, 98, 99, MEWZ38, MEXA83
(UJ) — ~~88, 39~~, METB01

Cu: META88, 98, MEWZ39, MEXA83
Pb: META99, METB01,
Fe, Mn, Mg: MEWZ39, K(J) — Na — (- blank)

Ni — all except MEWZ39
Ag — METB01(UJ)

F-blank MEWZ39; Cr. META87, 98 EWZ38, MEXA35, 83
Cu: META88, 98, 99
[illegible]

COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: SENTINEL, INC. Contract: 68-D5-0167

Lab Code: SENTIN Case No.: 26240 SAS No.: SDG No.: META87

SOW No.: ILM04.0

EPA Sample No.	Lab Sample ID.
META87	12642S
META88	12643S
META98	12644S
META99	12645S
METB01	12737S
MEWZ38	12646S
MEWZ39	12647S
MEXA35	12738S
MEXA78	12739S
MEXA83	12740S
MEXA83D	12740S2
MEXA83S	12740DS

RECEIVED
JUL 8, 1998
US EPA CENTRAL ANALYTICAL LAB.
536 S. CLARK ST.
CHICAGO, ILLINOIS 60605

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

Comments: The analyte concentration for manganese is estimated due to possible matrix interferences.

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: BA Kilgore

Date: 6/26/98 Title: QA Officer

MW48

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

META87

Lab Name: SENTINEL, INC. Contract: 68-D5-0167

Lab Code: SENTIN Case No.: 26240 SAS No.: SDG No.: META87

Matrix (soil/water): WATER Lab Sample ID: 12642S

Level (low/med): LOW Date Received: 06/04/98

% 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	71.9	B		P
7440-36-0	Antimony	3.1	U		P
7440-38-2	Arsenic	7.7	B		P
7440-39-3	Barium	86.1	B		P
7440-41-7	Beryllium	0.10	U		P
7440-43-9	Cadmium	1.4	B		P
7440-70-2	Calcium	84600			P
7440-47-3	Chromium	1.2	B		P
7440-48-4	Cobalt	3.4	B		P
7440-50-8	Copper	69.2			P
7439-89-6	Iron	17100			P
7439-92-1	Lead	45.6			P
7439-95-4	Magnesium	12600			P
7439-96-5	Manganese	384		E	P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	8.5	B		P
7440-09-7	Potassium	5350			P
7782-49-2	Selenium	2.0	U		P
7440-22-4	Silver	0.80	U		P
7440-23-5	Sodium	28000			P
7440-28-0	Thallium	4.6	U		P
7440-62-2	Vanadium	1.1	B		P
7440-66-6	Zinc	61.1		*	P
	Cyanide	3.4	B		CA

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

U.S. EPA - CLP
1

MW48 duplicate

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

META88

Lab Name: SENTINEL, INC. Contract: 68-D5-0167

Lab Code: SENTIN Case No.: 26240 SAS No.: SDG No.: META87

Matrix (soil/water): WATER Lab Sample ID: 12643S

Level (low/med): LOW Date Received: 06/04/98

% 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	14.9	U		P
7440-36-0	Antimony	3.1	U		P
7440-38-2	Arsenic	5.3	B		P
7440-39-3	Barium	88.0	B		P
7440-41-7	Beryllium	0.10	U		P
7440-43-9	Cadmium	0.40	B		P
7440-70-2	Calcium	88800			P
7440-47-3	Chromium	0.60	U		P
7440-48-4	Cobalt	2.6	B		P
7440-50-8	Copper	0.84	B		P
7439-89-6	Iron	18000			P
7439-92-1	Lead	1.9	U		P
7439-95-4	Magnesium	13200			P
7439-96-5	Manganese	405		E	P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	10.0	B		P
7440-09-7	Potassium	5540			P
7782-49-2	Selenium	2.0	U		P
7440-22-4	Silver	0.80	U		P
7440-23-5	Sodium	29300			P
7440-28-0	Thallium	4.6	U		P
7440-62-2	Vanadium	0.80	U		P
7440-66-6	Zinc	20.0		*	P
	Cyanide	3.8	B		CA

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

MW19

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

META98

Lab Name: SENTINEL, INC. Contract: 68-D5-0167

Lab Code: SENTIN Case No.: 26240 SAS No.: SDG No.: META87

Matrix (soil/water): WATER Lab Sample ID: 12644S

Level (low/med): LOW Date Received: 06/04/98

% 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	16.1	B		P
7440-36-0	Antimony	3.1	U		P
7440-38-2	Arsenic	21.3			P
7440-39-3	Barium	648			P
7440-41-7	Beryllium	0.10	U		P
7440-43-9	Cadmium	0.30	U		P
7440-70-2	Calcium	71900			P
7440-47-3	Chromium	0.66	B		P
7440-48-4	Cobalt	2.5	B		P
7440-50-8	Copper	2.2	B		P
7439-89-6	Iron	4160			P
7439-92-1	Lead	1.9	U		P
7439-95-4	Magnesium	54500			P
7439-96-5	Manganese	215		E	P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	9.5	B		P
7440-09-7	Potassium	71800			P
7782-49-2	Selenium	2.0	U		P
7440-22-4	Silver	0.80	U		P
7440-23-5	Sodium	805000			P
7440-28-0	Thallium	4.6	U		P
7440-62-2	Vanadium	0.80	U		P
7440-66-6	Zinc	25.0		*	P
	Cyanide	5.5	B		CA

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

MW28

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

META99

Lab Name: SENTINEL, INC. Contract: 68-D5-0167

Lab Code: SENTIN Case No.: 26240 SAS No.: SDG No.: META87

Matrix (soil/water): WATER Lab Sample ID: 12645S

Level (low/med): LOW Date Received: 06/04/98

% 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	85.5	B		P
7440-36-0	Antimony	3.1	U		P
7440-38-2	Arsenic	3.1	U		P
7440-39-3	Barium	106	B		P
7440-41-7	Beryllium	0.10	U		P
7440-43-9	Cadmium	0.30	U		P
7440-70-2	Calcium	72600			P
7440-47-3	Chromium	5.7	B		P
7440-48-4	Cobalt	1.9	B		P
7440-50-8	Copper	4.8	B		P
7439-89-6	Iron	1970			P
7439-92-1	Lead	3.2			P
7439-95-4	Magnesium	37900			P
7439-96-5	Manganese	49.7		E	P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	4.6	B		P
7440-09-7	Potassium	1940	B		P
7782-49-2	Selenium	2.0	U		P
7440-22-4	Silver	0.80	U		P
7440-23-5	Sodium	15300			P
7440-28-0	Thallium	4.6	U		P
7440-62-2	Vanadium	0.80	U		P
7440-66-6	Zinc	63.7		*	P
	Cyanide	1.4	B		CA

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

MW06

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

METB01

Lab Name: SENTINEL, INC. Contract: 68-D5-0167

Lab Code: SENTIN Case No.: 26240 SAS No.: SDG No.: META87

Matrix (soil/water): WATER Lab Sample ID: 12737S

Level (low/med): LOW Date Received: 06/06/98

% 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	14.9	U		P
7440-36-0	Antimony	3.1	U		P
7440-38-2	Arsenic	7.0	B		P
7440-39-3	Barium	231			P
7440-41-7	Beryllium	0.10	U		P
7440-43-9	Cadmium	0.30	U		P
7440-70-2	Calcium	209000			P
7440-47-3	Chromium	6.7	B		P
7440-48-4	Cobalt	2.1	B		P
7440-50-8	Copper	8.8	B		P
7439-89-6	Iron	2730			P
7439-92-1	Lead	2.0	B		P
7439-95-4	Magnesium	44200			P
7439-96-5	Manganese	818		E	P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	21.1	B		P
7440-09-7	Potassium	16500			P
7782-49-2	Selenium	2.0	U		P
7440-22-4	Silver	0.80	U		P
7440-23-5	Sodium	568000			P
7440-28-0	Thallium	4.6	U		P
7440-62-2	Vanadium	0.80	U		P
7440-66-6	Zinc	185		*	P
	Cyanide	15.0			CA

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

MW07

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

MEWZ38

Lab Name: SENTINEL, INC. Contract: 68-D5-0167

Lab Code: SENTIN Case No.: 26240 SAS No.: SDG No.: META87

Matrix (soil/water): WATER Lab Sample ID: 12646S

Level (low/med): LOW Date Received: 06/04/98

% 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	91.6	B		P
7440-36-0	Antimony	3.1	U		P
7440-38-2	Arsenic	3.1	U		P
7440-39-3	Barium	121	B		P
7440-41-7	Beryllium	0.10	U		P
7440-43-9	Cadmium	0.99	B		P
7440-70-2	Calcium	79000			P
7440-47-3	Chromium	2.3	B		P
7440-48-4	Cobalt	4.9	B		P
7440-50-8	Copper	63.3			P
7439-89-6	Iron	2770			P
7439-92-1	Lead	22.9			P
7439-95-4	Magnesium	28000			P
7439-96-5	Manganese	167		E	P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	5.0	B		P
7440-09-7	Potassium	1430	B		P
7782-49-2	Selenium	2.0	U		P
7440-22-4	Silver	0.80	U		P
7440-23-5	Sodium	18700			P
7440-28-0	Thallium	4.6	U		P
7440-62-2	Vanadium	1.6	B		P
7440-66-6	Zinc	112		*	P
	Cyanide	2.1	B		CA

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

EB01

EPA SAMPLE NO.

MEWZ39

INORGANIC ANALYSIS DATA SHEET

Lab Name: SENTINEL, INC. Contract: 68-D5-0167

Lab Code: SENTIN Case No.: 26240 SAS No.: SDG No.: META87

Matrix (soil/water): WATER Lab Sample ID: 12647S

Level (low/med): LOW Date Received: 06/04/98

% 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	14.9	U		P
7440-36-0	Antimony	3.1	U		P
7440-38-2	Arsenic	3.1	U		P
7440-39-3	Barium	1.2	B		P
7440-41-7	Beryllium	0.10	U		P
7440-43-9	Cadmium	0.30	U		P
7440-70-2	Calcium	491	B		P
7440-47-3	Chromium	0.93	B		P
7440-48-4	Cobalt	1.2	U		P
7440-50-8	Copper	1.7	B		P
7439-89-6	Iron	50.8	B		P
7439-92-1	Lead	1.9	U		P
7439-95-4	Magnesium	94.3	B		P
7439-96-5	Manganese	1.8	B	E	P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	1.7	U		P
7440-09-7	Potassium	99.6	B		P
7782-49-2	Selenium	2.0	U		P
7440-22-4	Silver	0.80	U		P
7440-23-5	Sodium	615	B		P
7440-28-0	Thallium	4.6	U		P
7440-62-2	Vanadium	0.80	U		P
7440-66-6	Zinc	40.7		*	P
	Cyanide	1.0	U		CA

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

MW11

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

MEXA35

Lab Name: SENTINEL, INC. Contract: 68-D5-0167

Lab Code: SENTIN Case No.: 26240 SAS No.: SDG No.: META87

Matrix (soil/water): WATER Lab Sample ID: 12738S

Level (low/med): LOW Date Received: 06/06/98

% 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	506			P
7440-36-0	Antimony	3.1	U		P
7440-38-2	Arsenic	3.1	U		P
7440-39-3	Barium	18.8	B		P
7440-41-7	Beryllium	0.10	U		P
7440-43-9	Cadmium	0.30	U		P
7440-70-2	Calcium	30000			P
7440-47-3	Chromium	2.6	B		P
7440-48-4	Cobalt	2.1	B		P
7440-50-8	Copper	27.5			P
7439-89-6	Iron	1770			P
7439-92-1	Lead	25.1			P
7439-95-4	Magnesium	13300			P
7439-96-5	Manganese	106		E	P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	8.2	B		P
7440-09-7	Potassium	1760	B		P
7782-49-2	Selenium	2.0	U		P
7440-22-4	Silver	0.80	U		P
7440-23-5	Sodium	5060			P
7440-28-0	Thallium	4.6	U		P
7440-62-2	Vanadium	2.6	B		P
7440-66-6	Zinc	119		*	P
	Cyanide	1.0	U		CA

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

MW51

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

MEXA78

Lab Name: SENTINEL, INC. Contract: 68-D5-0167

Lab Code: SENTIN Case No.: 26240 SAS No.: SDG No.: META87

Matrix (soil/water): WATER Lab Sample ID: 12739S

Level (low/med): LOW Date Received: 06/06/98

% 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	432			P
7440-36-0	Antimony	3.1	U		P
7440-38-2	Arsenic	3.1	U		P
7440-39-3	Barium	382			P
7440-41-7	Beryllium	0.10	U		P
7440-43-9	Cadmium	0.38	B		P
7440-70-2	Calcium	125000			P
7440-47-3	Chromium	9.4	B		P
7440-48-4	Cobalt	4.0	B		P
7440-50-8	Copper	24.1	B		P
7439-89-6	Iron	7890			P
7439-92-1	Lead	22.3			P
7439-95-4	Magnesium	61900			P
7439-96-5	Manganese	107		E	P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	9.6	B		P
7440-09-7	Potassium	2670	B		P
7782-49-2	Selenium	2.0	U		P
7440-22-4	Silver	0.80	U		P
7440-23-5	Sodium	106000			P
7440-28-0	Thallium	4.6	U		P
7440-62-2	Vanadium	0.80	U		P
7440-66-6	Zinc	71.9		*	P
	Cyanide	1.6	B		CA

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

10

MW9R

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

MEXA83

Lab Name: SENTINEL, INC. Contract: 68-D5-0167

Lab Code: SENTIN Case No.: 26240 SAS No.: SDG No.: META87

Matrix (soil/water): WATER Lab Sample ID: 12740S

Level (low/med): LOW Date Received: 06/06/98

% 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	57.4	B		P
7440-36-0	Antimony	3.1	U		P
7440-38-2	Arsenic	3.1	U		P
7440-39-3	Barium	242			P
7440-41-7	Beryllium	0.10	U		P
7440-43-9	Cadmium	1.1	B		P
7440-70-2	Calcium	115000			P
7440-47-3	Chromium	3.8	B		P
7440-48-4	Cobalt	1.9	B		P
7440-50-8	Copper	3.6	B		P
7439-89-6	Iron	12800			P
7439-92-1	Lead	14.3			P
7439-95-4	Magnesium	30600			P
7439-96-5	Manganese	211		E	P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	8.3	B		P
7440-09-7	Potassium	6210			P
7782-49-2	Selenium	2.0	U		P
7440-22-4	Silver	0.80	U		P
7440-23-5	Sodium	68800			P
7440-28-0	Thallium	4.8	B		P
7440-62-2	Vanadium	1.1	B		P
7440-66-6	Zinc	95.3		*	P
	Cyanide	4.0	B		CA

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

BLANKS

Lab Name: SENTINEL, INC. Contract: 68-D5-0167

Lab Code: SENTIN Case No.: 26240 SAS No.: SDG No.: META87

Preparation Blank Matrix (soil/water): WATER

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

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum	-27.1	B	14.9	U	-26.8	B	14.9	U	14.900	U	P
Antimony	3.1	U	3.1	U	3.1	U	3.1	U	3.100	U	P
Arsenic	3.1	U	3.1	U	3.1	U	3.1	U	3.100	U	P
Barium	1.0	B	0.9	B	1.0	B	1.2	B	0.400	U	P
Beryllium	0.1	B	0.1	U	0.1	U	0.2	B	0.100	U	P
Cadmium	0.3	U	0.3	U	0.3	U	0.3	U	0.300	U	P
Calcium	26.4	U	76.4	B	26.4	U	95.6	B	45.072	B	P
Chromium	0.6	U	0.6	U	0.6	U	0.6	U	0.600	U	P
Cobalt	1.2	U	1.2	U	1.2	U	1.2	U	1.200	U	P
Copper	0.8	B	0.8	B	0.8	U	0.8	U	0.800	U	P
Iron	12.3	U	14.6	B	12.3	U	31.5	B	12.300	U	P
Lead	2.4	B	1.9	U	1.9	U	1.9	U	1.900	U	P
Magnesium	23.5	B	59.8	B	22.0	U	78.4	B	27.715	B	P
Manganese	0.3	B	0.2	B	0.3	B	0.3	B	1.072	B	P
Mercury	0.2	U	0.2	U	0.2	U	0.2	U	0.200	U	CV
Nickel	1.7	U	1.7	U	1.7	U	1.7	U	2.457	B	P
Potassium	27.7	B	12.1	U	12.1	U	12.1	U	-26.676	B	P
Selenium	2.3	B	2.7	B	3.2	B	2.0	U	2.000	U	P
Silver	0.8	U	0.8	U	0.8	U	0.8	U	-0.806	B	P
Sodium	146.6	U	146.6	U	146.6	U	-164.6	B	-322.602	B	P
Thallium	6.8	B	6.5	B	4.6	U	6.1	B	4.600	U	P
Vanadium	0.8	U	0.8	U	0.8	U	0.8	U	0.800	U	P
Zinc	2.7	U	2.7	U	2.7	U	2.7	U	2.700	U	P
Cyanide	1.0	U	1.0	U	1.0	U	1.0	U	1.000	U	CA

U.S. EPA - CLP

3

BLANKS

Lab Name: SENTINEL, INC. Contract: 68-D5-0167

Lab Code: SENTIN Case No.: 26240 SAS No.: SDG No.: META87

Preparation Blank Matrix (soil/water): WATER

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

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum			14.9	U							P
Antimony			3.1	U							P
Arsenic			3.1	U							P
Barium			1.3	B							P
Beryllium			0.1	B							P
Cadmium			0.3	U							P
Calcium			73.4	B							P
Chromium			0.6	U							P
Cobalt			1.2	U							P
Copper			0.8	U							P
Iron			25.0	B							P
Lead			1.9	U							P
Magnesium			66.1	B							P
Manganese			0.3	B							P
Mercury											NR
Nickel			1.7	U					1.700	U	P
Potassium			12.1	U							P
Selenium			3.5	B							P
Silver			0.8	U							P
Sodium			146.6	U							P
Thallium			7.3	B							P
Vanadium			0.8	U							P
Zinc			2.7	U							P
Cyanide											NR

U.S. EPA - CLP

3

BLANKS

Lab Name: SENTINEL, INC. Contract: 68-D5-0167

Lab Code: SENTIN Case No.: 26240 SAS No.: SDG No.: META87

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	1.7	U	27.6	B	1.7	B	1.7	U			P
Potassium											NR
Selenium											NR
Silver											NR
Sodium	146.6	U	146.6	U	146.6	U	146.6	U			P
Thallium											NR
Vanadium											NR
Zinc											NR
Cyanide											NR

U.S. EPA - CLP

3

BLANKS

Lab Name: SENTINEL, INC. Contract: 68-D5-0167

Lab Code: SENTIN Case No.: 26240 SAS No.: SDG No.: META87

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			1.7	U							P
Potassium											NR
Selenium											NR
Silver											NR
Sodium											NR
Thallium											NR
Vanadium											NR
Zinc											NR
Cyanide											NR

U.S. EPA - CLP

5A

SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

MEXA83S

Lab Name: SENTINEL, INC. Contract: 68-D5-0167

Lab Code: SENTIN Case No.: 26240 SAS No.: SDG No.: META87

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	2258.7400		57.3520	B	2000.00	110.1		P
Antimony	75-125	533.7060		3.1000	U	500.00	106.7		P
Arsenic	75-125	44.2520		3.1000	U	40.00	110.6		P
Barium	75-125	2399.5180		242.2940		2000.00	107.9		P
Beryllium	75-125	54.8240		0.1000	U	50.00	109.6		P
Cadmium	75-125	53.1290		1.0960	B	50.00	104.1		P
Calcium									NR
Chromium	75-125	223.3890		3.8190	B	200.00	109.8		P
Cobalt	75-125	553.0310		1.8710	B	500.00	110.2		P
Copper	75-125	279.9520		3.5670	B	250.00	110.6		P
Iron		14889.2470		12819.5710		1000.00	207.0		P
Lead	75-125	31.1030		14.2650		20.00	84.2		P
Magnesium									NR
Manganese	75-125	763.5000		210.7540		500.00	110.5		P
Mercury	75-125	1.0400		0.2000	U	1.00	104.0		CV
Nickel	75-125	562.2400		8.3370	B	500.00	110.8		P
Potassium									NR
Selenium	75-125	9.6690		2.0000	U	10.00	96.7		P
Silver	75-125	43.4380		0.8000	U	50.00	86.9		P
Sodium									NR
Thallium	75-125	56.0520		4.7530	B	50.00	102.6		P
Vanadium	75-125	543.9240		1.0640	B	500.00	108.6		P
Zinc	75-125	649.8400		95.3000		500.00	110.9		P
Cyanide	75-125	105.6848		3.9630	B	100.00	101.7		CA

Comments:

U.S. EPA - CLP

6

DUPLICATES

EPA SAMPLE NO.

MEXA83D

Lab Name: SENTINEL, INC. Contract: 68-D5-0167

Lab Code: SENTIN Case No.: 26240 SAS No.: SDG No.: META87

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		57.3520	B	123.7470	B	73.3		P
Antimony		3.1000	U	3.1000	U			P
Arsenic		3.1000	U	3.1000	U			P
Barium	200.0	242.2940		251.7800		3.8		P
Beryllium		0.1000	U	0.1000	U			P
Cadmium		1.0960	B	0.9010	B	19.5		P
Calcium		114983.8200		121563.3090		5.6		P
Chromium		3.8190	B	4.7520	B	21.8		P
Cobalt		1.8710	B	2.7430	B	37.8		P
Copper		3.5670	B	9.1200	B	87.5		P
Iron		12819.5710		13545.3090		5.5		P
Lead	3.0	14.2650		16.9740		17.3		P
Magnesium		30592.9600		32041.7310		4.6		P
Manganese		210.7540		215.2870		2.1		P
Mercury		0.2000	U	0.2000	U			CV
Nickel		8.3370	B	25.2700	B	100.8		P
Potassium	5000.0	6213.7690		6394.3600		2.9		P
Selenium		2.0000	U	2.0000	U			P
Silver		0.8000	U	0.8000	U			P
Sodium		68810.5280		71203.1400		3.4		P
Thallium		4.7530	B	6.4090	B	29.7		P
Vanadium		1.0640	B	1.8020	B	51.5		P
Zinc	20.0	95.3000		120.9970		23.8	*	P
Cyanide		3.9630	B	3.8704	B	2.4		CA

ICP SERIAL DILUTIONS

EPA SAMPLE NO.

MEXA83L

Lab Name: SENTINEL, INC. Contract: 68-D5-0167

Lab Code: SENTIN Case No.: 26240 SAS No.: SDG No.: META87

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

Concentration Units: ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Differ-ence	Q	M
Aluminum	57.35	B	292.68	B	410.3		P
Antimony	3.10	U	32.55	B			P
Arsenic	3.10	U	15.50	U			P
Barium	242.29		238.88	B	1.4		P
Beryllium	0.10	U	0.50	U			P
Cadmium	1.10	B	2.32	B	110.9		P
Calcium	114983.82		125480.23		9.1		P
Chromium	3.82	B	4.55	B	19.1		P
Cobalt	1.87	B	6.00	U	100.0		P
Copper	3.57	B	225.90		6227.7		P
Iron	12819.57		12311.19		4.0		P
Lead	14.26		179.28		1157.2		P
Magnesium	30592.96		30868.58		0.9		P
Manganese	210.75		236.44		12.2	E	P
Mercury							NR
Nickel	8.34	B	18.86	B	126.1		P
Potassium	6213.77		6214.68	B	0.0		P
Selenium	2.00	U	23.50	B			P
Silver	0.80	U	4.00	U			P
Sodium	68810.53		66663.50		3.1		P
Thallium	4.75	B	23.00	U	100.0		P
Vanadium	1.06	B	4.00	U	100.0		P
Zinc	95.30		152.84		60.4		P

U.S. EPA - CLP

10
INSTRUMENT DETECTION LIMITS (QUARTERLY)

Lab Name: SENTINEL, INC. Contract: 68-D5-0167

Lab Code: SENTIN Case No.: 26240 SAS No.: SDG No.: META87

ICP ID Number: P3 Date: 04/15/98

Flame AA ID Number:

Furnace AA ID Number:

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum	308.20		200	14.9	P
Antimony	206.80		60	3.1	P
Arsenic	189.00		10	3.1	P
Barium	493.40		200	0.4	P
Beryllium	313.00		5	0.1	P
Cadmium	226.50		5	0.3	P
Calcium	317.90		5000	26.4	P
Chromium	267.70		10	0.6	P
Cobalt	228.60		50	1.2	P
Copper	324.70		25	0.8	P
Iron	271.40		100	12.3	P
Lead	220.30		3	1.9	P
Magnesium	279.00		5000	22.0	P
Manganese	257.60		15	0.2	P
Mercury			0.2		NR
Nickel	231.60		40	1.7	P
Potassium	766.40		5000	12.1	P
Selenium	196.00		5	2.0	P
Silver	328.00		10	0.8	P
Sodium	330.20		5000	146.6	P
Thallium	190.80		10	4.6	P
Vanadium	292.40		50	0.8	P
Zinc	206.20		20	2.7	P
Cyanide			10		NR

Comments:
P3: THERMO JARRELL ASH

U.S. EPA - CLP

10
INSTRUMENT DETECTION LIMITS (QUARTERLY)

Lab Name: SENTINEL, INC. Contract: 68-D5-0167

Lab Code: SENTIN Case No.: 26240 SAS No.: SDG No.: META87

ICP ID Number: Date: 04/10/98

Flame AA ID Number: C3

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	253.70		0.2	0.2	CV
Nickel			40		NR
Potassium			5000		NR
Selenium			5		NR
Silver			10		NR
Sodium			5000		NR
Thallium			10		NR
Vanadium			50		NR
Zinc			20		NR
Cyanide			10		NR

Comments:
C3: PERKIN-ELMER

U.S. EPA - CLP

10
INSTRUMENT DETECTION LIMITS (QUARTERLY)

Lab Name: SENTINEL, INC. Contract: 68-D5-0167

Lab Code: SENTIN Case No.: 26240 SAS No.: SDG No.: META87

ICP ID Number: Date: 04/15/98

Flame AA ID Number: C1

Furnace AA ID Number:

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum			200		NR
Antimony			60		NR
Arsenic			10		NR
Barium			200		NR
Beryllium			5		NR
Cadmium			5		NR
Calcium			5000		NR
Chromium			10		NR
Cobalt			50		NR
Copper			25		NR
Iron			100		NR
Lead			3		NR
Magnesium			5000		NR
Manganese			15		NR
Mercury			0.2		NR
Nickel			40		NR
Potassium			5000		NR
Selenium			5		NR
Silver			10		NR
Sodium			5000		NR
Thallium			10		NR
Vanadium			50		NR
Zinc			20		NR
Cyanide	578.00		10	1.0	CA

Comments:
C1: LACHAT

U.S. EPA - CLP

14
ANALYSIS RUN LOG

Lab Name: SENTINEL, INC. Contract: 68-D5-0167

Lab Code: SENTIN Case No.: 26240 SAS No.: SDG No.: META87

Instrument ID Number: P3 Method: P

Start date: 06/22/98 End date: 06/22/98

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	1337		X	X	X	X	X	X	X	X	X	X	X	X	X	X			X	X	X	X	X	X	X	
S	1.00	1344		X	X	X	X	X	X	X	X	X	X	X	X	X	X			X	X	X	X	X	X	X	
ICV	1.00	1350		X	X	X	X	X	X	X	X	X	X	X	X	X	X			X	X	X	X	X	X	X	
ICB	1.00	1356		X	X	X	X	X	X	X	X	X	X	X	X	X	X			X	X	X	X	X	X	X	
CRI	1.00	1402			X	X		X	X		X	X	X		X		X				X	X		X	X	X	
ICSA	1.00	1408		X	X	X	X	X	X	X	X	X	X	X	X	X	X			X	X	X	X	X	X	X	
ICSAB	1.00	1414		X	X	X	X	X	X	X	X	X	X	X	X	X	X			X	X	X	X	X	X	X	
CCV	1.00	1420		X	X	X	X	X	X	X	X	X	X	X	X	X	X			X	X	X	X	X	X	X	
CCB	1.00	1427		X	X	X	X	X	X	X	X	X	X	X	X	X	X			X	X	X	X	X	X	X	
PBW	1.00	1433		X	X	X	X	X	X	X	X	X	X	X	X	X	X			X	X	X	X	X	X	X	
LCSW	1.00	1439		X	X	X	X	X	X	X	X	X	X	X	X	X	X			X	X	X	X	X	X	X	
MEXA83L	5.00	1445		X	X	X	X	X	X	X	X	X	X	X	X	X	X			X	X	X	X	X	X	X	
MEXA83	1.00	1451		X	X	X	X	X	X	X	X	X	X	X	X	X	X			X	X	X	X	X	X	X	
MEXA83D	1.00	1457		X	X	X	X	X	X	X	X	X	X	X	X	X	X			X	X	X	X	X	X	X	
MEXA83S	1.00	1503		X	X	X	X	X	X		X	X	X	X	X		X				X	X		X	X	X	
MEXA83A	1.00	1509																									
META87	1.00	1516		X	X	X	X	X	X	X	X	X	X	X	X	X	X			X	X	X	X	X	X	X	
META88	1.00	1522		X	X	X	X	X	X	X	X	X	X	X	X	X	X			X	X	X	X	X	X	X	
CCV	1.00	1528		X	X	X	X	X	X	X	X	X	X	X	X	X	X			X	X	X	X	X	X	X	
CCB	1.00	1534		X	X	X	X	X	X	X	X	X	X	X	X	X	X			X	X	X	X	X	X	X	
META98	1.00	1540		X	X	X	X	X	X	X	X	X	X	X	X	X	X			X	X	X		X	X	X	
META99	1.00	1546		X	X	X	X	X	X	X	X	X	X	X	X	X	X			X	X	X	X	X	X	X	
MEWZ38	1.00	1552		X	X	X	X	X	X	X	X	X	X	X	X	X	X			X	X	X	X	X	X	X	
MEWZ39	1.00	1559		X	X	X	X	X	X	X	X	X	X	X	X	X	X			X	X	X	X	X	X	X	
METB01	1.00	1605		X	X	X	X	X	X	X	X	X	X	X	X	X	X			X	X	X		X	X	X	
MEXA35	1.00	1611		X	X	X	X	X	X	X	X	X	X	X	X	X	X			X	X	X	X	X	X	X	
CRI	1.00	1617			X	X		X	X		X	X	X		X		X				X	X		X	X	X	
ICSA	1.00	1623		X	X	X	X	X	X	X	X	X	X	X	X	X	X			X	X	X	X	X	X	X	
ICSAB	1.00	1629		X	X	X	X	X	X	X	X	X	X	X	X	X	X			X	X	X	X	X	X	X	
CCV	1.00	1635		X	X	X	X	X	X	X	X	X	X	X	X	X	X			X	X	X	X	X	X	X	
CCB	1.00	1641		X	X	X	X	X	X	X	X	X	X	X	X	X	X			X	X	X	X	X	X	X	
MEXA78	1.00	1648		X	X	X	X	X	X	X	X	X	X	X	X	X	X			X	X	X	X	X	X	X	

U.S. EPA - CLP

14
ANALYSIS RUN LOG

Lab Name: SENTINEL, INC. Contract: 68-D5-0167

Lab Code: SENTIN Case No.: 26240 SAS No.: SDG No.: META87

Instrument ID Number: P3 Method: P

Start date: 06/22/98 End date: 06/22/98

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
CRI	1.00	1654			X	X		X	X		X	X	X		X		X				X	X		X	X	X	
ICSA	1.00	1700		X	X	X	X	X	X	X	X	X	X	X	X	X	X			X	X	X	X	X	X	X	
ICSAB	1.00	1706		X	X	X	X	X	X	X	X	X	X	X	X	X	X			X	X	X	X	X	X	X	
CCV	1.00	1712		X	X	X	X	X	X	X	X	X	X	X	X	X	X			X	X	X	X	X	X	X	
CCB	1.00	1718		X	X	X	X	X	X	X	X	X	X	X	X	X	X			X	X	X	X	X	X	X	

FORM XIV - IN

ILM04.0

41

U.S. EPA - CLP

14
ANALYSIS RUN LOG

Lab Name: SENTINEL, INC. Contract: 68-D5-0167

Lab Code: SENTIN Case No.: 26240 SAS No.: SDG No.: META87

Instrument ID Number: P3 Method: P

Start date: 06/23/98 End date: 06/23/98

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	0827																	X								
S	1.00	0831																	X								
ICV	1.00	0835																	X								
ICB	1.00	0839																	X								
CRI	1.00	0843																	X								
ICSA	1.00	0847																	X								
ICSAB	1.00	0852																	X								
CCV	1.00	0856																	X								
CCB	1.00	0900																	X								
PBW	1.00	0904																	X								
LCSW	1.00	0909																	X								
MEXA83L	5.00	0913																	X								
MEXA83	1.00	0917																	X								
MEXA83D	1.00	0921																	X								
MEXA83S	1.00	0926																	X								
MEXA83A	1.00	0930																									
META87	1.00	0934																	X								
META88	1.00	0938																	X								
CCV	1.00	0943																	X								
CCB	1.00	0947																	X								
META98	1.00	0951																	X								
META99	1.00	0955																	X								
MEWZ38	1.00	1000																	X								
MEWZ39	1.00	1004																	X								
METB01	1.00	1008																	X								
MEXA35	1.00	1012																	X								
CRI	1.00	1016																	X								
ICSA	1.00	1021																	X								
ICSAB	1.00	1025																	X								
CCV	1.00	1029																	X								
CCB	1.00	1033																	X								
MEXA78	1.00	1038																	X								

U.S. EPA - CLP

14
ANALYSIS RUN LOG

Lab Name: SENTINEL, INC. Contract: 68-D5-0167

Lab Code: SENTIN Case No.: 26240 SAS No.: SDG No.: META87

Instrument ID Number: P3 Method: P

Start date: 06/23/98 End date: 06/23/98

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
CRI	1.00	1042																	X								
ICSA	1.00	1046																	X								
ICSAB	1.00	1050																	X								
CCV	1.00	1055																	X								
CCB	1.00	1059																	X								

U.S. EPA - CLP

14

ANALYSIS RUN LOG

Name: SENTINEL, INC. Contract: 68-D5-0167

Lab Code: SENTIN Case No.: 26240 SAS No.: SDG No.: META87

Instrument ID Number: P3 Method: P

Start date: 06/25/98 End date: 06/25/98

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	0840																					X				
S	1.00	0847																					X				
ICV	1.00	0854																					X				
ICB	1.00	0901																					X				
CRI	1.00	0907																									
ICSA	1.00	0913																					X				
ICSAB	1.00	0919																					X				
CCV	1.00	0925																					X				
CCB	1.00	0931																					X				
META98	10.00	0937																					X				
METB01	10.00	0944																					X				
ZZZZZZ	10.00	0950																									
ZZZZZZ	10.00	0956																									
ZZZZZZ	10.00	1002																									
ZZZZZZ	10.00	1008																									
ZZZZZZ	10.00	1014																									
ZZZZZZ	10.00	1020																									
ZZZZZZ	10.00	1027																									
CCV	1.00	1033																					X				
CCB	1.00	1039																					X				
ZZZZZZ	10.00	1045																									
ZZZZZZ	10.00	1051																									
ZZZZZZ	10.00	1057																									
ZZZZZZ	1.00	1103																									
ZZZZZZ	1.00	1109																									
ZZZZZZ	1.00	1116																									
CRI	1.00	1122																									
ICSA	1.00	1128																					X				
ICSAB	1.00	1134																					X				
CCV	1.00	1140																					X				
CCB	1.00	1146																					X				

U.S. EPA - CLP

14

ANALYSIS RUN LOG

.b Name: SENTINEL, INC. Contract: 68-D5-0167

Lab Code: SENTIN Case No.: 26240 SAS No.: SDG No.: META87

Instrument ID Number: C3 Method: CV

Start date: 06/11/98 End date: 06/11/98

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	1059		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-
S0.2	1.00	1101		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-
S0.5	1.00	1104		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-
S1.0	1.00	1106		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-
S2.0	1.00	1109		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-
S5.0	1.00	1112		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-
S10.0	1.00	1114		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-
ICV	1.00	1331		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-
ICB	1.00	1334		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-
CRA	1.00	1336		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-
CCV	1.00	1339		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-
CCB	1.00	1342		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-
PBW	1.00	1344		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-
MEXA83	1.00	1347		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-
MEXA83D	1.00	1349		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-
MEXA83S	1.00	1352		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-
META87	1.00	1354		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-
META88	1.00	1357		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-
META98	1.00	1359		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-
META99	1.00	1402		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-
MEWZ38	1.00	1405		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-
CCV	1.00	1407		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-
CCB	1.00	1410		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-
MEWZ39	1.00	1412		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-
METB01	1.00	1415		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-
MEXA35	1.00	1417		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-
MEXA78	1.00	1420		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-
CCV	1.00	1422		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-
CCB	1.00	1425		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-
				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

U.S. EPA - CLP

14

ANALYSIS RUN LOG

Lab Name: SENTINEL, INC. Contract: 68-D5-0167

Lab Code: SENTIN Case No.: 26240 SAS No.: SDG No.: META87

Instrument ID Number: C1 Method: CA

Start date: 06/11/98 End date: 06/11/98

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	1236																									X
S10.0	1.00	1237																									X
S50.0	1.00	1238																									X
S100.0	1.00	1239																									X
S200.0	1.00	1240																									X
S400.0	1.00	1241																									X
S100	1.00	1256																									X
ICV	1.00	1257																									X
ICB	1.00	1258																									X
CCV	1.00	1258																									X
CCB	1.00	1259																									X
PBW	1.00	1300																									X
MEXA83	1.00	1301																									X
MEXA83D	1.00	1302																									X
MEXA83S	1.00	1303																									X
META87	1.00	1303																									X
META88	1.00	1304																									X
META98	1.00	1305																									X
META99	1.00	1306																									X
CCV	1.00	1307																									X
CCB	1.00	1308																									X
MEWZ38	1.00	1309																									X
MEWZ39	1.00	1309																									X
METB01	1.00	1310																									X
MEXA35	1.00	1311																									X
MEXA78	1.00	1312																									X
ZZZZZZ	1.00	1313																									
CCV	1.00	1314																									X
CCB	1.00	1314																									X

EPA United States Environmental Protection Agency Contract Laboratory Program

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

SAS No. (if applicable):
Case No.: 26240

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.: 5
Sampling Co.: BVSPC
Sampler (Name): Steve Mrkvicka
Sampler Signature: [signature]
3. Purpose*: Lead [ ] SF [X] PRP [ ] ST [ ] FED; Early Action [ ] CLEM [ ] PA [ ] REM [ ] RI [ ] SI [ ] ESI; Long-Term Action [ ] FS [X] RD [X] RA [X] O&M [ ] NPLD

4. Date Shipped: 6-3-98
Carrier: Federal Express
Airbill Number: 5654191126
5. Ship To: Sentinel, Inc. 2800 Bob Wallace Ave., Suite L3 Huntsville, AL 35805 ATTN: Beverly Kilgore

6. Date Received -- Received by: 6/4/98 [signature]
Laboratory Contract Number: 68-D5-0167
Unit Price: 65.00
7. Transfer to:
Date Received:
Received by:
Contract Number:
Price:

CLP Sample Numbers (from labels)	A Matrix (from Box 1) / Other:	B Conc.: Low Med High	C Sample Type: Comp./ Grab	D Preservative (from Box 2) / Other:	E – RAS Analysis: Diss. Metals	Total Metals	Cyanide	Low only: NO_2/NO_3	Fluoride	High only: pH	Conduct.	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/ Year/Time Sample Collection	I Corresponding CLP Organic Sample No.	J Sampler Initials	K High Phases: Solids	Water-Miscible Liq.	Water-Immis. Liq.
META98	2	L	G	2		X						5-132107	ACSGW01001	6-2-98 1345	EARX6	SRM			
META98	2	L	G	3			X					5-132108	↓	↓	↓	↓			
META99	2	L	G	2		X						5-132115	ACSGW02001	6-2-98 1602	EARX7	SRM			
META99	2	L	G	3			X					5-132116	↓	↓	↓	↓			
MEWZ39	2	L	G	2		X						5-132150	ACSEF01001	6-3-98 0735	EARY2	SRM			
MEWZ39	2	L	G	3			X					5-132151	↓	↓	↓	↓			
MEWZ38	2	L	G	2		X						5-132142	ACSGW04001	6-3-98 0900	EARY0	SRM			
MEWZ38	2	L	G	3			X					5-132143	↓	↓	↓	↓			
META87	2	L	G	2		X						5-132123	ACSGW03001	6-3-98 1340	EARX8	SRM			
META87	2	L	G	3			X					5-132124	↓	↓	↓	↓			

Shipment for Case Complete? (Y/N): Y
Page 1 of 2
Sample(s) to be Used for Laboratory QC:
Additional Sampler Signatures:
Chain of Custody Seal Number(s): 153293, 153294

CHAIN OF CUSTODY RECORD

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[signature]	6-3-98 1610				
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]	6/4/98 0905		

A21-012-8 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 DEFINITI

EPA United States Environmental Protection Agency
Contract Laboratory Program

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

SAS No. (if applicable):
Case N: 26240

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.: 5
Sampling Co.: BVSPC
4. Date Shipped: 6-3-98
Carrier: Federal Express
6. Date Received -- Received by: 6/4/98 [illegible]
Sampler (Name): Steve Mikvicka
Airbill Number: 5654191126
Laboratory Contract Number: 68-D5-0167
Unit Price: 65.00
Sampler Signature: [illegible]
5. Ship To: Sentinel, Inc. 2800 Bob Wallace Ave, Suite C, Huntsville, AL 35805 ATTN: Beverly Kilgore
7. Transfer to:
Date Received:
Received by:
Contract Number:
Price:

3. Purpose*
Lead: SF, PRP (X), ST (X), FED
Early Action: CLEM, PA, REM, RI, SI, ESI
Long-Term Action: FS, RD (X), RA (X), 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: 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.
METAB8	2	L	G	2		X						5-132136	ACSGW03101	6 3 98 1340	EHXX7	SPM			
METAB8	2	L	G	3			X					5-132137	ACSGW03101	↓	↓	↓			

Shipment for Case Complete? (Y/N) Y
Page 2 of 2
Sample(s) to be Used for Laboratory QC:
Additional Sampler Signatures:
Chain of Custody Seal Number(s): 153293, 153294

CHAIN OF CUSTODY RECORD

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[illegible]	6-3-98 1610				
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]	6/4/98 0905		

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

A21-012-6 REV. 3/93

156

357[illegible]1

EPA United States Environmental Protection Agency Contract Laboratory Program

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

SAS No. (if applicable):
Case No.: 26240

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.: 5
Sampling Co.: BVSPC
4. Date Shipped: 6-5-98
Carrier: Federal Express
6. Date Received -- Received by: 6/6/98 [illegible]
Sampler (Name): Steve Mikvicka
Airbill Number: 803489900685
Laboratory Contract Number: 68-D5-0167
Unit Price: 65.00
Sampler Signature: [illegible]
5. Ship To: Sentinel, Inc. 2800 Bob Wallace Ave, Suite L3 Huntsville, AL 35805 ATTN: Beverly Kilgore
7. Transfer to:
Date Received:
Received by:
Contract Number:
Price:

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

CLP Sample Numbers (from labels)	A Matrix (from Box 1) Other:	B Conc.: Low Med High	C Sample Type: Comp./ Grab	D Preservative (from Box 2) Other:	E – RAS Analysis: 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.
MEXA78	2	L	G	2		X						5-132194	ACSGW06001	6-4-98 0835	EARY4	SRM			
MEXA78	2	L	G	3			X					5-132195	↓	↓	↓	↓			
MEXA83	2	L	G	2		X						5-132188-90	ACSGW07001	6-4-98 1520	EWT99	SRM			
MEXA83	2	L	G	3			X					5-132191-93	↓	↓	↓	↓			
MEXA35	2	L	G	2		X						5-132158	ACSGW05001	6-5-98 0955	EARY3	SRM			
MEXA35	2	L	G	3			X					5-132159	↓	↓	↓	↓			
METB01	2	L	G	2		X						5-132204	ACSGW08001	6-5-98 1140	EWT93	SRM			
METB01	2	L	G	3			X					5-132205	↓	↓	↓	↓			

Shipment for Case Complete? (Y/N): Y
Page 1 of 1
Sample(s) to be Used for Laboratory QC: MEXA83
Additional Sampler Signatures:
Chain of Custody Seal Number(s): 158683, 158684

CHAIN OF CUSTODY RECORD

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[illegible]	6-5-98 1600				
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]	6/6/98 1115		

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 DEFINIT

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

ESD Central Regional Laboratory
Data Tracking Form for Contract Samples

Data Set No: _____ CERCLIS No: IN/0557

Case No: 26240 Site Name Location: American Chemical

Contractor or EPA Lab: Sentinel Data User: B+V

No. of Samples: 10 Date Sampled or Data Received: 7-8-98

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: 10 No. of samples received: 10

Received by: Lynette Burnett Date: 7-8-98

Received by LSSS: Lynette Burnett Date: 7-8-98

Review started: 7-15-98 Reviewer Signature: B. Lynen

Total time spent on review: 8.5+1 Date review completed: 7-16-98

Copied by: Lynette Burnett Date: 7-27-98

Mailed to user by: Lynette Burnett Date: 7-27-98

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: 07/16/98

SUBJECT: Review of Data
Received for Review on 07/10/98

FROM: Stephen L. Ostrodka, Chief (SRT-4J)
Superfund Technical Support Section / L.F.

TO: Data User: ~~RTV~~ B+V

We have reviewed the data by CADRE for the following case:

SITE NAME: AMERICAN CHEMICAL SERVICES (IN)

CASE NUMBER: 26240 SDG NUMBER: META29

Number and Type of Samples: 4 WATER

Sample Numbers: META29-31, METC27

Laboratory: SENTINEL Hrs. for Review: 3 +1

Following are our findings:

All data are usable with the qualifications described in the attached narrative.

L. Finkelberg
07-23-98

CC: Region 5 TPO
Mail Code: SM-5J

Case Number :26240 SDG Number: META29
Site Name:AMERICAN CHEMICAL SERVICES Laboratory: Sentinel

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

4 water samples, numbered META29-31 and METC27, were collected on 06/08/98. The lab received the samples on 06/09/98 in good condition. All samples were analyzed for metals and cyanide. All samples were analyzed using CLP SOW ILM04.0 analysis procedure.

Mercury analysis was performed using a Cold Vapor AA Technique. The cyanide analysis was performed using a MIDI distillation procedure. The remaining inorganic analyses were performed using an Inductively Coupled Plasma-Atomic Emission Spectrometric procedure.

Reviewed By: L. Leon
Date: 7/16/98

Case Number :26240 SDG Number: META29
Site Name:AMERICAN CHEMICAL SERVICES Laboratory: Sentinel

HOIDING TIME
HOLDING TIME CRITERIA

Inorganic

	-- Holding Time --		------- pH -------	
	Primary	Expanded	Primary	Expanded
Metals	180	0	2.0	0.0
Mercury	28	0	2.0	0.0
Cyanide	14	0	12.0	0.0

No problems were found for this qualification.

2. **CALIBRATION CRITERIA**
CALIBRATION CRITERIA

Inorganic

Percent Recovery Limits

	--- Primary ---		-- Expanded ---	
	Low	High	Low	High
Cyanide	85.00	115.00	70.00	130.00
ICP	90.00	110.00	75.00	125.00
Mercury	80.00	120.00	65.00	135.00

No problems were found for this qualification.

3. **BLANKS:**
LABORATORY BLANKS CRITERIA

DC-283: The following inorganic samples are associated with a blank analyte with negative concentration whose absolute value is greater than the instrument detection limit (IDL). The sample concentration is greater than the IDL and less than five times the absolute value of the blank concentration. Hits are qualified "J". Some non-detects concentration readings are sufficiently high that the negative blank reading may caused the IDL to be elevated. These non-detects are flagged "UJ".

Aluminum
META29, META31

Beryllium
META31

DC-284: The following inorganic samples are associated with a blank concentration which is greater than the instrument detection limit (IDL). The sample concentration is also greater than the IDL and less than five times the blank concentration. Hits are qualified "J"; non-detects are acceptable.

Reviewed By: L. L
Date: 7/16/98

Case Number :26240 SDG Number: META29
Site Name:AMERICAN CHEMICAL SERVICES Laboratory: Sentinel

Cyanide
META29, META31, METC27
Beryllium
META31

Copper
META29, META30

Lead
META29, META31

Zinc
META30

4. MATRIX SPIKE/MATRIX SPIKE DUPLICATE AND LAB CONTROL SAMPLE:

MATRIX SPIKE CRITERIA

Inorganic

Percent Recovery Limits	
Upper	125.0
Lower	75.0
Extreme lower	30.0

DC-268: The following inorganic samples are associated with a matrix spike recovery which is low (30-74 %) indicating that sample results may be biased low.
Hits and non-detects are qualified "J".

Selenium
META29, META30, META31, METC27

5. LABORATORY DUPLICATE

DC-330: The following inorganic samples are associated with duplicate results which did not meet absolute difference criteria.
Hits are qualified "J" and non-detects are qualified "UJ".

Mercury
META29, META30, META31, METC27

6. ICP ANALYSIS

DC-295: The following inorganic samples are associated with an ICP serial dilution percent difference which is not in control. The serial dilution result is greater than the sample result, indicating a potential negative interference. The data must be qualified using professional judgement. All associated data are estimated "J".

Calcium
META29, META30, META31, METC27

Reviewed By: _____
Date: 7/16/98

7. GFAA ANALYSES:

No GFAA analyses were performed for these samples.

8. SAMPLE RESULTS:

All data, except those qualified above, are acceptable.

Reviewed By: _____
Date: 7/16/98

FILE NAME: META29 DATE: 07/16/98 TIME: 08:34	
CRITERIA FILE: FGDRI94	
DATA	
X| Original	| | Qualified
PRINT NON-DETECTS	
X| Yes	| | No
PRINT REJECTED RESULTS	
X| Yes	| | No

Reviewed By: [signature]
Date: 7/16/98

M3S M1S

TAL ORIGINAL SPREADSHEET

Case No: 26240
SDG No: META29

M4S M4D

Site: AMERICAN CHEMICAL SERVICES (IN)
Laboratory: SENTINEL, INC.

EPA SAMPLE NUMBER:	META29		META30		META31		METC27	
REGIONAL SAMPLE NUMBER:								
SAMPLE LOCATION:	SGW10001		SGW11001		SGW12001		SGW09001	
SAMPLE TYPE:	Routine Sample		Routine Sample		Routine Sample		Routine Sample	
MATRIX/ANALYSIS:	Water/Low		Water/Low		Water/Low		Water/Low	
DILUTION FACTOR:								
PERCENT SOLID:								
INORG								
Aluminum	17.36	J	232.03		40.35	J	128.25	B
Antimony	3.1	U	3.1	U	3.1	U	3.1	U
Arsenic	4.11	B	3.1	U	4.08	B	3.1	U
Barium	580.05		205.80		176.81	B	590.72	
Beryllium	0.10	U	0.10	U	0.173	J	0.10	U
Cadmium	0.450	B	0.779	B	0.928	B	0.589	B
Calcium	326913.89	J	84914.13	J	77226.53	J	216374.44	J
Chromium	1.53	B	2.41	B	2.03	B	7.87	B
Cobalt	5.27	B	1.57	B	3.54	B	4.43	B
Copper	3.35	J	3.07	J	4.32	B	4.10	B
Iron	34635.82		2338.66		2729.89		23921.36	
Lead	2.35	J	1.9	U	2.86	J	1.9	U
Magnesium	44833.82		44582.81		29266.50		84894.96	
Manganese	425.93		45.3		759.87		639.38	
Mercury	0.20	J	0.20	J	0.20	J	0.20	J
Nickel	11.76	B	3.15	B	8.47	B	10.60	B
Potassium	16536.90		4073.27	B	16510.95		42965.29	
Selenium	2	UJ	2	UJ	2	UJ	2	UJ
Silver	0.80	U	0.80	U	0.80	U	0.854	B
Sodium	95762.32		85869.62		63458.58		100621.01	
Thallium	4.6	U	4.6	U	4.6	U	4.6	U
Vanadium	1.59	B	0.80	U	3.18	B	2.35	B
Zinc	46.67		13.97	J	54.20		78.89	
Cyanide	5.98	J	1	U	1.39	J	6.51	J

FILE NAME: META29 DATE: 07/16/98 TIME: 08:34 CADRE98

Water units are reported in ug/L.
Soil units are reported in mg/Kg.

Reviewed By: L. L
Date: 7/16/98

QC EXCEPTION SUMMARY REPORT

CASE\SAS#: 26240
DATA SET: META29
LAB QC #
DATE: 7/15/98

SITE: Am. Chem. Services
LAB: Sentinel
REVIEWED BY: L. Leonore

MATRIX: Water (4)
CONC: low

WATER SAMPLE SPK:
WATER SAMPLE DUP:
SOIL SAMPLE SPK:
SOIL SAMPLE DUP:

FORM #		FORM 2	FORM 3	FORM 3	FORM 3	FORM 3	FORM 4	FORM 5	FORM 6	FORM 7	FORM 7	FORM 8	FORM 9	FORM 4	FORM 5	FIELD	FIELD	FIELD	FIELD		
ELEMENT	HOLD TIME	INITIAL CALIB	CONTIN CALIB	CALIB BLANK	PREP WATER BLANK	PREP SOIL BLANK	ICS WR	SOIL SPIKE WR	SOIL DUP RPD	LCS AQ	LCS SOIL	SERIAL DILUTION AQUEOUS	SERIAL DILUTION SOIL	AQ DUP RPD	AQ SPIKE WR	BLANK	DUP RPD	BLANK	DUP RPD	CFAA DUP	CFAA ANAL SPIKE
ALUMINUM		-21.7	→ 29, 31																		
ANTIMONY																					
ARSENIC																					
BARIUM			~~1.7~~																		
BERYLLIUM			0.1 → 31																		
CADMIUM			~~95.8~~																		
CALCIUM												12 (E)									
CHROMIUM																					
COBALT																					
COPPER			0.8 → 29, 30																		
IRON			32.9																		
LEAD		2.6	→ 29, 31																		
MAGNESIUM			~~81.5~~																		
MANGANESE			~~0.6~~																		
MERCURY			~~[illegible]~~											200 (*)							
NICKEL																					
POTASSIUM			~~33.6~~																		
SELENIUM		~~-2~~		~~-2.082~~											45.8 (N)						
SILVER																					
SODIUM			~~163.4~~																		
THALLIUM																					
TIN																					
VANADIUM																					
ZINC			3.2 → 30																		
CYANIDE			8.4 → 29, 31, 27																		

COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: SENTINEL, INC. Contract: 68-D5-0167

Lab Code: SENTIN Case No.: 26240 SAS No.: SDG No.: META29

SOW No.: ILM04.0

EPA Sample No.	Lab Sample ID.
META29	12917S
META29D	12917S2
META29S	12917DS
META30	12918S
META31	12919S
METC27	12920S

RECEIVED
JUL 10, 1998
US EPA CENTRAL REGIONAL LAB.
536 S. CLARK ST
CHICAGO, ILLINOIS 60605

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

Comments: The analyte concentration for calcium is estimated due to possible matrix interference.

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: [signature] Name: BARIgore

Date: 7/6/98 Title: QAOfcr

M4S

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

META29

Lab Name: SENTINEL, INC. Contract: 68-D5-0167

Lab Code: SENTIN Case No.: 26240 SAS No.: SDG No.: META29

Matrix (soil/water): WATER Lab Sample ID: 12917S

Level (low/med): LOW Date Received: 06/09/98

% 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	17.4	B		P
7440-36-0	Antimony	3.1	U		P
7440-38-2	Arsenic	4.1	B		P
7440-39-3	Barium	580			P
7440-41-7	Beryllium	0.10	U		P
7440-43-9	Cadmium	0.45	B		P
7440-70-2	Calcium	327000		E	P
7440-47-3	Chromium	1.5	B		P
7440-48-4	Cobalt	5.3	B		P
7440-50-8	Copper	3.4	B		P
7439-89-6	Iron	34600			P
7439-92-1	Lead	2.4	B		P
7439-95-4	Magnesium	44800			P
7439-96-5	Manganese	426			P
7439-97-6	Mercury	0.20	U	*	CV
7440-02-0	Nickel	11.8	B		P
7440-09-7	Potassium	16500			P
7782-49-2	Selenium	2.0	U	N	P
7440-22-4	Silver	0.80	U		P
7440-23-5	Sodium	95800			P
7440-28-0	Thallium	4.6	U		P
7440-62-2	Vanadium	1.6	B		P
7440-66-6	Zinc	46.7			P
	Cyanide	6.0	B		CA

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

M4D

U.S. EPA - CLP
1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

META30

Lab Name: SENTINEL, INC. Contract: 68-D5-0167

Lab Code: SENTIN Case No.: 26240 SAS No.: SDG No.: META29

Matrix (soil/water): WATER Lab Sample ID: 12918S

Level (low/med): LOW Date Received: 06/09/98

% 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	232			P
7440-36-0	Antimony	3.1	U		P
7440-38-2	Arsenic	3.1	U		P
7440-39-3	Barium	206			P
7440-41-7	Beryllium	0.10	U		P
7440-43-9	Cadmium	0.78	B		P
7440-70-2	Calcium	84900		E	P
7440-47-3	Chromium	2.4	B		P
7440-48-4	Cobalt	1.6	B		P
7440-50-8	Copper	3.1	B		P
7439-89-6	Iron	2340			P
7439-92-1	Lead	1.9	U		P
7439-95-4	Magnesium	44600			P
7439-96-5	Manganese	45.3			P
7439-97-6	Mercury	0.20	U	*	CV
7440-02-0	Nickel	3.2	B		P
7440-09-7	Potassium	4070	B		P
7782-49-2	Selenium	2.0	U	N	P
7440-22-4	Silver	0.80	U		P
7440-23-5	Sodium	85900			P
7440-28-0	Thallium	4.6	U		P
7440-62-2	Vanadium	0.80	U		P
7440-66-6	Zinc	14.0	B		P
	Cyanide	1.0	U		CA

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

M3S

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

META31

Lab Name: SENTINEL, INC. Contract: 68-D5-0167

Lab Code: SENTIN Case No.: 26240 SAS No.: SDG No.: META29

Matrix (soil/water): WATER Lab Sample ID: 12919S

Level (low/med): LOW Date Received: 06/09/98

% 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	40.4	B		P
7440-36-0	Antimony	3.1	U		P
7440-38-2	Arsenic	4.1	B		P
7440-39-3	Barium	177	B		P
7440-41-7	Beryllium	0.17	B		P
7440-43-9	Cadmium	0.93	B		P
7440-70-2	Calcium	77200		E	P
7440-47-3	Chromium	2.0	B		P
7440-48-4	Cobalt	3.5	B		P
7440-50-8	Copper	4.3	B		P
7439-89-6	Iron	2730			P
7439-92-1	Lead	2.9	B		P
7439-95-4	Magnesium	29300			P
7439-96-5	Manganese	760			P
7439-97-6	Mercury	0.20	U	*	CV
7440-02-0	Nickel	8.5	B		P
7440-09-7	Potassium	16500			P
7782-49-2	Selenium	2.0	U	N	P
7440-22-4	Silver	0.80	U		P
7440-23-5	Sodium	63500			P
7440-28-0	Thallium	4.6	U		P
7440-62-2	Vanadium	3.2	B		P
7440-66-6	Zinc	54.2			P
	Cyanide	1.4	B		CA

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

M1S

U.S. EPA - CLP
1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

METC27

Lab Name: SENTINEL, INC. Contract: 68-D5-0167

Lab Code: SENTIN Case No.: 26240 SAS No.: SDG No.: META29

Matrix (soil/water): WATER Lab Sample ID: 12920S

Level (low/med): LOW Date Received: 06/09/98

% 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	128	B		P
7440-36-0	Antimony	3.1	U		P
7440-38-2	Arsenic	3.1	U		P
7440-39-3	Barium	591			P
7440-41-7	Beryllium	0.10	U		P
7440-43-9	Cadmium	0.59	B		P
7440-70-2	Calcium	216000		E	P
7440-47-3	Chromium	7.9	B		P
7440-48-4	Cobalt	4.4	B		P
7440-50-8	Copper	4.1	B		P
7439-89-6	Iron	23900			P
7439-92-1	Lead	1.9	U		P
7439-95-4	Magnesium	84900			P
7439-96-5	Manganese	639			P
7439-97-6	Mercury	0.20	U	*	CV
7440-02-0	Nickel	10.6	B		P
7440-09-7	Potassium	43000			P
7782-49-2	Selenium	2.0	U	N	P
7440-22-4	Silver	0.85	B		P
7440-23-5	Sodium	101000			P
7440-28-0	Thallium	4.6	U		P
7440-62-2	Vanadium	2.4	B		P
7440-66-6	Zinc	78.9			P
	Cyanide	6.5	B		CA

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

U.S. EPA - CLP

3

BLANKS

Lab Name: SENTINEL, INC. Contract: 68-D5-0167

Lab Code: SENTIN Case No.: 26240 SAS No.: SDG No.: META29

Preparation Blank Matrix (soil/water): WATER

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

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum	-21.7	B	14.9	U	-21.5	B	14.9	U	14.900	U	P
Antimony	3.1	U	3.1	U	3.1	U	3.1	U	3.100	U	P
Arsenic	3.1	U	3.1	U	3.1	B	3.1	U	3.100	U	P
Barium	1.0	B	1.1	B	0.9	B	1.1	B	0.400	U	P
Beryllium	0.1	B	0.1	U	0.1	U	0.1	U	0.100	U	P
Cadmium	0.3	U	0.3	U	0.3	U	0.3	U	0.300	U	P
Calcium	48.4	B	78.1	B	36.2	B	83.4	B	52.534	B	P
Chromium	0.6	U	0.6	U	0.6	U	0.6	U	0.600	U	P
Cobalt	1.2	U	1.2	U	1.2	U	1.2	U	1.200	U	P
Copper	0.8	U	0.8	U	0.8	U	0.8	U	0.800	U	P
Iron	20.3	B	26.8	B	17.0	B	32.9	B	22.315	B	P
Lead	2.6	B	1.9	U	1.9	U	1.9	U	1.900	U	P
Magnesium	39.4	B	70.5	B	34.2	B	78.5	B	45.723	B	P
Manganese	0.3	B	0.2	B	0.3	B	0.3	B	0.200	U	P
Mercury	0.2	U	0.2	U	0.2	U			0.200	U	CV
Nickel	1.7	U	1.7	U	1.7	U	1.7	U	1.700	U	P
Potassium	33.6	B	-19.5	B	12.1	U	-12.6	B	-26.107	B	P
Selenium	2.0	U	2.0	U	2.0	U	2.0	U	-2.082	B	P
Silver	0.8	U	0.8	U	0.8	U	0.8	U	0.800	U	P
Sodium	146.6	U	146.6	U	146.6	U	146.6	U	146.600	U	P
Thallium	4.6	U	4.6	U	4.6	U	4.6	U	4.600	U	P
Vanadium	0.8	U	0.8	U	0.8	U	0.8	U	0.800	U	P
Zinc	3.2	B	2.7	U	2.7	U	2.7	U	2.700	U	P
Cyanide	2.4	B	2.4	B	2.2	B			1.203	B	CA

U.S. EPA - CLP

3

BLANKS

Lab Name: SENTINEL, INC. Contract: 68-D5-0167

Lab Code: SENTIN Case No.: 26240 SAS No.: SDG No.: META29

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			-21.6	B	14.9	U					P
Antimony			3.1	U	3.1	U					P
Arsenic			3.1	U	3.1	U					P
Barium			1.7	B	1.1	B					P
Beryllium			-0.1	B	0.1	B					P
Cadmium			0.3	U	0.3	U					P
Calcium			31.6	B	95.8	B					P
Chromium			0.6	U	0.6	U					P
Cobalt			1.2	U	1.2	U					P
Copper			0.8	B	0.8	U					P
Iron			18.5	B	26.8	B					P
Lead			1.9	U	1.9	U					P
Magnesium			35.3	B	81.5	B					P
Manganese			0.6	B	0.3	B					P
Mercury											NR
Nickel			1.7	U	1.7	U					P
Potassium			12.1	U	-32.2	B					P
Selenium			2.0	U	2.0	U					P
Silver			0.8	U	0.8	U					P
Sodium			146.6	U	-163.4	B					P
Thallium			4.6	U	4.6	U					P
Vanadium			0.8	U	0.8	U					P
Zinc			2.7	U	2.7	U					P
Cyanide											NR

U.S. EPA - CLP

5A

SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

META29S

Lab Name: SENTINEL, INC. Contract: 68-D5-0167

Lab Code: SENTIN Case No.: 26240 SAS No.: SDG No.: META29

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	2101.0750		17.3640	B	2000.00	104.2		P
Antimony	75-125	522.5540		3.1000	U	500.00	104.5		P
Arsenic	75-125	42.2620		4.1160	B	40.00	95.4		P
Barium	75-125	2739.8930		580.0520		2000.00	108.0		P
Beryllium	75-125	51.7800		0.1000	U	50.00	103.6		P
Cadmium	75-125	50.8960		0.4500	B	50.00	100.9		P
Calcium									NR
Chromium	75-125	210.9640		1.5380	B	200.00	104.7		P
Cobalt	75-125	534.5050		5.2740	B	500.00	105.8		P
Copper	75-125	274.7740		3.3540	B	250.00	108.6		P
Iron		37187.4470		34635.8290		1000.00	255.2		P
Lead	75-125	21.5880		2.3540	B	20.00	96.2		P
Magnesium									NR
Manganese	75-125	968.1370		425.9390		500.00	108.4		P
Mercury	75-125	0.9500		0.2000	U	1.00	95.0		CV
Nickel	75-125	536.7590		11.7670	B	500.00	105.0		P
Potassium									NR
Selenium	75-125	4.5800	B	2.0000	U	10.00	45.8	N	P
Silver	75-125	42.4690		0.8000	U	50.00	84.9		P
Sodium									NR
Thallium	75-125	51.1560		4.6000	U	50.00	102.3		P
Vanadium	75-125	532.7660		1.5940	B	500.00	106.2		P
Zinc	75-125	562.3860		46.6710		500.00	103.1		P
Cyanide	75-125	97.0303		5.9865	B	100.00	91.0		CA

Comments:

U.S. EPA - CLP

5B

POST DIGEST SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

META29A

Lab Name: SENTINEL, INC. Contract: 68-D5-0167

Lab Code: SENTIN Case No.: 26240 SAS No.: SDG No.: META29

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

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum									NR
Antimony									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		6.51		2.00	U	10.0	65.1		P
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR

Comments:

U.S. EPA - CLP

6

DUPLICATES

EPA SAMPLE NO.

META29D

Lab Name: SENTINEL, INC. Contract: 68-D5-0167

Lab Code: SENTIN Case No.: 26240 SAS No.: SDG No.: META29

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		17.3640	B	14.9000	U	200.0		P
Antimony		3.1000	U	3.1000	U			P
Arsenic		4.1160	B	6.8670	B	50.1		P
Barium	200.0	580.0520		575.4560		0.8		P
Beryllium		0.1000	U	0.1000	U			P
Cadmium		0.4500	B	0.3000	U	200.0		P
Calcium		326913.8960		319524.6140		2.3		P
Chromium		1.5380	B	1.3930	B	9.9		P
Cobalt		5.2740	B	5.6320	B	6.6		P
Copper		3.3540	B	5.9540	B	55.9		P
Iron		34635.8290		33990.2380		1.9		P
Lead	3.0	2.3540	B	4.7470		67.4		P
Magnesium		44833.8220		44096.6670		1.7		P
Manganese		425.9390		418.5470		1.8		P
Mercury	0.2	0.2000	U	0.8800		200.0	*	CV
Nickel		11.7670	B	9.9910	B	16.3		P
Potassium	5000.0	16536.9080		16538.0180		0.0		P
Selenium		2.0000	U	2.0000	U			P
Silver		0.8000	U	1.7960	B	200.0		P
Sodium		95762.3280		94870.7310		0.9		P
Thallium		4.6000	U	4.6000	U			P
Vanadium		1.5940	B	2.0560	B	25.3		P
Zinc	20.0	46.6710		48.6700		4.2		P
Cyanide		5.9865	B	3.2637	B	58.9		CA

U.S. EPA - CLP

9

ICP SERIAL DILUTIONS

EPA SAMPLE NO.

META29L

Lab Name: SENTINEL, INC. Contract: 68-D5-0167

Lab Code: SENTIN Case No.: 26240 SAS No.: SDG No.: META29

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

Concentration Units: ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Differ-ence	Q	M
Aluminum	17.36	B	74.50	U	100.0		P
Antimony	3.10	U	70.03	B			P
Arsenic	4.12	B	15.50	U	100.0		P
Barium	580.05		611.42	B	5.4		P
Beryllium	0.10	U	0.50	U			P
Cadmium	0.45	B	1.53	B	240.0		P
Calcium	326913.90		366252.60		12.0	E	P
Chromium	1.54	B	3.98	B	158.4		P
Cobalt	5.27	B	6.98	B	32.4		P
Copper	3.35	B	11.82	B	252.8		P
Iron	34635.83		35808.07		3.4		P
Lead	2.35	B	16.44		599.6		P
Magnesium	44833.82		48381.91		7.9		P
Manganese	425.94		451.21		5.9		P
Mercury							NR
Nickel	11.77	B	21.08	B	79.1		P
Potassium	16536.91		17316.82	B	4.7		P
Selenium	2.00	U	10.00	U			P
Silver	0.80	U	4.00	U			P
Sodium	95762.33		99702.12		4.1		P
Thallium	4.60	U	23.00	U			P
Vanadium	1.59	B	4.00	U	100.0		P
Zinc	46.67		69.00	B	47.8		P

U.S. EPA - CLP

10
INSTRUMENT DETECTION LIMITS (QUARTERLY)

Lab Name: SENTINEL, INC. Contract: 68-D5-0167

Lab Code: SENTIN Case No.: 26240 SAS No.: SDG No.: META29

ICP ID Number: P3 Date: 04/15/98

Flame AA ID Number:

Furnace AA ID Number:

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum	308.20		200	14.9	P
Antimony	206.80		60	3.1	P
Arsenic	189.00		10	3.1	P
Barium	493.40		200	0.4	P
Beryllium	313.00		5	0.1	P
Cadmium	226.50		5	0.3	P
Calcium	317.90		5000	26.4	P
Chromium	267.70		10	0.6	P
Cobalt	228.60		50	1.2	P
Copper	324.70		25	0.8	P
Iron	271.40		100	12.3	P
Lead	220.30		3	1.9	P
Magnesium	279.00		5000	22.0	P
Manganese	257.60		15	0.2	P
Mercury			0.2		NR
Nickel	231.60		40	1.7	P
Potassium	766.40		5000	12.1	P
Selenium	196.00		5	2.0	P
Silver	328.00		10	0.8	P
Sodium	330.20		5000	146.6	P
Thallium	190.80		10	4.6	P
Vanadium	292.40		50	0.8	P
Zinc	206.20		20	2.7	P
Cyanide			10		NR

Comments:
P3: THERMO JARRELL ASH

U.S. EPA - CLP

10

INSTRUMENT DETECTION LIMITS (QUARTERLY)

Lab Name: SENTINEL, INC. Contract: 68-D5-0167

Lab Code: SENTIN Case No.: 26240 SAS No.: SDG No.: META29

ICP ID Number: Date: 04/10/98

Flame AA ID Number: C3

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	253.70		0.2	0.2	CV
Nickel			40		NR
Potassium			5000		NR
Selenium			5		NR
Silver			10		NR
Sodium			5000		NR
Thallium			10		NR
Vanadium			50		NR
Zinc			20		NR
Cyanide			10		NR

Comments:

C3: PERKIN-ELMER

U.S. EPA - CLP

10
INSTRUMENT DETECTION LIMITS (QUARTERLY)

Lab Name: SENTINEL, INC. Contract: 68-D5-0167

Lab Code: SENTIN Case No.: 26240 SAS No.: SDG No.: META29

ICP ID Number: Date: 04/15/98

Flame AA ID Number: C1

Furnace AA ID Number:

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum			200		NR
Antimony			60		NR
Arsenic			10		NR
Barium			200		NR
Beryllium			5		NR
Cadmium			5		NR
Calcium			5000		NR
Chromium			10		NR
Cobalt			50		NR
Copper			25		NR
Iron			100		NR
Lead			3		NR
Magnesium			5000		NR
Manganese			15		NR
Mercury			0.2		NR
Nickel			40		NR
Potassium			5000		NR
Selenium			5		NR
Silver			10		NR
Sodium			5000		NR
Thallium			10		NR
Vanadium			50		NR
Zinc			20		NR
Cyanide	578.00		10	1.0	CA

Comments:
C1: LACHAT

EPA United States Environmental Protection Agency
Contract Laboratory Program

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

SAS No. (if applicable):

Case No.: 26240

1. Project Code	Account Code	2. Region No.	Sampling Co.	4. Date Shipped	Carrier
		5	BVSPC	6-8-98	Federal Express

Regional Information: TGB102

Sampler (Name): Steve Mrkvicka

Airbill Number: 803489900799

Non-Superfund Program:

Sampler Signature: [signature]

Site Name: American Chemical Services

City, State: Griffith, IN

Site Spill ID: J7

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

5. Ship To: Sentinel, Inc.
2800 Bob Wallace Ave., Suite L3
Huntsville, AL 35805
ATTN: Beverly Kilgore

6. 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)

7. 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

CLP Sample Numbers (from labels)	A Matrix (from Box 6) Other:	B Conc.: Low Med High	C Sample Type: Comp./Grab	D Preservative (from Box 7) 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 Field QC Qualifier (B = Blank, S = Spike, D = Duplicate, R = Rinsate, PE = Perform. Eval., — = Not a QC Sample)
METC27	2	L	G	2		X						5-132212	ACSGW09001	6-8-98 0830	EYB55	SRM	—
METC27	2	L	G	3			X					5-132213	↓	↓	↓	↓	—
META29	2	L	G	2		X						5-132224	ACSGW10001	6-8-98 1000	EARY5	SRM	—
META29	2	L	G	3			X					5-132225	↓	↓	↓	↓	—
META30	2	L	G	2		X						5-132232	ACSGW11001	6-8-98 1045	EARY6	SRM	—
META30	2	L	G	3			X					5-132233	↓	↓	↓	↓	—
META31	2	L	G	2		X						5-132240	ACSGW12001	6-8-98 1150	EARY7	SRM	—
META31	2	L	G	3			X					5-132241	↓	↓	↓	↓	—

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): 158699, 158700

CHAIN OF CUSTODY RECORD

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[signature]	6-8-98 1450				
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	

A21-012-5 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

357903

United States Environmental Protection Agency
Contract Laboratory Program

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

SAS No. (if applicable):

Case No.: 26240

1. Project Code:
Account Code:
2. Region No.: 5
Sampling Co.: BVSPC
4. Date Shipped: 6-3-98
Carrier: Federal Express

Regional Information: TGB102
Sampler (Name): Steve Mrkvicka
Airbill Number: 5654191126

Non-Superfund Program:
Sampler Signature: [signature]
5. Ship To: Sentinel, Inc.
2800 Bob Wallace Ave., Suite L3
Huntsville, AL 35805
ATTN: Beverly Kilgore

Site Name: American Chemical Services
City, State: Griffith, IN
Site Spill ID: J7

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

6. 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)

7. 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

CLP Sample Numbers (from labels)	A Matrix (from Box 6) / Other:	B Conc.: Low Med High	C Sample Type: Comp./ Grab	D Preservative (from Box 7) / 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 Field QC Qualifier (B = Blank S = Spike D = Duplicate R = Rinsate PE = Perform. Eval — = Not a QC Sample)
META98	2	L	G	2		X						5-132107	ACSGW01001	6-2-98 1345	EARX6	SRM	—
META98	2	L	G	3			X					5-132108	↓	↓	↓	↓	—
META99	2	L	G	2		X						5-132115	ACSGW02001	6-2-98 1602	EARX7	SRM	—
META99	2	L	G	3			X					5-132116	↓	↓	↓	↓	—
MEWZ39	2	L	G	2		X						5-132150	ACSEB01201	6-3-98 0735	EARYZ	SRM	R
MEWZ39	2	L	G	3			X					5-132151	↓	↓	↓	↓	R
MEWZ38	2	L	G	2		X						5-132142	ACSGW04001	6-3-98 0900	EARYØ	SRM	—
MEWZ38	2	L	G	3			X					5-132143	↓	↓	↓	↓	—
META87	2	L	G	2		X						5-132123	ACSGW03001	6-3-98 1340	EARX8	SRM	—
META87	2	L	G	3			X					5-132124	↓	↓	↓	↓	—

Shipment for Case Complete? (Y/N): N
Page 1 of 2
Sample(s) to be Used for Laboratory QC:
Additional Sampler Signatures:
Chain of Custody Seal Number(s): 153293, 153294

CHAIN OF CUSTODY RECORD

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[signature]	6-3-98 1610				
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	

A21-012-5 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

357917

United States Environmental Protection Agency
Contract Laboratory Program

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

SAS No. (if applicable):

Case No.: 26240

1. Project Code:
Account Code:
2. Region No.: 5
Sampling Co.: BVSPC
4. Date Shipped: 6-3-98
Carrier: Federal Express

Regional Information: TGB102
Sampler (Name): Steve Mrkvicka
Airbill Number: 5654191126

Non-Superfund Program
Sampler Signature: SMrkvicka
5. Ship To: Sentinel, Inc.
2800 Bob Wallace Ave, Suite L3
Huntsville, AL 35805
ATTN: Bererly Kilgore

Site Name: American Chemical Services
City, State: Griffith, IN
Site Spill ID: J7

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

6. 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)

7. 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

CLP Sample Numbers (from labels)	A Matrix (from Box 6) / Other:	B Conc.: Low Med High	C Sample Type: Comp./ Grab	D Preservative (from Box 7) / 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 Field QC Qualifier (B = Blank, S = Spike, D = Duplicate, R = Rinsate, PE = Perform. Eval., — = Not a QC Sample)
META88	2	L	G	2		X						5-132136	ACSGW03101	6-3-98 1340	EAR89	SRM	D
META88	2	L	G	3			X					5-132137	ACSGW03101	↓	↓	↓	D

Shipment for Case Complete? (Y/N): N
Page 2 of 2
Sample(s) to be Used for Laboratory QC:
Additional Sampler Signatures:
Chain of Custody Seal Number(s): 153293, 153294

CHAIN OF CUSTODY RECORD

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
SMrkvicka	6-3-98 1610				
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	

A21-012-5 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

357901

United States Environmental Protection Agency
Contract Laboratory Program

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

SAS No. (if applicable):

Case No.: 26240

1. Project Code	Account Code	2. Region No.	Sampling Co.	4. Date Shipped	Carrier
		5	BVSPC	6-5-98	Federal Express

Regional Information: TGB102

Sampler (Name): Steve Mrkvicka

Airbill Number: 8034899006 85

Non-Superfund Program

Sampler Signature: [signature]

Site Name: American Chemical Services

City, State: Griffith, IN

Site Spill ID: J7

3. Purpose*

Lead: [ ] SF [X] PRP [ ] ST [ ] FED

Early Action: [ ] CLEM [ ] PA [ ] REM [ ] RI [ ] SI [ ] ESI

Long-Term Action: [ ] FS [X] RD [X] RA [ ] O&M [ ] NPLD

5. Ship To: Sentinel, Inc.
2800 Bob Wallace Ave., Suite L3
Huntsville, AL 35805
ATTN: Beverly Kilgore

6. 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)

7. 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

CLP Sample Numbers (from labels)	A Matrix (from Box 6) Other:	B Conc.: Low Med High	C Sample Type: Comp./ Grab	D Preservative (from Box 7) 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 Field QC Qualifier (B = Blank, S = Spike, D = Duplicate, R = Rinsate, PE = Perform. Eval, — = Not a QC Sample)
MEXA78	2	L	G	2		X						5-132194	ACSGW06001	6-4-98 0835	EARY4	SRM	—
MEXA78	2	L	G	3			X					5-132195	↓	↓	↓	↓	—
MEXA83	2	L	G	2		X						5-132188-90	ACSGW07001	6-4-98 1520	EWT99	SRM	—
MEXA83	2	L	G	3			X					5-132191-93	↓	↓	↓	↓	—
MEXA35	2	L	G	2		X						5-132158	ACSGW05001	6-5-98 0855	EARY3	SRM	—
MEXA35	2	L	G	3			X					5-132159	↓	↓	↓	↓	—
METB01	2	L	G	2		X						5-132204	ACSGW08001	6-5-98 1140	EWT78	SRM	—
METB01	2	L	G	3			X					5-132205	↓	↓	↓	↓	—

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

Page 1 of 1

Sample(s) to be Used for Laboratory QC: MEXA83

Additional Sampler Signatures:

Chain of Custody Seal Number(s): 158683, 158684

CHAIN OF CUSTODY RECORD

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[signature]	6-5-98 1600				
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	

A21-012-5 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

357918