August 1996 Upper Aquifer Monitoring Well Data Evaluation and Comparison American Chemical Services

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Introduction

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

Purpose

The purpose of this document is to present BVSPC's evaluation and comparison of split sample analytical results with Montgomery Watson's data. BVSPC representatives collected nine split samples during sampling of Upper Aquifer monitoring wells by Montgomery Watson.

Sampling Effort

From August 5 to 7, 1996, nine split samples were collected during the field oversight. Corresponding USEPA Contract Laboratory Program (CLP) numbers are shown in Table 1. Sampling was performed in accordance with the USEPA-approved field sampling plan and quality assurance project plan.

Laboratory

The USEPA split samples were analyzed by CLP analytical services in accordance with the procedures outlined in the User's Guide to the CLP, USEPA, February 1995. USEPA Region V Central Regional Laboratory (CRL), Chicago, Illinois, analyzed the samples.

Montgomery Watson's samples were analyzed by IEA for organic analyses and Montgomery Watson Laboratories for inorganic analyses.

Data Validation

USEPA Region V CRL and BVSPC validated split sample data using the USEPA CLP National Functional Guidelines for Organic Data Review (EPA 540/R-

94/012, February 1994) and USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (EPA 540/R-94/013, February 1994). Montgomery Watson provided narratives to explain their validation of the data analyzed by their laboratories. Montgomery Watson stated that they also used these USEPA CLP guidelines for organic and inorganic data review.

The USEPA split sample analytical results were acceptable; however, due to minor analytical quality control problems, some of the compounds/analytes were qualified. Appendix A is a copy of raw data sheets from USEPA for split samples, including data validation and case narratives. Qualifiers are fully explained in the narratives.

Montgomery Watson reported that the overall data quality by the laboratories was good with no significant instrument problems and the calculations were acceptable. Appendix B is a copy of raw data sheets for the Montgomery Watson data.

Data Comparison

BVSPC reviewed the validated data and compared it to the Montgomery Watson's data. Table 1 presents the Upper Aquifer monitoring well sample data comparison. Both data sets were consistent except for the following:

- Montgomery Watson assigned an R (unusable) qualifier to several volatile organic compounds, including acetone, 2-butanone, 4-methyl-2-pentanone, and 2-hexanone, because the reference factor was less than 0.05.
- Several additional volatile organic compounds (approximately 23) and semivolatile organic compounds (approximately 2) were analyzed for by CRL that were not analyzed by IEA.
- The Montgomery Watson samples were not analyzed for pesticides or cyanide.
- Montgomery Watson's data used a higher detection limit for the PCB analyses.

<u>Volatile Organic Compounds</u>

MW37. IEA reported one J-qualified compound (benzene) that CRL reported as non-detect.

MW38. CRL reported one J-qualified compound (benzene) that IEA reported as non-detect.

MW42. CRL reported benzene as 2 μg/L, but IEA data indicated non-detect.

MW44. Comparable results.

MW45. IEA used a 25 times dilution, which may have masked the presence of five compounds (refer to Table 1) that were detected in the USEPA split sample. Five compounds, detected in the USEPA split sample, were not analyzed for in the Montgomery Watson sample. IEA reported 2 tentatively identified compounds (TICs), but CRL data indicated 5 TICs. Five compounds were reported by both laboratories:

Compound	IEA (µg/L)	CRL (µg/L)
Chloroethane	110 D	82 J
Benzene	510 D	530
Chlorobenzene	15	16 J
Ethylbenzene	12	10 J
Xylenes (total)	60	57 D

MW46. IEA reported two J-qualified compounds (vinyl chloride and 4-methyl-2-pentanone) that CRL reported as non-detect. IEA reported benzene as 0.8 J µg/L, but CRL data indicated 2 µg/L. IEA reported no TICs, but CRL data indicated 2 TICs.

MW47. CRL reported benzene as 2 µg/L, but IEA reported non-detect.

MW48. IEA used a 500 times dilution, which may have masked the presence of three compounds (refer to Table 1) that were detected in the USEPA split sample. IEA reported no TICs, but CRL data indicated 2 TICs. Three compounds were reported by both laboratories:

Compound	IEA (µg/L)	CRL (µg/L)
Chloroethane	1,200 D	1,000
Methylene chloride	4	70 J
Benzene	10,000 DJ	9,100

MW49. IEA used a 500 times dilution, which may have masked the presence of eleven compounds (refer to Table 1) that were detected in the USEPA split sample. Two compounds were reported by both laboratories:

Compound	IEA (µg/L)	CRL (µg/L)
Chloroethane	640 D	480 J
Benzene	6,400 DJ	5,000

Semivolatile Organic Compounds

MW37. CRL reported bis(2-ethylhexyl)phthalate as 2 BJ μg/L, but IEA data indicated non-detect.

MW38. CRL reported bis(2-ethylhexyl)phthalate as 2 BJ μg/L, but IEA data indicated non-detect. IEA reported 1 TIC, but CRL data indicated 2 TICs.

MW42. CRL reported phenol as 21 μg/L, bis(2-chloroethyl)ether as 2 J μg/L, and bis(2-chloroisopropyl)ether as 5 J μg/L, but IEA data indicated non-detect. CRL reported bis(2-ethylhexyl)phthalate as 2 BJ μg/L, but IEA data indicated 4 J μg/L. IEA reported no TICs, but CRL data indicated 5 TICs.

MW44. CRL reported bis(2-ethylhexyl)phthalate as 3 BJ μg/L, but IEA data indicated non-detect.

MW45. IEA used a 2 times dilution, which may have masked the presence of four compounds (refer to Table 1) that were detected in the USEPA split sample. CRL reported phenol as 24 μg/L, but IEA data indicated 41 μg/L. CRL reported bis(2-chloroethyl)ether as 6 μg/L, but IEA data reported 7 J μg/L. CRL reported naphthalene as 52 μg/L, but IEA data indicated 84 μg/L. CRL reported 2-methylnaphthalene as 3 J μg/L, but IEA data indicated 4 J μg/L. CRL reported diethylphthalate as 1 J μg/L and bis(2-ethylhexyl)phthalate as 2 BJ μg/L, but IEA data indicated non-detect. IEA reported 11 TICs, but CRL data indicated 16 TICs.

MW46. CRL reported phenol as 2 J μg/L, but IEA data indicated non-detect. Two compounds (bis(2-chloroethyl)ether and 4-methylphenol) were reported by both laboratories as 3 J μg/L. CRL reported benzoic acid as 11 J μg/L, but IEA did not analyze for the compound. CRL reported bis(2-ethylhexyl)phthalate as 2 BJ μg/L, but IEA data indicated 3 J μg/L. IEA reported 11 TICs, but CRL data indicated 2 TICs.

MW47. CRL reported bis(2-ethylhexyl)phthalate as 1 BJ μg/L, but IEA data indicated non-detect.

MW48. IEA used a 2 times dilution, which may have masked the presence of one compound (bis(2-chloroethyl)ether) that was detected in the USEPA split sample. CRL reported phenol as 180 D μg/L, but IEA

data indicated 110 μg/L. IEA reported 2,6-dinitrotoluene as 0.9 J μg/L, but CRL reported non-detect. CRL reported bis(2-ethylhexyl) phthalate as 2 BJ μg/L, but IEA data indicated non-detect. IEA reported 20 TICs, but CRL data indicated 22 TICs.

MW49. IEA used a 2 times dilution, which may have masked the presence of two compounds (bis(2-chloroethyl)ether and bis(2-chloroisopropyl) ether) that were detected in the USEPA split sample. CRL reported phenol as 59 μg/L, but IEA data indicated 93 μg/L. IEA reported isophorone as 1 J μg/L, but CRL reported non-detect. CRL reported bis(2-ethylhexyl)phthalate as 3 BJ μg/L, but IEA data indicated non-detect. IEA reported 16 TICs, but CRL data indicated 15 TICs.

PCBs

The PCB results from all USEPA samples and corresponding Montgomery Watson samples were non-detect.

Pesticides

Montgomery Watson did not request pesticides analyses for their samples. The USEPA split sample for MW48 contained p,p'-DDT (0.23 J μg/L).

Inorganic Analytes

Generally, the data are comparable. Several analytes in the Montgomery Watson data were qualified as B, but an explanation of the qualifier is not included with the data. BVSPC assumes the B qualifier indicates that the reported value is less than the Contract Required Detection Limit, but greater than or equal to the Instrument Detection Limit.

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:

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

where:

P_c = Primary Concentration (assumed USEPA's data)

D_c = Duplicate Concentration (assumed Montgomery Watson's data)

Table 2 presents the sample variation comparison for organic and inorganic analyses. Compounds/analytes that exceeded the 30% RPD criteria included the following:

Methylene chloride
Benzene
4-Methyl-2-pentanone
Phenol
Naphthalene
Bis(2-ethylhexyl)phthalate
Aluminum
Arsenic
Barium
Lead

All other compounds/analytes were consistent, comparable, and within the 30% RPD range between USEPA and Montgomery Watson's data; however, BVSPC recommends that the detected compounds/analytes with higher concentrations should be viewed with caution.

Conclusions

The overall sample analytical results between USEPA and Montgomery Watson's data were comparable; however, differences in concentrations for some compounds/analytes between USEPA and Montgomery Watson's data were noted. These compounds/analytes should be viewed carefully in future sampling events.

Table 1

August 1996 Upper Aquifer Monitoring Well Sample Data Comparison

American Chemical Services, Inc.

Compound/Analyte	Sample Location/Concentration (µg/l)									
	MW46		MW48		MW38		MW47		MW42	
	96ZB10S01 USEPA	PRP	96ZB10S02 USEPA	PRP	96ZB10S03 USEPA	PRP	96ZB10S04 USEPA	PRP	96ZB10S05 USEPA	PRP
Volatile Organic Compounds										
Chloromethane	1 U	0.6 UJ	1 U	500 U	1 U	0.8 UJ	1 U	0.5 UJ	1 U	1 U
Bromomethane	1 U	1 U	1 U	500 U	1 U	1 U	1 U	1 U	1 U	1 U
Vinyl chloride	1 U	0.2 J	1 U	500 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroethane	1 U	1 U	1,200 D	1,000	1 U	1 U	1 U	1 U	1 U	1 U
Methylene chloride	1 U	2 U	4	70 J	1 U	0.3 UJ	1 U	0.3 UJ	1 U	2 U
Acetone	3 U	8 R	3 U	2,500 U	3 U	8 R	3 U	8 UR	3 U	6 R
Carbon disulfide	1 U	1 U	1 U	500 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene	1 U	1 U	1 U	500 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	1 U	1 U	1 U	500 U	1 U	1 U	1 U	1 U	1 U	1 U
2,2-Dichloropropane	1 U	--	1 U	--	1 U	--	1 U	--	1 U	--
cis-1,2-Dichloroethene	1 U	1 U	1 U	500 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,2-Dichloroethene	1 U	1 U	0.9 J	500 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroform	1 U	1 U	1 U	500 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	1 U	0.3 UJ	1 U	500 U	1 UJ	1 U	1 U	1 U	1 U	0.3 UJ
2-Butanone	3 U	5 UR	3 U	2,500 U	3 U	5 UR	3 U	5 UR	3 U	5 UR
Bromochloromethane	1 U	1 U	1 U	500 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,1-trichloroethane	1 U	1 U	1 U	500 U	1 UJ	1 U	1 U	1 U	1 U	1 U
Carbon tetrachloride	1 U	1 U	1 U	500 U	1 UJ	1 U	1 U	1 U	1 U	1 U
1,1-Dichloropropene	1 U	--	1 U	--	1 U	--	1 U	--	1 U	--
Bromodichloromethane	1 U	1 U	1 U	500 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloropropane	1 U	1 U	1 U	500 U	1 U	1 U	1 U	1 U	1 U	1 U
cis-1,3-dichloropropene	1 U	1 U	1 U	500 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene	1 U	1 U	1 U	500 U	1 U	1 U	1 U	1 U	1 U	1 U
Dibromomethane	1 U	--	1 U	--	1 U	--	1 U	--	1 U	--
Dibromochloromethane	1 U	1 U	1 U	500 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane	1 U	1 U	1 U	500 U	1 U	1 U	1 U	1 U	1 U	1 U
Benzene	2	0.8 J	10,000 DJ	9,100	0.7 J	1 U	2	1 U	2	1 U
trans-1,3-Dichloropropene	1 U	1 U	1 U	500 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromoform	1 U	1 U	1 U	500 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3-Dichloropropane	1 U	--	1 U	--	1 U	--	1 U	--	1 U	--
4-Methyl-2-pentanone	2 U	3 J	13	2,500 U	2 U	5 UR	2 U	5 UR	2 U	5 UR
2-Hexanone	2 UJ	5 UR	2 UJ	2,500 U	2 UJ	5 UR	2 UJ	5 UR	2 UJ	5 UR
Tetrachloroethene	1 U	1 U	1 U	500 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	1 U	1 U	1 U	500 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dibromoethane	1 U	1 U	1 U	500 U	1 U	1 U	1 U	1 U	1 U	1 U
Toluene	1 U	1 U	3	500 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	1 U	1 U	1 U	500 U	1 U	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	1 U	1 U	1 U	500 U	1 U	1 U	1 U	1 U	1 U	1 U
Styrene	1 U	1 U	1 U	500 U	1 U	1 U	1 U	1 U	1 U	1 U

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Compound/Analyte	Sample Location/Concentration (µg/l)									
	MW46		MW48		MW38		MW47		MW42	
	96ZB10S01 USEPA	PRP	96ZB10S02 USEPA	PRP	96ZB10S03 USEPA	PRP	96ZB10S04 USEPA	PRP	96ZB10S05 USEPA	PRP
Xylene (total)	--	1 U	--	500 U	--	1 U	--	1 U	--	1 U
m- and/or p-Xylene	1 U	--	1 U	--	1 U	--	1 U	--	1 U	--
o-Xylene	1 U	--	1 U	--	1 U	--	1 U	--	1 U	--
1,3-Dichlorobenzene	1 U	1 U	1 U	500 U	1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	1 U	1 U	1 U	500 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichlorobenzene	1 U	1 U	1 U	500 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dibromo-3-chloropropene	1 U	1 U	1 U	500 U	1 U	1 U	1 U	1 U	1 U	1 U
Isopropylbenzene	1 U	--	1 U	--	1 U	--	1 U	--	1 U	--
Bromobenzene	1 U	--	1 U	--	1 U	--	1 U	--	1 U	--
1,2,3-Trichloropropane	1 U	--	1 U	--	1 U	--	1 U	--	1 U	--
1,1,1,2-Tetrachloroethane	1 U	--	1 U	--	1 U	--	1 U	--	1 U	--
n-Propylbenzene	1 U	--	1 U	--	1 U	--	1 U	--	1 U	--
2-Chlorotoluene	1 U	--	1 U	--	1 U	--	1 U	--	1 U	--
4-Chlorotoluene	1 U	--	1 U	--	1 U	--	1 U	--	1 U	--
1,3,5-Trimethylbenzene	1 U	--	1 U	--	1 U	--	1 U	--	1 U	--
tert-Butylbenzene	1 U	--	1 U	--	1 U	--	1 U	--	1 U	--
1,2,4-Trimethylbenzene	1 U	--	1 U	--	1 U	--	1 U	--	1 U	--
sec-Butylbenzene	1 U	--	1 U	--	1 U	--	1 U	--	1 U	--
p-Isopropyltoluene	1 U	--	1 U	--	1 U	--	1 U	--	1 U	--
n-Butylbenzene	1 U	--	1 U	--	1 U	--	1 U	--	1 U	--
1,2,4-Trichlorobenzene	1 U	--	1 U	--	1 U	--	1 U	--	1 U	--
Naphthalene	1 U	--	1 U	--	1 U	--	1 U	--	1 U	--
Hexachlorobutadiene	1 U	--	1 U	--	1 U	--	1 U	--	1 U	--
1,2,3-Trichlorobenzene	1 U	--	1 U	--	1 U	--	1 U	--	1 U	--
VOA TICs	2	0	2	0	0	0	1	0	0	0
Semivolatile Organic Compounds										
Phenol	2 J	10 U	180 D	110	5 U	10 U	5 U	10 U	21	10 U
bis(2-Chloroethyl)ether	3 J	3 J	19	20 U	5 U	10 U	5 U	10 U	2 J	10 U
2-Chlorophenol	5 U	10 U	5 U	20 U	5 U	10 U	5 U	10 U	5 U	10 U
1,3-Dichlorobenzene	5 U	10 U	5 U	20 U	5 U	10 U	5 U	10 U	5 U	10 U
1,4-Dichlorobenzene	5 U	10 U	5 U	20 U	5 U	10 U	5 U	10 U	5 U	10 U
Benzyl alcohol	5 U	--	5 U	--	5 U	--	5 U	--	5 U	--
1,2-Dichlorobenzene	5 U	10 U	5 U	20 U	5 U	10 U	5 U	10 U	5 U	10 U
2-Methylphenol	5 U	10 U	5 U	20 U	5 U	10 U	5 U	10 U	5 U	10 U
bis(2-Chloroisopropyl)ether	5 U	10 U	5 U	20 U	5 U	10 U	5 U	10 U	5 J	10 U
4-Methylphenol	3 J	3 J	5 U	20 U	5 U	10 U	5 U	10 U	5 U	10 U
N-Nitroso-di-n-propylamine	5 U	10 U	5 U	20 U	5 U	10 U	5 U	10 U	5 U	10 U
Hexachloroethane	5 U	10 U	5 U	20 U	5 U	10 U	5 U	10 U	5 U	10 U
Nitrobenzene	5 U	10 U	5 U	20 U	5 U	10 U	5 U	10 U	5 U	10 U
Isophorone	5 U	10 U	5 U	20 U	5 U	10 U	5 U	10 U	5 U	10 U

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Compound/Analyte	Sample Location/Concentration (µg/l)									
	MW46		MW48		MW38		MW47		MW42	
	96ZB10S01 USEPA	PRP	96ZB10S02 USEPA	PRP	96ZB10S03 USEPA	PRP	96ZB10S04 USEPA	PRP	96ZB10S05 USEPA	PRP
2-Nitrophenol	5 U	10 U	5 U	20 U	5 U	10 U	5 U	10 U	5 U	10 U
2,4-Dimethylphenol	5 U	10 U	5 U	20 U	5 U	10 U	5 U	10 U	5 U	10 U
Benzoic acid	11 J	--	20 U	--	20 U	--	20 U	--	20 U	--
bis(2-Chloroethoxy)methane	5 U	10 U	5 U	20 U	5 U	10 U	5 U	10 U	5 U	10 U
2,4-Dichlorophenol	5 U	10 U	5 U	20 U	5 U	10 U	5 U	10 U	5 U	10 U
1,2,4-Trichlorobenzene	5 U	10 U	5 U	20 U	5 U	10 U	5 U	10 U	5 U	10 U
Naphthalene	5 U	10 U	5 U	20 U	5 U	10 U	5 U	10 U	5 U	10 U
4-Chloroaniline	5 U	10 U	5 U	20 U	5 U	10 U	5 U	10 U	5 U	10 U
Hexachlorobutadiene	5 U	10 U	5 U	20 U	5 U	10 U	5 U	10 U	5 U	10 U
4-Chloro-3-methylphenol	5 U	10 U	5 U	20 U	5 U	10 U	5 U	10 U	5 U	10 U
2-Methylnaphthalene	5 U	10 U	5 U	20 U	5 U	10 U	5 U	10 U	5 U	10 U
Hexachlorocyclopentadiene	5 U	10 U	5 U	20 U	5 U	10 U	5 U	10 U	5 U	10 U
2,4,6-Trichlorophenol	5 U	10 U	5 U	20 U	5 U	10 U	5 U	10 U	5 U	10 U
2,4,5-Trichlorophenol	20 U	25 U	20 U	50 U	20 U	25 U	20 U	25 U	20 U	25 U
2-Chloronaphthalene	5 U	10 U	5 U	20 U	5 U	10 U	5 U	10 U	5 U	10 U
2-Nitroaniline	20 U	25 U	20 U	50 U	20 U	25 U	20 U	25 U	20 U	25 U
Dimethylphthalate	5 U	10 U	5 U	20 U	5 U	10 U	5 U	10 U	5 U	10 U
Acenaphthylene	5 U	10 U	5 U	20 U	5 U	10 U	5 U	10 U	5 U	10 U
2,6-Dinitrotoluene	5 U	10 U	5 U	0.9 J	5 U	10 U	5 U	10 U	5 U	10 U
3-Nitroaniline	20 U	25 U	20 U	50 U	20 U	25 U	20 U	25 U	20 U	25 U
Acenaphthene	5 U	10 U	5 U	20 U	5 U	10 U	5 U	10 U	5 U	10 U
2,4-Dinitrophenol	20 U	25 U	20 U	50 U	20 U	25 U	20 U	25 U	20 U	25 U
4-Nitrophenol	20 U	25 U	20 U	50 U	20 U	25 U	20 U	25 U	20 U	25 U
Dibenzofuran	5 U	10 U	5 U	20 U	5 U	10 U	5 U	10 U	5 U	10 U
2,4-Dinitrotoluene	5 U	10 U	5 U	20 U	5 U	10 U	5 U	10 U	5 U	10 U
Diethylphthalate	5 U	10 U	5 U	20 U	5 U	10 U	5 U	10 U	5 U	10 U
4-Chlorophenyl-phenylether	5 U	10 U	5 U	20 U	5 U	10 U	5 U	10 U	5 U	10 U
Fluorene	5 U	10 U	5 U	20 U	5 U	10 U	5 U	10 U	5 U	10 U
4-Nitroaniline	20 U	25 U	20 U	50 U	20 U	25 U	20 U	25 U	20 U	25 U
4,6-Dinitro-2-methylphenol	20 U	25 U	20 U	50 U	20 UJ	25 U	20 UJ	25 U	20 UJ	25 U
N-Nitrosodiphenylamine	5 U	10 U	5 U	20 U	5 U	10 U	5 U	10 U	5 U	10 U
4-Bromophenyl-phenylether	5 U	10 U	5 U	20 U	5 U	10 U	5 U	10 U	5 U	10 U
Hexachlorobenzene	5 U	10 U	5 U	20 U	5 U	10 U	5 U	10 U	5 U	10 U
Pentachlorophenol	20 U	25 U	20 U	50 U	20 U	25 U	20 U	25 U	20 U	25 U
Phenanthrene	5 U	10 U	5 U	20 U	5 U	10 U	5 U	10 U	5 U	10 U
Anthracene	5 U	10 U	5 U	20 U	5 U	10 U	5 U	10 U	5 U	10 U
Carbazole	5 U	10 U	5 U	20 U	5 U	10 U	5 U	10 U	5 U	10 U
Di-n-butylphthalate	5 U	10 U	5 U	20 U	5 U	10 U	5 U	10 U	5 U	10 U
Fluoranthene	5 U	10 U	5 U	20 U	5 U	10 U	5 U	10 U	5 U	10 U
Pyrene	5 U	10 U	5 U	20 U	5 U	10 U	5 U	10 U	5 U	10 U

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	MW46		MW48		MW38		MW47		MW42	
	96ZB10S01 USEPA	PRP	96ZB10S02 USEPA	PRP	96ZB10S03 USEPA	PRP	96ZB10S04 USEPA	PRP	96ZB10S05 USEPA	PRP
Butylbenzylphthalate	5 U	10 U	5 U	20 U	5 UJ	10 U	5 UJ	10 U	5 UJ	10 U
3,3'-Dichlorobenzidine	5 U	10 U	5 U	20 U	5 U	10 U	5 U	10 U	5 U	10 U
Benzo(a)anthracene	5 U	10 U	5 U	20 U	5 U	10 U	5 U	10 U	5 U	10 U
Chrysene	5 U	10 U	5 U	20 U	5 U	10 U	5 U	10 U	5 U	10 U
bis(2-Ethylhexyl)phthalate	2 BJ	3 J	2 BJ	20 U	2 BJ	10 U	1 BJ	10 U	2 BJ	4 J
Di-n-octylphthalate	5 U	10 U	5 U	20 U	5 U	10 U	5 U	10 U	5 U	10 U
Benzo(b)fluoranthene	5 U	10 U	5 U	20 U	5 U	10 U	5 U	10 U	5 U	10 U
Benzo(k)fluoranthene	5 U	10 U	5 U	20 U	5 U	10 U	5 U	10 U	5 U	10 U
Benzo(a)pyrene	5 U	10 U	5 U	20 U	5 U	10 U	5 U	10 U	5 U	10 U
Indeno(1,2,3-cd)pyrene	5 U	10 U	5 U	20 U	5 U	10 U	5 U	10 U	5 U	10 U
Dibenzo(a,h)anthracene	5 U	10 U	5 U	20 U	5 U	10 U	5 U	10 U	5 U	10 U
Benzo(g,h,i)perylene	5 U	10 U	5 U	20 U	5 U	10 U	5 U	10 U	5 U	10 U
SVOA TICs	2	11	22	20	2	1	1	1	5	0
Pesticides										
Alpha-BHC	0.01 UJ	--	0.01 U	--	0.01 U	--	0.01 U	--	0.01 U	--
Lindane	0.01 UJ	--	0.01 U	--	0.01 U	--	0.01 U	--	0.01 U	--
Heptachlor	0.01 UJ	--	0.01 U	--	0.01 U	--	0.01 U	--	0.01 U	--
Aldrin	0.01 UJ	--	0.01 U	--	0.01 U	--	0.01 U	--	0.01 U	--
Heptachlor Epoxide	0.01 UJ	--	0.01 U	--	0.01 U	--	0.01 U	--	0.01 U	--
Endosulfan I	0.01 UJ	--	0.01 U	--	0.01 U	--	0.01 U	--	0.01 U	--
Dieldrin	0.02 UJ	--	0.02 U	--	0.02 U	--	0.02 U	--	0.02 U	--
Endrin	0.02 UJ	--	0.02 U	--	0.02 U	--	0.02 U	--	0.02 U	--
Endosulfan II	0.02 UJ	--	0.02 U	--	0.02 U	--	0.02 U	--	0.02 U	--
p,p'-DDT	0.02 UJ	--	0.23 J	--	0.02 U	--	0.02 U	--	0.02 U	--
Methoxychlor	0.1 UJ	--	0.1 U	--	0.1 U	--	0.1 U	--	0.1 U	--
Beta-BHC	0.01 UJ	--	0.01 U	--	0.01 U	--	0.01 U	--	0.01 U	--
Delta-BHC	0.01 UJ	--	0.01 U	--	0.01 U	--	0.01 U	--	0.01 U	--
Gamma-chlordane	0.01 UJ	--	0.01 U	--	0.01 U	--	0.01 U	--	0.01 U	--
Alpha-chlordane	0.01 UJ	--	0.01 U	--	0.01 U	--	0.01 U	--	0.01 U	--
p,p'-DDE	0.02 UJ	--	0.02 U	--	0.02 U	--	0.02 U	--	0.02 U	--
p,p'-DDD	0.02 UJ	--	0.02 U	--	0.02 U	--	0.02 U	--	0.02 U	--
Endrin Aldehyde	0.02 UJ	--	0.02 U	--	0.02 U	--	0.02 U	--	0.02 U	--
Endosulfan Sulfate	0.02 UJ	--	0.02 U	--	0.02 U	--	0.02 U	--	0.02 U	--
Endrin Ketone	0.02 UJ	--	0.02 U	--	0.02 U	--	0.02 U	--	0.02 U	--
Technical Chlordane	0.2 UJ	--	0.2 U	--	0.2 U	--	0.2 U	--	0.2 U	--
Toxaphene	1.0 UJ	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--
PCBs										
Aroclor 1016	0.2 UJ	1.0 U	0.2 U	1.0 U	0.2 U	1.0 U	0.2 U	1.0 U	0.2 U	1.0 U
Aroclor 1221	0.2 UJ	2.0 U	0.2 U	2.0 U	0.2 U	2.0 U	0.2 U	2.0 U	0.2 U	2.0 U
Aroclor 1232	0.2 UJ	1.0 U	0.2 U	1.0 U	0.2 U	1.0 U	0.2 U	1.0 U	0.2 U	1.0 U

Table 1

August 1996 Upper Aquifer Monitoring Well Sample Data Comparison

American Chemical Services, Inc.

Compound/Analyte	Sample Location/Concentration (µg/l)									
	MW46		MW48		MW38		MW47		MW42	
	96ZB10S01 USEPA	PRP	96ZB10S02 USEPA	PRP	96ZB10S03 USEPA	PRP	96ZB10S04 USEPA	PRP	96ZB10S05 USEPA	PRP
Aroclor 1242	0.2 UJ	1.0 U	0.2 U	1.0 U	0.2 U	1.0 U	0.2 U	1.0 U	0.2 U	1.0 U
Aroclor 1248	0.2 UJ	1.0 U	0.2 U	1.0 U	0.2 U	1.0 U	0.2 U	1.0 U	0.2 U	1.0 U
Aroclor 1254	0.2 UJ	1.0 U	0.2 U	1.0 U	0.2 U	1.0 U	0.2 U	1.0 U	0.2 U	1.0 U
Aroclor 1260	0.2 UJ	1.0 U	0.2 U	1.0 U	0.2 U	1.0 U	0.2 U	1.0 U	0.2 U	1.0 U
Inorganic Analytes										
Aluminum	583	821	355	254 U	80 U	118 UB	215	383 U	223	808
Antimony	1 U	2.0 U	1 U	2.0 U	1 U	2.0 U	1 U	2.0 U	1 U	2.0 U
Arsenic	2	3.7 B	6	11.3	2	3.9 B	2 U	1.0 U	6 U	2.1 B
Barium	145	132 B	166	160 B	40.2	36.5 B	6	10.0 B	87.3	90.0 B
Beryllium	1 U	0.20 U	1 U	0.20 U	1 U	0.20 UJN	1 U	0.20 UJN	1 U	0.20 UJN
Cadmium	0.2 U	0.20 U	0.2 U	0.20 U	0.2 U	0.20 U	0.2 U	0.20 B	0.2	0.20 U
Calcium	120,000	115,000	140,000	142,000	64,700	63,500	8,460	8,530	134,000	139,000
Chromium	10 U	10.0 U	11.3 J	10.0 U	10 U	10.0 U	10 U	10.0 U	10 U	10.0 U
Cobalt	6 U	10.0 U	6 U	10.0 U	6 U	10.0 U	6 U	10.0 U	6 U	10.0 U
Copper	8.9	13.0 UB	8.1	13.5 UB	6 U	12.0 UB	6 U	15.0 UB	6 U	16.5 UB
Iron	22,700	21,700 J*	32,200	30,800 J*	6,570	6,440 J	187	254 UJ*	2,820	3,340 UJ*
Lead	3	5.0 US	2 U	3.4 US	3	1.5 U	18	23.0 S	6	5.7 US
Magnesium	31,000	30,500	18,700	20,100	21,600	22,000	2,830	2,360 B	47,400	49,800
Manganese	1,560	1,510 JE*	581	688 JE*	519	511 JE*	24.8	27.0 JE*	915	928 JE*
Mercury	0.2 U	0.20 U	0.2 U	0.20 U	0.2 U	0.20 U	0.2 U	0.20 U	0.2 U	0.20 U
Nickel	20 U	20.0 UJ*	21.9	20.0 UJ*	20 U	20.0 U	20 U	20.0 U	20 U	20.0 U
Potassium	5,000 U	1,450 B	7,820	7,560 B	5,000 U	494 B	5,000 U	1,090 B	5,000 U	1,700 B
Selenium	20 U	2.0 U	6 U	2.0 US	4 U	2.0 U	2 U	2.0 U	4 U	2.0 U
Silver	6 U	10.0 U	6 U	10.0 U	6 U	10.0 U	6 U	10.0 U	6 U	10.0 U
Sodium	72,000	62,200	56,600	52,100	5,780	5,130	3,330	3,020 B	13,200	12,700
Thallium	2 U	1.0 U	2 U	1.1 B	2 U	1.0 U	2 U	1.0 U	2 U	1.0 U
Vanadium	5 U	20.0 U	5 U	20.0 U	5 U	20.0 U	5 U	20.0 U	5 U	20.0 U
Zinc	40 U	10.0 U	40 U	10.0 U	40 U	10.0 U	40 U	10.0 U	40 U	10.0 U
Cyanide	8 U	--	8 U	--	8 U	--	8 U	--	8 U	--

Table 1

August 1996 Upper Aquifer Monitoring Well Sample Data Comparison

American Chemical Services, Inc.

Compound/Analyte	Sample Location/Concentration (µg/l)							
	MW49		MW45		MW37		MW44	
	96ZB10S06 USEPA	PRP	96ZB10S07 USEPA	PRP	96ZB09S08 USEPA	PRP	96ZB09S09 USEPA	PRP
Volatile Organic Compounds								
Chloromethane	1 U	500 U	1 U	25 U	1 U	0.9 UJ	1 U	1 UJ
Bromomethane	1 U	500 U	1 U	25 U	1 U	1 U	1 U	1 U
Vinyl chloride	1 J	500 U	1 J	25 U	1 U	1 U	1 U	1 U
Chloroethane	640 D	480 J	110 D	82 J	1 U	1 U	1 U	1 U
Methylene chloride	1	70 UJ	0.9 J	50 U	1 U	2 U	1 U	2 U
Acetone	3 U	2,500 UR	3 U	170 R	3 U	5 UR	3 U	5 UR
Carbon disulfide	1 U	500 U	1 U	25 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene	1 U	500 U	1 U	25 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	2	500 U	1 U	25 U	1 U	1 U	1 U	1 U
2,2-Dichloropropane	1 U	--	1 U	--	1 U	--	1 U	--
cis-1,2-Dichloroethene	0.8 J	500 U	1 U	25 U	1 U	1 U	1 U	1 U
trans-1,2-Dichloroethene	8	500 U	2	25 U	1 U	1 U	1 U	1 U
Chloroform	1 U	500 U	1 U	25 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	1 U	500 U	1 U	25 UJ	1 U	0.2 UJ	1 UJ	1 UJ
2-Butanone	3 U	2,500 UR	3 U	120 UR	3 U	5 UR	3 U	5 UR
Bromochloromethane	1 U	500 U	1 U	25 U	1 U	1 U	1 U	1 U
1,1,1-trichloroethane	1 U	500 U	1 U	25 U	1 U	1 U	1 UJ	1 U
Carbon tetrachloride	1 U	500 U	1 U	25 U	1 U	1 U	1 UJ	1 U
1,1-Dichloropropene	1 U	--	1 U	--	1 U	--	1 U	--
Bromodichloromethane	1 U	500 U	1 U	25 U	1 U	1 U	1 U	1 U
1,2-Dichloropropane	1 U	500 U	1 U	25 U	1 U	1 U	1 U	1 U
cis-1,3-dichloropropene	1 U	500 U	1 U	25 U	1 U	1 U	1 U	1 U
Trichloroethene	1 U	500 U	1 U	25 U	1 U	1 U	1 U	1 U
Dibromomethane	1 U	--	1 U	--	1 U	--	1 U	--
Dibromochloromethane	1 U	500 U	1 U	25 U	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane	1 U	500 U	1 U	25 U	1 U	1 U	1 U	1 U
Benzene	6,400 DJ	5,000	510 D	530	1 U	0.1 J	1 U	1 U
trans-1,3-Dichloropropene	1 U	500 U	1 U	25 U	1 U	1 U	1 U	1 U
Bromoform	1 U	500 U	1 U	25 U	1 U	1 U	1 U	1 U
1,3-Dichloropropane	1 U	--	1 U	--	1 U	--	1 U	--
4-Methyl-2-pentanone	3	2,500 UR	2 U	120 U	2 U	5 UR	2 U	5 U
2-Hexanone	2 UJ	2,500 UR	2 UJ	120 U	2 UJ	5 UR	2 UJ	5 U
Tetrachloroethene	1 U	500 U	1 U	25 U	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	1 U	500 U	1 U	25 U	1 U	1 U	1 U	1 U
1,2-Dibromoethane	1 U	500 U	1 U	25 U	1 U	1 U	1 U	1 U
Toluene	2	500 U	1 U	25 U	1 U	1 U	1 U	1 UJ
Chlorobenzene	0.5 J	500 U	15	16 J	1 U	1 U	1 U	1 U
Ethylbenzene	1	500 U	12	10 J	1 U	1 U	1 U	1 U
Styrene	1 U	500 U	1 U	25 U	1 U	1 U	1 U	1 U

Table 1
August 1996 Upper Aquifer Monitoring Well Sample Data Comparison
American Chemical Services, Inc.

Compound/Analyte	Sample Location/Concentration (µg/l)							
	MW49		MW45		MW37		MW44	
	96ZB10S06 USEPA	PRP	96ZB10S07 USEPA	PRP	96ZB09S08 USEPA	PRP	96ZB09S09 USEPA	PRP
Xylene (total)	--	500 U	--	60	--	1 U	--	1 U
m- and/or p-Xylene	0.8 J	--	54 D	--	1 U	--	1 U	--
o-Xylene	0.6 J	--	3	--	1 U	--	1 U	--
1,3-Dichlorobenzene	1 U	500 U	1 U	25 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	1 U	500 U	2	25 U	1 U	1 U	1 U	1 U
1,2-Dichlorobenzene	1 U	500 U	4	25 U	1 U	1 U	1 U	1 U
1,2-Dibromo-3-chloropropene	1 U	500 U	1 U	25 U	1 U	1 U	1 U	1 U
Isopropylbenzene	1 U	--	15	--	1 U	--	1 U	--
Bromobenzene	1 U	--	1 U	--	1 U	--	1 U	--
1,2,3-Trichloropropane	1 U	--	1 U	--	1 U	--	1 U	--
1,1,1,2-Tetrachloroethane	1 U	--	1 U	--	1 U	--	1 U	--
n-Propylbenzene	1 U	--	11	--	1 U	--	1 U	--
2-Chlorotoluene	1 U	--	1 U	--	1 U	--	1 U	--
4-Chlorotoluene	1 U	--	1 U	--	1 U	--	1 U	--
1,3,5-Trimethylbenzene	1 U	--	15	--	1 U	--	1 U	--
tert-Butylbenzene	1 U	--	1 U	--	1 U	--	1 U	--
1,2,4-Trimethylbenzene	1 U	--	190 D	--	1 U	--	1 U	--
sec-Butylbenzene	1 U	--	1 U	--	1 U	--	1 U	--
p-Isopropyltoluene	1 U	--	1 U	--	1 U	--	1 U	--
n-Butylbenzene	1 U	--	1 U	--	1 U	--	1 U	--
1,2,4-Trichlorobenzene	1 U	--	1 U	--	1 U	--	1 U	--
Naphthalene	1 U	--	91 D	--	1 U	--	1 U	--
Hexachlorobutadiene	1 U	--	1 U	--	1 U	--	1 U	--
1,2,3-Trichlorobenzene	1 U	--	1 U	--	1 U	--	1 U	--
VOA TICs	0	0	5	2	0	0	0	0
Semivolatile Organic Compounds								
Phenol	59	93	24	41	5 U	10 U	5 U	10 U
bis(2-Chloroethyl)ether	5	20 U	6	7 J	5 U	10 U	5 U	10 U
2-Chlorophenol	5 U	20 U	5 U	20 U	5 U	10 U	5 U	10 U
1,3-Dichlorobenzene	5 U	20 U	5 U	20 U	5 U	10 U	5 U	10 U
1,4-Dichlorobenzene	5 U	20 U	2 J	20 U	5 U	10 U	5 U	10 U
Benzyl alcohol	5 U	--	5 U	--	5 U	--	5 U	--
1,2-Dichlorobenzene	5 U	20 U	3 J	20 U	5 U	10 U	5 U	10 U
2-Methylphenol	5 U	20 U	5 U	20 U	5 U	10 U	5 U	10 U
bis(2-Chloroisopropyl)ether	13 J	20 U	5 J	20 U	5 U	10 U	5 U	10 U
4-Methylphenol	5 U	20 U	5 U	20 U	5 U	10 U	5 U	10 U
N-Nitroso-di-n-propylamine	5 U	20 U	5 U	20 U	5 U	10 U	5 U	10 U
Hexachloroethane	5 U	20 U	5 U	20 U	5 U	10 U	5 U	10 U
Nitrobenzene	5 U	20 U	5 U	20 U	5 U	10 U	5 U	10 U
Isophorone	5 U	1 J	5 U	20 U	5 U	10 U	5 U	10 U

Table 1

August 1996 Upper Aquifer Monitoring Well Sample Data Comparison

American Chemical Services, Inc.

Compound/Analyte	Sample Location/Concentration (µg/l)							
	MW49		MW45		MW37		MW44	
	96ZB10S06 USEPA	PRP	96ZB10S07 USEPA	PRP	96ZB09S08 USEPA	PRP	96ZB09S09 USEPA	PRP
2-Nitrophenol	5 U	20 U	5 U	20 U	5 U	10 U	5 U	10 U
2,4-Dimethylphenol	5 U	20 U	5 U	20 U	5 U	10 U	5 U	10 U
Benzoic acid	20 U	--	20 U	--	20 U	--	20 U	--
bis(2-Chloroethoxy)methane	5 U	20 U	5 U	20 U	5 U	10 U	5 U	10 U
2,4-Dichlorophenol	5 U	20 U	5 U	20 U	5 U	10 U	5 U	10 U
1,2,4-Trichlorobenzene	5 U	20 U	5 U	20 U	5 U	10 U	5 U	10 U
Naphthalene	5 U	20 U	52	84	5 U	10 U	5 U	10 U
4-Chloroaniline	5 U	20 U	5 U	20 U	5 U	10 U	5 U	10 U
Hexachlorobutadiene	5 U	20 U	5 U	20 U	5 U	10 U	5 U	10 U
4-Chloro-3-methylphenol	5 U	20 U	5 U	20 U	5 U	10 U	5 U	10 U
2-Methylnaphthalene	5 U	20 U	3 J	4 J	5 U	10 U	5 U	10 U
Hexachlorocyclopentadiene	5 U	20 U	5 U	20 U	5 U	10 U	5 U	10 U
2,4,6-Trichlorophenol	5 U	20 U	5 U	20 U	5 U	10 U	5 U	10 U
2,4,5-Trichlorophenol	20 U	50 U	20 U	50 U	20 U	25 U	20 U	25 U
2-Chloronaphthalene	5 U	20 U	5 U	20 U	5 U	10 U	5 U	10 U
2-Nitroaniline	20 U	50 U	20 U	50 U	20 U	25 U	20 U	25 U
Dimethylphthalate	5 U	20 U	5 U	20 U	5 U	10 U	5 U	10 U
Acenaphthylene	5 U	20 U	5 U	20 U	5 U	10 U	5 U	10 U
2,6-Dinitrotoluene	5 U	20 U	5 U	20 U	5 U	10 U	5 U	10 U
3-Nitroaniline	20 U	50 U	20 U	50 U	20 U	25 U	20 U	25 U
Acenaphthene	5 U	20 U	5 U	20 U	5 U	10 U	5 U	10 U
2,4-Dinitrophenol	20 U	50 U	20 U	50 U	20 U	25 U	20 U	25 U
4-Nitrophenol	20 U	50 U	20 U	50 U	20 U	25 U	20 U	25 U
Dibenzofuran	5 U	20 U	5 U	20 U	5 U	10 U	5 U	10 U
2,4-Dinitrotoluene	5 U	20 U	5 U	20 U	5 U	10 U	5 U	10 U
Diethylphthalate	5 U	20 U	1 J	20 U	5 U	10 U	5 U	10 U
4-Chlorophenyl-phenylether	5 U	20 U	5 U	20 U	5 U	10 U	5 U	10 U
Fluorene	5 U	20 U	5 U	20 U	5 U	10 U	5 U	10 U
4-Nitroaniline	20 U	50 U	20 U	50 U	20 U	25 U	20 U	25 U
4,6-Dinitro-2-methylphenol	20 U	50 U	20 UJ	50 U	20 U	25 U	20 UJ	25 U
N-Nitrosodiphenylamine	5 U	20 U	5 U	20 U	5 U	10 U	5 U	10 U
4-Bromophenyl-phenylether	5 U	20 U	5 U	20 U	5 U	10 U	5 U	10 U
Hexachlorobenzene	5 U	20 U	5 U	20 U	5 U	10 U	5 U	10 U
Pentachlorophenol	20 U	50 U	20 U	50 U	20 U	25 U	20 U	25 U
Phenanthrene	5 U	20 U	5 U	20 U	5 U	10 U	5 U	10 U
Anthracene	5 U	20 U	5 U	20 U	5 U	10 U	5 U	10 U
Carbazole	5 U	20 U	5 U	20 U	5 U	10 U	5 U	10 U
Di-n-butylphthalate	5 U	20 U	5 U	20 U	5 U	10 U	5 U	10 U
Fluoranthene	5 U	20 U	5 U	20 U	5 U	10 U	5 U	10 U
Pyrene	5 U	20 U	5 U	20 U	5 U	10 U	5 U	10 U

Table 1

August 1996 Upper Aquifer Monitoring Well Sample Data Comparison

American Chemical Services, Inc.

Compound/Analyte	Sample Location/Concentration (µg/l)							
	MW49		MW45		MW37		MW44	
	96ZB10S06 USEPA	PRP	96ZB10S07 USEPA	PRP	96ZB09S08 USEPA	PRP	96ZB09S09 USEPA	PRP
Butylbenzylphthalate	5 U	20 U	5 UJ	20 U	5 U	10 U	5 UJ	10 U
3,3'-Dichlorobenzidine	5 U	20 U	5 U	20 U	5 U	10 U	5 U	10 U
Benzo(a)anthracene	5 U	20 U	5 U	20 U	5 U	10 U	5 U	10 U
Chrysene	5 U	20 U	5 U	20 U	5 U	10 U	5 U	10 U
bis(2-Ethylhexyl)phthalate	3 BJ	20 U	2 BJ	20 U	2 BJ	10 U	3 BJ	10 U
Di-n-octylphthalate	5 U	20 U	5 U	20 U	5 U	10 U	5 U	10 U
Benzo(b)fluoranthene	5 U	20 U	5 U	20 U	5 U	10 U	5 U	10 U
Benzo(k)fluoranthene	5 U	20 U	5 U	20 U	5 U	10 U	5 U	10 U
Benzo(a)pyrene	5 U	20 U	5 U	20 U	5 U	10 U	5 U	10 U
Indeno(1,2,3-cd)pyrene	5 U	20 U	5 U	20 U	5 U	10 U	5 U	10 U
Dibenzo(a,h)anthracene	5 U	20 U	5 U	20 U	5 U	10 U	5 U	10 U
Benzo(g,h,i)perylene	5 U	20 U	5 U	20 U	5 U	10 U	5 U	10 U
SVOA TICs	15	16	16	11	0	0	0	0
Pesticides								
Alpha-BHC	0.01 U	--	0.01 U	--	0.01 U	--	0.01 U	--
Lindane	0.01 U	--	0.01 U	--	0.01 U	--	0.01 U	--
Heptachlor	0.01 U	--	0.01 U	--	0.01 U	--	0.01 U	--
Aldrin	0.01 U	--	0.01 U	--	0.01 U	--	0.01 U	--
Heptachlor Epoxide	0.01 U	--	0.01 U	--	0.01 U	--	0.01 U	--
Endosulfan I	0.01 U	--	0.01 U	--	0.01 U	--	0.01 U	--
Dieldrin	0.02 U	--	0.02 U	--	0.02 U	--	0.02 U	--
Endrin	0.02 U	--	0.02 U	--	0.02 U	--	0.02 U	--
Endosulfan II	0.02 U	--	0.02 U	--	0.02 U	--	0.02 U	--
p,p'-DDT	0.02 U	--	0.02 U	--	0.02 U	--	0.02 U	--
Methoxychlor	0.1 U	--	0.1 U	--	0.1 U	--	0.1 U	--
Beta-BHC	0.01 U	--	0.01 U	--	0.01 U	--	0.01 U	--
Delta-BHC	0.01 U	--	0.01 U	--	0.01 U	--	0.01 U	--
Gamma-chlordane	0.01 U	--	0.01 U	--	0.01 U	--	0.01 U	--
Alpha-chlordane	0.01 U	--	0.01 U	--	0.01 U	--	0.01 U	--
p,p'-DDE	0.02 U	--	0.02 U	--	0.02 U	--	0.02 U	--
p,p'-DDD	0.02 U	--	0.02 U	--	0.02 U	--	0.02 U	--
Endrin Aldehyde	0.02 U	--	0.02 U	--	0.02 U	--	0.02 U	--
Endosulfan Sulfate	0.02 U	--	0.02 U	--	0.02 U	--	0.02 U	--
Endrin Ketone	0.02 U	--	0.02 U	--	0.02 U	--	0.02 U	--
Technical Chlordane	0.2 U	--	0.2 U	--	0.2 U	--	0.2 U	--
Toxaphene	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--
PCBs								
Aroclor 1016	0.2 U	1.0 U	0.2 U	1.0 U	0.2 U	1.0 U	0.2 U	1.0 U
Aroclor 1221	0.2 U	2.0 U	0.2 U	2.0 U	0.2 U	2.0 U	0.2 U	2.0 U
Aroclor 1232	0.2 U	1.0 U	0.2 U	1.0 U	0.2 U	1.0 U	0.2 U	1.0 U

Table 1

August 1996 Upper Aquifer Monitoring Well Sample Data Comparison

American Chemical Services, Inc.

Compound/Analyte	Sample Location/Concentration (µg/l)							
	MW49		MW45		MW37		MW44	
	96ZB10S06 USEPA	PRP	96ZB10S07 USEPA	PRP	96ZB09S08 USEPA	PRP	96ZB09S09 USEPA	PRP
Aroclor 1242	0.2 U	1.0 U	0.2 U	1.0 U	0.2 U	1.0 U	0.2 U	1.0 U
Aroclor 1248	0.2 U	1.0 U	0.2 U	1.0 U	0.2 U	1.0 U	0.2 U	1.0 U
Aroclor 1254	0.2 U	1.0 U	0.2 U	1.0 U	0.2 U	1.0 U	0.2 U	1.0 U
Aroclor 1260	0.2 U	1.0 U	0.2 U	1.0 U	0.2 U	1.0 U	0.2 U	1.0 U
Inorganic Analytes								
Aluminum	80 U	110 UB	170	776	461	1,410	80 U	175 UB
Antimony	1 U	2.0 U	1 U	2.0 U	1 U	2.0 U	1 U	2.0 U
Arsenic	23	24.5	25	21.5	2 U	1.0 U	4	6.0 BS
Barium	102	96.5 B	89.7	84.5 B	22.2	23.5 B	115	106 B
Beryllium	1 U	0.20 U	1 U	0.20 U	1 U	0.26 B	1 U	0.20 U
Cadmium	0.2	0.20 U	0.2 U	0.20 U	0.4	0.47 B	0.2 U	0.20 U
Calcium	82,400	81,200	95,300	97,100	34,500	34,300	90,300	90,500
Chromium	10.5 J	10.0 U	10 U	29.0	10 U	10.0 U	10 U	10.0 U
Cobalt	6 U	10.0 U	6 U	10.0 U	6.9	10.0 U	6 U	10.0 U
Copper	6 U	11.0 UB	6 U	21.0 UB	9.9	20.5 UB	7.2	15.5 UB
Iron	19,800	20,100 J*	8,460	9,570 J*	762	1,240 UJ*	1,470	1,480 UJ*
Lead	5	1.5 U	9	38.5 S	8	8.6 US	4	1.5 U
Magnesium	10,600	10,700	23,800	27,500	9,020	9,160	36,900	37,200
Manganese	1,970	1,950 JE*	613	641 JE*	277	273 JE*	44.8	38.5 JE*
Mercury	0.2 U	0.20 U	0.2 U	0.20 U	0.2 U	0.20 U	0.2 U	0.20 U
Nickel	20.3	20.0 UJ*	20 U	35.0 UJB*	20 U	20.0 UJ*	20 U	23.0 UJB*
Potassium	5,000 U	3,760 B	6,950	5,350	5,000 U	1,500 B	5,000 U	990 B
Selenium	4 U	2.0 U	8 U	2.0 U	2 U	2.0 U	2 U	2.0 U
Silver	6 U	10.0 U	6 U	10.0 U	6 U	10.0 U	6 U	10.0 U
Sodium	23,100	21,300	72,500	70,900	6,130	5,460	20,700	19,700
Thallium	2 U	1.0 U	2 U	1.0 U	2 U	1.0 U	2 U	1.0 U
Vanadium	5 U	20.0 U	5 U	20.0 U	5 U	20.0 U	5 U	20.0 U
Zinc	40 U	10.0 U	40 U	15.0 UB	40 U	10.0 U	40 U	10.0 U
Cyanide	8 U	--	8 U	--	8 U	--	8 U	--

t:\projects\acs\data\aug96\table1

Table 2
Relative Percent Difference Comparison
August 1996 Upper Aquifer Monitoring Well Sample Data Comparison
American Chemical Services, Inc.

Compound/Analyte	Sample Location/Concentration (µg/l)														
	MW46			MW48			MW38			MW47			MW44		
	96ZB10S01 USEPA	PRP	%RPD	96ZB10S02 USEPA	PRP	%RPD	96ZB10S03 USEPA	PRP	%RPD	96ZB10S04 USEPA	PRP	%RPD	96ZB10S09 USEPA	PRP	%RPD
Volatile Organic Compounds															
Methylene chloride	--	--	--	4	70 J	178%	--	--	--	--	--	--	--	--	--
Benzene	2	0.8 J	86%	--	--	--	--	--	--	2	1 U	67%	--	--	--
4-Methyl-2-pentanone	2 U	3 J	40%	--	--	--	--	--	--	--	--	--	--	--	--
Semivolatile Organic Compounds															
Phenol	--	--	--	180 D	110	48%	--	--	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate	2 BJ	3 J	40%	--	--	--	--	--	--	--	--	--	--	--	--
Inorganic Analytes															
Aluminum	583	821	34%	355	254 U	33%	--	--	--	--	--	--	--	--	--
Arsenic	2	3.7 B	60%	6	11.3	61%	2	3.9 B	64%	--	--	--	4	6.0 BS	40%
Barium	--	--	--	--	--	--	--	--	--	6	10.0 B	50%	--	--	--
Lead	--	--	--	--	--	--	3	1.5 U	67%	--	--	--	4	1.5 U	91%

Compound/Analyte	Sample Location/Concentration (µg/l)											
	MW42			MW49			MW45			MW37		
	96ZB10S05 USEPA	PRP	%RPD	96ZB10S06 USEPA	PRP	%RPD	96ZB10S07 USEPA	PRP	%RPD	96ZB10S08 USEPA	PRP	%RPD
Volatile Organic Compounds												
Methylene chloride	--	--	--	1	70 UJ	194%	--	--	--	--	--	--
Benzene	2	1 U	67%	--	--	--	--	--	--	--	--	--
4-Methyl-2-pentanone	--	--	--	--	--	--	--	--	--	--	--	--
Semivolatile Organic Compounds												
Phenol	21	10 U	71%	59	93	45%	24	41	52%	--	--	--
Naphthalene	--	--	--	--	--	--	52	84	47%	--	--	--
Inorganic Analytes												
Aluminum	223	808	113%	--	--	--	170	776	128%	461	1,410	101%
Lead	--	--	--	5	1.5 U	108%	9	38.5 S	124%	--	--	--

t:\projects\acs\data\aug96\table2

Appendix A

USEPA Organic and Inorganic Analysis Data Sheets

ENVIRONMEN. ROTECTION AGENCY
Office of Enforcement

REGIC
230 South Dearborn Street
Chicago, Illinois 60604

CHAIN OF CUSTODY RECORD

PROJ. NO.: 962B10
PROJECT NAME: AMERICAN CHEMICAL SERVICE
SAMPLERS: (Signature) Bal Barena

REMARKS: SF 960144

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	40 ml VOA	8 oz AMBER	1 LITER POLY				REMARKS	
MW38	8/7/96	0800		X	AC-MW38-001	6	2	2	2				962B10-503	5-021754-55, 58-60
MW47	8/7/96	1135		X	AC-MW47-001	6	2	2	2				962B10-504	5-021762-67
TB02	8/7/96	1340		X	AC-TB02-201	2	2						962B10-TB02	5-021768-69 (TRIP BLANK)
MW42	8/7/96	1545		X	AC-MW42-001	6	2	2	2				962B10-505	5-021770-75
MW44S (DSD)	8/8/96	1015		X	AC-MW44S (DSD) 001	6	2	2	2				962B10-507	5-021776-81
MW48S (DSD)	8/8/96	0930		X	AC-MW48S (DSD) 001	6	2	2	2				962B10-509	5-021782-87

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Bal Barena	8/8/96 1333	Sylvia Griffin			
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	
		Sylvia Griffin	8/8/96 1333pm		

Distribution: White — Accompanies Shipment; Pink — Coordinator Field Files; Yellow — Laboratory File

5-06668

ENVIRONMEN PROTECTION AGENCY
Office of Enforcement

REGI
230 South Dearborn Street
Chicago, Illinois 60604

CHAIN OF CUSTODY RECORD

PROJ. NO.: 96ZB10
PROJECT NAME: AMERICAN CHEMICAL SERVICE
SAMPLERS: (Signature) Bal Berena

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	40ml VOA	80oz AMBER	1 LITER POLY				REMARKS SF 960142
MW37	8/6/96	1120		X	AC-MW37-C01	6	2	2	2				96ZB10-S08 5-181669,70,79,77,75,73
MW37	8/6/96	1120		X	AC-MW37-101	6	2	2	2				96ZB10-D08 5-181671,80,78,76,74,72
MW49	8/6/96	0945		X	AC-MW49-001	18	6	6	6				96ZB10-S06 5-181942-60 MS/MSD
MW48	8/6/96	1400		X	AC-MW48-001	6	2	2	2				96ZB10-S02 5-181681-86
TB01	8/6/96	0855		X	AC-TB01-201	2	2						TRIP BLANK 5-181959-60
~~MW46~~	~~8/6/96~~	GSB 8/6/96											
MW46	8/5/96	1530		X		6	2	2	2				96ZB10-S01 5-181935-40

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Bal Berena	8/7/96 0830	Sylvia Griffin			
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) Sylvia Griffin	Date / Time 8/7/96 0830	Remarks	

Distribution: White — Accompanies Shipment; Pink — Coordinator Field Files; Yellow — Laboratory File

5-06635

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CENTRAL REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

Date: AUG 30 1996

Subject: Review of Region 5 Data for AMERICAN CHEMICAL SERVICE
From: Charles T. Elly, Director Chuck Elly
Region 5 Central Regional Laboratory

To: Black & Veatch

Attached are the results for **American Chemical Service**
CRL request number: **960142**
Analyzed for: **ABN (Organics)**
Results are reported for sample designations: 96ZB10S01, -S02, -S06, -S08 and -D08 (Five water samples)

Results Status:
(X) Acceptable for Use **except** the compound results qualified **J** and **UJ**. Please see attached case narrative.

(X) Data Qualified but acceptable for Use for the compounds qualified **J** and **UJ**. See the attached case narrative.

( ) Data Unacceptable for Use.

(X) Sewer Disposal Criteria Met; Exceptions: none
Comments on Data Quality by Reviewer:

- Please see the attached case narrative.

Comments by Laboratory Director or Quality Control Coordinator

Review Record for **American Chemical Service 960142 ABN (Organics)**

Bobu Posinchuski 08/29/96

Task Monitor Date (X) Reviewed ( ) Unreviewed

Chi Tang 08/29/96

Team Leader Date (X) Reviewed ( ) Unreviewed

Chuck Elbs 8/30/96

QC Coordinator (VACANT) Date ( ) Reviewed (✓) Unreviewed

Sylvia Griffin AUG 30 1996

Data Management Coordinator and Date Received

Date Transmitted AUG 30 1996

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
ML - 10C

Received by and Date

Comments:

St 960142

ENVIRONMENTAL PROTECTION AGENCY
FOR THE TEAM: TOXIC SUBSTANCES

DIVISION/BRANCH Super Fund SAMPLE DATE 8/6/96 LAB ARRIVAL DATE 8/7/96 DUE DATE 8/28/96

DU NUMBER TFA 301 DATA SET NUMBER 960142 STUDY AMERICAN Chemical Services PRIORITY — CONTRACTOR

CRL LOG NUMBER	SAMPLE DESCRIPTION	WATER VOLATILE ORGANICS SCAN UG/L TOX 17664	WATER ABN ORGANICS SCAN UG/L TOX 17674	SEDIMENTS SOLIDS VOLATILE ORGANICS SCAN MG/KG (DRY) TOX 215622	SEDIMENTS SOLIDS ABN ORGANICS SCAN MG/KG (DRY) TOX 215722
96ZB10S01	5-181935-936 AC-MW46-001	X			
96ZB10 S02	AC-MW48-001 5-181681 5-181683	X			
96ZB10R01	AC-TB01-201 5-181959-960	X			
96ZB10 S08	AC-MW37-001 5-181669-670	X			
96ZB10 D08	AC-MW57-101 5-181671-672	X			
96ZB10 S06	AC-MW49-001 5-181941-946	X			
96ZB10 S01	AC-MW46-001 5-181939		X		
96ZB10 S02	AC-MW48-001 5-181685		X		
96ZB10 S06	AC-MW49-001 5-181953-955		X		
96ZB10 S08	AC-MW37-001 5-181677		X		
96ZB10 D08	AC-MW37-101 5-181678		X		

Zin a [signature] 8-13-96

CASE NARRATIVE

DATE: August 27, 1996

PROJECT NAME: American Chemical Service
CRL Case #: 960142 Analysis of Semivolatile Organic Analytes (SVOA)

ANALYST: Ziyad Rajabi, Lockheed/ESAT Organic Group Leader

REVIEWERS: Ira Wilson, ESAT Organic Supervisor
Dennis Miller, Lockheed/ESAT Team Manager
Babu Paruchuri, EPA Task Monitor

I. CASE DESCRIPTION:

The laboratory received, in good condition, five water samples (96ZB10S01, -S02, -S06, -S08, and -D08) on August 7, 1996 for Semivolatile Organic Analytes (SVOA) analysis. The samples were collected on August 6, 1996 and were extracted on August 12, 1996 which is within the holding time requirements for water samples. [QC Criteria for holding time: Seven days from the date of collection]. The sample extracts were analyzed within the holding time requirements. [QC Criteria for sample holding time: Forty days from the date of the extraction]. No problems were observed.

II. INSTRUMENT QUALITY CONTROLS:

1. **Instrument Performance Check:** Performance checks using decafluorotriphenylphosphine (DFTPP) were made to determine if acceptable EPA tuning criteria were met. The QC criteria are the same as the CLP IFB's criteria. No problems were observed.

2. **Initial Calibrations (IC):** An acceptable five-point initial calibration (IC) is required for all target compounds before samples can be analyzed. (QC criteria for IC: %RSD must be ≤ 30%).

Two initial calibrations were associated with this data set. The first initial calibration was generated on August 14, 1996 on the HP5996. All of the target compounds %RSDs were acceptable except bis(2-Ethylhexyl)phthalate (%RSD=34.3); therefore, results for bis(2-Ethylhexyl)phthalate will be flagged as estimated (J) for detected compounds while all non-detects will be flagged as estimated (UJ).

The second initial calibration was generated on August 21, 1996 on the HP5996. All of the target compounds %RSDs were

acceptable except 2,4-dinitrophenol (%RSD=37.2) and 4-nitrophenol(%RSD=34.5). Results for 2,4-dinitrophenol and 4-nitrophenol will be flagged as estimated (J) for detected compounds while all non-detects will be flagged as estimated (UJ). No other problems were observed.

3. **Continuing Calibrations (CC):** The QC criteria for the continuing calibration are (CC: %D must be ≤ 25%).

For the continuing calibrations (midpoint) generated on August 14 and August 21, 1996, all of the target compounds %Ds were acceptable. No problems observed.

For the continuing calibration generated on August 22, 1996, all of the target compounds %Ds were acceptable except hexachlorocyclopentadiene, (%D=27.0), 2,4,6-trichlorophenol (%D=27.8), 2,4,5-trichlorophenol(%D=29.3), 2,4-dinitrophenol (%D=35.4), pentachlorophenol (%D=43.2), and 2,4,6-Tribromophenol (%D=27.4). Results for hexachlorocyclopentadiene, 2,4,6-trichlorophenol, 2,4,5-trichlorophenol, 2,4-dinitrophenol, and pentachlorophenol will be flagged as estimated (J) for detected compounds while all non-detects will be flagged as estimated (UJ). 2,4,6-Tribromophenol is a surrogate, therefore, data qualification is not applicable for it. No other problems were observed.

4. **Internal Standard (IS) Area and Retention Time (RT) Summary:** The QC criterion states that the IS area of samples must be within 50% of the IS area of the corresponding CC. The RT of the IS for samples must also be within 30 seconds of the RT of the IS for the corresponding CC.

All internal standard areas met the QC requirements; therefore, results are acceptable. No problems were observed. [See Form VIII]

III. METHOD QUALITY CONTROL:

1. **Method Blank Results:** One Lab Blank (de-ionized water spiked with surrogates) was extracted with this data set to check for contamination.

The blank reported bis(2-Ethylhexyl)phthalate and no TICs. bis(2-Ethylhexyl)phthalate is a common laboratory contaminant. All positive results for bis(2-Ethylhexyl)phthalate are qualified (B) in all of the associated samples. [See Form I SVOA].

2. **Surrogate Spike Compound Results:** The surrogate spike compound recovery data are within the QC limits except low 2-fluorobiphenyl recovery in the Lab Blank and high phenol-d5

recovery for the Lab Spike Dilution. One surrogate outlier is allowed per fraction; therefore, data qualification is not necessary. No other problems were observed. See Form II

3. **Laboratory Control Sample (LCS):** Laboratory control samples were prepared by spiking deionized water with 750 µL of the ABN spike standard which contained all of the target analytes. The final concentration in the extracted sample was expected to be 75 µg/L for all target analytes.

For the LAB SPIKE, all recoveries were within their QC limit except high benzo(a)pyrene recovery; therefore, results of benzo(a)pyrene will be flagged as estimated (J) for detected compounds while non-detects will not be flagged. No other problems were observed.

4. **Performance Evaluation Sample (PES):** ESAT analyzed the August PES. The QC criteria for the PES are the control limits established by EMSL-LV.

IV. SAMPLE RESULTS

2,4-Dinitrophenol, indeno(1,2,3-cd)pyrene, dibenzo(a,h)anthracene, and benzo(g,h,i)perylene were reported outside the upper calibration range for the Lab Spike sample. The Lab Spike sample was diluted and reanalyzed (D). The reanalysis results were within the calibration range; therefore, analysis results for 2,4-Dinitrophenol, indeno(1,2,3-cd)pyrene, dibenzo(a,h)anthracene, and benzo(g,h,i)perylene will be obtained from the diluted samples.

Phenol was reported outside the upper calibration range for sample 96ZB10S02. The sample was diluted and reanalyzed (96ZB10S02D). The reanalysis results were within the calibration range; therefore, phenol analysis results will be obtained from the diluted sample.

Summary forms reflecting reportable values were prepared and are submitted in this data package.

The laboratory met the qualitative and quantitative analysis requirements for TCLs and TICs.

SVOAs

I Holding Times were met. Form 1

II. IPC No. Form 5 provided. QC criteria were met and no problems observed.

III. Initial Calibration. No form 6 provided.

8/14 All within % RSD except.

bis(2-ethylhexyl) phthalate 34.3% RSD

all detects flagged J, non-detects are flagged UJ.

8/21 calibration OK except:

2,4-dinitrophenol

4-nitrophenol

IV. Continuing Calibration. No form 7

8/14 and 8/21 OK, no problems.

8/22 calibration, 6 compounds outside QC criteria Flagged J for detects, UJ for non-detects.

V. Internal Stand Form 8 not provided.

QC criteria met, no problems observed.

V. Method blanks Form 1

bis(2-ethylhexyl) phthalate found in blank.

VI Surrogate Spikes Form 2

FBP out (low) on LAB BLANK.

Phenol-d5 out (high) on LAB SPK D

No qualification required.

VIII Lab Control Samples Form 3 not provided.

For LAB SPIKE, all within QC limit except benzo(a) pyrene.

IX. Regional QA/QC

Perf. Eval. Sample OK.

XV 4 compounds outside (high) calibration range for Lab Spike sample; Diluted and reanalyzed.

phenol (SO2 was diluted) reported as diluted.

SMH 9/10/96

2C
WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: REGION V CRL Contract: ESAT

Lab code: 5SCRL Case No.: 960142 SAS No.: SDG No.:

	EPA SAMPLE NO.	S1 (NBZ) #	S2 (FBP) #	S3 (TPH) #	S4 (PHL) #	S5 (2FP) #	S6 (TBP) #	S7 ( ) #	TOT OUT
01	LAB BLANK	40	39 *	72	51	37	50		1
02	LAB SPIKE	98	83	97	97	92	109		0
03	96ZB10S01	77	71	93	95	77	97		0
04	96ZB10S02	64	63	90	83	67	95		0
05	96ZB10S06	48	47	74	58	45	78		0
06	96ZB10S08	73	65	103	86	67	88		0
07	96ZB10D08	74	66	105	89	71	84		0
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
S1 (NBZ)	= Nitrobenzene-d5	(35-114)
S2 (FBP)	= 2-Fluorobiphenyl	(43-116)
S3 (TPH)	= Terphenyl-d14	(33-141)
S4 (PHL)	= Phenol-d5	(10-100)
S5 (2FP)	= 2-Fluorophenol	(21-110)
S6 (TBP)	= 2,4,6-Tribromophenol	(10-123)

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

2C
WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: REGION V CRL Contract: ESAT

Lab code: 5SCRL Case No.: 960142 SAS No.: SDG No.:

	EPA SAMPLE NO.	S1 (NBZ)#	S2 (FBP)#	S3 (TPH)#	S4 (PHL)#	S5 (2FP)#	S6 (TBP)#	S7 ( )#	TOT OUT
01	LAB SPK D	96	100	119	114 *	95	111		1
02	96ZB10S02D	69	79	114	91	72	103		0
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									

		QC LIMITS
S1 (NBZ)	= Nitrobenzene-d5	(35-114)
S2 (FBP)	= 2-Fluorobiphenyl	(43-116)
S3 (TPH)	= Terphenyl-d14	(33-141)
S4 (PHL)	= Phenol-d5	(10-100)
S5 (2FP)	= 2-Fluorophenol	(21-110)
S6 (TBP)	= 2,4,6-Tribromophenol	(10-123)

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

11B
SEMIVOLATILE ORGANICS LAB CONTROL SPIKE

EPA SAMPLE NO.

LAB SPIKE

Name: AMERICAN CHEMICAL SERVICE Contract: ESAT

Lab Code: 5SCRL Case No.: 960142 SAS No.: ------ SDG No.: ------

Matrix: (soil/water) WATER Lab Sample ID: LAB SPIKE

Sample wt/vol: 1000 (g/ml) mL Lab File ID: >E1350

Level: (low/med) LOW Date Received: 08/12/96

% Moisture: not dec. 100 dec. --- Date Extracted: 08/12/96

Extraction: (Sepf/Cont/Sonc) CONT Date Analyzed: 08/14/96

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

COMPOUND	Conc	Spike	Recovery
Phenol	62	75	83
bis(2-Chloroethyl)ether	67	75	89
2-Chlorophenol	68	75	91
N-Nitroso-di-n-propylamine	72	75	96
Hexachloroethane	61	75	81
Isophorone	73	75	98
1,2,4-Trichlorobenzene	70	75	93
Naphthalene	63	75	84
4-Chloroaniline	73	75	97
2,4,6-Trichlorophenol	73	75	98
2,4-Dinitrotoluene	82	75	109
Diethylphthalate	71	75	95
N-Nitrosodiphenylamine	72	75	96
Hexachlorobenzene	66	75	88
Benzo(a)pyrene	78	75	104

4B
SEMIVOLATILE METHOD BLANK SUMMARY

b Name: REGION V CRL Contract: ESAT

Lab code: 5SCRL Case No.: 960142 SAS No.: SDG No.:

Lab File ID: >E1348 Lab Sample ID: LAB BLANK

Date Extracted: 08/12/96 Extraction:(Sepf/Cont/Sonc) CONT

Date Analyzed: 08/14/96 Time Analyzed: 17:58

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

Instrument ID: HP5996

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
1	LAB SPIKE	LAB SPIKE	>E1350	08/14/96
2	96ZB10S01	96ZB10S01	>E1352	08/14/96
3	96ZB10S02	96ZB10S02	>E1353	08/14/96
4	96ZB10S06	96ZB10S06	>E1354	08/14/96
5	96ZB10S08	96ZB10S08	>E1355	08/14/96
6	96ZB10D08	96ZB10D08	>E1356	08/14/96
7				
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COMMENTS: _____.

_____.

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LAB BLANK

Name: AMERICAN CHEMICAL SERVICE Contract: ESAT

Lab Code: 5SCRL Case No.: 960142 SAS No.: ------ SDG No.: ------

Matrix: (soil/water) WATER Lab Sample ID: LAB BLANK

Sample wt/vol: 1000 (g/ml) mL Lab File ID: >E1349

Level: (low/med) LOW Date Received: 08/12/96

% Moisture: not dec. 100 dec. --- Date Extracted: 08/12/96

Extraction: (Sepf/Cont/Sonc) CONT Date Analyzed: 08/14/96

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	5	U
541-73-1	1,3-Dichlorobenzene	5	U
106-46-7	1,4-Dichlorobenzene	5	U
100-51-6	Benzyl alcohol	5	U
95-50-1	1,2-Dichlorobenzene	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	bis(2-Chloroisopropyl)ether	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
65-85-0	Benzoic acid	20	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
120-82-1	1,2,4-Trichlorobenzene	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalene	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dinitrotoluene	5	U

TENTATIVELY IDENTIFIED COMPOUNDS (TICs): YES [ ] NO [X]

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LAB BLANK

Name: AMERICAN CHEMICAL SERVICE Contract: ESAT

Lab Code: 5SCRL Case No.: 960142 SAS No.: ------ SDG No.: ------

Matrix: (soil/water) WATER Lab Sample ID: LAB BLANK

Sample wt/vol: 1000 (g/ml) mL Lab File ID: >E1349

Level: (low/med) LOW Date Received: 08/12/96

% Moisture: not dec. 100 dec. --- Date Extracted: 08/12/96

Extraction: (Sepf/Cont/Sonc) CONT Date Analyzed: 08/14/96

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

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

Data Qualifiers: U = Compounds were analyzed but not detected. The value reported is the method detection limit for reagent water; J = Estimated; D=Diluted Sample; X = Result rejected for failing mass spectral confirmation; E = Concentration exceeded calibration range; B_ = Contaminant found in laboratory method blank.

AC-MW46-001

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

96ZB10S01

Name: AMERICAN CHEMICAL SERVICE Contract: ESAT

Lab Code: 5SCRL Case No.: 960142 SAS No.: ------ SDG No.: ------

Matrix: (soil/water) WATER Lab Sample ID: 96ZB10S01

Sample wt/vol: 1000 (g/ml) mL Lab File ID: >E1352

Level: (low/med) LOW Date Received: 08/07/96

% Moisture: not dec. 100 dec. --- Date Extracted: 08/12/96

Extraction: (Sepf/Cont/Sonc) CONT Date Analyzed: 08/14/96

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
108-95-2	Phenol	2	J
111-44-4	bis(2-Chloroethyl)ether	3	J
95-57-8	2-Chlorophenol	5	U
541-73-1	1,3-Dichlorobenzene	5	U
106-46-7	1,4-Dichlorobenzene	5	U
100-51-6	Benzyl alcohol	5	U
95-50-1	1,2-Dichlorobenzene	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	bis(2-Chloroisopropyl)ether	5	U
106-44-5	4-Methylphenol	3	J
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
65-85-0	Benzoic acid	11	J
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
120-82-1	1,2,4-Trichlorobenzene	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalene	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dinitrotoluene	5	U

TENTATIVELY IDENTIFIED COMPOUNDS (TICs): YES [X] NO [ ]

AC-MW46-001

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

96ZB10S01

Name: AMERICAN CHEMICAL SERVICE Contract: ESAT

Lab Code: 5SCRL Case No.: 960142 SAS No.: ------ SDG No.: ------

Matrix: (soil/water) WATER Lab Sample ID: 96ZB10S01

Sample wt/vol: 1000 (g/ml) mL Lab File ID: >E1352

Level: (low/med) LOW Date Received: 08/07/96

% Moisture: not dec. 100 dec. --- Date Extracted: 08/12/96

Extraction: (Sepf/Cont/Sonc) CONT Date Analyzed: 08/14/96

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

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

FORM I SV-2 1/87 Rev

Data Qualifiers: U = Compounds were analyzed but not detected. The value reported is the method detection limit for reagent water; J = Estimated; D=Diluted Sample; X = Result rejected for failing mass spectral confirmation; E = Concentration exceeded calibration range; B_ = Contaminant found in laboratory method blank.

AC-MW46-001

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

96ZB10S01

Lab Name: AMERICAN CHEMICAL SERVICE Contract: ESAT

Lab Code: 5SCRL Case No.: 960142 SAS No.: ------ SDG No.: ------

Matrix: (soil/water) WATER Lab Sample ID: 96ZB10S01

Sample wt/vol: 1000 (g/mL) mL Lab File ID: >E1352

Level: (low/med) LOW Date Received: 08/07/96

% Moisture: not dec.100 dec. --- Date Extracted: 08/12/96

Extraction: (Sepf/Cont/Sonc) CONT Date Analyzed: 8/14/96

GPC Cleanup: (Y/N) N pH:--- Dilution Factor: 1.00000

Number TICs found: 2

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	2613890	Propanedioic acid, phenyl- (	8.85	8.	J
2.	501520	Benzenepropanoic acid (9CI)	10.40	9.	J
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AC-MW48-001

EPA SAMPLE NO.

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SUMMARY
96ZB10S02

Name: AMERICAN CHEMICAL SERVICE Contract: ESAT

Lab Code: 5SCRL Case No.: 960142 SAS No.: ------ SDG No.: ------

Matrix: (soil/water) WATER Lab Sample ID: 96ZB10S02

Sample wt/vol: 1000 (g/ml) mL Lab File ID: >E1353

Level: (low/med) LOW Date Received: 08/07/96

% Moisture: not dec. 100 dec. --- Date Extracted: 08/12/96

Extraction: (Sepf/Cont/Sonc) CONT Date Analyzed: 08/14/96

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
108-95-2	Phenol	180	D
111-44-4	bis(2-Chloroethyl)ether	19	
95-57-8	2-Chlorophenol	5	U
541-73-1	1,3-Dichlorobenzene	5	U
106-46-7	1,4-Dichlorobenzene	5	U
100-51-6	Benzyl alcohol	5	U
95-50-1	1,2-Dichlorobenzene	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	bis(2-Chloroisopropyl)ether	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
65-85-0	Benzoic acid	20	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
120-82-1	1,2,4-Trichlorobenzene	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalene	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dinitrotoluene	5	U

TENTATIVELY IDENTIFIED COMPOUNDS (TICs): YES [X] NO [ ]

AC-MW4B-001

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SUMMARY
96ZB10S02

Name: AMERICAN CHEMICAL SERVICE Contract: ESAT

Lab Code: 5SCRL Case No.: 960142 SAS No.: ------ SDG No.: ------

Matrix: (soil/water) WATER Lab Sample ID: 96ZB10S02

Sample wt/vol: 1000 (g/ml) mL Lab File ID: >E1353

Level: (low/med) LOW Date Received: 08/07/96

% Moisture: not dec. 100 dec. --- Date Extracted: 08/12/96

Extraction: (Sepf/Cont/Sonc) CONT Date Analyzed: 08/14/96

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

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

Data Qualifiers: U = Compounds were analyzed but not detected. The value reported is the method detection limit for reagent water; J = Estimated; D=Diluted Sample; X = Result rejected for failing mass spectral confirmation; E = Concentration exceeded calibration range; B_ = Contaminant found in laboratory method blank.

AC-MW48-WD1

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

96ZB10S02

Name: AMERICAN CHEMICAL SERVICE Contract: ESAT

Lab Code: 5SCRL Case No.: 960142 SAS No.: ------ SDG No.: ------

Matrix: (soil/water) WATER Lab Sample ID: 96ZB10S02

Sample wt/vol: 1000 (g/mL) mL Lab File ID: >E1353

Level: (low/med) LOW Date Received: 08/07/96

% Moisture: not dec.100 dec. --- Date Extracted: 08/12/96

Extraction: (Sepf/Cont/Sonc) CONT Date Analyzed: 8/14/96

GPC Cleanup: (Y/N) N pH: --- Dilution Factor: 1.00000

Number TICs found: 22

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		Unknown	3.12	82.	J
2.		Cyclohexanone, trimethyl	5.13	190.	J
3.		Cyclohexanol, trimethy	5.41	210.	J
4.		Unknown	6.29	27.	J
5.		Unknown	6.84	34.	J
6.		Bicycloheptanone	7.02	53.	J
7.		Unknown	8.14	17.	J
8.		Unknown	8.36	20.	J
9.		Unknown	10.59	34.	J
10.		Benzoic acid, chloro	10.67	11.	J
11.		Unknown	11.01	12.	J
12.		Unknown	11.07	9.	J
13.		Unknown	11.21	13.	J
14.		Unknown	13.23	49.	J
15.		Benzamide, N,N-diethylmethyl	14.25	52.	J
16.		Unknown	14.31	10.	J
17.		Propanoic acid, chlorophenox	14.45	24.	J
18.		Unknown	14.77	11.	J
19.		Unknown	18.56	11.	J
20.		Unknown	18.70	37.	J
21.		Unknown	23.99	45.	J
22.		Unknown	26.57	14.	J
23.					
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AC-MW19-001

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

96ZB10S06

Name: AMERICAN CHEMICAL SERVICE Contract: ESAT

Lab Code: 5SCRL Case No.: 960142 SAS No.: ------ SDG No.: ------

Matrix: (soil/water) WATER Lab Sample ID: 96ZB10S06

Sample wt/vol: 1000 (g/ml) mL Lab File ID: >E1354

Level: (low/med) LOW Date Received: 08/07/96

% Moisture: not dec. 100 dec. --- Date Extracted: 08/12/96

Extraction: (Sepf/Cont/Sonc) CONT Date Analyzed: 08/14/96

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
108-95-2	Phenol	59	
111-44-4	bis(2-Chloroethyl)ether	5	
95-57-8	2-Chlorophenol	5	U
541-73-1	1,3-Dichlorobenzene	5	U
106-46-7	1,4-Dichlorobenzene	5	U
100-51-6	Benzyl alcohol	5	U
95-50-1	1,2-Dichlorobenzene	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	bis(2-Chloroisopropyl)ether	13	
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
65-85-0	Benzoic acid	20	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
120-82-1	1,2,4-Trichlorobenzene	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalene	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dinitrotoluene	5	U

TENTATIVELY IDENTIFIED COMPOUNDS (TICs): YES [X] NO [ ]

AC-MW49-001

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

96ZB10S06

Name: AMERICAN CHEMICAL SERVICE Contract: ESAT

Lab Code: 5SCRL Case No.: 960142 SAS No.: ------ SDG No.: ------

Matrix: (soil/water) WATER Lab Sample ID: 96ZB10S06

Sample wt/vol: 1000 (g/ml) mL Lab File ID: >E1354

Level: (low/med) LOW Date Received: 08/07/96

% Moisture: not dec. 100 dec. --- Date Extracted: 08/12/96

Extraction: (Sepf/Cont/Sonc) CONT Date Analyzed: 08/14/96

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

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

Data Qualifiers: U = Compounds were analyzed but not detected. The value reported is the method detection limit for reagent water; J = Estimated; D=Diluted Sample; X = Result rejected for failing mass spectral confirmation; E = Concentration exceeded calibration range; B_ = Contaminant found in laboratory method blank.

AC-MW44-001

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

96ZB10S06

Lab Name: AMERICAN CHEMICAL SERVICE Contract: ESAT

Lab Code: 5SCRL Case No.: 960142 SAS No.: ------ SDG No.: ------

Matrix: (soil/water) WATER Lab Sample ID: 96ZB10S06

Sample wt/vol: 1000 (g/mL) mL Lab File ID: >E1354

Level: (low/med) LOW Date Received: 08/07/96

% Moisture: not dec.100 dec. --- Date Extracted: 08/12/96

Extraction: (Sepf/Cont/Sonc) CONT Date Analyzed: 8/14/96

GPC Cleanup: (Y/N) N pH:--- Dilution Factor: 1.00000

Number TICs found: 15

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		Cyclohexanone, trimethyl	5.11	180.	J
2.		Unknown	6.16	13.	J
3.		Phosphoric acid, ethyl ester	6.58	9.	J
4.		Unknown	6.90	6.	J
5.		Bicycloheptanone	7.04	12.	J
6.		Unknown	7.12	11.	J
7.		Unknown	8.14	14.	J
8.		Unknown	9.33	6.	J
9.		Benzoic acid, chloro	10.45	9.	J
10.		Unknown	10.59	12.	J
11.		Unknown	13.24	71.	J
12.		Propanoic acid, chlorophenox	14.40	9.	J
13.		Unknown	18.55	10.	J
14.		Unknown	18.63	9.	J
15.		Unknown	23.97	25.	J
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

AC-MW37-001

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

96ZB10S08

Name: AMERICAN CHEMICAL SERVICE Contract: ESAT

Lab Code: 5SCRL Case No.: 960142 SAS No.: ------ SDG No.: ------

Matrix: (soil/water) WATER Lab Sample ID: 96ZB10S08

Sample wt/vol: 1000 (g/ml) mL Lab File ID: >E1355

Level: (low/med) LOW Date Received: 08/07/96

% Moisture: not dec. 100 dec. --- Date Extracted: 08/12/96

Extraction: (Sepf/Cont/Sonc) CONT Date Analyzed: 08/14/96

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	5	U
541-73-1	1,3-Dichlorobenzene	5	U
106-46-7	1,4-Dichlorobenzene	5	U
100-51-6	Benzyl alcohol	5	U
95-50-1	1,2-Dichlorobenzene	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	bis(2-Chloroisopropyl)ether	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
65-85-0	Benzoic acid	20	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
120-82-1	1,2,4-Trichlorobenzene	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalene	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dinitrotoluene	5	U

TENTATIVELY IDENTIFIED COMPOUNDS (TICs): YES [ ] NO [X]

AC-MW31-001

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

96ZB10S08

Name: AMERICAN CHEMICAL SERVICE Contract: ESAT

Lab Code: 5SCRL Case No.: 960142 SAS No.: ------ SDG No.: ------

Matrix: (soil/water) WATER Lab Sample ID: 96ZB10S08

Sample wt/vol: 1000 (g/ml) mL Lab File ID: >E1355

Level: (low/med) LOW Date Received: 08/07/96

% Moisture: not dec. 100 dec. --- Date Extracted: 08/12/96

Extraction: (Sepf/Cont/Sonc) CONT Date Analyzed: 08/14/96

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

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

Data Qualifiers: U = Compounds were analyzed but not detected. The value reported is the method detection limit for reagent water; J = Estimated; D=Diluted Sample; X = Result rejected for failing mass spectral confirmation; E = Concentration exceeded calibration range; B_ = Contaminant found in laboratory method blank.

AC-HW97-001

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

96ZB10D08

Name: AMERICAN CHEMICAL SERVICE Contract: ESAT

Lab Code: 5SCRL Case No.: 960142 SAS No.: ------ SDG No.: ------

Matrix: (soil/water) WATER Lab Sample ID: 96ZB10D08

Sample wt/vol: 1000 (g/ml) mL Lab File ID: >E1356

Level: (low/med) LOW Date Received: 08/07/96

% Moisture: not dec. 100 dec. --- Date Extracted: 08/12/96

Extraction: (Sepf/Cont/Sonc) CONT Date Analyzed: 08/14/96

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	5	U
541-73-1	1,3-Dichlorobenzene	5	U
106-46-7	1,4-Dichlorobenzene	5	U
100-51-6	Benzyl alcohol	5	U
95-50-1	1,2-Dichlorobenzene	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	bis(2-Chloroisopropyl)ether	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
65-85-0	Benzoic acid	20	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
120-82-1	1,2,4-Trichlorobenzene	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalene	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dinitrotoluene	5	U

TENTATIVELY IDENTIFIED COMPOUNDS (TICs): YES [ ] NO [X]

AC-MW37-001

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

96ZB10D08

Name: AMERICAN CHEMICAL SERVICE Contract: ESAT

Lab Code: 5SCRL Case No.: 960142 SAS No.: ------ SDG No.: ------

Matrix: (soil/water) WATER Lab Sample ID: 96ZB10D08

Sample wt/vol: 1000 (g/ml) mL Lab File ID: >E1356

Level: (low/med) LOW Date Received: 08/07/96

% Moisture: not dec. 100 dec. --- Date Extracted: 08/12/96

Extraction: (Sepf/Cont/Sonc) CONT Date Analyzed: 08/14/96

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

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

Data Qualifiers: U = Compounds were analyzed but not detected. The value reported is the method detection limit for reagent water; J = Estimated; D=Diluted Sample; X = Result rejected for failing mass spectral confirmation; E = Concentration exceeded calibration range; B_ = Contaminant found in laboratory method blank.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CENTRAL REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

Date: SEP 0 3 1996

Subject: Review of Region 5 Data for **AMERICAN CHEMICAL SERVICE**

From: Charles T. Elly, Director Chuck Elly
Region 5 Central Regional Laboratory

To: Black & Veatch

Attached are the results for: **AMERICAN CHEMICAL SERVICE**
CRL request number: **960142**
Analyzed for: **VOA (Organic)**
Results are reported for sample designations: 96ZB10R01, S01 to S09, D02 and S08 (twelve samples)

Results Status:
(X) Acceptable for Use .
(X) Data Qualified but acceptable for use, see narrative
( ) Data Unacceptable for Use.

(X) Sewer Disposal Criteria Met; Exceptions: none
Comments on Data Quality by Reviewer:

- Samples 96ZB10S02 and S06 each required dilutions due to high concentrations of benzene and chloroethane and, S07 high concentration of benzene. High concentration of these compounds are hazard to human health.

Comments by Laboratory Director or Quality Control Coordinator

Review Record for **AMERICAN CHEMICAL SERVICE 960142 VOA**

Nidia Fuentes 08/28/96

Peer and Task Monitor Date (✓) Reviewed ( ) Unreviewed

Chi Fang 8/28/96

Organic Team Leader and Date (✓) Reviewed ( ) Unreviewed

Chuck E Ub 9/3/96

QC Coordinator(VACANT) and Date ( ) Reviewed (✓) Unreviewed

Sylvia Griffin SEP 0 3 1996

Data Management Coordinator and Date Received

Date Transmitted SEP 0 3 1996

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
SL - 10C

Received by and Date
Comments:

CASE NARRATIVE

DATE: August 22, 1996

PROJECT NAME: American Chemical Service Samples - CRL Case # 960142
Analysis of Volatile Organic Analytes (VOA)

ANALYST: Anthony Gugliotta, Lockheed/ESAT ag

REVIEWERS: Ziyad Rajabi, Lockheed/ESAT Organic Group Leader
Dennis Miller, Lockheed/ESAT Team Manager DMiller
Nidia Fuentes, EPA CRL Task Monitor NF

I. CASE DESCRIPTION:

The laboratory received twelve preserved water samples from the American Chemical Service site (96ZB10R01, -S01 to -S09, -D02 and -D08) on 8/7/96 and 8/8/96 for volatile organic analyte (VOA) analysis. All samples were analyzed by CRL Method 624VOA (revised 12/15/95) using GC/MS#7 on 8/13/96, 8/14/96 and 8/15/96. All site samples were analyzed within the sample holding time requirements. The QC criterion for sample holding times is 14 days for acid-preserved water samples. These samples were received at the laboratory in good condition. No problems were observed.

II. INSTRUMENT QUALITY CONTROLS:

1. **Instrument Performance Checks (IPC):** On 8/12/96, 8/13/96, 8/14/96 and 8/15/96, a GC/MS IPC using *p*-BFB was made on GC/MS#7 to determine if acceptable EPA tuning criteria were met. The QC criteria are the same as those found in the Statement of Work under the EPA's Contract Laboratory Program. All criteria were met, no problems were observed.

2. **Initial Calibrations (IC):** An acceptable five-point IC is required for all target compounds before samples can be analyzed. The QC criterion for the IC states that each analyte's %RSD must be ≤30%. Two initial calibration were required for this case.

The first initial calibration was generated on GC/MS#7 on 8/12/96. All QC criteria were acceptable for all target compounds in the initial calibration. No problems were observed with this initial calibration.

The second initial calibration was generated on GC/MS#7 on 8/15/96. All QC criteria were acceptable for all target compounds in the initial calibration. No problems were observed with this initial calibration.

3. **Continuing Calibrations (CC):** Three continuing calibrations were required for this case (file >B2600 on 8/13/96, file >B2621 on 8/14/96, and file >B2644 on 8/15/96).

In the continuing calibrations of 8/13/96 and 8/15/96, all QC criteria were acceptable for all target compounds.

In the continuing calibration of 8/14/96, all QC criteria were acceptable for all target compounds except 1,1,1-trichloroethane (45.5 %D), carbon tetrachloride (57.7 %D) and 1,2-dichloroethane (41.2 %D). The concentrations of these compounds were flagged as estimated (J) when they were detected in any of the associated samples; otherwise, the detection limits of these three compounds were flagged as estimated (UJ). No other problems were observed.

4. **Internal Standard (IS) Area and Retention Time (RT) Summary:** The QC criterion states that the areas of ISs must be within a factor of two of the IS area of the corresponding CC. The RT of the IS for samples must also be within 30 seconds of the RT of the IS for the corresponding CC.

All internal standard areas and retention times met the QC requirements on all samples analyzed on GC/MS#7. No problems were observed.

III. METHOD QUALITY CONTROL:

1. **Method Blank Results:** Lab Blanks (reagent water spiked with internal standards and surrogates) were analyzed to check the GC/MS, purge and trap systems and reagents for laboratory contamination (see Form I VOA). All QC data for the Lab Blanks were acceptable.

In the Lab Blank analyzed on 8/13/96, 8/14/96 and 8/15/96, no analytes and no TICs were detected. No problems were observed with this Lab Blank.

2. **Surrogate Spike Compound Results:** The surrogate spike compound recovery data were within the QC limits for all water samples on GC/MS#7, except for benzene-d_6 in samples 96ZB10S02 and 96ZB10S06. In these samples, the recovery of benzene-d_6 was below the QC limit (20% and 45%, respectively), but the other two surrogates had acceptable recoveries. No qualification of the data is necessary when one surrogate is outside the QC limit. No other problems were observed. (See Form II VOA-1).

3. **Laboratory Control Sample (LCS):** The laboratory generated acceptable results for the LCS. See Form XI VOA. All compounds had recoveries within the range of 60% to 140%, except vinyl chloride (149% recovery). Vinyl chloride will be flagged as estimated (J) when detected in all associated samples.

4. **Performance Evaluation Sample (PES):** The laboratory analyzed a Performance Evaluation Sample (960014S01) for August 1996. The QC criteria for the PES are the control limits established by EMSL-LV. The results were submitted to the EPA WAM for scoring. For the August 1996 PES, all reported target compound values were within acceptable limits, except 2-hexanone. The reported concentration of 2-hexanone was higher than the upper QC limit and was flagged as "action high." Thus, the reported concentrations or detection limits of 2-hexanone will be flagged as estimated (J or UJ) in all associated samples.

IV. SAMPLE RESULTS:

Samples 96ZB10S02, S06 and S07 each required dilutions due concentrations of target analytes that exceeded the calibration range. Acceptable results were obtained from the dilutions, and a Form 1 Summary was created for each of these samples. SL01S09 were analyzed.

Due to high levels of benzene, sample 96ZB10S02 required a 1000X dilution. Sample 96ZB10D02, which did not contain any target analytes or TICs is obviously not the duplicate of sample 96ZB10S02. The sample tag indicates that sample 96ZB10D02 may be a trip blank.

The laboratory met the qualitative and quantitative analysis requirements for TCLs and TICs.

SF 960142

ENVIRONMENTAL PROTECTION AGENCY
FOR THE TEAM: TOXIC SUBSTANCES

DIVISION/BRANCH SUPERFUND SAMPLE DATE 8/7-8/96 LAB ARRIVAL DATE 8-6-96 DUE DATE 8-29-96

DU NUMBER TFA 301 DATA SET NUMBER 960142 STUDY AMERICAN CHEMICAL SERVICE PRIORITY — CONTRACTOR BLACK & VEATCH

CHL LOG NUMBER	SAMPLE DESCRIPTION	WATER VOLATILE ORGANICS SCAN UG/L TOX 17884	WATER ABN ORGANICS SCAN UG/L TOX 17874	SEDIMENTS SOLIDS VOLATILE ORGANICS SCAN MG/KG (DRY) TOX 218822	SEDIMENTS SOLIDS ABN ORGANICS SCAN MG/KG (DRY) TOX 218722
962B10S03	AC-MW38-001 S-021754-755	X			
962B10D02	AC-TB02-201 S-021768-769	X			
962B10S04	AC-MW47-001 S-021762-763	X			
962B10S05	AC-MW42-001 S-021770-771	X			
962B10S07	AC-MW-45-001 S-021776-777	X			
962B10S09	AC-MW44-001 S-021782-783	X			
962B10S01	AC-MW38-001 S-021760		X		
962B10S04	AC-MW47-001 S-021766		X		
962B10S05	AC-MW42-001 S-021774		X		
962B10S07	AC-MW45-001 S-021780		X		
962B10S09	AC-MW44-001 S-021786		X		

Anthony Gupta 8/21/96

SF 960142

ENVIRONMENTAL PROTECTION AGENCY
FOR THE TEAM: TOXIC SUBSTANCES

DIVISION/BRANCH Superfund SAMPLE DATE 8/6/96 LAB ARRIVAL DATE 8/7/96 DUE DATE 8/28/96

DU NUMBER TFA 301 DATA SET NUMBER 960142 STUDY AMERICAN Chemical Services PRIORITY — CONTRACTOR

CRL LOG NUMBER	SAMPLE DESCRIPTION	WATER VOLATILE ORGANICS SCAN UG/L TOX 17664	WATER ABN ORGANICS SCAN UG/L TOX 17674	SEDIMENTS SOLIDS VOLATILE ORGANICS SCAN MG/KG (DRY) TOX 216622	SEDIMENTS SOLIDS ABN ORGANICS SCAN MG/KG (DRY) TOX 215722
962B10S01	5-181935-936 AC-MW46-001	X			
962B10 S02	AC-MW48-001 5-181681 5-181683	X			
962B10R01	AC-TB01-201 5-181959-960	X			
962B10 S08	AC-MW37-001 5-181669-670	X			
962B10 D08	AC-MW37-101 5-181671-672	X			
962B10 S06	AC-MW49-001 5-181941-946	X			
962B10 S01	AC-MW46-001 5-181939		X		
962B10 S02	AC-MW48-001 5-181685		X		
962B10 S06	AC-MW49-001 5-181953-955		X		
962B10 S08	AC-MW37-001 5-181677		X		
962B10 D08	AC-MW37-101 5-181678		X		

Anthony Scaglia 8/21/96

VOAs

I. Holding times were met.

II. GC/MS IPC Form ~~5~~ was not provided by lab; however Case narrative states all criteria were met and no problems observed.

III. Two Initial calibrations were performed. Form 6 not provided by lab. Case narrative states all criteria were met and no problems were observed.

IV. Form 7 Continuing calibration not included. Case narrative states contin. calib. on 8/13 and 8/15 were acceptable; however, contin. calib. on 8/14 were acceptable except

1,1,1-TCA	45.5% D
Carbo Tetra.	57.7 %D
1,2-DCA	41.2 %D

Concentrations were flagged as J for these 3 compounds.

V. Internal Standard and Retention Time Form 8 not provided. Case narrative states no problems observed and QC requirements were met.

VI. Blanks. No analyts or TICs identified. No problems observed in case narrative.

VI. Surrogate Spike Compounds. Form 2. All recovery data within limits except BENZENE-D6 on SØ2 and SØ6

VIII. Lab. Control Samples
All within limits except vinyl chloride, which will be flagged with a "J" if detected.

IX. Performance Eval. Sample. No form provided by lab.
2-hexanone outside limit, therefore "J".

SMH 9/10/96

2A
WATER VOLATILE SURROGATE RECOVERY

Lab Name: CRL REGION V Contract:

Lab code: 5SCRL Case No.: 960142 SAS No.: SDG No.:

	EPA SAMPLE NO.	S1 (BEN) #	S2 (BFB) #	S3 (TOL) #	S4 ( ) #	TOT OUT
01	LAB BLANK	101	99	101		0
02	96ZB10S02	20 *	102	94		1
03	96ZB10S01	99	98	101		0
04	96ZB10S06	45 *	104	95		1
05	96ZB10S04	101	95	103		0
06	96ZB10S05	98	94	102		0
07	96ZB10S07	111	96	101		0
08						
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		QC LIMITS
S1 (BEN)	= BENZENE-D6	(70-130)
S2 (BFB)	= p-BROMOFLUOROBENZENE	(70-130)
S3 (TOL)	= TOLUENE-D8	(70-130)

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

FORM II VOA-1 1/87 Rev

2A
WATER VOLATILE SURROGATE RECOVERY

Lab Name: CRL REGION V Contract:

Lab code: 5SCRL Case No.: 960142 SAS No.: SDG No.:

	EPA SAMPLE NO.	S1 (BEN)#	S2 (BFB)#	S3 (TOL)#	S4 ( )#	TOT OUT
01	LAB BLANK	99	95	97		0
02	96ZB10R01	100	90	100		0
03	96ZB10D02	97	91	94		0
04	96ZB10S07DL	99	92	96		0
05	96ZB10S02DL	100	90	94		0
06	96ZB10S03	100	95	97		0
07	96ZB10S09	100	88	97		0
08	96ZB10D08	101	96	97		0
09	96ZB10S06DL	99	98	97		0
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		QC LIMITS
S1 (BEN)	= BENZENE-D6	(70-130)
S2 (BFB)	= p-BROMOFLUOROBENZENE	(70-130)
S3 (TOL)	= TOLUENE-D8	(70-130)

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

FORM II VOA-1 1/87 Rev

2A
WATER VOLATILE SURROGATE RECOVERY

Lab Name: CRL REGION V Contract:

Lab code: 5SCRL Case No.: 960142 SAS No.: SDG No.:

	EPA SAMPLE NO.	S1 (BEN)#	S2 (BFB)#	S3 (TOL)#	S4 ( )#	TOT OUT
01	LAB BLANK	99	95	98		0
02	96ZB10S08	99	99	97		0
03						
04						
05						
06						
07						
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09						
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		QC LIMITS
S1 (BEN)	= BENZENE-D6	(70-130)
S2 (BFB)	= p-BROMOFLUOROBENZENE	(70-130)
S3 (TOL)	= TOLUENE-D8	(70-130)

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

FORM II VOA-1 1/87 Rev

4A
VOLATILE METHOD BLANK SUMMARY

Lab Name: CRL REGION V Contract:

Lab code: 5SCRL Case No.: 960142 SAS No.: SDG No.:

Lab File ID: >B2602 Lab Sample ID: LAB BLANK

Date Analyzed: 08/13/96 Time Analyzed: 11:15

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

Instrument ID: GCMS#7

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
1	96ZB10S02	96ZB10S02	>B2606	13:46
2	96ZB10S01	96ZB10S01	>B2608	15:01
3	96ZB10S06	96ZB10S06	>B2609	15:38
4	96ZB10S04	96ZB10S04	>B2611	16:53
5	96ZB10S05	96ZB10S05	>B2612	17:31
6	96ZB10S07	96ZB10S07	>B2613	18:09
7				
8				
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COMMENTS: _____

FORM IV VOA 1/87 Rev.

4A
VOLATILE METHOD BLANK SUMMARY

Lab Name: CRL REGION V Contract:

Lab code: 5SCRL Case No.: 960142 SAS No.: SDG No.:

Lab File ID: >B2621 Lab Sample ID: LAB BLANK

Date Analyzed: 08/14/96 Time Analyzed: 11:42

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

Instrument ID: GCMS#7

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
1	96ZB10R01	96ZB10R01	>B2622	12:20
2	96ZB10D02	96ZB10D02	>B2623	12:58
3	96ZB10S07DL	96ZB10S07DL	>B2626	14:51
4	96ZB10S02DL	96ZB10S02DL	>B2627	15:28
5	96ZB10S03	96ZB10S03	>B2628	16:06
6	96ZB10S09	96ZB10S09	>B2629	16:44
7	96ZB10D08	96ZB10D08	>B2630	17:22
8	96ZB10S06DL	96ZB10S06DL	>B2632	18:37
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COMMENTS: _____

FORM IV VOA 1/87 Rev.

4A
VOLATILE METHOD BLANK SUMMARY

Lab Name: CRL REGION V Contract:

Lab code: 5SCRL Case No.: 960142 SAS No.: SDG No.:

Lab File ID: >B2643 Lab Sample ID: LAB BLANK

Date Analyzed: 08/15/96 Time Analyzed: 17:27

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

Instrument ID: GCMS#7

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
1	96ZB10S08	96ZB10S08	>B2644	18:05
2				
3				
4				
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COMMENTS: _____

FORM IV VOA 1/87 Rev.

11A
VOLATILE ORGANICS LAB CONTROL SPIKE

EPA SAMPLE NO.

LAB SPIKE

Lab Name: CRL REGION V Contract:

Lab Code: 5SCRL Case No.: 960142 SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: LAB SPIKE

Sample wt/vol: 25 (g/ml) ML Lab File ID: >B2604

Level: (low/med) LOW Date Received: 08/13/96

% Moisture: not dec. Date Analyzed: 08/13/96

Column: (pack/cap) CAP Dilution Factor: 1.0

COMPOUND	Conc	Spike	Recovery
Vinyl chloride	7	5	149
Carbon tetrachloride	6	5	110
Benzene	5	5	90
1,2-Dichloroethane	5	5	101
Trichloroethene	5	5	106
1,2-Dichloropropane	5	5	96
cis-1,3-Dichloropropene	5	5	98
Tetrachloroethene	4	5	87
1,1,2-Trichloroethane	4	5	89
1,2-Dibromoethane	5	5	97
Bromoform	5	5	103
1,4-Dichlorobenzene	5	5	97

QC LIMITS: 60% - 140%

11A
VOLATILE ORGANICS LAB CONTROL SPIKE

EPA SAMPLE NO.

LAB SPIKE

Lab Name: CRL REGION V Contract:

Lab Code: 5SCRL Case No.: 960142 SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: LAB SPIKE

Sample wt/vol: 25 (g/ml) ML Lab File ID: >B2604

Level: (low/med) LOW Date Received: 08/13/96

% Moisture: not dec. Date Analyzed: 08/13/96

Column: (pack/cap) CAP Dilution Factor: 1.0

COMPOUND	Conc	Spike	Recovery
Chloromethane	7	5	134
Vinyl chloride	7	5	149
Bromomethane	7	5	138
Chloroethane	6	5	129
1,1-Dichloroethene	5	5	96
Methylene chloride	6	5	111
trans-1,2-Dichloroethene	4	5	86
1,1-Dichloroethane	5	5	94
2,2-Dichloropropane	5	5	98
cis-1,2-Dichloroethene	5	5	93
Bromochloromethane	4	5	85
Chloroform	5	5	98
1,1,1-Trichloroethane	5	5	101
Carbon tetrachloride	6	5	110
1,1-Dichloropropene	5	5	99
Benzene	5	5	90
1,2-Dichloroethane	5	5	101
Trichloroethene	5	5	106
1,2-Dichloropropane	5	5	96
Dibromomethane	4	5	86
Bromodichloromethane	5	5	101
cis-1,3-Dichloropropene	5	5	98
Toluene	5	5	95
trans-1,3-Dichloropropene	5	5	100
Tetrachloroethene	4	5	87
1,1,2-Trichloroethane	4	5	89
1,3-Dichloropropane	5	5	100
Dibromochloromethane	5	5	100
1,2-Dibromoethane	5	5	97
Chlorobenzene	5	5	96
1,1,1,2-Tetrachloroethane	5	5	100
Ethylbenzene	5	5	101
m &/or p-Xylene	9	10	95
o-Xylene	5	5	99

11A-2
VOLATILE ORGANICS LAB CONTROL SPIKE

EPA SAMPLE NO.

LAB SPIKE

Lab Name: CRL REGION V Contract:

Lab Code: 5SCRL Case No.: 960142 SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: LAB SPIKE

Sample wt/vol: 25 (g/ml) ML Lab File ID: >B2604

Level: (low/med) LOW Date Received: 08/13/96

% Moisture: not dec. Date Analyzed: 08/13/96

Column: (pack/cap) CAP Dilution Factor: 1.0

COMPOUND	Conc	Spike	Recovery
Styrene	5	5	103
Bromoform	5	5	103
Isopropylbenzene	5	5	106
Bromobenzene	5	5	93
1,2,3-Trichloropropane	5	5	106
1,1,2,2-Tetrachloroethane	5	5	107
n-Propylbenzene	5	5	97
2-Chlorotoluene	5	5	97
4-Chlorotoluene	5	5	97
1,3,5-Trimethylbenzene	5	5	100
tert-Butylbenzene	5	5	97
1,2,4-Trimethylbenzene	5	5	105
sec-Butylbenzene	5	5	103
1,3-Dichlorobenzene	5	5	97
1,4-Dichlorobenzene	5	5	97
p-Isopropyltoluene	5	5	99
1,2-Dichlorobenzene	5	5	97
n-Butylbenzene	5	5	101
1,2-Dibromo-3-chloropropane	5	5	99
1,2,4-Trichlorobenzene	5	5	92
Naphthalene	4	5	87
Hexachlorobutadiene	5	5	97
1,2,3-Trichlorobenzene	5	5	92

QC LIMITS: 60% - 140%

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

LAB BLANK

Site Name:AMERICAN CHEMICAL SERVICE Contract:CRL

Lab Code: SL-10C Case No.: 960142 SAS No.: ------ SDG No.: ------

Matrix: (soil/water) WATER Lab Sample ID: LAB BLANK

Sample wt/vol: 25 (g/mL) mL Lab File ID: >B2602

Level: (low/med) LOW Date Received: 08/13/96

% Moisture: not dec.100 Date Analyzed: 8/13/96

Column: (pack/cap) CAP Dilution Factor: 1.0

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	1.	U
75-01-4	Vinyl chloride	1.	U
74-83-9	Bromomethane	1.	U
75-00-3	Chloroethane	1.	U
75-35-4	1,1-Dichloroethene	1.	U
67-64-1	Acetone	3.	U
75-15-0	Carbon disulfide	1.	U
75-09-2	Methylene chloride	1.	U
156-60-5	trans-1,2-Dichloroethene	1.	U
75-34-3	1,1-Dichloroethane	1.	U
594-20-7	2,2-Dichloropropane	1.	U
156-59-2	cis-1,2-Dichloroethene	1.	U
78-93-3	2-Butanone	3.	U
74-97-5	Bromochloromethane	1.	U
67-66-3	Chloroform	1.	U
71-55-6	1,1,1-trichloroethane	1.	U
56-23-5	Carbon tetrachloride	1.	U
563-58-6	1,1-Dichloropropene	1.	U
71-43-2	Benzene	1.	U
107-06-2	1,2-Dichloroethane	1.	U
79-01-6	Trichloroethene	1.	U
78-87-5	1,2-Dichloropropane	1.	U
74-95-3	Dibromomethane	1.	U
75-27-4	Bromodichloromethane	1.	U
10061-01-5	cis-1,3-dichloropropene	1.	U
108-88-3	Toluene	1.	U
108-10-1	4-Methyl-2-pentanone	2.	U
10061-02-6	trans-1,3-Dichloropropene	1.	U
127-18-4	Tetrachloroethene	1.	U
79-00-5	1,1,2-Trichloroethane	1.	U
142-28-9	1,3-Dichloropropane	1.	U
591-78-6	2-Hexanone	2.	UJ
124-48-1	Dibromochloromethane	1.	U
106-93-4	1,2-Dibromoethane	1.	U
108-90-7	Chlorobenzene	1.	U
630-20-6	1,1,1,2-Tetrachloroethane	1.	U
100-41-4	Ethylbenzene	1.	U

Are there any TICs ? (Please check a box) YES [ ] NO [X]

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

LAB BLANK

Site Name:AMERICAN CHEMICAL SERVICE Contract:CRL

Lab Code: SL-10C Case No.: 960142 SAS No.: ------ SDG No.: ------

Matrix: (soil/water) WATER Lab Sample ID: LAB BLANK

Sample wt/vol: 25 (g/mL) mL Lab File ID: >B2602

Level: (low/med) LOW Date Received: 08/13/96

% Moisture: not dec.100 Date Analyzed: 8/13/96

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
1083836423	m &/or p-Xylene	1.	U
95-47-6	o-Xylene	1.	U
100-42-5	Styrene	1.	U
75-25-2	Bromoform	1.	U
98-82-8	Isopropylbenzene	1.	U
108-86-1	Bromobenzene	1.	U
96-18-4	1,2,3-Trichloropropane	1.	U
79-34-5	1,1,2,2-Tetrachloroethane	1.	U
103-65-1	n-Propylbenzene	1.	U
95-49-8	2-Chlorotoluene	1.	U
106-43-4	4-Chlorotoluene	1.	U
108-67-8	1,3,5-Trimethylbenzene	1.	U
98-06-6	tert-Butylbenzene	1.	U
95-63-6	1,2,4-Trimethylbenzene	1.	U
135-98-8	sec-Butylbenzene	1.	U
541-73-1	1,3-Dichlorobenzene	1.	U
106-46-7	1,4-Dichlorobenzene	1.	U
99-87-6	p-Isopropyltoluene	1.	U
95-50-1	1,2-Dichlorobenzene	1.	U
104-51-8	n-Butylbenzene	1.	U
96-12-8	1,2-Dibromo-3-chloropropane	1.	U
120-82-1	1,2,4-Trichlorobenzene	1.	U
91-20-3	Naphthalene	1.	U
87-68-3	Hexachlorobutadiene	1.	U
87-61-6	1,2,3-Trichlorobenzene	1.	U

FORM I-2 VOA 1/89 Rev.

Data Qualifiers: U = Compounds were analyzed but not detected. The value reported is the method detection limit for reagent water; J = Estimated; D=Diluted Sample; X = Result rejected for failing mass spectral confirmation; E = Concentration exceeded calibration range; B_ = Contaminant found in laboratory method blank.

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

LAB BLANK

Site Name:AMERICAN CHEMICAL SERVICE Contract:CRL

Lab Code: SL-10C Case No.: 960142 SAS No.: ------ SDG No.: ------

Matrix: (soil/water) WATER Lab Sample ID: LAB BLANK

Sample wt/vol: 25 (g/mL) mL Lab File ID: >B2621

Level: (low/med) LOW Date Received: 08/14/96

% Moisture: not dec.100 Date Analyzed: 8/14/96

Column: (pack/cap) CAP Dilution Factor: 1.0

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	1.	U
75-01-4	Vinyl chloride	1.	U
74-83-9	Bromomethane	1.	U
75-00-3	Chloroethane	1.	U
75-35-4	1,1-Dichloroethene	1.	U
67-64-1	Acetone	3.	U
75-15-0	Carbon disulfide	1.	U
75-09-2	Methylene chloride	1.	U
156-60-5	trans-1,2-Dichloroethene	1.	U
75-34-3	1,1-Dichloroethane	1.	U
594-20-7	2,2-Dichloropropane	1.	U
156-59-2	cis-1,2-Dichloroethene	1.	U
78-93-3	2-Butanone	3.	U
74-97-5	Bromochloromethane	1.	U
67-66-3	Chloroform	1.	U
71-55-6	1,1,1-trichloroethane	1.	UJ
56-23-5	Carbon tetrachloride	1.	UJ
563-58-6	1,1-Dichloropropene	1.	U
71-43-2	Benzene	1.	U
107-06-2	1,2-Dichloroethane	1.	UJ
79-01-6	Trichloroethene	1.	U
78-87-5	1,2-Dichloropropane	1.	U
74-95-3	Dibromomethane	1.	U
75-27-4	Bromodichloromethane	1.	U
10061-01-5	cis-1,3-dichloropropene	1.	U
108-88-3	Toluene	1.	U
108-10-1	4-Methyl-2-pentanone	2.	U
10061-02-6	trans-1,3-Dichloropropene	1.	U
127-18-4	Tetrachloroethene	1.	U
79-00-5	1,1,2-Trichloroethane	1.	U
142-28-9	1,3-Dichloropropane	1.	U
591-78-6	2-Hexanone	2.	UJ
124-48-1	Dibromochloromethane	1.	U
106-93-4	1,2-Dibromoethane	1.	U
108-90-7	Chlorobenzene	1.	U
630-20-6	1,1,1,2-Tetrachloroethane	1.	U
100-41-4	Ethylbenzene	1.	U

Are there any TICs ? (Please check a box) YES |__| NO |_X_|

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

LAB BLANK

Site Name:AMERICAN CHEMICAL SERVICE Contract:CRL

Lab Code: SL-10C Case No.: 960142 SAS No.: ------ SDG No.: ------

Matrix: (soil/water) WATER Lab Sample ID: LAB BLANK

Sample wt/vol: 25 (g/mL) mL Lab File ID: >B2621

Level: (low/med) LOW Date Received: 08/14/96

% Moisture: not dec.100 Date Analyzed: 8/14/96

Column: (pack/cap) CAP Dilution Factor: 1.0

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) ug/L	Q
1083836423	m &/or p-Xylene	1.	U
95-47-6	o-Xylene	1.	U
100-42-5	Styrene	1.	U
75-25-2	Bromoform	1.	U
98-82-8	Isopropylbenzene	1.	U
108-86-1	Bromobenzene	1.	U
96-18-4	1,2,3-Trichloropropane	1.	U
79-34-5	1,1,2,2-Tetrachloroethane	1.	U
103-65-1	n-Propylbenzene	1.	U
95-49-8	2-Chlorotoluene	1.	U
106-43-4	4-Chlorotoluene	1.	U
108-67-8	1,3,5-Trimethylbenzene	1.	U
98-06-6	tert-Butylbenzene	1.	U
95-63-6	1,2,4-Trimethylbenzene	1.	U
135-98-8	sec-Butylbenzene	1.	U
541-73-1	1,3-Dichlorobenzene	1.	U
106-46-7	1,4-Dichlorobenzene	1.	U
99-87-6	p-Isopropyltoluene	1.	U
95-50-1	1,2-Dichlorobenzene	1.	U
104-51-8	n-Butylbenzene	1.	U
96-12-8	1,2-Dibromo-3-chloropropane	1.	U
120-82-1	1,2,4-Trichlorobenzene	1.	U
91-20-3	Naphthalene	1.	U
87-68-3	Hexachlorobutadiene	1.	U
87-61-6	1,2,3-Trichlorobenzene	1.	U

Data Qualifiers: U = Compounds were analyzed but not detected. The value reported is the method detection limit for reagent water; J = Estimated; D=Diluted Sample; X = Result rejected for failing mass spectral confirmation; E = Concentration exceeded calibration range; B_ = Contaminant found in laboratory method blank.

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

LAB BLANK

Site Name: AMERICAN CHEMICAL SERVICE Contract:CRL

Lab Code: SL-10C Case No.: 960142 SAS No.: ------ SDG No.: ------

Matrix: (soil/water) WATER Lab Sample ID: LAB BLANK

Sample wt/vol: 25 (g/mL) mL Lab File ID: >B2643

Level: (low/med) LOW Date Received: 08/15/96

% Moisture: not dec.100 Date Analyzed: 8/15/96

Column: (pack/cap) CAP Dilution Factor: 1.0

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	1.	U
75-01-4	Vinyl chloride	1.	U
74-83-9	Bromomethane	1.	U
75-00-3	Chloroethane	1.	U
75-35-4	1,1-Dichloroethene	1.	U
67-64-1	Acetone	3.	U
75-15-0	Carbon disulfide	1.	U
75-09-2	Methylene chloride	1.	U
156-60-5	trans-1,2-Dichloroethene	1.	U
75-34-3	1,1-Dichloroethane	1.	U
594-20-7	2,2-Dichloropropane	1.	U
156-59-2	cis-1,2-Dichloroethene	1.	U
78-93-3	2-Butanone	3.	U
74-97-5	Bromochloromethane	1.	U
67-66-3	Chloroform	1.	U
71-55-6	1,1,1-trichloroethane	1.	U
56-23-5	Carbon tetrachloride	1.	U
563-58-6	1,1-Dichloropropene	1.	U
71-43-2	Benzene	1.	U
107-06-2	1,2-Dichloroethane	1.	U
79-01-6	Trichloroethene	1.	U
78-87-5	1,2-Dichloropropane	1.	U
74-95-3	Dibromomethane	1.	U
75-27-4	Bromodichloromethane	1.	U
10061-01-5	cis-1,3-dichloropropene	1.	U
108-88-3	Toluene	1.	U
108-10-1	4-Methyl-2-pentanone	2.	U
10061-02-6	trans-1,3-Dichloropropene	1.	U
127-18-4	Tetrachloroethene	1.	U
79-00-5	1,1,2-Trichloroethane	1.	U
142-28-9	1,3-Dichloropropane	1.	U
591-78-6	2-Hexanone	2.	UJ
124-48-1	Dibromochloromethane	1.	U
106-93-4	1,2-Dibromoethane	1.	U
108-90-7	Chlorobenzene	1.	U
630-20-6	1,1,1,2-Tetrachloroethane	1.	U
100-41-4	Ethylbenzene	1.	U

Are there any TICs ? (Please check a box) YES |__| NO |_X_|

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

LAB BLANK

Site Name: AMERICAN CHEMICAL SERVICE Contract:CRL

Lab Code: SL-10C Case No.: 960142 SAS No.: ------ SDG No.: ------

Matrix: (soil/water) WATER Lab Sample ID: LAB BLANK

Sample wt/vol: 25 (g/mL) mL Lab File ID: >B2643

Level: (low/med) LOW Date Received: 08/15/96

% Moisture: not dec.100 Date Analyzed: 8/15/96

Column: (pack/cap) CAP Dilution Factor: 1.0

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) ug/L	Q
1083836423	m &/or p-Xylene	1.	U
95-47-6	o-Xylene	1.	U
100-42-5	Styrene	1.	U
75-25-2	Bromoform	1.	U
98-82-8	Isopropylbenzene	1.	U
108-86-1	Bromobenzene	1.	U
96-18-4	1,2,3-Trichloropropane	1.	U
79-34-5	1,1,2,2-Tetrachloroethane	1.	U
103-65-1	n-Propylbenzene	1.	U
95-49-8	2-Chlorotoluene	1.	U
106-43-4	4-Chlorotoluene	1.	U
108-67-8	1,3,5-Trimethylbenzene	1.	U
98-06-6	tert-Butylbenzene	1.	U
95-63-6	1,2,4-Trimethylbenzene	1.	U
135-98-8	sec-Butylbenzene	1.	U
541-73-1	1,3-Dichlorobenzene	1.	U
106-46-7	1,4-Dichlorobenzene	1.	U
99-87-6	p-Isopropyltoluene	1.	U
95-50-1	1,2-Dichlorobenzene	1.	U
104-51-8	n-Butylbenzene	1.	U
96-12-8	1,2-Dibromo-3-chloropropane	1.	U
120-82-1	1,2,4-Trichlorobenzene	1.	U
91-20-3	Naphthalene	1.	U
87-68-3	Hexachlorobutadiene	1.	U
87-61-6	1,2,3-Trichlorobenzene	1.	U

Data Qualifiers: U = Compounds were analyzed but not detected. The value reported is the method detection limit for reagent water; J = Estimated; D=Diluted Sample; X = Result rejected for failing mass spectral confirmation; E = Concentration exceeded calibration range; B_ = Contaminant found in laboratory method blank.

AC-1B01-201

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

96ZB10R01

Site Name: AMERICAN CHEMICAL SERVICE Contract: CRL

Lab Code: SL-10C Case No.: 960142 SAS No.: ------ SDG No.: ------

Matrix: (soil/water) WATER Lab Sample ID: 96ZB10R01

Sample wt/vol: 25 (g/mL) mL Lab File ID: >B2622

Level: (low/med) LOW Date Received: 08/07/96

% Moisture: not dec. 100 Date Analyzed: 8/14/96

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	1.	U
75-01-4	Vinyl chloride	1.	U
74-83-9	Bromomethane	1.	U
75-00-3	Chloroethane	1.	U
75-35-4	1,1-Dichloroethene	1.	U
67-64-1	Acetone	3.	U
75-15-0	Carbon disulfide	1.	U
75-09-2	Methylene chloride	1.	U
156-60-5	trans-1,2-Dichloroethene	1.	U
75-34-3	1,1-Dichloroethane	1.	U
594-20-7	2,2-Dichloropropane	1.	U
156-59-2	cis-1,2-Dichloroethene	1.	U
78-93-3	2-Butanone	3.	U
74-97-5	Bromochloromethane	1.	U
67-66-3	Chloroform	1.	U
71-55-6	1,1,1-trichloroethane	1.	UJ
56-23-5	Carbon tetrachloride	1.	UJ
563-58-6	1,1-Dichloropropene	1.	U
71-43-2	Benzene	1.	U
107-06-2	1,2-Dichloroethane	1.	UJ
79-01-6	Trichloroethene	1.	U
78-87-5	1,2-Dichloropropane	1.	U
74-95-3	Dibromomethane	1.	U
75-27-4	Bromodichloromethane	1.	U
10061-01-5	cis-1,3-dichloropropene	1.	U
108-88-3	Toluene	1.	U
108-10-1	4-Methyl-2-pentanone	2.	U
10061-02-6	trans-1,3-Dichloropropene	1.	U
127-18-4	Tetrachloroethene	1.	U
79-00-5	1,1,2-Trichloroethane	1.	U
142-28-9	1,3-Dichloropropane	1.	U
591-78-6	2-Hexanone	2.	UJ
124-48-1	Dibromochloromethane	1.	U
106-93-4	1,2-Dibromoethane	1.	U
108-90-7	Chlorobenzene	1.	U
630-20-6	1,1,1,2-Tetrachloroethane	1.	U
100-41-4	Ethylbenzene	1.	U

Are there any TICs ? (Please check a box) YES |__| NO |_X_|

FORM I VOA 1/89 Rev.

HC-11501-201

1A-2

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

96ZB10R01

Site Name:AMERICAN CHEMICAL SERVICE Contract:CRL

Lab Code: SL-10C Case No.: 960142 SAS No.: ------ SDG No.: ------

Matrix: (soil/water) WATER Lab Sample ID: 96ZB10R01

Sample wt/vol: 25 (g/mL) mL Lab File ID: >B2622

Level: (low/med) LOW Date Received: 08/07/96

% Moisture: not dec.100 Date Analyzed: 8/14/96

Column: (pack/cap) CAP Dilution Factor: 1.0

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) ug/L	Q
1083836423	m &/or p-Xylene	1.	U
95-47-6	o-Xylene	1.	U
100-42-5	Styrene	1.	U
75-25-2	Bromoform	1.	U
98-82-8	Isopropylbenzene	1.	U
108-86-1	Bromobenzene	1.	U
96-18-4	1,2,3-Trichloropropane	1.	U
79-34-5	1,1,2,2-Tetrachloroethane	1.	U
103-65-1	n-Propylbenzene	1.	U
95-49-8	2-Chlorotoluene	1.	U
106-43-4	4-Chlorotoluene	1.	U
108-67-8	1,3,5-Trimethylbenzene	1.	U
98-06-6	tert-Butylbenzene	1.	U
95-63-6	1,2,4-Trimethylbenzene	1.	U
135-98-8	sec-Butylbenzene	1.	U
541-73-1	1,3-Dichlorobenzene	1.	U
106-46-7	1,4-Dichlorobenzene	1.	U
99-87-6	p-Isopropyltoluene	1.	U
95-50-1	1,2-Dichlorobenzene	1.	U
104-51-8	n-Butylbenzene	1.	U
96-12-8	1,2-Dibromo-3-chloropropane	1.	U
120-82-1	1,2,4-Trichlorobenzene	1.	U
91-20-3	Naphthalene	1.	U
87-68-3	Hexachlorobutadiene	1.	U
87-61-6	1,2,3-Trichlorobenzene	1.	U

FORM I-2 VOA 1/89 Rev.

Data Qualifiers: U = Compounds were analyzed but not detected. The value reported is the method detection limit for reagent water; J = Estimated; D=Diluted Sample; X = Result rejected for failing mass spectral confirmation; E = Concentration exceeded calibration range; B_ = Contaminant found in laboratory method blank.

HC-MW46-001

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

96ZB10S01

Site Name:AMERICAN CHEMICAL SERVICE Contract:CRL

Lab Code: SL-10C Case No.: 960142 SAS No.: ------ SDG No.: ------

Matrix: (soil/water) WATER Lab Sample ID: 96ZB10S01

Sample wt/vol: 25 (g/mL) mL Lab File ID: >B2608

Level: (low/med) LOW Date Received: 08/07/96

% Moisture: not dec.100 Date Analyzed: 8/13/96

Column: (pack/cap) CAP Dilution Factor: 1.0

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	1.	U
75-01-4	Vinyl chloride	1.	U
74-83-9	Bromomethane	1.	U
75-00-3	Chloroethane	1.	U
75-35-4	1,1-Dichloroethene	1.	U
67-64-1	Acetone	3.	U
75-15-0	Carbon disulfide	1.	U
75-09-2	Methylene chloride	1.	U
156-60-5	trans-1,2-Dichloroethene	1.	U
75-34-3	1,1-Dichloroethane	1.	U
594-20-7	2,2-Dichloropropane	1.	U
156-59-2	cis-1,2-Dichloroethene	1.	U
78-93-3	2-Butanone	3.	U
74-97-5	Bromochloromethane	1.	U
67-66-3	Chloroform	1.	U
71-55-6	1,1,1-trichloroethane	1.	U
56-23-5	Carbon tetrachloride	1.	U
563-58-6	1,1-Dichloropropene	1.	U
71-43-2	Benzene	2.	
107-06-2	1,2-Dichloroethane	1.	U
79-01-6	Trichloroethene	1.	U
78-87-5	1,2-Dichloropropane	1.	U
74-95-3	Dibromomethane	1.	U
75-27-4	Bromodichloromethane	1.	U
10061-01-5	cis-1,3-dichloropropene	1.	U
108-88-3	Toluene	1.	U
108-10-1	4-Methyl-2-pentanone	2.	U
10061-02-6	trans-1,3-Dichloropropene	1.	U
127-18-4	Tetrachloroethene	1.	U
79-00-5	1,1,2-Trichloroethane	1.	U
142-28-9	1,3-Dichloropropane	1.	U
591-78-6	2-Hexanone	2.	UJ
124-48-1	Dibromochloromethane	1.	U
106-93-4	1,2-Dibromoethane	1.	U
108-90-7	Chlorobenzene	1.	U
630-20-6	1,1,1,2-Tetrachloroethane	1.	U
100-41-4	Ethylbenzene	1.	U

Are there any TICs ? (Please check a box) YES |_X| NO |___|

ITL-MW46-001

1A-2

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

96ZB10S01

Site Name:AMERICAN CHEMICAL SERVICE Contract:CRL

Lab Code: SL-10C Case No.: 960142 SAS No.: ------ SDG No.: ------

Matrix: (soil/water) WATER Lab Sample ID: 96ZB10S01

Sample wt/vol: 25 (g/mL) mL Lab File ID: >B2608

Level: (low/med) LOW Date Received: 08/07/96

% Moisture: not dec.100 Date Analyzed: 8/13/96

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
1083836423	m &/or p-Xylene	1.	U
95-47-6	o-Xylene	1.	U
100-42-5	Styrene	1.	U
75-25-2	Bromoform	1.	U
98-82-8	Isopropylbenzene	1.	U
108-86-1	Bromobenzene	1.	U
96-18-4	1,2,3-Trichloropropane	1.	U
79-34-5	1,1,2,2-Tetrachloroethane	1.	U
103-65-1	n-Propylbenzene	1.	U
95-49-8	2-Chlorotoluene	1.	U
106-43-4	4-Chlorotoluene	1.	U
108-67-8	1,3,5-Trimethylbenzene	1.	U
98-06-6	tert-Butylbenzene	1.	U
95-63-6	1,2,4-Trimethylbenzene	1.	U
135-98-8	sec-Butylbenzene	1.	U
541-73-1	1,3-Dichlorobenzene	1.	U
106-46-7	1,4-Dichlorobenzene	1.	U
99-87-6	p-Isopropyltoluene	1.	U
95-50-1	1,2-Dichlorobenzene	1.	U
104-51-8	n-Butylbenzene	1.	U
96-12-8	1,2-Dibromo-3-chloropropane	1.	U
120-82-1	1,2,4-Trichlorobenzene	1.	U
91-20-3	Naphthalene	1.	U
87-68-3	Hexachlorobutadiene	1.	U
87-61-6	1,2,3-Trichlorobenzene	1.	U

FORM I-2 VOA 1/89 Rev.

Data Qualifiers: U = Compounds were analyzed but not detected. The value reported is the method detection limit for reagent water; J = Estimated; D=Diluted Sample; X = Result rejected for failing mass spectral confirmation; E = Concentration exceeded calibration range; B_ = Contaminant found in laboratory method blank.

AC-MW46-001

EPA SAMPLE NO.

96ZB10S01

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: AMERICAN CHEMICAL SERVICE Contract:ESAT

Lab Code: 5SCRL Case No.: 960142 SAS No.: ------ SDG No.: ------

Matrix: (soil/water) WATER Lab Sample ID: 96ZB10S01

Sample wt/vol: 25 (g/mL) ML Lab File ID: >B2608

Level: (low/med) LOW Date Received: 08/07/96

% Moisture: not dec.----- Date Analyzed: 8/13/96

Column: CAP Dilution Factor: 1.0

Number TICs found: 2

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	108203	Isopropyl ether	9.02	6	J
2.		Unknown	20.80	4	J
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
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29.					

HC-MW48-001

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

SUMMARY
96ZB10S02

Site Name:AMERICAN CHEMICAL SERVICE Contract:CRL

Lab Code: SL-10C Case No.: 960142 SAS No.: ------ SDG No.: ------

Matrix: (soil/water) WATER Lab Sample ID: 96ZB10S02

Sample wt/vol: 25 (g/mL) mL Lab File ID: >B2606

Level: (low/med) LOW Date Received: 08/07/96

% Moisture: not dec.100 Date Analyzed: 8/13/96

Column: (pack/cap) CAP Dilution Factor: 1.0

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	1.	U
75-01-4	Vinyl chloride	1.	U
74-83-9	Bromomethane	1.	U
75-00-3	Chloroethane	1200.	D
75-35-4	1,1-Dichloroethene	1.	U
67-64-1	Acetone	3.	U
75-15-0	Carbon disulfide	1.	U
75-09-2	Methylene chloride	4.	
156-60-5	trans-1,2-Dichloroethene	.9	J
75-34-3	1,1-Dichloroethane	1.	U
594-20-7	2,2-Dichloropropane	1.	U
156-59-2	cis-1,2-Dichloroethene	1.	U
78-93-3	2-Butanone	3.	U
74-97-5	Bromochloromethane	1.	U
67-66-3	Chloroform	1.	U
71-55-6	1,1,1-trichloroethane	1.	U
56-23-5	Carbon tetrachloride	1.	U
563-58-6	1,1-Dichloropropene	1.	U
71-43-2	Benzene	10000.	DJ
107-06-2	1,2-Dichloroethane	1.	U
79-01-6	Trichloroethene	1.	U
78-87-5	1,2-Dichloropropane	1.	U
74-95-3	Dibromomethane	1.	U
75-27-4	Bromodichloromethane	1.	U
10061-01-5	cis-1,3-dichloropropene	1.	U
108-88-3	Toluene	3.	
108-10-1	4-Methyl-2-pentanone	13.	
10061-02-6	trans-1,3-Dichloropropene	1.	U
127-18-4	Tetrachloroethene	1.	U
79-00-5	1,1,2-Trichloroethane	1.	U
142-28-9	1,3-Dichloropropane	1.	U
591-78-6	2-Hexanone	2.	UJ
124-48-1	Dibromochloromethane	1.	U
106-93-4	1,2-Dibromoethane	1.	U
108-90-7	Chlorobenzene	1.	U
630-20-6	1,1,1,2-Tetrachloroethane	1.	U
100-41-4	Ethylbenzene	1.	U

Benzene surrogate out.

Are there any TICs ? (Please check a box) YES |_X| NO |___|

FORM I VOA

1/89 Rev.

AC-MW48-001

1A-2

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

SUMMARY
96ZB10S02

Site Name:AMERICAN CHEMICAL SERVICE Contract:CRL

Lab Code: SL-10C Case No.: 960142 SAS No.: ------ SDG No.: ------

Matrix: (soil/water) WATER Lab Sample ID: 96ZB10S02

Sample wt/vol: 25 (g/mL) mL Lab File ID: >B2606

Level: (low/med) LOW Date Received: 08/07/96

% Moisture: not dec.100 Date Analyzed: 8/13/96

Column: (pack/cap) CAP Dilution Factor: 1.0

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) ug/L	Q
1083836423	m &/or p-Xylene	1.	U
95-47-6	o-Xylene	1.	U
100-42-5	Styrene	1.	U
75-25-2	Bromoform	1.	U
98-82-8	Isopropylbenzene	1.	U
108-86-1	Bromobenzene	1.	U
96-18-4	1,2,3-Trichloropropane	1.	U
79-34-5	1,1,2,2-Tetrachloroethane	1.	U
103-65-1	n-Propylbenzene	1.	U
95-49-8	2-Chlorotoluene	1.	U
106-43-4	4-Chlorotoluene	1.	U
108-67-8	1,3,5-Trimethylbenzene	1.	U
98-06-6	tert-Butylbenzene	1.	U
95-63-6	1,2,4-Trimethylbenzene	1.	U
135-98-8	sec-Butylbenzene	1.	U
541-73-1	1,3-Dichlorobenzene	1.	U
106-46-7	1,4-Dichlorobenzene	1.	U
99-87-6	p-Isopropyltoluene	1.	U
95-50-1	1,2-Dichlorobenzene	1.	U
104-51-8	n-Butylbenzene	1.	U
96-12-8	1,2-Dibromo-3-chloropropane	1.	U
120-82-1	1,2,4-Trichlorobenzene	1.	U
91-20-3	Naphthalene	1.	U
87-68-3	Hexachlorobutadiene	1.	U
87-61-6	1,2,3-Trichlorobenzene	1.	U

FORM I-2 VOA 1/89 Rev.

Data Qualifiers: U = Compounds were analyzed but not detected. The value reported is the method detection limit for reagent water; J = Estimated; D=Diluted Sample; X = Result rejected for failing mass spectral confirmation; E = Concentration exceeded calibration range; B_ = Contaminant found in laboratory method blank.

HL-MW48-001

EPA SAMPLE NO.

96ZB10S02

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: AMERICAN CHEMICAL SERVICE Contract:ESAT

Lab Code: 5SCRL Case No.: 960142 SAS No.: ------ SDG No.: ------

Matrix: (soil/water) WATER Lab Sample ID: 96ZB10S02

Sample wt/vol: 25 (g/mL) ML Lab File ID: >B2606

Level: (low/med) LOW Date Received: 08/07/96

% Moisture: not dec.----- Date Analyzed: 8/13/96

Column: CAP Dilution Factor: 1.0

Number TICs found: 2

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	352932	Ethyl sulfide	11.70	14	J
2.	110816	Ethyl disulfide	17.50	300	J
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
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HC-MB02-201

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

96ZB10D02

Site Name:AMERICAN CHEMICAL SERVICE Contract:CRL

Lab Code: SL-10C Case No.: 960142 SAS No.: ------ SDG No.: ------

Matrix: (soil/water) WATER Lab Sample ID: 96ZB10D02

Sample wt/vol: 25 (g/mL) mL Lab File ID: >B2623

Level: (low/med) LOW Date Received: 08/08/96

% Moisture: not dec.100 Date Analyzed: 8/14/96

Column: (pack/cap) CAP Dilution Factor: 1.0

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	1.	U
75-01-4	Vinyl chloride	1.	U
74-83-9	Bromomethane	1.	U
75-00-3	Chloroethane	1.	U
75-35-4	1,1-Dichloroethene	1.	U
67-64-1	Acetone	3.	U
75-15-0	Carbon disulfide	1.	U
75-09-2	Methylene chloride	1.	U
156-60-5	trans-1,2-Dichloroethene	1.	U
75-34-3	1,1-Dichloroethane	1.	U
594-20-7	2,2-Dichloropropane	1.	U
156-59-2	cis-1,2-Dichloroethene	1.	U
78-93-3	2-Butanone	3.	U
74-97-5	Bromochloromethane	1.	U
67-66-3	Chloroform	1.	U
71-55-6	1,1,1-trichloroethane	1.	UJ
56-23-5	Carbon tetrachloride	1.	UJ
563-58-6	1,1-Dichloropropene	1.	U
71-43-2	Benzene	1.	U
107-06-2	1,2-Dichloroethane	1.	UJ
79-01-6	Trichloroethene	1.	U
78-87-5	1,2-Dichloropropane	1.	U
74-95-3	Dibromomethane	1.	U
75-27-4	Bromodichloromethane	1.	U
10061-01-5	cis-1,3-dichloropropene	1.	U
108-88-3	Toluene	1.	U
108-10-1	4-Methyl-2-pentanone	2.	U
10061-02-6	trans-1,3-Dichloropropene	1.	U
127-18-4	Tetrachloroethene	1.	U
79-00-5	1,1,2-Trichloroethane	1.	U
142-28-9	1,3-Dichloropropane	1.	U
591-78-6	2-Hexanone	2.	UJ
124-48-1	Dibromochloromethane	1.	U
106-93-4	1,2-Dibromoethane	1.	U
108-90-7	Chlorobenzene	1.	U
630-20-6	1,1,1,2-Tetrachloroethane	1.	U
100-41-4	Ethylbenzene	1.	U

Are there any TICs ? (Please check a box) YES |__| NO |_X_|

AC-TB02-201

1A-2

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

96ZB10D02

Site Name: AMERICAN CHEMICAL SERVICE Contract: CRL

Lab Code: SL-10C Case No.: 960142 SAS No.: ------ SDG No.: ------

Matrix: (soil/water) WATER Lab Sample ID: 96ZB10D02

Sample wt/vol: 25 (g/mL) mL Lab File ID: >B2623

Level: (low/med) LOW Date Received: 08/08/96

% Moisture: not dec. 100 Date Analyzed: 8/14/96

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
1083836423	m &/or p-Xylene	1.	U
95-47-6	o-Xylene	1.	U
100-42-5	Styrene	1.	U
75-25-2	Bromoform	1.	U
98-82-8	Isopropylbenzene	1.	U
108-86-1	Bromobenzene	1.	U
96-18-4	1,2,3-Trichloropropane	1.	U
79-34-5	1,1,2,2-Tetrachloroethane	1.	U
103-65-1	n-Propylbenzene	1.	U
95-49-8	2-Chlorotoluene	1.	U
106-43-4	4-Chlorotoluene	1.	U
108-67-8	1,3,5-Trimethylbenzene	1.	U
98-06-6	tert-Butylbenzene	1.	U
95-63-6	1,2,4-Trimethylbenzene	1.	U
135-98-8	sec-Butylbenzene	1.	U
541-73-1	1,3-Dichlorobenzene	1.	U
106-46-7	1,4-Dichlorobenzene	1.	U
99-87-6	p-Isopropyltoluene	1.	U
95-50-1	1,2-Dichlorobenzene	1.	U
104-51-8	n-Butylbenzene	1.	U
96-12-8	1,2-Dibromo-3-chloropropane	1.	U
120-82-1	1,2,4-Trichlorobenzene	1.	U
91-20-3	Naphthalene	1.	U
87-68-3	Hexachlorobutadiene	1.	U
87-61-6	1,2,3-Trichlorobenzene	1.	U

Data Qualifiers: U = Compounds were analyzed but not detected. The value reported is the method detection limit for reagent water; J = Estimated; D=Diluted Sample; X = Result rejected for failing mass spectral confirmation; E = Concentration exceeded calibration range; B_ = Contaminant found in laboratory method blank.

AC-MW58-001

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

96ZB10S03

Site Name:AMERICAN CHEMICAL SERVICE Contract:CRL

Lab Code: SL-10C Case No.: 960142 SAS No.: ------ SDG No.: ------

Matrix: (soil/water) WATER Lab Sample ID: 96ZB10S03

Sample wt/vol: 25 (g/mL) mL Lab File ID: >B2628

Level: (low/med) LOW Date Received: 08/08/96

% Moisture: not dec.100 Date Analyzed: 8/14/96

Column: (pack/cap) CAP Dilution Factor: 1.0

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	1.	U
75-01-4	Vinyl chloride	1.	U
74-83-9	Bromomethane	1.	U
75-00-3	Chloroethane	1.	U
75-35-4	1,1-Dichloroethene	1.	U
67-64-1	Acetone	3.	U
75-15-0	Carbon disulfide	1.	U
75-09-2	Methylene chloride	1.	U
156-60-5	trans-1,2-Dichloroethene	1.	U
75-34-3	1,1-Dichloroethane	1.	U
594-20-7	2,2-Dichloropropane	1.	U
156-59-2	cis-1,2-Dichloroethene	1.	U
78-93-3	2-Butanone	3.	U
74-97-5	Bromochloromethane	1.	U
67-66-3	Chloroform	1.	U
71-55-6	1,1,1-trichloroethane	1.	UJ
56-23-5	Carbon tetrachloride	1.	UJ
563-58-6	1,1-Dichloropropene	1.	U
71-43-2	Benzene	.7	J
107-06-2	1,2-Dichloroethane	1.	UJ
79-01-6	Trichloroethene	1.	U
78-87-5	1,2-Dichloropropane	1.	U
74-95-3	Dibromomethane	1.	U
75-27-4	Bromodichloromethane	1.	U
10061-01-5	cis-1,3-dichloropropene	1.	U
108-88-3	Toluene	1.	U
108-10-1	4-Methyl-2-pentanone	2.	U
10061-02-6	trans-1,3-Dichloropropene	1.	U
127-18-4	Tetrachloroethene	1.	U
79-00-5	1,1,2-Trichloroethane	1.	U
142-28-9	1,3-Dichloropropane	1.	U
591-78-6	2-Hexanone	2.	UJ
124-48-1	Dibromochloromethane	1.	U
106-93-4	1,2-Dibromoethane	1.	U
108-90-7	Chlorobenzene	1.	U
630-20-6	1,1,1,2-Tetrachloroethane	1.	U
100-41-4	Ethylbenzene	1.	U

Are there any TICs ? (Please check a box) YES |__| NO |_X_|

FORM I VOA

1/89 Rev.

HC-MW58-001

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

96ZB10S03

Site Name:AMERICAN CHEMICAL SERVICE Contract:CRL

Lab Code: SL-10C Case No.: 960142 SAS No.: ------ SDG No.: ------

Matrix: (soil/water) WATER Lab Sample ID: 96ZB10S03

Sample wt/vol: 25 (g/mL) mL Lab File ID: >B2628

Level: (low/med) LOW Date Received: 08/08/96

% Moisture: not dec.100 Date Analyzed: 8/14/96

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
1083836423	m &/or p-Xylene	1.	U
95-47-6	o-Xylene	1.	U
100-42-5	Styrene	1.	U
75-25-2	Bromoform	1.	U
98-82-8	Isopropylbenzene	1.	U
108-86-1	Bromobenzene	1.	U
96-18-4	1,2,3-Trichloropropane	1.	U
79-34-5	1,1,2,2-Tetrachloroethane	1.	U
103-65-1	n-Propylbenzene	1.	U
95-49-8	2-Chlorotoluene	1.	U
106-43-4	4-Chlorotoluene	1.	U
108-67-8	1,3,5-Trimethylbenzene	1.	U
98-06-6	tert-Butylbenzene	1.	U
95-63-6	1,2,4-Trimethylbenzene	1.	U
135-98-8	sec-Butylbenzene	1.	U
541-73-1	1,3-Dichlorobenzene	1.	U
106-46-7	1,4-Dichlorobenzene	1.	U
99-87-6	p-Isopropyltoluene	1.	U
95-50-1	1,2-Dichlorobenzene	1.	U
104-51-8	n-Butylbenzene	1.	U
96-12-8	1,2-Dibromo-3-chloropropane	1.	U
120-82-1	1,2,4-Trichlorobenzene	1.	U
91-20-3	Naphthalene	1.	U
87-68-3	Hexachlorobutadiene	1.	U
87-61-6	1,2,3-Trichlorobenzene	1.	U

Data Qualifiers: U = Compounds were analyzed but not detected. The value reported is the method detection limit for reagent water; J = Estimated; D=Diluted Sample; X = Result rejected for failing mass spectral confirmation; E = Concentration exceeded calibration range; B_ = Contaminant found in laboratory method blank.

AC-MW47-001

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

96ZB10S04

Site Name:AMERICAN CHEMICAL SERVICE Contract:CRL

Lab Code: SL-10C Case No.: 960142 SAS No.: ------ SDG No.: ------

Matrix: (soil/water) WATER Lab Sample ID: 96ZB10S04

Sample wt/vol: 25 (g/mL) mL Lab File ID: >B2611

Level: (low/med) LOW Date Received: 08/08/96

% Moisture: not dec.100 Date Analyzed: 8/13/96

Column: (pack/cap) CAP Dilution Factor: 1.0

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	1.	U
75-01-4	Vinyl chloride	1.	U
74-83-9	Bromomethane	1.	U
75-00-3	Chloroethane	1.	U
75-35-4	1,1-Dichloroethene	1.	U
67-64-1	Acetone	3.	U
75-15-0	Carbon disulfide	1.	U
75-09-2	Methylene chloride	1.	U
156-60-5	trans-1,2-Dichloroethene	1.	U
75-34-3	1,1-Dichloroethane	1.	U
594-20-7	2,2-Dichloropropane	1.	U
156-59-2	cis-1,2-Dichloroethene	1.	U
78-93-3	2-Butanone	3.	U
74-97-5	Bromochloromethane	1.	U
67-66-3	Chloroform	1.	U
71-55-6	1,1,1-trichloroethane	1.	U
56-23-5	Carbon tetrachloride	1.	U
563-58-6	1,1-Dichloropropene	1.	U
71-43-2	Benzene	2.	
107-06-2	1,2-Dichloroethane	1.	U
79-01-6	Trichloroethene	1.	U
78-87-5	1,2-Dichloropropane	1.	U
74-95-3	Dibromomethane	1.	U
75-27-4	Bromodichloromethane	1.	U
10061-01-5	cis-1,3-dichloropropene	1.	U
108-88-3	Toluene	1.	U
108-10-1	4-Methyl-2-pentanone	2.	U
10061-02-6	trans-1,3-Dichloropropene	1.	U
127-18-4	Tetrachloroethene	1.	U
79-00-5	1,1,2-Trichloroethane	1.	U
142-28-9	1,3-Dichloropropane	1.	U
591-78-6	2-Hexanone	2.	UJ
124-48-1	Dibromochloromethane	1.	U
106-93-4	1,2-Dibromoethane	1.	U
108-90-7	Chlorobenzene	1.	U
630-20-6	1,1,1,2-Tetrachloroethane	1.	U
100-41-4	Ethylbenzene	1.	U

Are there any TICs ? (Please check a box) YES |_X| NO |___|

AC-MW47-001

1A-2

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

96ZB10S04

Site Name:AMERICAN CHEMICAL SERVICE Contract:CRL

Lab Code: SL-10C Case No.: 960142 SAS No.: ------ SDG No.: ------

Matrix: (soil/water) WATER Lab Sample ID: 96ZB10S04

Sample wt/vol: 25 (g/mL) mL Lab File ID: >B2611

Level: (low/med) LOW Date Received: 08/08/96

% Moisture: not dec.100 Date Analyzed: 8/13/96

Column: (pack/cap) CAP Dilution Factor: 1.0

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) ug/L	Q
1083836423	m &/or p-Xylene	1.	U
95-47-6	o-Xylene	1.	U
100-42-5	Styrene	1.	U
75-25-2	Bromoform	1.	U
98-82-8	Isopropylbenzene	1.	U
108-86-1	Bromobenzene	1.	U
96-18-4	1,2,3-Trichloropropane	1.	U
79-34-5	1,1,2,2-Tetrachloroethane	1.	U
103-65-1	n-Propylbenzene	1.	U
95-49-8	2-Chlorotoluene	1.	U
106-43-4	4-Chlorotoluene	1.	U
108-67-8	1,3,5-Trimethylbenzene	1.	U
98-06-6	tert-Butylbenzene	1.	U
95-63-6	1,2,4-Trimethylbenzene	1.	U
135-98-8	sec-Butylbenzene	1.	U
541-73-1	1,3-Dichlorobenzene	1.	U
106-46-7	1,4-Dichlorobenzene	1.	U
99-87-6	p-Isopropyltoluene	1.	U
95-50-1	1,2-Dichlorobenzene	1.	U
104-51-8	n-Butylbenzene	1.	U
96-12-8	1,2-Dibromo-3-chloropropane	1.	U
120-82-1	1,2,4-Trichlorobenzene	1.	U
91-20-3	Naphthalene	1.	U
87-68-3	Hexachlorobutadiene	1.	U
87-61-6	1,2,3-Trichlorobenzene	1.	U

FORM I-2 VOA 1/89 Rev.

Data Qualifiers: U = Compounds were analyzed but not detected. The value reported is the method detection limit for reagent water; J = Estimated; D=Diluted Sample; X = Result rejected for failing mass spectral confirmation; E = Concentration exceeded calibration range; B_ = Contaminant found in laboratory method blank.

AC-MW47-001

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

96ZB10S04

Site Name: AMERICAN CHEMICAL SERVICE Contract:ESAT

Lab Code: 5SCRL Case No.: 960142 SAS No.: ------ SDG No.: ------

Matrix: (soil/water) WATER Lab Sample ID: 96ZB10S04

Sample wt/vol: 25 (g/mL) ML Lab File ID: >B2611

Level: (low/med) LOW Date Received: 08/08/96

% Moisture: not dec.----- Date Analyzed: 8/13/96

Column: CAP Dilution Factor: 1.0

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	Unknown	20.80	4	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.				

AC-MW42-001

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

96ZB10S05

Site Name:AMERICAN CHEMICAL SERVICE Contract:CRL

Lab Code: SL-10C Case No.: 960142 SAS No.: ------ SDG No.: ------

Matrix: (soil/water) WATER Lab Sample ID: 96ZB10S05

Sample wt/vol: 25 (g/mL) mL Lab File ID: >B2612

Level: (low/med) LOW Date Received: 08/08/96

% Moisture: not dec.100 Date Analyzed: 8/13/96

Column: (pack/cap) CAP Dilution Factor: 1.0

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	1.	U
75-01-4	Vinyl chloride	1.	U
74-83-9	Bromomethane	1.	U
75-00-3	Chloroethane	1.	U
75-35-4	1,1-Dichloroethene	1.	U
67-64-1	Acetone	3.	U
75-15-0	Carbon disulfide	1.	U
75-09-2	Methylene chloride	1.	U
156-60-5	trans-1,2-Dichloroethene	1.	U
75-34-3	1,1-Dichloroethane	1.	U
594-20-7	2,2-Dichloropropane	1.	U
156-59-2	cis-1,2-Dichloroethene	1.	U
78-93-3	2-Butanone	3.	U
74-97-5	Bromochloromethane	1.	U
67-66-3	Chloroform	1.	U
71-55-6	1,1,1-trichloroethane	1.	U
56-23-5	Carbon tetrachloride	1.	U
563-58-6	1,1-Dichloropropene	1.	U
71-43-2	Benzene	2.	
107-06-2	1,2-Dichloroethane	1.	U
79-01-6	Trichloroethene	1.	U
78-87-5	1,2-Dichloropropane	1.	U
74-95-3	Dibromomethane	1.	U
75-27-4	Bromodichloromethane	1.	U
10061-01-5	cis-1,3-dichloropropene	1.	U
108-88-3	Toluene	1.	U
108-10-1	4-Methyl-2-pentanone	2.	U
10061-02-6	trans-1,3-Dichloropropene	1.	U
127-18-4	Tetrachloroethene	1.	U
79-00-5	1,1,2-Trichloroethane	1.	U
142-28-9	1,3-Dichloropropane	1.	U
591-78-6	2-Hexanone	2.	UJ
124-48-1	Dibromochloromethane	1.	U
106-93-4	1,2-Dibromoethane	1.	U
108-90-7	Chlorobenzene	1.	U
630-20-6	1,1,1,2-Tetrachloroethane	1.	U
100-41-4	Ethylbenzene	1.	U

Are there any TICs ? (Please check a box) YES |__| NO |_X_|

AC-MW42-001

1A-2

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

96ZB10S05

Site Name:AMERICAN CHEMICAL SERVICE Contract:CRL

Lab Code: SL-10C Case No.: 960142 SAS No.: ------ SDG No.: ------

Matrix: (soil/water) WATER Lab Sample ID: 96ZB10S05

Sample wt/vol: 25 (g/mL) mL Lab File ID: >B2612

Level: (low/med) LOW Date Received: 08/08/96

% Moisture: not dec.100 Date Analyzed: 8/13/96

Column: (pack/cap) CAP Dilution Factor: 1.0

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) ug/L	Q
1083836423	m &/or p-Xylene	1.	U
95-47-6	o-Xylene	1.	U
100-42-5	Styrene	1.	U
75-25-2	Bromoform	1.	U
98-82-8	Isopropylbenzene	1.	U
108-86-1	Bromobenzene	1.	U
96-18-4	1,2,3-Trichloropropane	1.	U
79-34-5	1,1,2,2-Tetrachloroethane	1.	U
103-65-1	n-Propylbenzene	1.	U
95-49-8	2-Chlorotoluene	1.	U
106-43-4	4-Chlorotoluene	1.	U
108-67-8	1,3,5-Trimethylbenzene	1.	U
98-06-6	tert-Butylbenzene	1.	U
95-63-6	1,2,4-Trimethylbenzene	1.	U
135-98-8	sec-Butylbenzene	1.	U
541-73-1	1,3-Dichlorobenzene	1.	U
106-46-7	1,4-Dichlorobenzene	1.	U
99-87-6	p-Isopropyltoluene	1.	U
95-50-1	1,2-Dichlorobenzene	1.	U
104-51-8	n-Butylbenzene	1.	U
96-12-8	1,2-Dibromo-3-chloropropane	1.	U
120-82-1	1,2,4-Trichlorobenzene	1.	U
91-20-3	Naphthalene	1.	U
87-68-3	Hexachlorobutadiene	1.	U
87-61-6	1,2,3-Trichlorobenzene	1.	U

FORM I-2 VOA 1/89 Rev.

Data Qualifiers: U = Compounds were analyzed but not detected. The value reported is the method detection limit for reagent water; J = Estimated; D=Diluted Sample; X = Result rejected for failing mass spectral confirmation; E = Concentration exceeded calibration range; B_ = Contaminant found in laboratory method blank.

AC-MW49-001

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

SUMMARY
96ZB10S06

Site Name:AMERICAN CHEMICAL SERVICE Contract:CRL

Lab Code: SL-10C Case No.: 960142 SAS No.: ------ SDG No.: ------

Matrix: (soil/water) WATER Lab Sample ID: 96ZB10S06

Sample wt/vol: 25 (g/mL) mL Lab File ID: >B2609

Level: (low/med) LOW Date Received: 08/07/96

% Moisture: not dec.100 Date Analyzed: 8/13/96

Column: (pack/cap) CAP Dilution Factor: 1.0

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	1.	U
75-01-4	Vinyl chloride	1.	J
74-83-9	Bromomethane	1.	U
75-00-3	Chloroethane	640.	D
75-35-4	1,1-Dichloroethene	1.	U
67-64-1	Acetone	3.	U
75-15-0	Carbon disulfide	1.	U
75-09-2	Methylene chloride	1.	
156-60-5	trans-1,2-Dichloroethene	8.	
75-34-3	1,1-Dichloroethane	2.	
594-20-7	2,2-Dichloropropane	1.	U
156-59-2	cis-1,2-Dichloroethene	.8	J
78-93-3	2-Butanone	3.	U
74-97-5	Bromochloromethane	1.	U
67-66-3	Chloroform	1.	U
71-55-6	1,1,1-trichloroethane	1.	U
56-23-5	Carbon tetrachloride	1.	U
563-58-6	1,1-Dichloropropene	1.	U
71-43-2	Benzene	6100.	DJ
107-06-2	1,2-Dichloroethane	1.	U
79-01-6	Trichloroethene	1.	U
78-87-5	1,2-Dichloropropane	1.	U
74-95-3	Dibromomethane	1.	U
75-27-4	Bromodichloromethane	1.	U
10061-01-5	cis-1,3-dichloropropene	1.	U
108-88-3	Toluene	2.	
108-10-1	4-Methyl-2-pentanone	3.	
10061-02-6	trans-1,3-Dichloropropene	1.	U
127-18-4	Tetrachloroethene	1.	U
79-00-5	1,1,2-Trichloroethane	1.	U
142-28-9	1,3-Dichloropropane	1.	U
591-78-6	2-Hexanone	2.	UJ
124-48-1	Dibromochloromethane	1.	U
106-93-4	1,2-Dibromoethane	1.	U
108-90-7	Chlorobenzene	.5	J
630-20-6	1,1,1,2-Tetrachloroethane	1.	U
100-41-4	Ethylbenzene	1.	

Benzene surrogate mt

Are there any TICs ? (Please check a box) YES |__| NO |_X_|

FORM I VOA 1/89 Rev.

AC-MW49-001

1A-2

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

SUMMARY
96ZB10S06

Site Name:AMERICAN CHEMICAL SERVICE Contract:CRL

Lab Code: SL-10C Case No.: 960142 SAS No.: ------ SDG No.: ------

Matrix: (soil/water) WATER Lab Sample ID: 96ZB10S06

Sample wt/vol: 25 (g/mL) mL Lab File ID: >B2609

Level: (low/med) LOW Date Received: 08/07/96

% Moisture: not dec.100 Date Analyzed: 8/13/96

Column: (pack/cap) CAP Dilution Factor: 1.0

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) ug/L	Q
1083836423	m &/or p-Xylene	.8	J
95-47-6	o-Xylene	.6	J
100-42-5	Styrene	1.	U
75-25-2	Bromoform	1.	U
98-82-8	Isopropylbenzene	1.	U
108-86-1	Bromobenzene	1.	U
96-18-4	1,2,3-Trichloropropane	1.	U
79-34-5	1,1,2,2-Tetrachloroethane	1.	U
103-65-1	n-Propylbenzene	1.	U
95-49-8	2-Chlorotoluene	1.	U
106-43-4	4-Chlorotoluene	1.	U
108-67-8	1,3,5-Trimethylbenzene	1.	U
98-06-6	tert-Butylbenzene	1.	U
95-63-6	1,2,4-Trimethylbenzene	1.	U
135-98-8	sec-Butylbenzene	1.	U
541-73-1	1,3-Dichlorobenzene	1.	U
106-46-7	1,4-Dichlorobenzene	1.	U
99-87-6	p-Isopropyltoluene	1.	U
95-50-1	1,2-Dichlorobenzene	1.	U
104-51-8	n-Butylbenzene	1.	U
96-12-8	1,2-Dibromo-3-chloropropane	1.	U
120-82-1	1,2,4-Trichlorobenzene	1.	U
91-20-3	Naphthalene	1.	U
87-68-3	Hexachlorobutadiene	1.	U
87-61-6	1,2,3-Trichlorobenzene	1.	U

FORM I-2 VOA 1/89 Rev.

Data Qualifiers: U = Compounds were analyzed but not detected. The value reported is the method detection limit for reagent water; J = Estimated; D=Diluted Sample; X = Result rejected for failing mass spectral confirmation; E = Concentration exceeded calibration range; B_ = Contaminant found in laboratory method blank.

AC-MW45-001

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

SUMMARY
96ZB10S07

Site Name:AMERICAN CHEMICAL SERVICE Contract:CRL

Lab Code: SL-10C Case No.: 960142 SAS No.: ------ SDG No.: ------

Matrix: (soil/water) WATER Lab Sample ID: 96ZB10S07

Sample wt/vol: 25 (g/mL) mL Lab File ID: >B2613

Level: (low/med) LOW Date Received: 08/08/96

% Moisture: not dec.100 Date Analyzed: 8/13/96

Column: (pack/cap) CAP Dilution Factor: 1.0

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	1.	U
75-01-4	Vinyl chloride	1.	J
74-83-9	Bromomethane	1.	U
75-00-3	Chloroethane	110.	D
75-35-4	1,1-Dichloroethene	1.	U
67-64-1	Acetone	3.	U
75-15-0	Carbon disulfide	1.	U
75-09-2	Methylene chloride	.9	J
156-60-5	trans-1,2-Dichloroethene	2.	
75-34-3	1,1-Dichloroethane	1.	U
594-20-7	2,2-Dichloropropane	1.	U
156-59-2	cis-1,2-Dichloroethene	1.	U
78-93-3	2-Butanone	3.	U
74-97-5	Bromochloromethane	1.	U
67-66-3	Chloroform	1.	U
71-55-6	1,1,1-trichloroethane	1.	U
56-23-5	Carbon tetrachloride	1.	U
563-58-6	1,1-Dichloropropene	1.	U
71-43-2	Benzene	510.	D
107-06-2	1,2-Dichloroethane	1.	U
79-01-6	Trichloroethene	1.	U
78-87-5	1,2-Dichloropropane	1.	U
74-95-3	Dibromomethane	1.	U
75-27-4	Bromodichloromethane	1.	U
10061-01-5	cis-1,3-dichloropropene	1.	U
108-88-3	Toluene	1.	U
108-10-1	4-Methyl-2-pentanone	2.	U
10061-02-6	trans-1,3-Dichloropropene	1.	U
127-18-4	Tetrachloroethene	1.	U
79-00-5	1,1,2-Trichloroethane	1.	U
142-28-9	1,3-Dichloropropane	1.	U
591-78-6	2-Hexanone	2.	UJ
124-48-1	Dibromochloromethane	1.	U
106-93-4	1,2-Dibromoethane	1.	U
108-90-7	Chlorobenzene	15.	
630-20-6	1,1,1,2-Tetrachloroethane	1.	U
100-41-4	Ethylbenzene	12.	

Are there any TICs ? (Please check a box) YES |_X| NO |___|

AC-MW45-001

1A-2

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

SUMMARY
96ZB10S07

Site Name:AMERICAN CHEMICAL SERVICE Contract:CRL

Lab Code: SL-10C Case No.: 960142 SAS No.: ------ SDG No.: ------

Matrix: (soil/water) WATER Lab Sample ID: 96ZB10S07

Sample wt/vol: 25 (g/mL) mL Lab File ID: >B2613

Level: (low/med) LOW Date Received: 08/08/96

% Moisture: not dec.100 Date Analyzed: 8/13/96

Column: (pack/cap) CAP Dilution Factor: 1.0

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) ug/L	Q
1083836423	m &/or p-Xylene	54.	D
95-47-6	o-Xylene	3.	
100-42-5	Styrene	1.	U
75-25-2	Bromoform	1.	U
98-82-8	Isopropylbenzene	15.	
108-86-1	Bromobenzene	1.	U
96-18-4	1,2,3-Trichloropropane	1.	U
79-34-5	1,1,2,2-Tetrachloroethane	1.	U
103-65-1	n-Propylbenzene	11.	
95-49-8	2-Chlorotoluene	1.	U
106-43-4	4-Chlorotoluene	1.	U
108-67-8	1,3,5-Trimethylbenzene	15.	
98-06-6	tert-Butylbenzene	1.	U
95-63-6	1,2,4-Trimethylbenzene	190.	D
135-98-8	sec-Butylbenzene	1.	U
541-73-1	1,3-Dichlorobenzene	1.	U
106-46-7	1,4-Dichlorobenzene	2.	
99-87-6	p-Isopropyltoluene	1.	U
95-50-1	1,2-Dichlorobenzene	4.	
104-51-8	n-Butylbenzene	1.	U
96-12-8	1,2-Dibromo-3-chloropropane	1.	U
120-82-1	1,2,4-Trichlorobenzene	1.	U
91-20-3	Naphthalene	91.	D
87-68-3	Hexachlorobutadiene	1.	U
87-61-6	1,2,3-Trichlorobenzene	1.	U

FORM I-2 VOA 1/89 Rev.

Data Qualifiers: U = Compounds were analyzed but not detected. The value reported is the method detection limit for reagent water; J = Estimated; D=Diluted Sample; X = Result rejected for failing mass spectral confirmation; E = Concentration exceeded calibration range; B_ = Contaminant found in laboratory method blank.

AC-MW45-001

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

96ZB10S07

Site Name: AMERICAN CHEMICAL SERVICE Contract:ESAT

Lab Code: 5SCRL Case No.: 960142 SAS No.: ------ SDG No.: ------

Matrix: (soil/water) WATER Lab Sample ID: 96ZB10S07

Sample wt/vol: 25 (g/mL) ML Lab File ID: >B2613

Level: (low/med) LOW Date Received: 08/08/96

% Moisture: not dec.----- Date Analyzed: 8/13/96

Column: CAP Dilution Factor: 1.0

Number TICs found: 5

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	593704	Chlorofluoromethane	5.94	2	J
2.		Unknown	19.77	4	J
3.		Unknown aromatic	20.14	5	J
4.		C4-benzene	21.74	2	J
5.		Unknown aromatic (M=132)	22.63	3	J
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
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29.					

AC-MW37-001

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

96ZB10S08

Site Name: AMERICAN CHEMICAL SERVICE Contract:CRL

Lab Code: SL-10C Case No.: 960142 SAS No.: ------ SDG No.: ------

Matrix: (soil/water) WATER Lab Sample ID: 96ZB10S08

Sample wt/vol: 25 (g/mL) mL Lab File ID: >B2644

Level: (low/med) LOW Date Received: 08/07/96

% Moisture: not dec.100 Date Analyzed: 8/15/96

Column: (pack/cap) CAP Dilution Factor: 1.0

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	1.	U
75-01-4	Vinyl chloride	1.	U
74-83-9	Bromomethane	1.	U
75-00-3	Chloroethane	1.	U
75-35-4	1,1-Dichloroethene	1.	U
67-64-1	Acetone	3.	U
75-15-0	Carbon disulfide	1.	U
75-09-2	Methylene chloride	1.	U
156-60-5	trans-1,2-Dichloroethene	1.	U
75-34-3	1,1-Dichloroethane	1.	U
594-20-7	2,2-Dichloropropane	1.	U
156-59-2	cis-1,2-Dichloroethene	1.	U
78-93-3	2-Butanone	3.	U
74-97-5	Bromochloromethane	1.	U
67-66-3	Chloroform	1.	U
71-55-6	1,1,1-trichloroethane	1.	U
56-23-5	Carbon tetrachloride	1.	U
563-58-6	1,1-Dichloropropene	1.	U
71-43-2	Benzene	1.	U
107-06-2	1,2-Dichloroethane	1.	U
79-01-6	Trichloroethene	1.	U
78-87-5	1,2-Dichloropropane	1.	U
74-95-3	Dibromomethane	1.	U
75-27-4	Bromodichloromethane	1.	U
10061-01-5	cis-1,3-dichloropropene	1.	U
108-88-3	Toluene	1.	U
108-10-1	4-Methyl-2-pentanone	2.	U
10061-02-6	trans-1,3-Dichloropropene	1.	U
127-18-4	Tetrachloroethene	1.	U
79-00-5	1,1,2-Trichloroethane	1.	U
142-28-9	1,3-Dichloropropane	1.	U
591-78-6	2-Hexanone	2.	UJ
124-48-1	Dibromochloromethane	1.	U
106-93-4	1,2-Dibromoethane	1.	U
108-90-7	Chlorobenzene	1.	U
630-20-6	1,1,1,2-Tetrachloroethane	1.	U
100-41-4	Ethylbenzene	1.	U

Are there any TICs ? (Please check a box) YES |__| NO |_X_|

FORM I VOA

1/89 Rev.

AC-MW31-001

1A-2

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

96ZB10S08

Site Name: AMERICAN CHEMICAL SERVICE Contract:CRL

Lab Code: SL-10C Case No.: 960142 SAS No.: ------ SDG No.: ------

Matrix: (soil/water) WATER Lab Sample ID: 96ZB10S08

Sample wt/vol: 25 (g/mL) mL Lab File ID: >B2644

Level: (low/med) LOW Date Received: 08/07/96

% Moisture: not dec.100 Date Analyzed: 8/15/96

Column: (pack/cap) CAP Dilution Factor: 1.0

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) ug/L	Q
1083836423	m &/or p-Xylene	1.	U
95-47-6	o-Xylene	1.	U
100-42-5	Styrene	1.	U
75-25-2	Bromoform	1.	U
98-82-8	Isopropylbenzene	1.	U
108-86-1	Bromobenzene	1.	U
96-18-4	1,2,3-Trichloropropane	1.	U
79-34-5	1,1,2,2-Tetrachloroethane	1.	U
103-65-1	n-Propylbenzene	1.	U
95-49-8	2-Chlorotoluene	1.	U
106-43-4	4-Chlorotoluene	1.	U
108-67-8	1,3,5-Trimethylbenzene	1.	U
98-06-6	tert-Butylbenzene	1.	U
95-63-6	1,2,4-Trimethylbenzene	1.	U
135-98-8	sec-Butylbenzene	1.	U
541-73-1	1,3-Dichlorobenzene	1.	U
106-46-7	1,4-Dichlorobenzene	1.	U
99-87-6	p-Isopropyltoluene	1.	U
95-50-1	1,2-Dichlorobenzene	1.	U
104-51-8	n-Butylbenzene	1.	U
96-12-8	1,2-Dibromo-3-chloropropane	1.	U
120-82-1	1,2,4-Trichlorobenzene	1.	U
91-20-3	Naphthalene	1.	U
87-68-3	Hexachlorobutadiene	1.	U
87-61-6	1,2,3-Trichlorobenzene	1.	U

FORM I-2 VOA 1/89 Rev.

Data Qualifiers: U = Compounds were analyzed but not detected. The value reported is the method detection limit for reagent water; J = Estimated; D=Diluted Sample; X = Result rejected for failing mass spectral confirmation; E = Concentration exceeded calibration range; B_ = Contaminant found in laboratory method blank.

AC-MW37-001

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

96ZB10D08

Site Name:AMERICAN CHEMICAL SERVICE Contract:CRL

Lab Code: SL-10C Case No.: 960142 SAS No.: ------ SDG No.: ------

Matrix: (soil/water) WATER Lab Sample ID: 96ZB10D08

Sample wt/vol: 25 (g/mL) mL Lab File ID: >B2630

Level: (low/med) LOW Date Received: 08/07/96

% Moisture: not dec.100 Date Analyzed: 8/14/96

Column: (pack/cap) CAP Dilution Factor: 1.0

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	1.	U
75-01-4	Vinyl chloride	1.	U
74-83-9	Bromomethane	1.	U
75-00-3	Chloroethane	1.	U
75-35-4	1,1-Dichloroethene	1.	U
67-64-1	Acetone	3.	U
75-15-0	Carbon disulfide	1.	U
75-09-2	Methylene chloride	1.	U
156-60-5	trans-1,2-Dichloroethene	1.	U
75-34-3	1,1-Dichloroethane	1.	U
594-20-7	2,2-Dichloropropane	1.	U
156-59-2	cis-1,2-Dichloroethene	1.	U
78-93-3	2-Butanone	3.	U
74-97-5	Bromochloromethane	1.	U
67-66-3	Chloroform	1.	U
71-55-6	1,1,1-trichloroethane	1.	UJ
56-23-5	Carbon tetrachloride	1.	UJ
563-58-6	1,1-Dichloropropene	1.	U
71-43-2	Benzene	1.	U
107-06-2	1,2-Dichloroethane	1.	UJ
79-01-6	Trichloroethene	1.	U
78-87-5	1,2-Dichloropropane	1.	U
74-95-3	Dibromomethane	1.	U
75-27-4	Bromodichloromethane	1.	U
10061-01-5	cis-1,3-dichloropropene	1.	U
108-88-3	Toluene	1.	U
108-10-1	4-Methyl-2-pentanone	2.	U
10061-02-6	trans-1,3-Dichloropropene	1.	U
127-18-4	Tetrachloroethene	1.	U
79-00-5	1,1,2-Trichloroethane	1.	U
142-28-9	1,3-Dichloropropane	1.	U
591-78-6	2-Hexanone	2.	UJ
124-48-1	Dibromochloromethane	1.	U
106-93-4	1,2-Dibromoethane	1.	U
108-90-7	Chlorobenzene	1.	U
630-20-6	1,1,1,2-Tetrachloroethane	1.	U
100-41-4	Ethylbenzene	1.	U

Are there any TICs ? (Please check a box) YES |__| NO |_X_|

FORM I VOA

1/89 Rev.

AC-MW97-101

1A-2

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

96ZB10D08

Site Name:AMERICAN CHEMICAL SERVICE Contract:CRL

Lab Code: SL-10C Case No.: 960142 SAS No.: ------ SDG No.: ------

Matrix: (soil/water) WATER Lab Sample ID: 96ZB10D08

Sample wt/vol: 25 (g/mL) mL Lab File ID: >B2630

Level: (low/med) LOW Date Received: 08/07/96

% Moisture: not dec.100 Date Analyzed: 8/14/96

Column: (pack/cap) CAP Dilution Factor: 1.0

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) ug/L	Q
1083836423	m &/or p-Xylene	1.	U
95-47-6	o-Xylene	1.	U
100-42-5	Styrene	1.	U
75-25-2	Bromoform	1.	U
98-82-8	Isopropylbenzene	1.	U
108-86-1	Bromobenzene	1.	U
96-18-4	1,2,3-Trichloropropane	1.	U
79-34-5	1,1,2,2-Tetrachloroethane	1.	U
103-65-1	n-Propylbenzene	1.	U
95-49-8	2-Chlorotoluene	1.	U
106-43-4	4-Chlorotoluene	1.	U
108-67-8	1,3,5-Trimethylbenzene	1.	U
98-06-6	tert-Butylbenzene	1.	U
95-63-6	1,2,4-Trimethylbenzene	1.	U
135-98-8	sec-Butylbenzene	1.	U
541-73-1	1,3-Dichlorobenzene	1.	U
106-46-7	1,4-Dichlorobenzene	1.	U
99-87-6	p-Isopropyltoluene	1.	U
95-50-1	1,2-Dichlorobenzene	1.	U
104-51-8	n-Butylbenzene	1.	U
96-12-8	1,2-Dibromo-3-chloropropane	1.	U
120-82-1	1,2,4-Trichlorobenzene	1.	U
91-20-3	Naphthalene	1.	U
87-68-3	Hexachlorobutadiene	1.	U
87-61-6	1,2,3-Trichlorobenzene	1.	U

FORM I-2 VOA 1/89 Rev.

Data Qualifiers: U = Compounds were analyzed but not detected. The value reported is the method detection limit for reagent water; J = Estimated; D=Diluted Sample; X = Result rejected for failing mass spectral confirmation; E = Concentration exceeded calibration range; B_ = Contaminant found in laboratory method blank.

AC-MW44-001

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

96ZB10S09

Site Name:AMERICAN CHEMICAL SERVICE Contract:CRL

Lab Code: SL-10C Case No.: 960142 SAS No.: ------ SDG No.: ------

Matrix: (soil/water) WATER Lab Sample ID: 96ZB10S09

Sample wt/vol: 25 (g/mL) mL Lab File ID: >B2629

Level: (low/med) LOW Date Received: 08/08/96

% Moisture: not dec.100 Date Analyzed: 8/14/96

Column: (pack/cap) CAP Dilution Factor: 1.0

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	1.	U
75-01-4	Vinyl chloride	1.	U
74-83-9	Bromomethane	1.	U
75-00-3	Chloroethane	1.	U
75-35-4	1,1-Dichloroethene	1.	U
67-64-1	Acetone	3.	U
75-15-0	Carbon disulfide	1.	U
75-09-2	Methylene chloride	1.	U
156-60-5	trans-1,2-Dichloroethene	1.	U
75-34-3	1,1-Dichloroethane	1.	U
594-20-7	2,2-Dichloropropane	1.	U
156-59-2	cis-1,2-Dichloroethene	1.	U
78-93-3	2-Butanone	3.	U
74-97-5	Bromochloromethane	1.	U
67-66-3	Chloroform	1.	U
71-55-6	1,1,1-trichloroethane	1.	UJ
56-23-5	Carbon tetrachloride	1.	UJ
563-58-6	1,1-Dichloropropene	1.	U
71-43-2	Benzene	1.	U
107-06-2	1,2-Dichloroethane	1.	UJ
79-01-6	Trichloroethene	1.	U
78-87-5	1,2-Dichloropropane	1.	U
74-95-3	Dibromomethane	1.	U
75-27-4	Bromodichloromethane	1.	U
10061-01-5	cis-1,3-dichloropropene	1.	U
108-88-3	Toluene	1.	U
108-10-1	4-Methyl-2-pentanone	2.	U
10061-02-6	trans-1,3-Dichloropropene	1.	U
127-18-4	Tetrachloroethene	1.	U
79-00-5	1,1,2-Trichloroethane	1.	U
142-28-9	1,3-Dichloropropane	1.	U
591-78-6	2-Hexanone	2.	UJ
124-48-1	Dibromochloromethane	1.	U
106-93-4	1,2-Dibromoethane	1.	U
108-90-7	Chlorobenzene	1.	U
630-20-6	1,1,1,2-Tetrachloroethane	1.	U
100-41-4	Ethylbenzene	1.	U

Are there any TICs ? (Please check a box) YES |__| NO |_X_|

FORM I VOA

1/89 Rev.

AC-MW44-001

1A-2

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

96ZB10S09

Site Name:AMERICAN CHEMICAL SERVICE Contract:CRL

Lab Code: SL-10C Case No.: 960142 SAS No.: ------ SDG No.: ------

Matrix: (soil/water) WATER Lab Sample ID: 96ZB10S09

Sample wt/vol: 25 (g/mL) mL Lab File ID: >B2629

Level: (low/med) LOW Date Received: 08/08/96

% Moisture: not dec.100 Date Analyzed: 8/14/96

Column: (pack/cap) CAP Dilution Factor: 1.0

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) ug/L	Q
1083836423	m &/or p-Xylene	1.	U
95-47-6	o-Xylene	1.	U
100-42-5	Styrene	1.	U
75-25-2	Bromoform	1.	U
98-82-8	Isopropylbenzene	1.	U
108-86-1	Bromobenzene	1.	U
96-18-4	1,2,3-Trichloropropane	1.	U
79-34-5	1,1,2,2-Tetrachloroethane	1.	U
103-65-1	n-Propylbenzene	1.	U
95-49-8	2-Chlorotoluene	1.	U
106-43-4	4-Chlorotoluene	1.	U
108-67-8	1,3,5-Trimethylbenzene	1.	U
98-06-6	tert-Butylbenzene	1.	U
95-63-6	1,2,4-Trimethylbenzene	1.	U
135-98-8	sec-Butylbenzene	1.	U
541-73-1	1,3-Dichlorobenzene	1.	U
106-46-7	1,4-Dichlorobenzene	1.	U
99-87-6	p-Isopropyltoluene	1.	U
95-50-1	1,2-Dichlorobenzene	1.	U
104-51-8	n-Butylbenzene	1.	U
96-12-8	1,2-Dibromo-3-chloropropane	1.	U
120-82-1	1,2,4-Trichlorobenzene	1.	U
91-20-3	Naphthalene	1.	U
87-68-3	Hexachlorobutadiene	1.	U
87-61-6	1,2,3-Trichlorobenzene	1.	U

FORM I-2 VOA 1/89 Rev.

Data Qualifiers: U = Compounds were analyzed but not detected. The value reported is the method detection limit for reagent water; J = Estimated; D=Diluted Sample; X = Result rejected for failing mass spectral confirmation; E = Concentration exceeded calibration range; B_ = Contaminant found in laboratory method blank.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CENTRAL REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

Date: SEP 0 3 1996

Subject: Review of Region 5 Data for AMERICAN CHEMICAL SERVICE
From: Charles T. Elly, Director Chuck Elly
Region 5 Central Regional Laboratory

To: Black & Veatch

Attached are the results for **American Chemical Service**
CRL request number: **960144**
Analyzed for: **ABN (Organics)**
Results are reported for sample designations: 96ZB10S03, -S04, -S05, -S07 and -S09 (Five water samples)

Results Status:
(X) Acceptable for Use except the compound results qualified **J** and **UJ**. Please see attached case narrative.

(X) Data Qualified but acceptable for Use for the compounds qualified **J** and **UJ**. See the attached case narrative.

( ) Data Unacceptable for Use.

(X) Sewer Disposal Criteria Met; Exceptions: none .
Comments on Data Quality by Reviewer:

- Please see the attached case narrative.

Comments by Laboratory Director or Quality Control Coordinator

Review Record for **American Chemical Service** **960144** **ABN (Organics)**

Balm Pabrashuz 08/30/96

Task Monitor Date (X) Reviewed ( ) Unreviewed

Eli M. Tang 9/2/96

Team Leader Date (X) Reviewed ( ) Unreviewed

Chuck Ellis 9/3/96

QC Coordinator (VACANT) Date ( ) Reviewed (✓) Unreviewed

Sylvia Griffin SEP 0 3 1996

Data Management Coordinator and Date Received

Date Transmitted SEP 0 3 1996

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
ML - 10C

Received by and Date

Comments:

SF 960142

ENVIRONMENTAL PROTECTION AGENCY
FOR THE TEAM: TOXIC SUBSTANCES

DIVISION/BRANCH SUPERFUND SAMPLE DATE 8/7-8/96 LAB ARRIVAL DATE 8-6-96 DUE DATE 8-29-96

DU NUMBER TFA 301 DATA SET NUMBER 960142 STUDY AMERICAN CHEMICAL SERVICE PRIORITY — CONTRACTOR BLACK & VEATCH

CRL LOG NUMBER	SAMPLE DESCRIPTION	WATER VOLATILE ORGANICS SCAN UG/L TOX 17664	WATER ABN ORGANICS SCAN UG/L TOX 17674	SEDIMENTS SOLIDS VOLATILE ORGANICS SCAN MG/KG (DRY) TOX 215622	SEDIMENTS SOLIDS ABN ORGANICS SCAN MG/KG (DRY) TOX 215722
962B10S03	AC-MW38-001 S-021754-755	X			
962B10D02	AC-7802-201 S-021768-769	X			
962B10S04	AC-MW47-001 S-021762-763	X			
962B10S05	AC-MW42-001 S-021770-771	X			
962B10S07	AC-MW-45-001 S-021776-777	X			
962B10S09	AC-MW44-001 S-021782-783	X			
962B10S03	AC-MW38-001 S-021760		X		
962B10S04	AC-MW47-001 S-021766		X		
962B10S05	AC-MW42-001 S-021774		X		
962B10S07	AC-MW45-001 S-021780		X		
962B10S09	AC-MW44-001 S-021786		X		

CASE NARRATIVE

DATE: August 28, 1996

PROJECT NAME: American Chemical Service
CRL Case #: 960144 Analysis of Semivolatile Organic Analytes (SVOA)

ANALYST: Ziyad Rajabi, Lockheed/ESAT Organic Group Leader

REVIEWERS: Ira Wilson, ESAT Organic Supervisor
Dennis Miller, Lockheed/ESAT Team Manager
Babu Paruchuri, EPA Task Monitor

I. CASE DESCRIPTION:

The laboratory received, in good condition, five water samples (96ZB10S03, -S04, -S05, -S07, and -S09) on August 8, 1996 for Semivolatile Organic Analytes (SVOA) analysis. The samples were collected on August 7, 1996 and were extracted on August 12, 1996 which is within the holding time requirements for water samples. [QC Criteria for holding time: Seven days from the date of collection]. The sample extracts were analyzed within the holding time requirements. [QC Criteria for sample holding time: Forty days from the date of the extraction]. No problems were observed.

II. INSTRUMENT QUALITY CONTROLS:

1. **Instrument Performance Check:** Performance checks using decafluorotriphenylphosphine (DFTPP) were made to determine if acceptable EPA tuning criteria were met. The QC criteria are the same as the CLP IFB's criteria. No problems were observed.

2. **Initial Calibrations (IC):** An acceptable five-point initial calibration (IC) is required for all target compounds before samples can be analyzed. (QC criteria for IC: %RSD must be ≤ 30%).

Two initial calibrations were associated with this data set. The first initial calibration was generated on August 14, 1996 on the HP5996. All of the target compounds %RSDs were acceptable except bis(2-Ethylhexyl)phthalate (%RSD=34.3); therefore, results for bis(2-Ethylhexyl)phthalate will be flagged as estimated (J) for detected compounds while all non-detects will be flagged as estimated (UJ).

The second initial calibration was generated on August 21, 1996 on the HP5996. All of the target compounds %RSDs were

acceptable except for 2,4-dinitrophenol (%RSD=37.2) and 4-nitrophenol(%RSD=34.5). Results for 2,4-dinitrophenol and 4-nitrophenol will be flagged as estimated (J) for detected compounds while all non-detects will be flagged as estimated (UJ). No other problems were observed.

3. **Continuing Calibrations (CC):** The QC criteria for the continuing calibration are (CC: %D must be ≤ 25%).

For the continuing calibrations (midpoint) generated on August 14 and August 21, 1996, all of the target compounds %Ds were acceptable. No problems observed.

For the continuing calibration generated on August 15, 1996, all of the target compounds %Ds were acceptable except for 4,6-dinitro-2-methylphenol (%D=28.4) and bis(2-Ethylhexyl)phthalate (%D=27.4). Results for 4,6-dinitro-2-methylphenol and bis(2-Ethylhexyl)phthalate will be flagged as estimated (J) for detected compounds while all non-detects will be flagged as estimated (UJ).

For the continuing calibration generated on August 22, 1996, all of the target compounds %Ds were acceptable except for hexachlorocyclopentadiene, (%D=27.0), 2,4,6-trichlorophenol (%D=27.8), 2,4,5-trichlorophenol(%D=29.3), 2,4-dinitrophenol (%D=35.4), pentachlorophenol (%D=43.2), and 2,4,6-Tribromophenol (%D=27.4). Results for hexachlorocyclopentadiene, 2,4,6-trichlorophenol, 2,4,5-trichlorophenol, 2,4-dinitrophenol, and pentachlorophenol will be flagged as estimated (J) for detected compounds while all non-detects will be flagged as estimated (UJ). 2,4,6-Tribromophenol is a surrogate, therefore, data qualification is not applicable for it. No other problems were observed.

4. **Internal Standard (IS) Area and Retention Time (RT) Summary:** The QC criterion states that the IS area of samples must be within 50% of the IS area of the corresponding CC. The RT of the IS for samples must also be within 30 seconds of the RT of the IS for the corresponding CC.

All internal standard areas met the QC requirements; therefore, results are acceptable. No problems were observed. [See Form VIII]

III. METHOD QUALITY CONTROL:

1. **Method Blank Results:** One Lab Blank (de-ionized water spiked with surrogates) was extracted with this data set to check for contamination.

The blank reported bis(2-Ethylhexyl)phthalate and no TICs.

bis(2-Ethylhexyl)phthalate is a common laboratory contaminant. All positive results for bis(2-Ethylhexyl)phthalate are qualified (B) in all of the associated samples. [See Form I SVOA].

2. **Surrogate Spike Compound Results:** The surrogate spike compound recovery data are within the QC limits except high phenol-d5 recovery for sample 96ZB10S05 and the Lab Spike Dilution. One surrogate outlier is allowed per fraction; therefore, data qualification is not necessary. No other problems were observed. See Form II

3. **Laboratory Control Sample (LCS):** Laboratory control samples were prepared by spiking deionized water with 750 µL of the ABN spike standard which contained all of the target analytes. The final concentration in the extracted sample was expected to be 75 µg/L for all target analytes.

For the LAB SPIKE, all recoveries were within their QC limit except high benzo(a)pyrene recovery; therefore, results of benzo(a)pyrene will be flagged as estimated (J) for detected compounds while non-detects will not be flagged. No other problems were observed.

4. **Performance Evaluation Sample (PES):** ESAT analyzed the August PES. The QC criteria for the PES are the control limits established by EMSL-LV. All of the target compounds were reported within the acceptance windows. No problems observed.

IV. SAMPLE RESULTS

2,4-Dinitrophenol, indeno(1,2,3-cd)pyrene, dibenzo(a,h)anthracene, and benzo(g,h,i)perylene were reported outside the upper calibration range for the Lab Spike sample. The Lab Spike sample was diluted and reanalyzed (D). The reanalysis results were within the calibration range; therefore, analysis results for 2,4-Dinitrophenol, indeno(1,2,3-cd)pyrene, dibenzo(a,h)anthracene, and benzo(g,h,i)perylene will be obtained from the diluted samples.

Summary forms reflecting reportable values were prepared and are submitted in this data package.

Baseline drift was noted in samples 96ZB10S04, -S05, and the Lab Spike dilution. The samples were reanalyzed to determine the cause of the drift. The base line drift disappeared in the reanalyzed samples thus showing that system contamination was the cause of the baseline drift. The reanalysis results are included with the data package.

The laboratory met the qualitative and quantitative analysis requirements for TCLs and TICs.

SVOAS

I. Holding times were met.

II. IPC Form 5 not provided.

Criteria met, no problems observed.

III. Initial Calibration Form 6 not provided.

8/14 Initial calibration. All OK except:

bis(2-ethylhexyl) phthalate % RSD = 34.3

8/21 Initial calibration. All OK except:

2,4,- dinitrophenol % RSD = 37.2

4 - nitrophenol % RSD = 34.5

SRM 10/11/96

~~EVERYTHING~~ ~~[illegible]~~ ~~"J"~~.....

IV. Continuing Calibration Form 7 not provided.

8/14 and 8/21 calibrations OK.

8/15 calibration 2 %Ds were not OK

8/22 calibration 6 %Ds were not OK (One was a surrogate).

V. Internal Standard and Retention Time No Form 8.

Results acceptable, no problems observed.

V. Blank

bis(2-ethylhexyl) phthalate detected in blank.

VI. Surrogate Spikes. Form 2

phenol-d5 high. on SD5. No qualification necessary.

VIII. Lab Control Samples. Form 3 not provided.

All spike recoveries within QC limits except benzo(a)pyrene (high).

IX. Regional QA/QC Form 1

PE Sample - No problems

XI. 2,4-dinitrophenol
indeno(1,2,3-cd)pyrene
dibenzo(a,h)anthracene
benzo(g,h,i)perylene
} outside upper limit reanalyzed diluted lab spike

Baseline drift due to system contamination.

SMult 9/10/96

2C
WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: REGION V CRL Contract: ESAT

Lab code: 5SCRL Case No.: 960144 SAS No.: SDG No.:

	EPA SAMPLE NO.	S1 (NBZ) #	S2 (FBP) #	S3 (TPH) #	S4 (PHL) #	S5 (2FP) #	S6 (TBP) #	S7 ( ) #	TOT OUT
01	96ZB10S03	63	72	86	78	59	79		0
02	96ZB10S04	64	65	82	81	61	69		0
03	96ZB10S05	80	77	111	103 *	78	101		1
04	96ZB10S07	74	70	90	89	68	93		0
05	96ZB10S09	79	75	78	98	74	84		0
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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	(10-100)
S5 (2FP)	= 2-Fluorophenol	(21-110)
S6 (TBP)	= 2,4,6-Tribromophenol	(10-123)

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

2C
WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: REGION V CRL Contract: ESAT

Lab code: 5SCRL Case No.: 960144 SAS No.: SDG No.:

	EPA SAMPLE NO.	S1 (NBZ)#	S2 (FBP)#	S3 (TPH)#	S4 (PHL)#	S5 (2FP)#	S6 (TBP)#	S7 ( )#	TOT OUT
01	LAB SPK D	96	100	119	114 *	95	111		1
02									
03									
04									
05									
06									
07									
08									
09									
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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	(10-100)
S5 (2FP)	= 2-Fluorophenol	(21-110)
S6 (TBP)	= 2,4,6-Tribromophenol	(10-123)

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

11B
SEMIVOLATILE ORGANICS LAB CONTROL SPIKE

EPA SAMPLE NO.

LAB SPIKE

Lab Name: AMERICAN CHEMICAL SERVICE Contract: ESAT

Lab Code: 5SCRL Case No.: 960144 SAS No.: ------ SDG No.: ------

Matrix: (soil/water) WATER Lab Sample ID: LAB SPIKE

Sample wt/vol: 1000 (g/ml) mL Lab File ID: >E1350

Level: (low/med) LOW Date Received: 08/12/96

% Moisture: not dec. 100 dec. --- Date Extracted: 08/12/96

Extraction: (Sepf/Cont/Sonc) CONT Date Analyzed: 08/14/96

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

COMPOUND	Conc	Spike	Recovery
Phenol	62	75	83
bis(2-Chloroethyl)ether	67	75	89
2-Chlorophenol	68	75	91
N-Nitroso-di-n-propylamine	72	75	96
Hexachloroethane	61	75	81
Isophorone	73	75	98
1,2,4-Trichlorobenzene	70	75	93
Naphthalene	63	75	84
4-Chloroaniline	73	75	97
2,4,6-Trichlorophenol	73	75	98
2,4-Dinitrotoluene	82	75	109
Diethylphthalate	71	75	95
N-Nitrosodiphenylamine	72	75	96
Hexachlorobenzene	66	75	88
Benzo(a)pyrene	78	75	104

4B
SEMIVOLATILE METHOD BLANK SUMMARY

Lab Name: REGION V CRL Contract: ESAT

Lab code: 5SCRL Case No.: 960144 SAS No.: SDG No.:

Lab File ID: >E1348 Lab Sample ID: LAB BLANK

Date Extracted: 08/12/96 Extraction:(Sepf/Cont/Sonc) CONT

Date Analyzed: 08/14/96 Time Analyzed: 17:58

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

Instrument ID: HP5996

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
1	LAB SPIKE	LAB SPIKE	>E1350	08/14/96
2	96ZB10S03	96ZB10S03	>E1362	08/15/96
3	96ZB10S04	96ZB10S04	>E1363	08/15/96
4	96ZB10S05	96ZB10S05	>E1364	08/15/96
5	96ZB10S07	96ZB10S07	>E1365	08/15/96
6	96ZB10S09	96ZB10S09	>E1366	08/15/96
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COMMENTS: _____.
_____.

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LAB BLANK

Lab Name: AMERICAN CHEMICAL SERVICE Contract: ESAT

Lab Code: 5SCRL Case No.: 960144 SAS No.: ------ SDG No.: ------

Matrix: (soil/water) WATER Lab Sample ID: LAB BLANK

Sample wt/vol: 1000 (g/ml) mL Lab File ID: >E1349

Level: (low/med) LOW Date Received: 08/12/96

% Moisture: not dec. 100 dec. --- Date Extracted: 08/12/96

Extraction: (Sepf/Cont/Sonc) CONT Date Analyzed: 08/14/96

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	5	U
541-73-1	1,3-Dichlorobenzene	5	U
106-46-7	1,4-Dichlorobenzene	5	U
100-51-6	Benzyl alcohol	5	U
95-50-1	1,2-Dichlorobenzene	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	bis(2-Chloroisopropyl)ether	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
65-85-0	Benzoic acid	20	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
120-82-1	1,2,4-Trichlorobenzene	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalene	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dinitrotoluene	5	U

TENTATIVELY IDENTIFIED COMPOUNDS (TICs): YES [ ] NO [X]

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LAB BLANK

Lab Name: AMERICAN CHEMICAL SERVICE Contract: ESAT

Lab Code: 5SCRL Case No.: 960144 SAS No.: ------ SDG No.: ------

Matrix: (soil/water) WATER Lab Sample ID: LAB BLANK

Sample wt/vol: 1000 (g/ml) mL Lab File ID: >E1349

Level: (low/med) LOW Date Received: 08/12/96

% Moisture: not dec. 100 dec. --- Date Extracted: 08/12/96

Extraction: (Sepf/Cont/Sonc) CONT Date Analyzed: 08/14/96

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

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

a Qualifiers: U = Compounds were analyzed but not detected. The value reported is the method detection limit for reagent water; J = Estimated; D=Diluted Sample; X = Result rejected for failing mass spectral confirmation; E = Concentration exceeded calibration range; B_ = Contaminant found in laboratory method blank.

AC-MW38-001

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

96ZB10S03

Lab Name: AMERICAN CHEMICAL SERVICE Contract: ESAT

Lab Code: 5SCRL Case No.: 960144 SAS No.: ------ SDG No.: ------

Matrix: (soil/water) WATER Lab Sample ID: 96ZB10S03

Sample wt/vol: 1000 (g/ml) mL Lab File ID: >E1362

Level: (low/med) LOW Date Received: 08/08/96

% Moisture: not dec. 100 dec. --- Date Extracted: 08/12/96

Extraction: (Sepf/Cont/Sonc) CONT Date Analyzed: 08/15/96

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	5	U
541-73-1	1,3-Dichlorobenzene	5	U
106-46-7	1,4-Dichlorobenzene	5	U
100-51-6	Benzyl alcohol	5	U
95-50-1	1,2-Dichlorobenzene	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	bis(2-Chloroisopropyl)ether	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
65-85-0	Benzoic acid	20	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
120-82-1	1,2,4-Trichlorobenzene	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalene	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dinitrotoluene	5	U

TENTATIVELY IDENTIFIED COMPOUNDS (TICs): YES [X] NO [ ]

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1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

96ZB10S03

Lab Name: AMERICAN CHEMICAL SERVICE Contract: ESAT

Lab Code: 5SCRL Case No.: 960144 SAS No.: ------ SDG No.: ------

Matrix: (soil/water) WATER Lab Sample ID: 96ZB10S03

Sample wt/vol: 1000 (g/ml) mL Lab File ID: >E1362

Level: (low/med) LOW Date Received: 08/08/96

% Moisture: not dec. 100 dec. --- Date Extracted: 08/12/96

Extraction: (Sepf/Cont/Sonc) CONT Date Analyzed: 08/15/96

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	UJ
86-30-6	N-Nitrosodiphenylamine	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	UJ
91-94-1	3,3'-Dichlorobenzidine	5	U
86-74-8	Carbazole	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	2	BJ
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	5	U
193-39-5	Indeno(1,2,3-cd)pyrene	5	U
53-70-3	Dibenzo(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

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Data Qualifiers: U = Compounds were analyzed but not detected. The value reported is the method detection limit for reagent water; J = Estimated; D=Diluted Sample; X = Result rejected for failing mass spectral confirmation; E = Concentration exceeded calibration range; B_ = Contaminant found in laboratory method blank.

AC-MW38-001

EPA SAMPLE NO.

96ZB10S03

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Name: AMERICAN CHEMICAL SERVICE Contract: ESAT

Lab Code: 5SCRL Case No.: 960144 SAS No.: ------ SDG No.: ------

Matrix: (soil/water) WATER Lab Sample ID: 96ZB10S03

Sample wt/vol: 1000 (g/mL) mL Lab File ID: >E1362

Level: (low/med) LOW Date Received: 08/08/96

% Moisture: not dec.100 dec. --- Date Extracted: 08/12/96

Extraction: (Sepf/Cont/Sonc) CONT Date Analyzed: 8/15/96

GPC Cleanup: (Y/N) N pH: --- Dilution Factor: 1.00000

Number TICs found: 2

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		Propanoic acid, methylhydrox	11.01	5.	J
2.		Benzamide, diethylmethyl	14.22	25.	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.					

AC-MW47-001

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

96ZB10S04

Lab Name: AMERICAN CHEMICAL SERVICE Contract: ESAT

Lab Code: 5SCRL Case No.: 960144 SAS No.: ------ SDG No.: ------

Matrix: (soil/water) WATER Lab Sample ID: 96ZB10S04

Sample wt/vol: 1000 (g/ml) mL Lab File ID: >E1363

Level: (low/med) LOW Date Received: 08/08/96

% Moisture: not dec. 100 dec. --- Date Extracted: 08/12/96

Extraction: (Sepf/Cont/Sonc) CONT Date Analyzed: 08/15/96

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	5	U
541-73-1	1,3-Dichlorobenzene	5	U
106-46-7	1,4-Dichlorobenzene	5	U
100-51-6	Benzyl alcohol	5	U
95-50-1	1,2-Dichlorobenzene	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	bis(2-Chloroisopropyl)ether	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
65-85-0	Benzoic acid	20	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
120-82-1	1,2,4-Trichlorobenzene	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalene	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dinitrotoluene	5	U

TENTATIVELY IDENTIFIED COMPOUNDS (TICs): YES [X] NO [ ]

AC-MW47-001

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

96ZB10S04

Lab Name: AMERICAN CHEMICAL SERVICE Contract: ESAT

Lab Code: 5SCRL Case No.: 960144 SAS No.: ------ SDG No.: ------

Matrix: (soil/water) WATER Lab Sample ID: 96ZB10S04

Sample wt/vol: 1000 (g/ml) mL Lab File ID: >E1363

Level: (low/med) LOW Date Received: 08/08/96

% Moisture: not dec. 100 dec. --- Date Extracted: 08/12/96

Extraction: (Sepf/Cont/Sonc) CONT Date Analyzed: 08/15/96

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	UJ
86-30-6	N-Nitrosodiphenylamine	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	UJ
91-94-1	3,3'-Dichlorobenzidine	5	U
86-74-8	Carbazole	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	1	BJ
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	5	U
193-39-5	Indeno(1,2,3-cd)pyrene	5	U
53-70-3	Dibenzo(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

Data Qualifiers: U = Compounds were analyzed but not detected. The value reported is the method detection limit for reagent water; J = Estimated; D=Diluted Sample; X = Result rejected for failing mass spectral confirmation; E = Concentration exceeded calibration range; B_ = Contaminant found in laboratory method blank.

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EPA SAMPLE NO.

96ZB10S04

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Name: AMERICAN CHEMICAL SERVICE Contract: ESAT

Lab Code: 5SCRL Case No.: 960144 SAS No.: ------ SDG No.: ------

Matrix: (soil/water) WATER Lab Sample ID: 96ZB10S04

Sample wt/vol: 1000 (g/mL) mL Lab File ID: >E1363

Level: (low/med) LOW Date Received: 08/08/96

% Moisture: not dec.100 dec. --- Date Extracted: 08/12/96

Extraction: (Sepf/Cont/Sonc) CONT Date Analyzed: 8/15/96

GPC Cleanup: (Y/N) N pH:--- Dilution Factor: 1.00000

Number TICs found: 1

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		Benzamide, diethylmethyl	14.23	16.	J
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
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30.					

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1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

96ZB10S05

Lab Name: AMERICAN CHEMICAL SERVICE Contract: ESAT

Lab Code: 5SCRL Case No.: 960144 SAS No.: ------ SDG No.: ------

Matrix: (soil/water) WATER Lab Sample ID: 96ZB10S05

Sample wt/vol: 1000 (g/ml) mL Lab File ID: >E1364

Level: (low/med) LOW Date Received: 08/08/96

% Moisture: not dec. 100 dec. --- Date Extracted: 08/12/96

Extraction: (Sepf/Cont/Sonc) CONT Date Analyzed: 08/15/96

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
108-95-2	Phenol	21	
111-44-4	bis(2-Chloroethyl)ether	2	J
95-57-8	2-Chlorophenol	5	U
541-73-1	1,3-Dichlorobenzene	5	U
106-46-7	1,4-Dichlorobenzene	5	U
100-51-6	Benzyl alcohol	5	U
95-50-1	1,2-Dichlorobenzene	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	bis(2-Chloroisopropyl)ether	5	J
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
65-85-0	Benzoic acid	20	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
120-82-1	1,2,4-Trichlorobenzene	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalene	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dinitrotoluene	5	U

TENTATIVELY IDENTIFIED COMPOUNDS (TICs): YES [X] NO [ ]

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1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

96ZB10S05

Lab Name: AMERICAN CHEMICAL SERVICE Contract: ESAT

Lab Code: 5SCRL Case No.: 960144 SAS No.: ------ SDG No.: ------

Matrix: (soil/water) WATER Lab Sample ID: 96ZB10S05

Sample wt/vol: 1000 (g/ml) mL Lab File ID: >E1364

Level: (low/med) LOW Date Received: 08/08/96

% Moisture: not dec. 100 dec. --- Date Extracted: 08/12/96

Extraction: (Sepf/Cont/Sonc) CONT Date Analyzed: 08/15/96

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	UJ
86-30-6	N-Nitrosodiphenylamine	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	UJ
91-94-1	3,3'-Dichlorobenzidine	5	U
86-74-8	Carbazole	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	2	BJ
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	5	U
193-39-5	Indeno(1,2,3-cd)pyrene	5	U
53-70-3	Dibenzo(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

Data Qualifiers: U = Compounds were analyzed but not detected. The value reported is the method detection limit for reagent water; J = Estimated; D=Diluted Sample; X = Result rejected for failing mass spectral confirmation; E = Concentration exceeded calibration range; B_ = Contaminant found in laboratory method blank.

AC-MW42-001

EPA SAMPLE NO.

96ZB10S05

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Name:AMERICAN CHEMICAL SERVICE Contract:ESAT

Lab Code: 5SCRL Case No.: 960144 SAS No.: ------ SDG No.: ------

Matrix: (soil/water) WATER Lab Sample ID: 96ZB10S05

Sample wt/vol: 1000 (g/mL) mL Lab File ID: >E1364

Level: (low/med) LOW Date Received: 08/08/96

% Moisture: not dec.100 dec. --- Date Extracted:08/12/96

Extraction: (Sepf/Cont/Sonc) CONT Date Analyzed: 8/15/96

GPC Cleanup: (Y/N) N pH:--- Dilution Factor: 1.00000

Number TICs found: 15

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		Cyclohexanone, trimethyl	5.17	83.	J
2.		Unknown	10.60	5.	J
3.		Unknown	13.31	29.	J
4.		Benzamide, diethylmethyl	14.31	15.	J
5.		Unknown	23.99	10.	J
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
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21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

AC-MW45-001

EPA SAMPLE NO.

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

96ZB10S07

Lab Name: AMERICAN CHEMICAL SERVICE Contract: ESAT

Lab Code: 5SCRL Case No.: 960144 SAS No.: ------ SDG No.: ------

Matrix: (soil/water) WATER Lab Sample ID: 96ZB10S07

Sample wt/vol: 1000 (g/ml) mL Lab File ID: >E1365

Level: (low/med) LOW Date Received: 08/08/96

% Moisture: not dec. 100 dec. --- Date Extracted: 08/12/96

Extraction: (Sepf/Cont/Sonc) CONT Date Analyzed: 08/15/96

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
108-95-2	Phenol	24	
111-44-4	bis(2-Chloroethyl)ether	6	
95-57-8	2-Chlorophenol	5	U
541-73-1	1,3-Dichlorobenzene	5	U
106-46-7	1,4-Dichlorobenzene	2	J
100-51-6	Benzyl alcohol	5	U
95-50-1	1,2-Dichlorobenzene	3	J
95-48-7	2-Methylphenol	5	U
108-60-1	bis(2-Chloroisopropyl)ether	5	J
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
65-85-0	Benzoic acid	20	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
120-82-1	1,2,4-Trichlorobenzene	5	U
91-20-3	Naphthalene	52	
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	3	J
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalene	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dinitrotoluene	5	U

TENTATIVELY IDENTIFIED COMPOUNDS (TICs): YES [X] NO [ ]

AC-MW45-001

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

96ZB10S07

Lab Name: AMERICAN CHEMICAL SERVICE Contract: ESAT

Lab Code: 5SCRL Case No.: 960144 SAS No.: ------ SDG No.: ------

Matrix: (soil/water) WATER Lab Sample ID: 96ZB10S07

Sample wt/vol: 1000 (g/ml) mL Lab File ID: >E1365

Level: (low/med) LOW Date Received: 08/08/96

% Moisture: not dec. 100 dec. --- Date Extracted: 08/12/96

Extraction: (Sepf/Cont/Sonc) CONT Date Analyzed: 08/15/96

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

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

FORM I SV-2 1/87 Rev

Qualifiers: U = Compounds were analyzed but not detected. The value reported is the method detection limit for reagent water; J = Estimated; D=Diluted Sample; X = Result rejected for failing mass spectral confirmation; E = Concentration exceeded calibration range; B_ = Contaminant found in laboratory method blank.

AC-MW45-001

EPA SAMPLE NO.

96ZB10S07

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Name: AMERICAN CHEMICAL SERVICE Contract: ESAT

Lab Code: 5SCRL Case No.: 960144 SAS No.: ------ SDG No.: ------

Matrix: (soil/water) WATER Lab Sample ID: 96ZB10S07

Sample wt/vol: 1000 (g/mL) mL Lab File ID: >E1365

Level: (low/med) LOW Date Received: 08/08/96

% Moisture: not dec.100 dec. --- Date Extracted: 08/12/96

Extraction: (Sepf/Cont/Sonc) CONT Date Analyzed: 8/15/96

GPC Cleanup: (Y/N) N pH:--- Dilution Factor: 1.00000

Number TICs found: 15

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	108907	Chlorobenzene	2.30	14.	J
2.	100414	Ethylbenzene	2.46	10.	J
3.		Methylethylbenzene	3.26	8.	J
4.		Propylbenzene	3.68	7.	J
5.		Methylethylbenzene	3.94	11.	J
6.		Cyclohexanediol	5.57	8.	J
7.		Unknown	6.17	6.	J
8.		Benzene, tetramethyl	6.50	7.	J
9.		Indene, 2,3-dihydromethyl	7.00	12.	J
10.		Cyclohexene, methylmethyleth	9.01	5.	J
11.		Unknown	10.59	6.	J
12.		Unknown	10.97	8.	J
13.		Benzoic acid, dimethyl	11.54	12.	J
14.		Benzoic acid, trimethyl	11.54	8.	J
15.		Benzamide, diethymethyl	14.22	12.	J
16.		Pyrimidinetrione, methylbuty	17.59	6.	J
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

AC-MW44-001

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

96ZB10S09

Lab Name: AMERICAN CHEMICAL SERVICE Contract: ESAT

Lab Code: 5SCRL Case No.: 960144 SAS No.: ------ SDG No.: ------

Matrix: (soil/water) WATER Lab Sample ID: 96ZB10S09

Sample wt/vol: 1000 (g/ml) mL Lab File ID: >E1366

Level: (low/med) LOW Date Received: 08/08/96

% Moisture: not dec. 100 dec. --- Date Extracted: 08/12/96

Extraction: (Sepf/Cont/Sonc) CONT Date Analyzed: 08/15/96

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	5	U
541-73-1	1,3-Dichlorobenzene	5	U
106-46-7	1,4-Dichlorobenzene	5	U
100-51-6	Benzyl alcohol	5	U
95-50-1	1,2-Dichlorobenzene	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	bis(2-Chloroisopropyl)ether	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
65-85-0	Benzoic acid	20	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
120-82-1	1,2,4-Trichlorobenzene	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalene	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dinitrotoluene	5	U

TENTATIVELY IDENTIFIED COMPOUNDS (TICs): YES [ ] NO [X]

AC-MW44-001

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

96ZB10S09

Lab Name: AMERICAN CHEMICAL SERVICE Contract: ESAT

Lab Code: 5SCRL Case No.: 960144 SAS No.: ------ SDG No.: ------

Matrix: (soil/water) WATER Lab Sample ID: 96ZB10S09

Sample wt/vol: 1000 (g/ml) mL Lab File ID: >E1366

Level: (low/med) LOW Date Received: 08/08/96

% Moisture: not dec. 100 dec. --- Date Extracted: 08/12/96

Extraction: (Sepf/Cont/Sonc) CONT Date Analyzed: 08/15/96

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	UJ
86-30-6	N-Nitrosodiphenylamine	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	UJ
91-94-1	3,3'-Dichlorobenzidine	5	U
86-74-8	Carbazole	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	3	BJ
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	5	U
193-39-5	Indeno(1,2,3-cd)pyrene	5	U
53-70-3	Dibenzo(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

Data Qualifiers: U = Compounds were analyzed but not detected. The value reported is the method detection limit for reagent water; J = Estimated; D=Diluted Sample; X = Result rejected for failing mass spectral confirmation; E = Concentration exceeded calibration range; B_ = Contaminant found in laboratory method blank.

Site: American Chemical Services Project#: 71670

Case: 96ZB10 SDG: Date: 10/11/96

Data Validation Data Validator: S. Mikvicka

Data was qualified according to the results and findings described in the data narrative. The information in this narrative was validated and the calculations are provided in the attached pages. Data qualifiers were also applied to the results based on calibration outliers, surrogate recoveries and other appropriate results.

Validation was accomplished through the use of USEPA National Functional Guidelines for Organic Data Review (February 1994) and USEPA Region 5 Standard Operating Procedure for Validation of CLP Organic Data (August 25, 1993 revision). Calculations did not reveal any discrepancies other than those noted in the following pages.

The influence of sample bias for SSI and ESI data is indicated following each qualification. Bias is indicated by an upward arrow for high bias, a downward arrow for low bias and with unkbias for unknown bias. The sample bias for J qualifiers that are placed by the lab are of unknown bias. The sample bias designation for each J qualification is given in the following pages.

Additional Comments:

Pesticides

- Instrument performance check OK.
- Initial Calibration ~~was~~ Correlation coefficients were 0.995 or greater.
- Continuing calibration % D less than 15% for all but alpha-BHC (15.29%) Retention times ranged between 0.00% to 0.13%
- Method blank all non-detect.
- Surrogate Spike: TCMX recovery in S01 was 21.5% and 21.1%; therefore, all quantitation limits are "UJ" DCB recovery in S02 was 278%; therefore, detected compounds qualified "J".

WASTE SCIENCE AND TECHNOLOGY CORP.

Owner _____ Computed By _____
Plant _____ Unit _____ Date _____ 19 ____
Project No. _____ File No. _____ Checked By _____
Title _____ Date _____ 19 ____
Page _____ of _____

(2)

Pesticides (continued)

- Lab Control/Lab Control Duplicate

  All recoveries within 50-150% limit except contin. column (endosulfan sulfate 254% and 202%).

- PE Sample

  alpha-BHC, Heptachlor : action high
  beta-BHC : action low
  Heptachlor epoxide : TCL missing.

- Florisil cartridge check OK.

DO NOT WRITE IN THIS SPACE

P-GN-172A

REVISED, SUPERSEDED, AND VOID CALCULATIONS MUST BE CLEARLY IDENTIFIED, INITIALED, AND DATED BY THE RESPONSIBLE INDIVIDUAL.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CENTRAL REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

Date: SEP 2 4 1996

Subject: Review of Region 5 Data for SF 960142 & 960144 AMERICAN CHEMICAL SERVICES

From: Charles T. Elly, Director
Region 5 Central Regional Laboratory

To: B & V

Attached are the results for SF 960142 & 960144 AMERICAN CHEMICAL SERVICES
CRL request number 960142 & 960144
for analyses for PCB/PESTICIDES IN WATER
Results are reported for sample designations: 96ZB10S01 - 96ZB10S09; 96ZB10D08

Results Status:
(X) Acceptable for Use ;
( ) Data Qualified, but Acceptable for use
( ) Data Unacceptable for Use

( ) Sewer Disposal Criteria Met; Exceptions: none

Comments on Data Quality by Reviewer

Instrument performance audits (Endrin & DDT degradation, initial & continuing calibration, & retention time data) were acceptable. QC data (Method blank, Pest LCS/LCS DUP recoveries, surrogate recoveries, Florisil cartridge check & PE sample) were generally acceptable, except for slightly lower TCMX surrogate recoveries in the method blank & in sample S01; the DCB recoveries were within limits, therefore the data for these two samples are still acceptable. P, P'-DDT was detected in sample S02 at 0.23 ug/L. No other target analytes were detected. See data case narrative for more details.

Data are acceptable for use.

Comments by Lab Director or Quality Control Coordinator

Review Record for data set SF 960142 & 960144 AMERICAN CHEMICAL SERVICE

Erlinda Evangelista 9/18/96 E. Evangelista 9/18/96

Task Monitor/Peer Review and Date (X) Reviewed ( ) Unreviewed

Chi M. Tang Chi Tang 9/20/96

Team Leader and Date (X) Reviewed ( ) Unreviewed

Vacant John Simon for CTE 20 Sep 96

QC Coordinator and Date ( ) Reviewed (X) Unreviewed

Sylvia Griffin SEP 2 4 1996

Data Management Coordinator and Date Received

Date Transmitted SEP 2 4 1996

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
SL - 10C

Received by and Date

Comments:

SF960142

ENVIRONMENTAL PROTECTION AGENCY
FOR THE TEAM: PESTICIDES AND PCB'S

DIVISION/BRANCH Superfund SAMPLE DATE 8/6/96 LAB ARRIVAL DATE 8/7/96 DUE DATE 8/28/96

DU NUMBER TFA 301 DATA SET NUMBER 960142 STUDY AMERICAN CHEMICAL SERVICES PRIORITY — CONTRACTOR

CRL LOG NUMBER	SAMPLE DESCRIPTION	WATER TRIHALOMETHANES UG/L PES17414	WATER POLYCHLORINATED BIPHENYLS UG/L PES 17144	WATER CHLORINATED PESTICIDES UG/L PES 17134	WATER HERBICIDES UG/L PES 17424	WATER OIL AND GREASE MG/L PES 17430
96ZB10 S01	AC-MW46-001 5-181940		X	X		
96ZB10 S02	AC-MW48-001 5-181686		X	X		
96ZB10 S06	AC-MW49-001 5-181956-958		X	X		
96ZB10 S08	AC-MW37-001 5-181679		X	X		
96ZB10 D08	AC-MW37-001 5-181680		X	X		

Krystyna Mirand
8/20/96

SF 960142

ENVIRONMENTAL PROTECTION AGENCY
FOR THE TEAM: PESTICIDES AND PCB'S

DIVISION/BRANCH SUPERFUND SAMPLE DATE 8/7/96 LAB ARRIVAL DATE 8-8-96 DUE DATE 8-29-96

DU NUMBER TFA301 DATA SET NUMBER 960142 STUDY AMERICAN CHEMICAL SERVICE PRIORITY — CONTRACTOR BLACK & VEATCH

CRL LOG NUMBER	SAMPLE DESCRIPTION	WATER TRIHALOMETHANES UG/L PES17414	WATER POLYCHLORINATED BIPHENYLS UG/L PES 17144	WATER CHLORINATED PESTICIDES UG/L PES 17134	WATER HERBICIDES UG/L PES 17424	WATER OIL AND GREASE MG/L PES 17430
~~96ZB10S03~~	~~AC-MW38-001 5-021754~~					
96ZB10S03	AC-MW38-001 5-021761		X	X		
96ZB10S04	AC-MW47-96 5-021767		X	X		
96ZB10S05	AC-MW42-001 5-021775		X	X		
96ZB10S07	AC-MW45-001 5-021781		X	X		
96ZB10S09	AC-MW49-001 5-021787					

Myrtyne Miami
8/20/96

EPA RLIMS CRL - REGION V
FINAL RESULTS REPORT
Parameter: **PEST/PCB**

ple organization: **B & V** | Sample Batch ID: **960142**
ple Requestor: **BAL BERENA** | Account No: **TFA301**
Facility: **AMERICAN CHEMICAL SERVICES INC** | Sample ID: **96ZB10D08**
Matrix: **WATER** | RLIMS Method: **608_P/P_DNS1** | Units: **ug/L**

Date Collected: **06-AUG-96** | Date Received: **07-AUG-96**
Date Extracted: **13-AUG-96** | Date Analyzed: **15-AUG-96**

CAS NUMBER	COMPOUND	AMOUNT	QUALIFIERS
319846	Alpha-BHC	.01	U
58899	Lindane	.01	U
76448	Heptachlor	.01	U
309002	Aldrin	.01	U
1024573	Heptachlor Epoxide	.01	U
959988	Endosulfan I	.01	U
60571	Dieldrin	.02	U
72208	Endrin	.02	U
3312659	Endosulfan II	.02	U
50293	p,p'-DDT	.02	U
72-43-5	Methoxychlor	.1	U
319857	Beta-BHC	.01	U
419868	Delta-BHC	.01	U
5103-74-2	Gamma-Chlordane	.01	U
5103-71-9	Alpha-Chlordane	.01	U
72559	p,p'-DDE	.02	U
72548	p,p'-DDD	.02	U
7421934	Endrin Aldehyde	.02	U
1031078	Endosulfan Sulfate	.02	U
53494-70-5	Endrin Ketone	.02	U
57-74-9	Chlordane, Technical	.2	U
8001352	Toxaphene	1	U
1104-28-2	Aroclor 1221	.2	U
11141165	Aroclor 1232	.2	U
53469219	Aroclor 1242	.2	U
12674-11-2	Aroclor 1016	.2	U
12672296	Aroclor 1248	.2	U
11097691	Aroclor 1254	.2	U
11096825	Aroclor 1260	.2	U

Analyzed by: [illegible] | EMAI

Team Leader: [illegible]

EPA RLIMS CRL - REGION V
FINAL RESULTS REPORT
Parameter: PEST/PCB

ple organization: B & V
Sample Requestor: BAL BERENA
Facility: AMERICAN CHEMICAL SERVICES INC
Matrix: WATER
RLIMS Method: 608_P/P_DNS1

Sample Batch ID: 960142
Account No: TFA301
Sample ID: 96ZB10S01
Units: ug/L

Date Collected: 06-AUG-96
Date Extracted: 13-AUG-96

Date Received: 07-AUG-96
Date Analyzed: 15-AUG-96

CAS NUMBER	COMPOUND	AMOUNT	QUALIFIERS
319846	Alpha-BHC	.01	U J
58899	Lindane	.01	U
76448	Heptachlor	.01	U
309002	Aldrin	.01	U
1024573	Heptachlor Epoxide	.01	U
959988	Endosulfan I	.01	U
60571	Dieldrin	.02	U
72208	Endrin	.02	U
3312659	Endosulfan II	.02	U
50293	p,p'-DDT	.02	U
72-43-5	Methoxychlor	.1	U
319857	Beta-BHC	.01	U
419868	Delta-BHC	.01	U
5103-74-2	Gamma-Chlordane	.01	U
5103-71-9	Alpha-Chlordane	.01	U
72559	p,p'-DDE	.02	U
72548	p,p'-DDD	.02	U
7421934	Endrin Aldehyde	.02	U
1031078	Endosulfan Sulfate	.02	U
53494-70-5	Endrin Ketone	.02	U
57-74-9	Chlordane, Technical	.2	U
8001352	Toxaphene	1	U
1104-28-2	Aroclor 1221	.2	U
11141165	Aroclor 1232	.2	U
53469219	Aroclor 1242	.2	U
12674-11-2	Aroclor 1016	.2	U
12672296	Aroclor 1248	.2	U
11097691	Aroclor 1254	.2	U
11096825	Aroclor 1260	.2	U

Analyzed by: [illegible]
Team Leader: [illegible]

EPA RLIMS CRL - REGION V
FINAL RESULTS REPORT
Parameter:PEST/PCB

ple organization: B & V
ple Requestor: BAL BERENA
Facility: AMERICAN CHEMICAL SERVICES INC
Matrix:WATER RLIMS Method:608_P/P_DNS1

Sample Batch ID: 960142
Account No: TFA301
Sample ID: 96ZB10S02
Units: ug/L

Date Collected:06-AUG-96
Date Extracted:13-AUG-96

Date Received:07-AUG-96
Date Analyzed:15-AUG-96

CAS NUMBER	COMPOUND	AMOUNT	QUALIFIERS
319846	Alpha-BHC	.01	U
58899	Lindane	.01	U
76448	Heptachlor	.01	U
309002	Aldrin	.01	U
1024573	Heptachlor Epoxide	.01	U
959988	Endosulfan I	.01	U
60571	Dieldrin	.02	U
72208	Endrin	.02	U
3312659	Endosulfan II	.02	U
50293	p,p'-DDT	.23	J
72-43-5	Methoxychlor	.1	U
319857	Beta-BHC	.01	U
419868	Delta-BHC	.01	U
5103-74-2	Gamma-Chlordane	.01	U
5103-71-9	Alpha-Chlordane	.01	U
72559	p,p'-DDE	.02	U
72548	p,p'-DDD	.02	U
7421934	Endrin Aldehyde	.02	U
1031078	Endosulfan Sulfate	.02	U
53494-70-5	Endrin Ketone	.02	U
57-74-9	Chlordane, Technical	.2	U
8001352	Toxaphene	1	U
1104-28-2	Aroclor 1221	.2	U
11141165	Aroclor 1232	.2	U
53469219	Aroclor 1242	.2	U
12674-11-2	Aroclor 1016	.2	U
12672296	Aroclor 1248	.2	U
11097691	Aroclor 1254	.2	U
11096825	Aroclor 1260	.2	U

Analyzed by: [illegible]
Team Leader: [illegible]

EPA RLIMS CRL - REGION V
FINAL RESULTS REPORT
Parameter: PEST/PCB

ple organization: B & V
Sample Requestor: BAL BERENA
Facility: AMERICAN CHEMICAL SERVICES INC
Matrix: WATER
RLIMS Method: 608_P/P_DNS1

Sample Batch ID: 960142
Account No: TFA301
Sample ID: 96ZB10S06
Units: ug/L

Date Collected: 06-AUG-96
Date Extracted: 13-AUG-96

Date Received: 07-AUG-96
Date Analyzed:

CAS NUMBER	COMPOUND	AMOUNT	QUALIFIERS
319846	Alpha-BHC	.01	U
58899	Lindane	.01	U
76448	Heptachlor	.01	U
309002	Aldrin	.01	U
1024573	Heptachlor Epoxide	.01	U
959988	Endosulfan I	.01	U
60571	Dieldrin	.02	U
72208	Endrin	.02	U
3312659	Endosulfan II	.02	U
50293	p,p'-DDT	.02	U
72-43-5	Methoxychlor	.1	U
319857	Beta-BHC	.01	U
419868	Delta-BHC	.01	U
5103-74-2	Gamma-Chlordane	.01	U
5103-71-9	Alpha-Chlordane	.01	U
72559	p,p'-DDE	.02	U
72548	p,p'-DDD	.02	U
7421934	Endrin Aldehyde	.02	U
1031078	Endosulfan Sulfate	.02	U
53494-70-5	Endrin Ketone	.02	U
57-74-9	Chlordane, Technical	.2	U
8001352	Toxaphene	1	U
1104-28-2	Aroclor 1221	.2	U
11141165	Aroclor 1232	.2	U
53469219	Aroclor 1242	.2	U
12674-11-2	Aroclor 1016	.2	U
12672296	Aroclor 1248	.2	U
11097691	Aroclor 1254	.2	U
11096825	Aroclor 1260	.2	U

Analyzed by: [signature] /EMJ

Team Leader: [signature]

EPA RLIMS CRL - REGION V
FINAL RESULTS REPORT
Parameter: PEST/PCB

ple organization: B & V
Sample Requestor: BAL BERENA
Facility: AMERICAN CHEMICAL SERVICES INC
Matrix: WATER
RLIMS Method: 608_P/P_DNS1

Sample Batch ID: 960142
Account No: TFA301
Sample ID: 96ZB10S08
Units: ug/L

Date Collected: 06-AUG-96
Date Extracted: 13-AUG-96

Date Received: 07-AUG-96
Date Analyzed:

CAS NUMBER	COMPOUND	AMOUNT	QUALIFIERS
319846	Alpha-BHC	.01	U
58899	Lindane	.01	U
76448	Heptachlor	.01	U
309002	Aldrin	.01	U
1024573	Heptachlor Epoxide	.01	U
959988	Endosulfan I	.01	U
60571	Dieldrin	.02	U
72208	Endrin	.02	U
3312659	Endosulfan II	.02	U
50293	p,p'-DDT	.02	U
72-43-5	Methoxychlor	.1	U
319857	Beta-BHC	.01	U
419868	Delta-BHC	.01	U
5103-74-2	Gamma-Chlordane	.01	U
5103-71-9	Alpha-Chlordane	.01	U
72559	p,p'-DDE	.02	U
72548	p,p'-DDD	.02	U
7421934	Endrin Aldehyde	.02	U
1031078	Endosulfan Sulfate	.02	U
53494-70-5	Endrin Ketone	.02	U
57-74-9	Chlordane, Technical	.2	U
8001352	Toxaphene	1	U
1104-28-2	Aroclor 1221	.2	U
11141165	Aroclor 1232	.2	U
53469219	Aroclor 1242	.2	U
12674-11-2	Aroclor 1016	.2	U
12672296	Aroclor 1248	.2	U
11097691	Aroclor 1254	.2	U
11096825	Aroclor 1260	.2	U

Analyzed by: [illegible]
Team Leader: [illegible]

EPA RLIMS CRL - REGION V
FINAL RESULTS REPORT
Parameter: PEST/PCB

ple organization: B & V
mple Requestor: BAL BERENA
Facility: AMERICAN CHEMICAL SERVICES INC
Matrix: WATER
RLIMS Method: 608_P/P_DNS1

Sample Batch ID: 960144
Account No: TFA301
Sample ID: 96ZB10S03
Units: ug/L

Date Collected: 07-AUG-96
Date Extracted: 13-AUG-96

Date Received: 08-AUG-96
Date Analyzed: 16-AUG-96

CAS NUMBER	COMPOUND	AMOUNT	QUALIFIERS
319846	Alpha-BHC	.01	U
58899	Lindane	.01	U
76448	Heptachlor	.01	U
309002	Aldrin	.01	U
1024573	Heptachlor Epoxide	.01	U
959988	Endosulfan I	.01	U
60571	Dieldrin	.02	U
72208	Endrin	.02	U
3312659	Endosulfan II	.02	U
50293	p,p'-DDT	.02	U
72-43-5	Methoxychlor	.1	U
319857	Beta-BHC	.01	U
419868	Delta-BHC	.01	U
5103-74-2	Gamma-Chlordane	.01	U
5103-71-9	Alpha-Chlordane	.01	U
72559	p,p'-DDE	.02	U
72548	p,p'-DDD	.02	U
7421934	Endrin Aldehyde	.02	U
1031078	Endosulfan Sulfate	.02	U
53494-70-5	Endrin Ketone	.02	U
57-74-9	Chlordane, Technical	.2	U
8001352	Toxaphene	1	U
1104-28-2	Aroclor 1221	.2	U
11141165	Aroclor 1232	.2	U
53469219	Aroclor 1242	.2	U
12674-11-2	Aroclor 1016	.2	U
12672296	Aroclor 1248	.2	U
11097691	Aroclor 1254	.2	U
11096825	Aroclor 1260	.2	U

Analyzed by: [illegible] EMAI

Team Leader: [illegible]

EPA RLIMS CRL - REGION V
FINAL RESULTS REPORT
Parameter: **PEST/PCB**

ple organization: **B & V** | Sample Batch ID: **960144**
Sample Requestor: **BAL BERENA** | Account No: **TFA301**
Facility: **AMERICAN CHEMICAL SERVICES INC** | Sample ID: **96ZB10S04**
Matrix: **WATER** | RLIMS Method: **608_P/P_DNS1** | Units: **ug/L**

Date Collected: **07-AUG-96** | Date Received: **08-AUG-96**
Date Extracted: **13-AUG-96** | Date Analyzed: **16-AUG-96**

CAS NUMBER	COMPOUND	AMOUNT	QUALIFIERS
319846	Alpha-BHC	.01	U
58899	Lindane	.01	U
76448	Heptachlor	.01	U
309002	Aldrin	.01	U
1024573	Heptachlor Epoxide	.01	U
959988	Endosulfan I	.01	U
60571	Dieldrin	.02	U
72208	Endrin	.02	U
3312659	Endosulfan II	.02	U
50293	p,p'-DDT	.02	U
72-43-5	Methoxychlor	.1	U
319857	Beta-BHC	.01	U
419868	Delta-BHC	.01	U
5103-74-2	Gamma-Chlordane	.01	U
5103-71-9	Alpha-Chlordane	.01	U
72559	p,p'-DDE	.02	U
72548	p,p'-DDD	.02	U
7421934	Endrin Aldehyde	.02	U
1031078	Endosulfan Sulfate	.02	U
53494-70-5	Endrin Ketone	.02	U
57-74-9	Chlordane, Technical	.2	U
8001352	Toxaphene	1	U
1104-28-2	Aroclor 1221	.2	U
11141165	Aroclor 1232	.2	U
53469219	Aroclor 1242	.2	U
12674-11-2	Aroclor 1016	.2	U
12672296	Aroclor 1248	.2	U
11097691	Aroclor 1254	.2	U
11096825	Aroclor 1260	.2	U

Analyzed by: Kilinuel Ferrer

Team Leader:

EPA RLIMS CRL - REGION V
FINAL RESULTS REPORT
Parameter: PEST/PCB

ple organization: B & V
Sample Requestor: BAL BERENA
Facility: AMERICAN CHEMICAL SERVICES INC
Matrix: WATER
RLIMS Method: 608_P/P_DNS1

Sample Batch ID: 960144
Account No: TFA301
Sample ID: 96ZB10S05
Units: ug/L

Date Collected: 07-AUG-96
Date Extracted: 13-AUG-96

Date Received: 08-AUG-96
Date Analyzed: 16-AUG-96

CAS NUMBER	COMPOUND	AMOUNT	QUALIFIERS
319846	Alpha-BHC	.01	U
58899	Lindane	.01	U
76448	Heptachlor	.01	U
309002	Aldrin	.01	U
1024573	Heptachlor Epoxide	.01	U
959988	Endosulfan I	.01	U
60571	Dieldrin	.02	U
72208	Endrin	.02	U
3312659	Endosulfan II	.02	U
50293	p,p'-DDT	.02	U
72-43-5	Methoxychlor	.1	U
319857	Beta-BHC	.01	U
419868	Delta-BHC	.01	U
5103-74-2	Gamma-Chlordane	.01	U
5103-71-9	Alpha-Chlordane	.01	U
72559	p,p'-DDE	.02	U
72548	p,p'-DDD	.02	U
7421934	Endrin Aldehyde	.02	U
1031078	Endosulfan Sulfate	.02	U
53494-70-5	Endrin Ketone	.02	U
57-74-9	Chlordane, Technical	.2	U
8001352	Toxaphene	1	U
1104-28-2	Aroclor 1221	.2	U
11141165	Aroclor 1232	.2	U
53469219	Aroclor 1242	.2	U
12674-11-2	Aroclor 1016	.2	U
12672296	Aroclor 1248	.2	U
11097691	Aroclor 1254	.2	U
11096825	Aroclor 1260	.2	U

Analyzed by: [illegible] | EMAT

Team Leader: [illegible]

EPA RLIMS CRL - REGION V
FINAL RESULTS REPORT
Parameter: PEST/PCB

ple organization: B & V
Sample Requestor: BAL BERENA
Facility: AMERICAN CHEMICAL SERVICES INC
Matrix: WATER
RLIMS Method: 608_P/P_DNS1

Sample Batch ID: 960144
Account No: TFA301
Sample ID: 96ZB10S07
Units: ug/L

Date Collected: 08-AUG-96
Date Extracted: 13-AUG-96

Date Received: 08-AUG-96
Date Analyzed: 16-AUG-96

CAS NUMBER	COMPOUND	AMOUNT	QUALIFIERS
319846	Alpha-BHC	.01	U
58899	Lindane	.01	U
76448	Heptachlor	.01	U
309002	Aldrin	.01	U
1024573	Heptachlor Epoxide	.01	U
959988	Endosulfan I	.01	U
60571	Dieldrin	.02	U
72208	Endrin	.02	U
3312659	Endosulfan II	.02	U
50293	p,p'-DDT	.02	U
72-43-5	Methoxychlor	.1	U
319857	Beta-BHC	.01	U
419868	Delta-BHC	.01	U
5103-74-2	Gamma-Chlordane	.01	U
5103-71-9	Alpha-Chlordane	.01	U
72559	p,p'-DDE	.02	U
72548	p,p'-DDD	.02	U
7421934	Endrin Aldehyde	.02	U
1031078	Endosulfan Sulfate	.02	U
53494-70-5	Endrin Ketone	.02	U
57-74-9	Chlordane, Technical	.2	U
8001352	Toxaphene	1	U
1104-28-2	Aroclor 1221	.2	U
11141165	Aroclor 1232	.2	U
53469219	Aroclor 1242	.2	U
12674-11-2	Aroclor 1016	.2	U
12672296	Aroclor 1248	.2	U
11097691	Aroclor 1254	.2	U
11096825	Aroclor 1260	.2	U

Analyzed by: [illegible]
Team Leader: [illegible]

EPA RLIMS CRL - REGION V
FINAL RESULTS REPORT
Parameter: **PEST/PCB**

ple organization: **B & V** Sample Batch ID: **960144**
ple Requestor: **BAL BERENA** Account No: **TFA301**
Facility: **AMERICAN CHEMICAL SERVICES INC** Sample ID: **96ZB10S09**
Matrix: **WATER** RLIMS Method: **608_P/P_DNS1** Units: **ug/L**

Date Collected: **08-AUG-96** Date Received: **08-AUG-96**
Date Extracted: **13-AUG-96** Date Analyzed: **16-AUG-96**

CAS NUMBER	COMPOUND	AMOUNT	QUALIFIERS
319846	Alpha-BHC	.01	U
58899	Lindane	.01	U
76448	Heptachlor	.01	U
309002	Aldrin	.01	U
1024573	Heptachlor Epoxide	.01	U
959988	Endosulfan I	.01	U
60571	Dieldrin	.02	U
72208	Endrin	.02	U
3312659	Endosulfan II	.02	U
50293	p,p'-DDT	.02	U
72-43-5	Methoxychlor	.1	U
319857	Beta-BHC	.01	U
419868	Delta-BHC	.01	U
5103-74-2	Gamma-Chlordane	.01	U
5103-71-9	Alpha-Chlordane	.01	U
72559	p,p'-DDE	.02	U
72548	p,p'-DDD	.02	U
7421934	Endrin Aldehyde	.02	U
1031078	Endosulfan Sulfate	.02	U
53494-70-5	Endrin Ketone	.02	U
57-74-9	Chlordane, Technical	.2	U
8001352	Toxaphene	1	U
1104-28-2	Aroclor 1221	.2	U
11141165	Aroclor 1232	.2	U
53469219	Aroclor 1242	.2	U
12674-11-2	Aroclor 1016	.2	U
12672296	Aroclor 1248	.2	U
11097691	Aroclor 1254	.2	U
11096825	Aroclor 1260	.2	U

Analyzed by: [signature]

Team Leader: [signature]

CASE NARRATIVE

DATE: August 22, 1996

PROJECT NAME: American Chemical Service/CRL Case #: SF 960142
Analysis of Pesticides/PCBs

ANALYST: Krystyna Minczuk, ESAT Chemist

REVIEWERS: Ziyad Rajabi, Lockheed/ESAT Organic Group Leader
W.Ira Wilson, Lockheed/ESAT Organic Supervisor
Dennis Miller, Lockheed/ESAT Team Manager
Babu Paruchuri, EPA CRL Work Assignment Manager

I. CASE DESCRIPTION:

The laboratory received ten (10) monitoring well water samples (96ZB10S01, 96ZB10S02, 96ZB10S03, 96ZB10S04, 96ZB10S05, 96ZB10S06, 96ZB10S07, 96ZB10S08, 96ZB10D08 and 96ZB10S09) for pesticide/PCB analysis using CRL method 608 Pest/PCB DNS on 08/07 and 08/08/96. In addition, the monthly Performance Evaluation Sample (PE PQ483) for the month of August 96 was assigned to ESAT.
The samples were extracted on 08/13/96 utilizing one-step continuous liquid/liquid extractors per OLC01 methodology and the sample extracts were analyzed on 08/16/96 utilizing the HP5890 GC/EC#5. The samples were extracted within the holding time requirements of seven (7) days after collection and the extracts were analyzed within forty (40) days after extraction. No problems were encountered in extraction or GC/ECD analysis.

II. INSTRUMENT QUALITY CONTROLS:

1. <u>Instrument Performance Check:</u> Initial and continuing Endrin and DDT degradation checks for both the primary and confirmatory columns were within CRL QC limits of <15%.

2. <u>Initial Calibration Check (IC):</u> An acceptable initial calibration is required before samples can be analyzed. Correlation coefficients generated for Pest A, Pest B, Aroclor 1242 and aroclor 1254 using five points were 0.995 or greater.

3. <u>Continuing Calibration Check (CC):</u> For the primary and confirmatory columns, continuing calibration check standards (Level 3 Pest A, Pest B & Aroclor 1242) were within the acceptable %Ds limit of <15% with the exception of a-BHC (15.29%) for the first continuing calibration check on the confirmatory column.

4. <u>Retention Time (RT) Summary:</u> The retention time %Ds for each individual compound in the Pest A, Pest B mixes & Aroclor 1242 ranged between 0.00% to 0.13% on the primary and confirmatory columns.

III. METHOD QUALITY CONTROL:

1. **Method Blank Results:** A reagent water sample was used for the method blank and was spiked with surrogates, and was extracted and analyzed with the sample batch. No target analytes were detected above the method detection limit.

2. **Surrogate Spike Compound Results:** The TCMX and DCB surrogate spike recoveries were within the QC limits (50-150%) on both the primary and confirmatory columns for all samples with the exception of TCMX in the Blank 81396 (41.2% and 40.6%) and the sample 96ZB10S01 (21.5% and 21.1%) on the primary and confirmatory columns, respectively. DCB recovery in the sample 96ZB10S02 was reported high (278%) on the confirmatory column. High recovery of DCB in the sample 96ZB10S02 was due to coelution of DCB peak with an unknown contaminant on the confirmatory column. Recovery of DCB on the primary column was acceptable, therefore high recovery on the confirmatory column does not impact the data.

3. **Laboratory Control/Laboratory Control Duplicate Sample Results:**
For the primary column the laboratory control/laboratory control duplicate (LCS/LCS D) recoveries were acceptable (50-150%).
For the confirmatory column the laboratory control/laboratory control duplicate (LCS/LCS D) recoveries were acceptable (50-150%) with the exception of Endosulfan Sulfate in LCS/LCS D (254% and 202%) respectively due to coelution of this pesticide with p,p'-DDT.

4. **Performance Evaluation Samples (PEs):** A RES well PE PQ483 sample was identified as the PES sample for the month of August 96. Four compounds were within the acceptance limits with the exceptions of alpha-BHC and Heptachlor which were action high, beta-BHC which was action low, and Heptachlor Epoxide which was a TCL missing. The action low and action high compounds can be explained that this PE sample contained mix Aroclor and Pesticides and same of the Aroclor peaks are coeluted with Pesticides as a result there are different values between primary and confirmatory columns.

5. **Florisil Cartridge Check:** Florisil Cartridge Check gave acceptable percent recoveries for target analytes (80-120%) on both columns.

IV. SAMPLE RESULTS:

The target compound p,p'-DDT was detected in the sample 96ZB10S02 (0.23 µg/L).
No target compounds were detected above the method detection limits for any of the other samples.
Some of the other pesticides were detected in the sample 96ZB10S02; however, inspection of the comparison chromatograms confirmed all these pesticides as a false positive, therefore, they are not reported in sample 96ZB10S02.

Site: American Chemical Services Project#: 91670

Case: 96ZB10 SDG: _____ Date: 10/11/96

Data Validation Data Validator: Steve Mrkvicka

Data was qualified according to the results and findings described in the data narrative. The information in this narrative was validated and the calculations are provided in the attached pages. Data qualifiers were also applied to the results based on preparation blank results and duplicate analyses, when applicable.

Validation was accomplished through the use of USEPA Laboratory Data Validation Functional Guidelines for Evaluating Inorganics Analyses (February 1994) and USEPA Region 5 Standard Operating Procedure for Validation of CLP Inorganic Data (September, 1993). Calculations did not reveal any discrepancies other than those noted in the following pages.

The influence of sample bias for SSI and ESI data is indicated following each qualification. Bias is indicated by an upward arrow for high bias, a downward arrow for low bias and with unkbias for unknown bias. The sample bias for J qualifiers that are placed by the lab are of unknown bias. The sample bias designation for each J qualification is given in the following pages.

Additional Comments:

Cyanide: No backup provided.

Mercury: No backup provided except narrative stating a LCS (a spiked blank) was digested and analyzed.

ICP: No backup provided; however comments by CRL Reviewer stated that duplicate difference of 11 ug/L was greater than 10 ug/L detection limit. "J" all detected results.

Ant., Arsenic, Cadmium, Lead, Selenium, Thallium:

No backup. Some samples were diluted to meet analytical spike criteria of 100% ± 10%

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CENTRAL REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

Date: SEP 1 1 1996

Subject: Review of Region 5 Data for American Chemical Services Code:J7

From: Charles T. Elly, Director Chuck Elly
Region 5 Central Regional Laboratory

To: Black & Veatch

Attached are the results for American Chemical Services Code:J7
CRL request number 960142
for analyses for Antimony, Arsenic, Cadmium, Lead, Selenium and Thallium
Results are reported for sample designations: 96ZB10S01, 96ZB10S02, 96ZB10S06, 96ZB10S08 and 96ZB10D08

Results Status:
(x) Acceptable for Use
( ) Data Qualified, but Acceptable for use
( ) Data Unacceptable for Use

(x) Sewer Disposal Criteria Met; Exceptions: Acid preserved samples must be neutralized prior to disposal.

Comments on Data Quality by Reviewer

All QC measures were met. Some samples required dilution to meet CRL's analytical spike criteria of 100±10%, but no detection limit were raised above current SDWA MCLs.

Comments by Laboratory Director or Quality Control Coordinator

Review Record for American Chemical Services Code:J7

[illegible] 5 Sept 96

Peer/Task Monitor Review and Date (✓) Reviewed ( ) Unreviewed

[illegible] 5 Sept 96

Team Leader and Date (✓) Reviewed ( ) Unreviewed

Chuck Eddy 9/10/96

QC Coordinator and Date ( ) Reviewed (✓) Unreviewed
(position vacant)

Sylvia Griffin SEP 11 1996

Data Management Coordinator and Date Received

Date Transmitted SEP 11 1996

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
SL - 10C

Received by and Date

Comments:

Method Number: GFAA Metals
Date Generated: August 27, 1996
Auther: Bai Yuen

Site Name: American Chemical Service
Charge Number(s): ESE51145
TDF Number: 5104-044
WAD Number: 05-96-0-04

GFAA NARRATIVE for Data Sets 960142 and 960144

Ten ground water samples, 96ZB10S01, S02, S03, S04, S05, S06, S07, S08, D08 and S09 were collected from the American Chemical Service site. The samples were submitted for the analysis of total arsenic, cadmium, lead, selenium and thallium by GFAA. The samples were collected from 08/06/96 to 08/08/96 and were received properly preserved by the CRL on 08/07/96 and 08/08/96. All samples were part of data sets 960142 and 960144.

All samples were digested following standard CRL GFAA digestion protocols. The samples were digested on 08/13/96. All analyses were performed within the six month holding time.

An August Performance Evaluation Sample, 96OI19S01, was digested and analyzed with this set of samples. The data set number for the PE sample is 960137.

Analytical results were stored in .DAT files CDBY813.DAT, PBBY814.DAT, PBBY814A.DAT, TLBY813.DAT, TLBY814.DAT, ASBY814.DAT and SEBY814.DAT.

Arsenic

Data File ASBY814.DAT

Arsenic was analyzed without incident.

All QC was within the specified control limits.

Cadmium

Data File CDBY813.DAT

Cadmium was analyzed without incident.

All QC was within the specified control limits.

Lead

Data Files PBBY814.DAT and PBBY814A.DAT

Lead was analyzed without incident.

All QC was within the specified control limits.

Narrative by: B. Yuen ESAT
Date: 8-27-96

Thallium

Data Files TLBY813.DAT and TLBY814.DAT

Thallium was analyzed without incident.

All QC was within the specified control limits.

Selenium

Data File SEBY814.DAT

Selenium was analyzed without incident.

All QC was within the specified control limits.

Acceptable results for arsenic, cadmium, lead, selenium and thallium were obtained for the samples.

Narrative by: B. Green ESAT
Date: 8-22-96

Method Number: 3114B
Date Generated: August 22, 1996
TDF Number: 5104-044

Site Name: American Chemical Services
Charge Number(S): ESE-51-145
Work Assignment Number: 05-96-0-04

FIAS NARRATIVE for Data Set 960142 and 960144

Ten water samples (96ZB10S01, S02, S03, S04, S05, S06, S07, S08, D08 and S09) were submitted for the analysis of total antimony by hydride AA. The samples were collected on 08-06-96 and were received by the CRL properly preserved on 08-07-96. All samples were part of data set 960142 and 960144.

All samples and standards were digested following standard CRL FIAS digestion protocols for waters on 08-20-96. The hold time for metals is six months. All samples were analyzed on 08-21-96, within the six month hold time for metals.

A spiked blank, used as a laboratory control sample (LFM), was digested and analyzed with the set of samples. Analytical results were stored in .DAT file SBMK0821.DAT.

Antimony

Data File SBMK0821.DAT

Antimony was analyzed without incident.

All QC were within the control limits as specified in the SOP.

All antimony data are acceptable.

Narrative by: M. Kupp ESAT
Date: 8-26-96

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY

Single Analyte Result Report, produced on: 26-AUG-96

Sample organization: B & V
Sample Requestor: BAL BERENA
Facility: AMERICAN CHEMICAL SERVICES INC
Matrix: WATER
Date Collected: 06-AUG-96

Sample Batch ID: 960142
Account No: TFA301
Sample ID: 96ZB10D08
Units: ug/L
Date Received: 07-AUG-96

Parameter	Result	Anal. Date	Analyst	Comments
Antimony	1U	21-AUG-96	M. Kapp	
Arsenic Concentration	2U	12-AUG-96	B. Green	
Cadmium Concentration	0.8	11-AUG-96	B. Green	
Lead Concentration	9	14-AUG-96	B. Green	
Selenium Concentration	4U	12-AUG-96	B. Green	
Thallium Concentration	2U	13-AUG-96	B. Green	

Team Leader: [illegible] 5 Sep 96

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY

Single Analyte Result Report, produced on: 26-AUG-96

Sample organization: B & V
Sample Requestor: BAL BERENA
Facility: AMERICAN CHEMICAL SERVICES INC
Matrix: WATER
Date Collected: 06-AUG-96

Sample Batch ID: 960142
Account No: TFA301
Sample ID: 96ZB10S01
Units: ug/L
Date Received: 07-AUG-96

Parameter	Result	Anal. Date	Analyst	Comments
Antimony	1U	21-AUG-96	M. Kupp	
Arsenic Concentration	2	12-AUG-96	B. Lynn	
Cadmium Concentration	0.2U	11-AUG-96	B. Lynn	
Lead Concentration	3	14-AUG-96	B. Lynn	
Selenium Concentration	20 U	12-AUG-96	B. Lynn	
Thallium Concentration	2U	13-AUG-96	B. Lynn	

Team Leader: JVM 5 Sept 96

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY

Single Analyte Result Report, produced on: 26-AUG-96

Sample organization: B & V
Sample Requestor: BAL BERENA
Facility: AMERICAN CHEMICAL SERVICES INC
Matrix: WATER
Date Collected: 06-AUG-96

Sample Batch ID: 960142
Account No: TFA301
Sample ID: 96ZB10S02
Units: ug/L
Date Received: 07-AUG-96

Parameter	Result	Anal. Date	Analyst	Comments
Antimony	1U	21-AUG-96	M. Kapp	
Arsenic Concentration	6	12-AUG-96	B. Lynn	
Cadmium Concentration	0.2U	11-AUG-96	B. Lynn	
Lead Concentration	2U	14-AUG-96	B. Lynn	
Selenium Concentration	6U	12-AUG-96	B. Lynn	
Thallium Concentration	2U	14-AUG-96	B. Lynn	

Team Leader: JVM 5 Sep 96

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY

Single Analyte Result Report, produced on: 26-AUG-96

Sample organization: B & V
Sample Requestor: BAL BERENA
Facility: AMERICAN CHEMICAL SERVICES INC
Matrix: WATER
Date Collected: 06-AUG-96

Sample Batch ID: 960142
Account No: TFA301
Sample ID: 96ZB10806
Units: ug/L
Date Received: 07-AUG-96

Parameter	Result	Anal. Date	Analyst	Comments
Antimony	1U	21-AUG-96	M. Kapp	
Arsenic Concentration	23	12-AUG-96	B. Lynn	
Cadmium Concentration	0.2	11-AUG-96	B. Lynn	
Lead Concentration	5	14-AUG-96	B. Lynn	
Selenium Concentration	4U	12-AUG-96	B. Lynn	
Thallium Concentration	2U	13-AUG-96	B. Lynn	

Team Leader: Jun 5 Sept 96

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY

Single Analyte Result Report, produced on: 26-AUG-96

Sample organization: B & V
Sample Requestor: BAL BERENA
Facility: AMERICAN CHEMICAL SERVICES INC
Matrix: WATER
Date Collected: 06-AUG-96

Sample Batch ID: 960142
Account No: TFA301
Sample ID: 96ZB10808
Units: ug/L
Date Received: 07-AUG-96

Parameter	Result	Anal. Date	Analyst	Comments
Antimony	1U	21-AUG-96	M. Knapp	
Arsenic Concentration	2U	12-AUG-96	B. Yuen	
Cadmium Concentration	0.4	11-AUG-96	B. Yuen	
Lead Concentration	8	14-AUG-96	B. Yuen	
Selenium Concentration	2U	12-AUG-96	B. Yuen	
Thallium Concentration	2U	13-AUG-96	B. Yuen	

Team Leader: Jm 5 Sept 96

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CENTRAL REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

Date: SEP 1 1 1996

Subject: Review of Region 5 Data for American Chemical Services Code:J7

From: Charles T. Elly, Director Chuck Elly
Region 5 Central Regional Laboratory

To: B&V

Attached are the results for American Chemical Services Code:J7
CRL request number 960144
for analyses for Antimony, Arsenic, Cadmium, Lead, Selenium and Thallium
Results are reported for sample designations: 96ZB10S03, 96ZB10S04, 96ZB10S05, 96ZB10S07 and 96ZB10S09

Results Status:
(x) Acceptable for Use
( ) Data Qualified, but Acceptable for use
( ) Data Unacceptable for Use

(x) Sewer Disposal Criteria Met; Exceptions: Acid preserved samples must be neutralized prior to disposal.

Comments on Data Quality by Reviewer

All QC measures were met. Some samples required dilution to meet CRL's analytical spike criteria of 100±10%, but no detection limit were raised above current SDWA MCLs.

Comments by Laboratory Director or Quality Control Coordinator

Review Record for American Chemical Services Code:J7

Johnson 5 Sept 96

Peer/Task Monitor Review and Date (✓) Reviewed ( ) Unreviewed

Johnson 5 Sept 96

Team Leader and Date (✓) Reviewed ( ) Unreviewed

Chuck Ellis 9/5/96

QC Coordinator and Date ( ) Reviewed (✓) Unreviewed
(position vacant)

Sylvia Griffin SEP 1 1 1996

Data Management Coordinator and Date Received

Date Transmitted SEP 1 1 1996

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
SL - 10C

Received by and Date

Comments:

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY

Single Analyte Result Report, produced on: 26-AUG-96

Sample organization: B & V
Sample Requestor: BAL BERENA
Facility: AMERICAN CHEMICAL SERVICES INC
Matrix: WATER
Date Collected: 07-AUG-96

Sample Batch ID: 960144
Account No: TFA301
Sample ID: 96ZB10S03
Units: ug/L
Date Received: 08-AUG-96

Parameter	Result	Anal. Date	Analyst	Comments
Antimony	1U	21-AUG-96	M. Kapp	
Arsenic Concentration	2	12-AUG-96	B. Lynn	
Cadmium Concentration	0.2U	11-AUG-96	B. Lynn	
Lead Concentration	3	14-AUG-96	B. Lynn	
Selenium Concentration	4U	12-AUG-96	B. Lynn	
Thallium Concentration	2U	13-AUG-96	B. Lynn	

Team Leader: JVM 5Sept96

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY

Single Analyte Result Report, produced on: 26-AUG-96

Sample organization: B & V
Sample Requestor: BAL BERENA
Facility: AMERICAN CHEMICAL SERVICES INC
Matrix: WATER
Date Collected: 07-AUG-96

Sample Batch ID: 960144
Account No: TFA301
Sample ID: 96ZB10S04
Units: ug/L
Date Received: 08-AUG-96

Parameter	Result	Anal. Date	Analyst	Comments
Antimony	1U	21-AUG-96	M. Kapp	
Arsenic Concentration	2U	12-AUG-96	B. Yuen	
Cadmium Concentration	0.2U	11-AUG-96	B. Yuen	
Lead Concentration	18	14-AUG-96	B. Yuen	
Selenium Concentration	2U	12-AUG-96	B. Yuen	
Thallium Concentration	2U	13-AUG-96	B. Yuen	

Team Leader: JVM 5 Sept 96

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY

Single Analyte Result Report, produced on: 26-AUG-96

Sample organization: B & V
Sample Requestor: BAL BERENA
Facility: AMERICAN CHEMICAL SERVICES INC
Matrix: WATER
Date Collected: 07-AUG-96

Sample Batch ID: 960144
Account No: TFA301
Sample ID: 96ZB10S05
Units: ug/L
Date Received: 08-AUG-96

Parameter	Result	Anal. Date	Analyst	Comments
Antimony	1U	21-AUG-96	M. Kapp	
Arsenic Concentration	6U	12-AUG-96	B. Green	
Cadmium Concentration	0.2	11-AUG-96	B. Green	
Lead Concentration	6	14-AUG-96	B. Green	
Selenium Concentration	4U	12-AUG-96	B. Green	
Thallium Concentration	2U	13-AUG-96	B. Green	

Team Leader: Jun 5 Sep 96

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY

Single Analyte Result Report, produced on: 26-AUG-96

Sample organization: B & V
Sample Requestor: BAL BERENA
Facility: AMERICAN CHEMICAL SERVICES INC
Matrix: WATER
Date Collected: 08-AUG-96

Sample Batch ID: 960144
Account No: TFA301
Sample ID: 96ZB10S07
Units: ug/L
Date Received: 08-AUG-96

Parameter	Result	Anal. Date	Analyst	Comments
Antimony	1U	21-AUG-96	M. Kapp	
Arsenic Concentration	25	12-AUG-96	B. Lynn	
Cadmium Concentration	0.2U	11-AUG-96	B. Lynn	
Lead Concentration	9	14-AUG-96	B. Lynn	
Selenium Concentration	8U	12-AUG-96	B. Lynn	
Thallium Concentration	2U	13-AUG-96	B. Lynn	

Team Leader: [illegible] 5 Sep 96

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY

Single Analyte Result Report, produced on: 26-AUG-96

Sample organization: B & V
Sample Requestor: BAL BERENA
Facility: AMERICAN CHEMICAL SERVICES INC
Matrix: WATER
Date Collected: 08-AUG-96

Sample Batch ID: 960144
Account No: TFA301
Sample ID: 96ZB10S09
Units: ug/L
Date Received: 08-AUG-96

Parameter	Result	Anal. Date	Analyst	Comments
Antimony	1U	21-AUG-96	M. Kapp	
Arsenic Concentration	4	12-AUG-96	B. Lynn	
Cadmium Concentration	0.2U	11-AUG-96	B. Lynn	
Lead Concentration	4	14-AUG-96	B. Lynn	
Selenium Concentration	2U	12-AUG-96	B. Lynn	
Thallium Concentration	2U	13-AUG-96	B. Lynn	

Team Leader: [illegible] 9/26/96

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CENTRAL REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

Date: SEP 1 1 1996

Subject: Review of Region 5 Data for American Chemical Services Code:J7

From: Charles T. Elly, Director Chuck Elly
Region 5 Central Regional Laboratory

To: B & V

Attached are the results for American Chemical Services Code:J7
CRL request number 960142
for analyses for ICP
Results are reported for sample designations: 96ZB10S01, 96ZB10S02, 96ZB10S06, 96ZB10S08 and 96ZB10D08

Results Status:
(x) Acceptable for Use
( ) Data Qualified, but Acceptable for use
( ) Data Unacceptable for Use

(x) Sewer Disposal Criteria Met; Exceptions: Acid preserved samples must be neutralized prior to disposal. Samples 96ZB10S01, 96ZB10S02 and 96ZB10S06 exceed the disposal criterion for iron.

Comments on Data Quality by Reviewer

CRL's quality control limits for duplicates are either ±10% relative percent difference, or the duplicate difference is to be ± the detection limit of the element, whichever is applicable for the concentration range. For chromium, the duplicate difference was 11 μg/L, while the detection limit is 10 μg/L. As the action level for chromium should be much higher than this detection limit (SDWA MCL is 0.1 mg Cr/L), the data is not seriously affected.

Comments by Laboratory Director or Quality Control Coordinator

Review Record for American Chemical Services Code:J7

John V. Moore 5 Sept 96

Peer/Task Monitor Review and Date (✓) Reviewed ( ) Unreviewed

John V. Moore 5 Sept 96

Team Leader and Date (✓) Reviewed ( ) Unreviewed

Chuck Ebbs 9/5/96

QC Coordinator and Date ( ) Reviewed (✓) Unreviewed
(position vacant)

Sylvia Griffin SEP 1 1 1996

Data Management Coordinator and Date Received

Date Transmitted SEP 1 1 1996

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
SL - 10C

Received by and Date

Comments:

EPA RLIMS CRL - REGION V
FINAL RESULTS REPORT
REPORT PRODUCED ON: 22-AUG-96

AMPLE ORGANIZATION: B & V
SAMPLE REQUESTOR: BAL BERENA
LABORATORY: ESAT

SAMPLE BATCH ID: 960142
ACCOUNT NO: TFA301
FACILITY: AMERICAN CHEMICAL SERVICES INC

SAMPLE: 96ZB10D08 FIELD: 96ZB10D08

COLLECTED: 06-AUG-96 RECEIVED: 07-AUG-96 ANALYZED: 14-AUG-96

COMPOUND	AMOUNT	(Units)	QUALIFIERS	CAS NUMBER
Aluminum	328	(ug/L)		7429-90-5
Barium	21.6	(ug/L)		7440-39-3
Beryllium	1U	(ug/L)	BDL	7440-41-7
Calcium	34900	(ug/L)		7440-70-2
Chromium	10U	(ug/L)	BDL	7440-47-3
Cobalt	6U	(ug/L)	BDL	7440-48-4
Copper	9.5	(ug/L)		7440-50-8
Iron	579	(ug/L)		7439-89-6
Magnesium	9060	(ug/L)		7439-95-4
Manganese	276	(ug/L)		7439-96-5
Nickel	20U	(ug/L)	BDL	7440-02-0
Potassium	5000U	(ug/L)	BDL	7440-09-7
Silver	6U	(ug/L)	BDL	7440-22-4
Sodium	6190	(ug/L)		7440-23-5
Vanadium	5U	(ug/L)	BDL	7440-62-2
Zinc	40U	(ug/L)	BDL	7440-66-6

ANALYZED BY: 8-23-96 JVM 5 Sept 96

EPA RLIMS CRL - REGION V
FINAL RESULTS REPORT
REPORT PRODUCED ON: 22-AUG-96

MPLE ORGANIZATION: B & V
SAMPLE REQUESTOR: BAL BERENA
LABORATORY: ESAT

SAMPLE BATCH ID: 960142
ACCOUNT NO: TFA301
FACILITY: AMERICAN CHEMICAL SERVICES INC

SAMPLE: 96ZB10S01 FIELD: 96ZB10S01

COLLECTED: 06-AUG-96 RECEIVED: 07-AUG-96 ANALYZED: 14-AUG-96

COMPOUND	AMOUNT	(Units)	QUALIFIERS	CAS NUMBER
Aluminum	583	(ug/L)		7429-90-5
Barium	145	(ug/L)		7440-39-3
Beryllium	1U	(ug/L)	BDL	7440-41-7
Calcium	120000	(ug/L)		7440-70-2
Chromium	10U	(ug/L)	BDL	7440-47-3
Cobalt	6U	(ug/L)	BDL	7440-48-4
Copper	8.9	(ug/L)		7440-50-8
Iron	22700	(ug/L)		7439-89-6
Magnesium	31000	(ug/L)		7439-95-4
Manganese	1560	(ug/L)		7439-96-5
Nickel	20U	(ug/L)	BDL	7440-02-0
Potassium	5000U	(ug/L)	BDL	7440-09-7
Silver	6U	(ug/L)	BDL	7440-22-4
Sodium	72000	(ug/L)		7440-23-5
Vanadium	5U	(ug/L)	BDL	7440-62-2
Zinc	40U	(ug/L)	BDL	7440-66-6

ANALYZED BY: RD 8-23-96 JVM 5 Sept 96

EPA RLIMS CRL - REGION V
FINAL RESULTS REPORT
REPORT PRODUCED ON: 22-AUG-96

.MPLE ORGANIZATION: B & V
SAMPLE REQUESTOR: BAL BERENA
LABORATORY: ESAT

SAMPLE BATCH ID: 960142
ACCOUNT NO: TFA301
FACILITY: AMERICAN CHEMICAL SERVICES INC

SAMPLE: 96ZB10S02 FIELD: 96ZB10S02

COLLECTED: 06-AUG-96 RECEIVED: 07-AUG-96 ANALYZED: 14-AUG-96

COMPOUND	AMOUNT	(Units)	QUALIFIERS	CAS NUMBER
Aluminum	355	(ug/L)		7429-90-5
Barium	166	(ug/L)		7440-39-3
Beryllium	1U	(ug/L)	BDL	7440-41-7
Calcium	140000	(ug/L)		7440-70-2
Chromium	11.3 J	(ug/L)		7440-47-3
Cobalt	6U	(ug/L)	BDL	7440-48-4
Copper	8.1	(ug/L)		7440-50-8
Iron	32200	(ug/L)		7439-89-6
Magnesium	18700	(ug/L)		7439-95-4
Manganese	581	(ug/L)		7439-96-5
Nickel	21.9	(ug/L)		7440-02-0
Potassium	7820	(ug/L)		7440-09-7
Silver	6U	(ug/L)	BDL	7440-22-4
Sodium	56600	(ug/L)		7440-23-5
Vanadium	5U	(ug/L)	BDL	7440-62-2
Zinc	40U	(ug/L)	BDL	7440-66-6

ANALYZED BY: RD 8-23-96

1m 5 Sep 96

EPA RLIMS CRL - REGION V
FINAL RESULTS REPORT
REPORT PRODUCED ON: 22-AUG-96

SAMPLE ORGANIZATION: B & V
SAMPLE REQUESTOR: BAL BERENA
LABORATORY: ESAT

SAMPLE BATCH ID: 960142
ACCOUNT NO: TFA301
FACILITY: AMERICAN CHEMICAL SERVICES INC

SAMPLE: 96ZB10S06 FIELD: 96ZB10S06

COLLECTED: 06-AUG-96 RECEIVED: 07-AUG-96 ANALYZED: 14-AUG-96

COMPOUND	AMOUNT	(Units)	QUALIFIERS	CAS NUMBER
Aluminum	80U	(ug/L)	BDL	7429-90-5
Barium	102	(ug/L)		7440-39-3
Beryllium	1U	(ug/L)	BDL	7440-41-7
Calcium	82400	(ug/L)		7440-70-2
Chromium	10.5 J	(ug/L)		7440-47-3
Cobalt	6U	(ug/L)	BDL	7440-48-4
Copper	6U	(ug/L)	BDL	7440-50-8
Iron	19800	(ug/L)		7439-89-6
Magnesium	10600	(ug/L)		7439-95-4
Manganese	1970	(ug/L)		7439-96-5
Nickel	20.3	(ug/L)		7440-02-0
Potassium	5000U	(ug/L)	BDL	7440-09-7
Silver	6U	(ug/L)	BDL	7440-22-4
Sodium	23100	(ug/L)		7440-23-5
Vanadium	5U	(ug/L)	BDL	7440-62-2
Zinc	40U	(ug/L)	BDL	7440-66-6

ANALYZED BY: RD 8-23-96

JVM 5 Sep 96

EPA RLIMS CRL - REGION V
FINAL RESULTS REPORT
REPORT PRODUCED ON: 22-AUG-96

SAMPLE ORGANIZATION: B & V
SAMPLE REQUESTOR: BAL BERENA
LABORATORY: ESAT

SAMPLE BATCH ID: 960142
ACCOUNT NO: TFA301
FACILITY: AMERICAN CHEMICAL SERVICES INC

SAMPLE: 96ZB10S08 FIELD: 96ZB10S08

COLLECTED: 06-AUG-96 RECEIVED: 07-AUG-96 ANALYZED: 14-AUG-96

COMPOUND	AMOUNT	(Units)	QUALIFIERS	CAS NUMBER
Aluminum	461	(ug/L)		7429-90-5
Barium	22.2	(ug/L)		7440-39-3
Beryllium	1U	(ug/L)	BDL	7440-41-7
Calcium	34500	(ug/L)		7440-70-2
Chromium	10U	(ug/L)	BDL	7440-47-3
Cobalt	6.9	(ug/L)		7440-48-4
Copper	9.9	(ug/L)		7440-50-8
Iron	762	(ug/L)		7439-89-6
Magnesium	9020	(ug/L)		7439-95-4
Manganese	277	(ug/L)		7439-96-5
Nickel	20U	(ug/L)	BDL	7440-02-0
Potassium	5000U	(ug/L)	BDL	7440-09-7
Silver	6U	(ug/L)	BDL	7440-22-4
Sodium	6130	(ug/L)		7440-23-5
Vanadium	5U	(ug/L)	BDL	7440-62-2
Zinc	40U	(ug/L)	BDL	7440-66-6

ANALYZED BY: RD 8-23-96 IVR 5 Sept 96

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CENTRAL REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

Date: SEP 11 1996

Subject: Review of Region 5 Data for American Chemical Services Code:J7

From: Charles T. Elly, Director Charles T. Elly
Region 5 Central Regional Laboratory

To: B & V

Attached are the results for American Chemical Services Code:J7
CRL request number 960144
for analyses for ICP
Results are reported for sample designations: 96ZB10S03, 96ZB10S04, 96ZB10S05, 96ZB10S07 and 96ZB10S09

Results Status:
(x) Acceptable for Use
( ) Data Qualified, but Acceptable for use
( ) Data Unacceptable for Use

(x) Sewer Disposal Criteria Met; Exceptions: Acid preserved samples must be neutralized prior to disposal. Samples 96ZB10S03, 96ZB10S05 and 96ZB10S07 exceed the disposal criterion for iron.

Comments on Data Quality by Reviewer

CRL's quality control limits for duplicates are either ±10% relative percent difference, or the duplicate difference is to be ± the detection limit of the element, whichever is applicable for the concentration range. For chromium, the duplicate difference was 11 μg/L, while the detection limit is 10 μg/L. As the action level for chromium should be much higher than this detection limit (SDWA MCL is 0.1 mg Cr/L), the data is not seriously affected.

Comments by Laboratory Director or Quality Control Coordinator

Review Record for American Chemical Services Code:J7

John R. Moon 5 Sept 96

Peer/Task Monitor Review and Date (✓) Reviewed ( ) Unreviewed

John R. Moon 5 Sept 96

Team Leader and Date (✓) Reviewed ( ) Unreviewed

Chuck Ellis 9/5/96

QC Coordinator and Date ( ) Reviewed (✓) Unreviewed
(position vacant)

Sylvia Griffin SEP 1 1 1996

Data Management Coordinator and Date Received

Date Transmitted SEP 1 1 1996

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
SL - 10C

Received by and Date

Comments:

EPA RLIMS CRL - REGION V
FINAL RESULTS REPORT
REPORT PRODUCED ON: 22-AUG-96

MPLE ORGANIZATION: B & V
SAMPLE REQUESTOR: BAL BERENA
LABORATORY: ESAT

SAMPLE BATCH ID: 960144
ACCOUNT NO: TFA301
FACILITY: AMERICAN CHEMICAL SERVICES INC

SAMPLE: 96ZB10S03 FIELD: 96ZB10S03

COLLECTED: 07-AUG-96 RECEIVED: 08-AUG-96 ANALYZED: 14-AUG-96

COMPOUND	AMOUNT	(Units)	QUALIFIERS	CAS NUMBER
Aluminum	80U	(ug/L)	BDL	7429-90-5
Barium	40.2	(ug/L)		7440-39-3
Beryllium	1U	(ug/L)	BDL	7440-41-7
Calcium	64700	(ug/L)		7440-70-2
Chromium	10U	(ug/L)	BDL	7440-47-3
Cobalt	6U	(ug/L)	BDL	7440-48-4
Copper	6U	(ug/L)	BDL	7440-50-8
Iron	6570	(ug/L)		7439-89-6
Magnesium	21600	(ug/L)		7439-95-4
Manganese	519	(ug/L)		7439-96-5
Nickel	20U	(ug/L)	BDL	7440-02-0
Potassium	5000U	(ug/L)	BDL	7440-09-7
Silver	6U	(ug/L)	BDL	7440-22-4
Sodium	5780	(ug/L)		7440-23-5
Vanadium	5U	(ug/L)	BDL	7440-62-2
Zinc	40U	(ug/L)	BDL	7440-66-6

ANALYZED BY: 8-23-96 5 Sept 96

EPA RLIMS CRL - REGION V
FINAL RESULTS REPORT
REPORT PRODUCED ON: 22-AUG-96

AMPLE ORGANIZATION: B & V
SAMPLE REQUESTOR: BAL BERENA
LABORATORY: ESAT

SAMPLE BATCH ID: 960144
ACCOUNT NO: TFA301
FACILITY: AMERICAN CHEMICAL SERVICES INC

SAMPLE: 96ZB10S04 FIELD: 96ZB10S04

COLLECTED: 07-AUG-96 RECEIVED: 08-AUG-96 ANALYZED: 14-AUG-96

COMPOUND	AMOUNT	(Units)	QUALIFIERS	CAS NUMBER
Aluminum	215	(ug/L)		7429-90-5
Barium	6	(ug/L)		7440-39-3
Beryllium	1U	(ug/L)	BDL	7440-41-7
Calcium	8460	(ug/L)		7440-70-2
Chromium	10U	(ug/L)	BDL	7440-47-3
Cobalt	6U	(ug/L)	BDL	7440-48-4
Copper	6U	(ug/L)	BDL	7440-50-8
Iron	187	(ug/L)		7439-89-6
Magnesium	2830	(ug/L)		7439-95-4
Manganese	24.8	(ug/L)		7439-96-5
Nickel	20U	(ug/L)	BDL	7440-02-0
Potassium	5000U	(ug/L)	BDL	7440-09-7
Silver	6U	(ug/L)	BDL	7440-22-4
Sodium	3330	(ug/L)		7440-23-5
Vanadium	5U	(ug/L)	BDL	7440-62-2
Zinc	40U	(ug/L)	BDL	7440-66-6

ANALYZED BY: RD 8-23-96 1m 5Sept96

EPA RLIMS CRL - REGION V
FINAL RESULTS REPORT
REPORT PRODUCED ON: 22-AUG-96

MPLE ORGANIZATION: B & V
SAMPLE REQUESTOR: BAL BERENA
LABORATORY: ESAT

SAMPLE BATCH ID: 960144
ACCOUNT NO: TFA301
FACILITY: AMERICAN CHEMICAL SERVICES INC

SAMPLE: 96ZB10S05 FIELD: 96ZB10S05

COLLECTED: 07-AUG-96 RECEIVED: 08-AUG-96 ANALYZED: 14-AUG-96

COMPOUND	AMOUNT	(Units)	QUALIFIERS	CAS NUMBER
Aluminum	223	(ug/L)		7429-90-5
Barium	87.3	(ug/L)		7440-39-3
Beryllium	1U	(ug/L)	BDL	7440-41-7
Calcium	134000	(ug/L)		7440-70-2
Chromium	10U	(ug/L)	BDL	7440-47-3
Cobalt	6U	(ug/L)	BDL	7440-48-4
Copper	6U	(ug/L)	BDL	7440-50-8
Iron	2820	(ug/L)		7439-89-6
Magnesium	47400	(ug/L)		7439-95-4
Manganese	915	(ug/L)		7439-96-5
Nickel	20U	(ug/L)	BDL	7440-02-0
Potassium	5000U	(ug/L)	BDL	7440-09-7
Silver	6U	(ug/L)	BDL	7440-22-4
Sodium	13200	(ug/L)		7440-23-5
Vanadium	5U	(ug/L)	BDL	7440-62-2
Zinc	40U	(ug/L)	BDL	7440-66-6

ANALYZED BY: RD 8-23-96

JVM 7 Sept 96

EPA RLIMS CRL - REGION V
FINAL RESULTS REPORT
REPORT PRODUCED ON: 22-AUG-96

AMPLE ORGANIZATION: B & V
SAMPLE REQUESTOR: BAL BERENA
LABORATORY: ESAT

SAMPLE BATCH ID: 960144
ACCOUNT NO: TFA301
FACILITY: AMERICAN CHEMICAL SERVICES INC

SAMPLE: 96ZB10S07 FIELD: 96ZB10S07

COLLECTED: 08-AUG-96 RECEIVED: 08-AUG-96 ANALYZED: 14-AUG-96

COMPOUND	AMOUNT	(Units)	QUALIFIERS	CAS NUMBER
Aluminum	170	(ug/L)		7429-90-5
Barium	89.7	(ug/L)		7440-39-3
Beryllium	1U	(ug/L)	BDL	7440-41-7
Calcium	95300	(ug/L)		7440-70-2
Chromium	10U	(ug/L)	BDL	7440-47-3
Cobalt	6U	(ug/L)	BDL	7440-48-4
Copper	6U	(ug/L)	BDL	7440-50-8
Iron	8460	(ug/L)		7439-89-6
Magnesium	23800	(ug/L)		7439-95-4
Manganese	613	(ug/L)		7439-96-5
Nickel	20U	(ug/L)	BDL	7440-02-0
Potassium	6950	(ug/L)		7440-09-7
Silver	6U	(ug/L)	BDL	7440-22-4
Sodium	72500	(ug/L)		7440-23-5
Vanadium	5U	(ug/L)	BDL	7440-62-2
Zinc	40U	(ug/L)	BDL	7440-66-6

ANALYZED BY: LD 8-23-96 MM 5 Sep 96

EPA RLIMS CRL - REGION V
FINAL RESULTS REPORT
REPORT PRODUCED ON: 22-AUG-96

SAMPLE ORGANIZATION: B & V
SAMPLE REQUESTOR: BAL BERENA
LABORATORY: ESAT

SAMPLE BATCH ID: 960144
ACCOUNT NO: TFA301
FACILITY: AMERICAN CHEMICAL SERVICES INC

SAMPLE: 96ZB10S09 FIELD: 96ZB10S09

COLLECTED: 08-AUG-96 RECEIVED: 08-AUG-96 ANALYZED: 14-AUG-96

COMPOUND	AMOUNT	(Units)	QUALIFIERS	CAS NUMBER
Aluminum	80U	(ug/L)	BDL	7429-90-5
Barium	115	(ug/L)		7440-39-3
Beryllium	1U	(ug/L)	BDL	7440-41-7
Calcium	90300	(ug/L)		7440-70-2
Chromium	10U	(ug/L)	BDL	7440-47-3
Cobalt	6U	(ug/L)	BDL	7440-48-4
Copper	7.2	(ug/L)		7440-50-8
Iron	1470	(ug/L)		7439-89-6
Magnesium	36900	(ug/L)		7439-95-4
Manganese	44.8	(ug/L)		7439-96-5
Nickel	20U	(ug/L)	BDL	7440-02-0
Potassium	5000U	(ug/L)	BDL	7440-09-7
Silver	6U	(ug/L)	BDL	7440-22-4
Sodium	20700	(ug/L)		7440-23-5
Vanadium	5U	(ug/L)	BDL	7440-62-2
Zinc	40U	(ug/L)	BDL	7440-66-6

ANALYZED BY: RD 8-23-96 [illegible] 5 Sept 96

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CENTRAL REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

Date: SEP 0 9 1996

Subject: Review of Region 5 Data for American Chemical Services Code:J7

From: Charles T. Elly, Director Chuck Elly
Region 5 Central Regional Laboratory

To: B&V

Attached are the results for American Chemical Services Code:J7
CRL request number 960142
for analyses for Mercury
Results are reported for sample designations: 96ZB10S01, 96ZB10S02, 96ZB10S06, 96ZB10S08 and 96ZB10D08

Results Status:
(x) Acceptable for Use
( ) Data Qualified, but Acceptable for use
( ) Data Unacceptable for Use

(x) Sewer Disposal Criteria Met; Exceptions: Acid preserved samples must be neutralized prior to disposal.

Comments on Data Quality by Reviewer

All QC measures were met.

Comments by Laboratory Director or Quality Control Coordinator

Review Record for American Chemical Services Code:J7

[illegible] 9 Sept 96

Peer/Task Monitor Review and Date (✓) Reviewed ( ) Unreviewed

[illegible] 9 Sept 96

Team Leader and Date (✓) Reviewed ( ) Unreviewed

Chuck [illegible] 9/9/96

QC Coordinator and Date ( ) Reviewed (✓) Unreviewed
(position vacant)

Sylvia Griffin SEP 0 9 1996

Data Management Coordinator and Date Received

Date Transmitted SEP 0 9 1996

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
SL - 10C

Received by and Date

Comments:

Method Number: 3114B*
Date Generated: August 22, 1996
TDF Number: 5104-044

Site Name: American Chemical Services (IN)
Charge Number(S): ESE-51-145
Work Assignment Number: 05-96-0-04

Hg NARRATIVE for Data Set 960142

Ten water samples (96ZB10S01, S02, S03, S04, S05, S06, S07, S08, DO8 and S09) were submitted for the analysis of total mercury by cold vapor FIAS AA. The samples were collected on 08-06-96 and were received by the CRL properly preserved on 08-07-96. All samples were part of data set 960142.

All samples and standards were digested following standard CRL cold vapor FIAS AA digestion protocols for waters on 08-15-96. The hold time for mercury is 28 days. All samples were analyzed on 08-16-96, within the 28 day hold time for mercury.

A spiked blank, used as a laboratory control sample (LCS) was digested and analyzed with the set of samples. Analytical results were stored in .DAT file HGMK0816.DAT.

Mercury

Data File HGMK0816.DAT

All samples were analyzed without incident.

All QC were within the specified control limits of the SOP.

All mercury data are acceptable.

Narrative by: M. Kuyper ESAT
Date: 8-22-96

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY
FINAL RESULT REPORT for the team: MINERALS-NUTRIENTS

Report produced on: 27-AUG-96

Sample Organization: B & V
Sample Requestor: BAL BERENA
Laboratory: ESAT

Sample Batch ID: 960142
Account NO: TFA301
Facility: AMERICAN CHEMICAL SERVICES INC

Sample: 96ZB10D08

Field: 96ZB10D08

Collected: 06-AUG-96 /

Received: 07-AUG-96

Parameter	Result	(Units)	QUALIFIERS	Anal. Date	Analyst
Cyanide (Total)	8	(ug/L)	U	15-AUG-96	M.K.
Mercury (Total)	0.2	(ug/L)	U	16-AUG-96	M.K.

Reviewed by : JM 9Sep96

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY
FINAL RESULT REPORT for the team: MINERALS-NUTRIENTS

Report produced on: 27-AUG-96

Sample Organization: B & V
Sample Requestor: BAL BERENA
Laboratory: ESAT

Sample Batch ID: 960142
Account NO: TFA301
Facility: AMERICAN CHEMICAL SERVICES INC

Sample: 96ZB10S01

Field: 96ZB10S01

Collected: 06-AUG-96 /

Received: 07-AUG-96

Parameter	Result	(Units)	QUALIFIERS	Anal. Date	Analyst
Cyanide (Total)	8	(ug/L)	U	15-AUG-96	M. Kyp
Mercury (Total)	0.2	(ug/L)	U	16-AUG-96	M. Kyp

Reviewed by : NM 9 Sep 96

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY
FINAL RESULT REPORT for the team: MINERALS-NUTRIENTS

Report produced on: 27-AUG-96

Sample Organization: B & V
Sample Requestor: BAL BERENA
Laboratory: ESAT

Sample Batch ID: 960142
Account NO: TFA301
Facility: AMERICAN CHEMICAL SERVICES INC

Sample: 96ZB10S02

Field: 96ZB10S02

Collected: 06-AUG-96 /

Received: 07-AUG-96

Parameter	Result	(Units)	QUALIFIERS	Anal. Date	Analyst
Cyanide (Total)	8	(ug/L)	U	15-AUG-96	M.Y.
Mercury (Total)	0.2	(ug/L)		16-AUG-96	M.Y.

Reviewed by : Jun 9 Sept 96

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY
FINAL RESULT REPORT for the team: MINERALS-NUTRIENTS

Report produced on: 27-AUG-96

Sample Organization: B & V
Sample Requestor: BAL BERENA
Laboratory: ESAT

Sample Batch ID: 960142
Account NO: TFA301
Facility: AMERICAN CHEMICAL SERVICES INC

Sample: 96ZB10S06

Field: 96ZB10S06

Collected: 06-AUG-96 /

Received: 07-AUG-96

Parameter	Result	(Units)	QUALIFIERS	Anal. Date	Analyst
Cyanide (Total)	8	(ug/L)	U	15-AUG-96	M. Kupp
Mercury (Total)	0.2	(ug/L)	U	16-AUG-96	M. Kupp

Reviewed by : JVM 9 Sept 96

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY
FINAL RESULT REPORT for the team: MINERALS-NUTRIENTS

Report produced on: 27-AUG-96

Sample Organization: B & V
Sample Requestor: BAL BERENA
Laboratory: ESAT

Sample Batch ID: 960142
Account NO: TFA301
Facility: AMERICAN CHEMICAL SERVICES INC

Sample: 96ZB10S08

Field: 96ZB10S08

Collected: 06-AUG-96 /

Received: 07-AUG-96

Parameter	Result	(Units)	QUALIFIERS	Anal. Date	Analyst
Cyanide (Total)	8	(ug/L)	U	15-AUG-96	M. Kupp
Mercury (Total)	0.2	(ug/L)	U	16-AUG-96	M. Kupp

Reviewed by : JVM 9/Sept-96

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CENTRAL REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

Date: SEP 0 9 1996

Subject: Review of Region 5 Data for American Chemical Services Code:J7

From: Charles T. Elly, Director Chuck Elly
Region 5 Central Regional Laboratory

To: B&V

Attached are the results for American Chemical Services Code:J7
CRL request number 960144
for analyses for Mercury
Results are reported for sample designations: 96ZB10S03, 96ZB10S04, 96ZB10S05, 96ZB10S07 and 96ZB10S09

Results Status:
(x) Acceptable for Use
( ) Data Qualified, but Acceptable for use
( ) Data Unacceptable for Use

(x) Sewer Disposal Criteria Met; Exceptions: Acid preserved samples must be neutralized prior to disposal.

Comments on Data Quality by Reviewer

All QC measures were met.

Comments by Laboratory Director or Quality Control Coordinator

Review Record for American Chemical Services Code:J7

9 Sept 96

Peer/Task Monitor Review and Date (✓) Reviewed ( ) Unreviewed

9 Sept 96

Team Leader and Date (✓) Reviewed ( ) Unreviewed

Chuck Elby 9/9/96

QC Coordinator and Date ( ) Reviewed (✓) Unreviewed
(position vacant)

Sylvia Griffin SEP 0 9 1996

Data Management Coordinator and Date Received

Date Transmitted SEP 0 9 1996

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
SL - 10C

Received by and Date

Comments:

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY
FINAL RESULT REPORT for the team: MINERALS-NUTRIENTS

Report produced on: 27-AUG-96

Sample Organization: B & V
Sample Requestor: BAL BERENA
Laboratory: ESAT

Sample Batch ID: 960144
Account NO: TFA301
Facility: AMERICAN CHEMICAL SERVICES INC

Sample: 96ZB10S03

Field: 96ZB10S03

Collected: 07-AUG-96 /

Received: 08-AUG-96

Parameter	Result	(Units)	QUALIFIERS	Anal. Date	Analyst
Cyanide (Total)	8	(ug/L)	U	15-AUG-96	M. Kapp
Mercury (Total)	0.2	(ug/L)	U	16-AUG-96	M. Kapp

Reviewed by : Jvm 9Sep96

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY
FINAL RESULT REPORT for the team: MINERALS-NUTRIENTS

Report produced on: 27-AUG-96

Sample Organization: B & V
Sample Requestor: BAL BERENA
Laboratory: ESAT

Sample Batch ID: 960144
Account NO: TFA301
Facility: AMERICAN CHEMICAL SERVICES INC

Sample: 96ZB10S04

Field: 96ZB10S04

Collected: 07-AUG-96 /

Received: 08-AUG-96

Parameter	Result	(Units)	QUALIFIERS	Anal. Date	Analyst
Cyanide (Total)	8	(ug/L)	U	15-AUG-96	MKapp
Mercury (Total)	0.2	(ug/L)	U	16-AUG-96	MKapp

Reviewed by : JVM 9 Sept 96

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY
FINAL RESULT REPORT for the team: MINERALS-NUTRIENTS

Report produced on: 27-AUG-96

Sample Organization: B & V
Sample Requestor: BAL BERENA
Laboratory: ESAT

Sample Batch ID: 960144
Account NO: TFA301
Facility: AMERICAN CHEMICAL SERVICES INC

Sample: 96ZB10S05

Field: 96ZB10S05

Collected: 07-AUG-96 /

Received: 08-AUG-96

Parameter	Result	(Units)	QUALIFIERS	Anal. Date	Analyst
Cyanide (Total)	8	(ug/L)	U	15-AUG-96	M.Kapp
Mercury (Total)	0.2	(ug/L)	U	16-AUG-96	M.Kapp

Reviewed by : Jvm 9/Sept-96

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY
FINAL RESULT REPORT for the team: MINERALS-NUTRIENTS

Report produced on: 27-AUG-96

Sample Organization: B & V
Sample Requestor: BAL BERENA
Laboratory: ESAT

Sample Batch ID: 960144
Account NO: TFA301
Facility: AMERICAN CHEMICAL SERVICES INC

Sample: 96ZB10S07

Field: 96ZB10S07

Collected: 08-AUG-96 /

Received: 08-AUG-96

Parameter	Result	(Units)	QUALIFIERS	Anal. Date	Analyst
Cyanide (Total)	8	(ug/L)	U	15-AUG-96	M.Kapp
Mercury (Total)	0.2	(ug/L)	U	16-AUG-96	M.Kapp

Reviewed by : Jun 9 Sept 96

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY
FINAL RESULT REPORT for the team: MINERALS-NUTRIENTS

Report produced on: 27-AUG-96

Sample Organization: B & V
Sample Requestor: BAL BERENA
Laboratory: ESAT

Sample Batch ID: 960144
Account NO: TFA301
Facility: AMERICAN CHEMICAL SERVICES INC

Sample: 96ZB10S09

Field: 96ZB10S09

Collected: 08-AUG-96 /

Received: 08-AUG-96

Parameter	Result	(Units)	QUALIFIERS	Anal. Date	Analyst
Cyanide (Total)	8	(ug/L)	U	15-AUG-96	M.K. [illegible]
Mercury (Total)	0.2	(ug/L)	U	16-AUG-96	M.K. [illegible]

Reviewed by : [illegible] 9 Sept 96

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CENTRAL REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

Date: SEP 0 9 1996

Subject: Review of Region 5 Data for **AMERICAN CHEMICAL SERVICES**

From: Charles T. Elly, Director Chuck Elly
Region 5 Central Regional Laboratory

To: Black & Veatch

Attached are the results for **AMERICAN CHEMICAL SERVICES**
CRL request number **960142**
for analyses for **Cyanide**
Results are reported for sample designations: 96ZB10S01, 96ZB10S02, 96ZB10S03, 96ZB10S04, 96ZB10S05, 96ZB10S06, 96ZB10S07, 96ZB10S08, and 96ZB10S09.

Results Status:

(X) Acceptable for Use:
( ) Data Qualified, but Acceptable for use:
( ) Data Unacceptable for Use:

( ) Sewer Disposal Criteria Met;

Cyanide: Portions of all of the above samples which were collected and submitted for cyanide analyses are preserved with sodium hydroxide reagents. All the samples should be neutralized prior to disposal down the drain provided that the concentrations of other analytes are less than the laboratory detection or other controlling limits. Cyanide concentration in those samples are below the laboratory detection limit.

Comments on Data Quality by Reviewer:

All the water samples submitted for cyanide analysis were assayed and the results are attached. Required quality control criteria for the laboratory, method, and system performance audits were evaluated and determined to be within the limits. All the Cyanide results are acceptable for use.

Comments on Sample Results:

All the Cyanide results were found to be below the laboratory limit of 0.008 mg/L (8 µg/L). Those samples should be considered to be safe with respect to Cyanide.

Comments by Laboratory Director or Quality Control Coordinator:

Francis A. Awanya 9/6/96
Reviewer/Task Monitor and Date (X) Reviewed ( ) Unreviewed

[illegible] 8 Sept 96
Team Leader and Date (✓) Reviewed ( ) Unreviewed

Chuck Ellz 9/9/96
QC Coordinator and Date ( ) Reviewed (✓) Unreviewed

Sylvia Griffin SEP 0 9 1996
Data Management Coordinator and Date Received

Date Transmitted SEP 0 9 1996

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
SL - 10C

Received by and Date

Comments:

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY
FINAL RESULT REPORT for the team: MINERALS-NUTRIENTS

Report produced on: 27-AUG-96

Sample Organization: B & V
Sample Requestor: BAL BERENA
Laboratory: ESAT

Sample Batch ID: 960142
Account NO: TFA301
Facility: AMERICAN CHEMICAL SERVICES INC

Sample: 96ZB10S01

Field: 96ZB10S01

Collected: 06-AUG-96 /

Received: 07-AUG-96

Parameter	Result	(Units)	QUALIFIERS	Anal. Date	Analyst
Cyanide (Total)	8	(ug/L)	U	15-AUG-96	M. Kyp
Mercury (Total)	0.2	(ug/L)	U	16-AUG-96	M. Kyp

Reviewed by : Francis A. Awanga 9/6/96

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY
FINAL RESULT REPORT for the team: MINERALS-NUTRIENTS

Report produced on: 27-AUG-96

Sample Organization: B & V
Sample Requestor: BAL BERENA
Laboratory: ESAT

Sample Batch ID: 960142
Account NO: TFA301
Facility: AMERICAN CHEMICAL SERVICES INC

Sample: 96ZB10S02

Field: 96ZB10S02

Collected: 06-AUG-96 /

Received: 07-AUG-96

Parameter	Result	(Units)	QUALIFIERS	Anal. Date	Analyst
Cyanide (Total)	8	(ug/L)	U	15-AUG-96	M.K.
Mercury (Total)	0.2	(ug/L)		16-AUG-96	M.K.

Reviewed by : Francis A. Awanya 9/6/96

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY
FINAL RESULT REPORT for the team: MINERALS-NUTRIENTS

Report produced on: 27-AUG-96

Sample Organization: B & V
Sample Requestor: BAL BERENA
Laboratory: ESAT

Sample Batch ID: 960144
Account NO: TFA301
Facility: AMERICAN CHEMICAL SERVICES INC

Sample: 96ZB10S03

Field: 96ZB10S03

Collected: 07-AUG-96 /

Received: 08-AUG-96

Parameter	Result	(Units)	QUALIFIERS	Anal. Date	Analyst
Cyanide (Total)	8	(ug/L)	U	15-AUG-96	M. Kapp
Mercury (Total)	0.2	(ug/L)	U	16-AUG-96	M. Kapp

Reviewed by : Francis A. Awanyo 9/6/96

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY
FINAL RESULT REPORT for the team: MINERALS-NUTRIENTS

Report produced on: 27-AUG-96

Sample Organization: B & V
Sample Requestor: BAL BERENA
Laboratory: ESAT

Sample Batch ID: 960144
Account NO: TFA301
Facility: AMERICAN CHEMICAL SERVICES INC

Sample: 96ZB10S04

Field: 96ZB10S04

Collected: 07-AUG-96 /

Received: 08-AUG-96

Parameter	Result	(Units)	QUALIFIERS	Anal. Date	Analyst
Cyanide (Total)	8	(ug/L)	U	15-AUG-96	MKapp
Mercury (Total)	0.2	(ug/L)	U	16-AUG-96	MKapp

Reviewed by : Francis A. Avanzo 9/6/96

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY
FINAL RESULT REPORT for the team: MINERALS-NUTRIENTS

Report produced on: 27-AUG-96

Sample Organization: B & V
Sample Requestor: BAL BERENA
Laboratory: ESAT

Sample Batch ID: 960144
Account NO: TFA301
Facility: AMERICAN CHEMICAL SERVICES INC

Sample: 96ZB10S05

Field: 96ZB10S05

Collected: 07-AUG-96 /

Received: 08-AUG-96

Parameter	Result	(Units)	QUALIFIERS	Anal. Date	Analyst
Cyanide (Total)	8	(ug/L)	U	15-AUG-96	M. Kapp
Mercury (Total)	0.2	(ug/L)	U	16-AUG-96	M. Kapp

Reviewed by : Francis A. Awanga 9/6/96

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY
FINAL RESULT REPORT for the team: MINERALS-NUTRIENTS

Report produced on: 27-AUG-96

Sample Organization: B & V
Sample Requestor: BAL BERENA
Laboratory: ESAT

Sample Batch ID: 960142
Account NO: TFA301
Facility: AMERICAN CHEMICAL SERVICES INC

Sample: 96ZB10S06

Field: 96ZB10S06

Collected: 06-AUG-96 /

Received: 07-AUG-96

Parameter	Result	(Units)	QUALIFIERS	Anal. Date	Analyst
Cyanide (Total)	8	(ug/L)	U	15-AUG-96	M. Kupp
Mercury (Total)	0.2	(ug/L)	U	16-AUG-96	M. Kupp

Reviewed by : Francis A. Awanya 9/6/96

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY
FINAL RESULT REPORT for the team: MINERALS-NUTRIENTS

Report produced on: 27-AUG-96

Sample Organization: B & V
Sample Requestor: BAL BERENA
Laboratory: ESAT

Sample Batch ID: 960144
Account NO: TFA301
Facility: AMERICAN CHEMICAL SERVICES INC

Sample: 96ZB10S07

Field: 96ZB10S07

Collected: 08-AUG-96 /

Received: 08-AUG-96

Parameter	Result	(Units)	QUALIFIERS	Anal. Date	Analyst
Cyanide (Total)	8	(ug/L)	U	15-AUG-96	MKpp
Mercury (Total)	0.2	(ug/L)	U	16-AUG-96	MKpp

Reviewed by : Francis A. Awanya 9/6/96

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY
FINAL RESULT REPORT for the team: MINERALS-NUTRIENTS

Report produced on: 27-AUG-96

Sample Organization: B & V
Sample Requestor: BAL BERENA
Laboratory: ESAT

Sample Batch ID: 960142
Account NO: TFA301
Facility: AMERICAN CHEMICAL SERVICES INC

Sample: 96ZB10S08

Field: 96ZB10S08

Collected: 06-AUG-96 /

Received: 07-AUG-96

Parameter	Result	(Units)	QUALIFIERS	Anal. Date	Analyst
Cyanide (Total)	8	(ug/L)	U	15-AUG-96	M. Kupp
Mercury (Total)	0.2	(ug/L)	U	16-AUG-96	M. Kupp

Reviewed by : Francis A. Awanya 9/6/96

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY
FINAL RESULT REPORT for the team: MINERALS-NUTRIENTS

Report produced on: 27-AUG-96

Sample Organization: B & V
Sample Requestor: BAL BERENA
Laboratory: ESAT

Sample Batch ID: 960142
Account NO: TFA301
Facility: AMERICAN CHEMICAL SERVICES INC

Sample: 96ZB10D08

Field: 96ZB10D08

Collected: 06-AUG-96 /

Received: 07-AUG-96

Parameter	Result	(Units)	QUALIFIERS	Anal. Date	Analyst
Cyanide (Total)	8	(ug/L)	U	15-AUG-96	M.Kapp
Mercury (Total)	0.2	(ug/L)	U	16-AUG-96	M.Kapp

Reviewed by : Francis A. Arangon 9/6/96

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY
FINAL RESULT REPORT for the team: MINERALS-NUTRIENTS

Report produced on: 27-AUG-96

Sample Organization: B & V
Sample Requestor: BAL BERENA
Laboratory: ESAT

Sample Batch ID: 960144
Account NO: TFA301
Facility: AMERICAN CHEMICAL SERVICES INC

Sample: 96ZB10S09

Field: 96ZB10S09

Collected: 08-AUG-96 /

Received: 08-AUG-96

Parameter	Result	(Units)	QUALIFIERS	Anal. Date	Analyst
Cyanide (Total)	8	(ug/L)	U	15-AUG-96	M.Kupp
Mercury (Total)	0.2	(ug/L)	U	16-AUG-96	M.Kupp

Reviewed by : Francis A. Awanyo, 9/6/96

Appendix B

Montgomery Watson Organic and Inorganic Analysis Data Sheets

APD-GWMW 57-01
8-6-96

1LCA
LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW37

Lab Name: INDUSTRIAL & ENVIRONMENTA Contract: SOW 6/91

Lab Code: IEA Case No.: 1589-172 SAS No.: SDG No.: 08103

Lab Sample ID: 960813504 Date Received: 08/07/96

Lab File ID: 0815505.D Date Analyzed: 08/15/96

Purge Volume: 25.0 (mL) Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION (ug/L)		Q
74-87-3	Chloromethane	U	0.9	J
74-83-9	Bromomethane		1	U
75-01-4	Vinyl Chloride		1	U
75-00-3	Chloroethane		1	U
75-09-2	Methylene Chloride		2	U
67-64-1	Acetone	R	5	U
75-15-0	Carbon Disulfide		1	U
75-35-4	1,1-Dichloroethene		1	U
75-34-3	1,1-Dichloroethane		1	U
156-59-2	cis-1,2-Dichloroethene		1	U
156-60-5	trans-1,2-Dichloroethene		1	U
67-66-3	Chloroform		1	U
107-06-2	1,2-Dichloroethane	U	0.2	J
78-93-3	2-Butanone	R	5	U
74-97-5	Bromochloromethane		1	U
71-55-6	1,1,1-Trichloroethane		1	U
56-23-5	Carbon Tetrachloride		1	U
75-27-4	Bromodichloromethane		1	U
78-87-5	1,2-Dichloropropane		1	U
10061-01-5	cis-1,3-Dichloropropene		1	U
79-01-6	Trichloroethene		1	U
124-48-1	Dibromochloromethane		1	U
79-00-5	1,1,2-Trichloroethane		1	U
71-43-2	Benzene		0.1	J
10061-02-6	trans-1,3-Dichloropropene		1	U
75-25-2	Bromoform		1	U
108-10-1	4-Methyl-2-Pentanone	R	5	U
591-78-6	2-Hexanone	R	5	U
127-18-4	Tetrachloroethene		1	U
79-34-5	1,1,2,2-Tetrachloroethane		1	U
106-93-4	1,2-Dibromoethane		1	U
108-88-3	Toluene		1	U
108-90-7	Chlorobenzene		1	U
100-41-4	Ethylbenzene		1	U
100-42-5	Styrene		1	U
1330-20-7	Xylenes (total)		1	U
541-73-1	1,3-Dichlorobenzene		1	U
106-46-7	1,4-Dichlorobenzene		1	U
95-50-1	1,2-Dichlorobenzene		1	U
96-12-8	1,2-Dibromo-3-chloropropane		1	U

VALIDATED

1LCE

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

MW37

ıb Name: INDUSTRIAL & ENVIRONMENTA Contract: SOW 6/91

Lab Code: IEA Case No.: 1589-172 SAS No.: SDG No.: 08103

Lab Sample ID: 960813504 Date Received: 08/07/96

Lab File ID: 0815505.D Data Analyzed: 08/15/96

Purge Volume: 25.0 (mL) Dilution Factor: 1.0

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
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VALIDATED

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW37

ab Name: INDUSTRIAL & ENVIRONMENTA Contract: SOW 1/91

Lab Code: IEA Case No.: 1589-172 SDG No.: 08103

Matrix: (soil/water) WATER Lab Sample ID: 960813504

Sample wt/vol: 1000 (g/mL) mL Lab File ID: 0815413.D

Level: (low/med) LOW Date Received: 08/07/96

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/12/96

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/15/96

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH:

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

VALIDATED

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW37

Lab Name: INDUSTRIAL & ENVIRONMENTA Contract: SOW 1/91

Lab Code: IEA Case No.: 1589-172 SDG No.: 08103

Matrix: (soil/water) WATER Lab Sample ID: 960813504

Sample wt/vol: 1000 (g/mL) mL Lab File ID: 0815413.D

Level: (low/med) LOW Date Received: 08/07/96

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/12/96

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/15/96

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH:

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

VALIDATED

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

MW37

ab Name: INDUSTRIAL & ENVIRONMENTA Contract: SOW 1/91

Lab Code: IEA Case No.: 1589-172 SDG No.: 08103

Matrix: (soil/water) WATER Lab Sample ID: 960813504

Sample wt/vol: 1000 (g/mL) mL Lab File ID: 0815413.D

Level: (low/med) LOW Date Received: 08/07/96

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/12/96

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/15/96

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. ~~108930~~	~~Cyclohexanol~~	~~6.440~~	~~10~~	~~XNJ~~ R
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VALIDATED

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW37

ab Name: INDUSTRIAL & ENVIRONMENTA Contract: SOW 1/91

Lab Code: IEA Case No.: 1589-172 SDG No.: 08103

Matrix: (soil/water) WATER Lab Sample ID: 960813504

Sample wt/vol: 1000 (g/mL) ML Lab File ID: P2081296_026.D

% Moisture: _____ decanted: (Y/N)___ Date Received: 08/07/96

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted:08/12/96

Concentrated Extract Volume: 10000(uL) Date Analyzed: 08/16/96

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ____ Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
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

VALIDATED

APD-GWMW33-01
8-7-96

1LCA
LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW38

Lab Name: INDUSTRIAL & ENVIRONMENTA Contract: SOW 6/91

Lab Code: IEA Case No.: 1589-172 SAS No.: SDG No.: 08103

Lab Sample ID: 960814709 Date Received: 08/08/96

Lab File ID: 0815I10.D Date Analyzed: 08/16/96

Purge Volume: 25.0 (mL) Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	U 0.8	J
74-83-9	Bromomethane	1	U
75-01-4	Vinyl Chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene Chloride	U 0.3	J
67-64-1	Acetone	~~U~~ R 8	
75-15-0	Carbon Disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	R 5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon Tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-Pentanone	R 5	U
591-78-6	2-Hexanone	R 5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U

FORM I LCV 6/91

VALIDATED

1LCE

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

MW38

ab Name: INDUSTRIAL & ENVIRONMENTA Contract: SOW 6/91

Lab Code: IEA Case No.: 1589-172 SAS No.: SDG No.: 08103

Lab Sample ID: 960814709 Date Received: 08/08/96

Lab File ID: 0815I10.D Data Analyzed: 08/16/96

Purge Volume: 25.0 (mL) Dilution Factor: 1.0

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
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VALIDATED

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW38

ab Name: INDUSTRIAL & ENVIRONMENTA Contract: SOW 1/91

Lab Code: IEA Case No.: 1589-172 SDG No.: 08103

Matrix: (soil/water) WATER Lab Sample ID: 960814709

Sample wt/vol: 1000 (g/mL) mL Lab File ID: 0816408.D

Level: (low/med) LOW Date Received: 08/08/96

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/12/96

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/16/96

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH:

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

VALIDATED

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW38

ab Name: INDUSTRIAL & ENVIRONMENTA Contract: SOW 1/91

Lab Code: IEA Case No.: 1589-172 SDG No.: 08103

Matrix: (soil/water) WATER Lab Sample ID: 960814709

Sample wt/vol: 1000 (g/mL) mL Lab File ID: 0816408.D

Level: (low/med) LOW Date Received: 08/08/96

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/12/96

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/16/96

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH:

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

VALIDATED

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

MW38

ab Name: INDUSTRIAL & ENVIRONMENTA Contract: SOW 1/91

Lab Code: IEA Case No.: 1589-172 SDG No.: 08103

Matrix: (soil/water) WATER Lab Sample ID: 960814709

Sample wt/vol: 1000 (g/mL) mL Lab File ID: 0816408.D

Level: (low/med) LOW Date Received: 08/08/96

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/12/96

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/16/96

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

Number TICs found: 4

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q	
1.	~~Unknown~~	~~5.850~~	~~6~~	~~BJ~~	R
2.	Unknown	6.510	3	J	
3. ~~930687~~	~~2-Cyclohexen-1-one~~	~~7.400~~	~~2~~	~~XNJ~~	R
4. ~~134623~~	~~Diethyltoluamide~~	~~17.030~~	~~11~~	~~NJ~~	R
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FORM I SV-TIC

VALIDATED

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW38

Lab Name: INDUSTRIAL & ENVIRONMENTA Contract: SOW 1/91

Lab Code: IEA Case No.: 1589-172 SDG No.: 08103

Matrix: (soil/water) WATER Lab Sample ID: 960814709

Sample wt/vol: 1000 (g/mL) ML Lab File ID: P2081296_049.D

% Moisture: _____ decanted: (Y/N)___ Date Received: 08/08/96

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 08/12/96

Concentrated Extract Volume: 10000(uL) Date Analyzed: 08/16/96

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ____ Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
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

VALIDATED

APD-GWMW42-01
8-7-96

1LCA
LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW42

Lab Name: INDUSTRIAL & ENVIRONMENTA Contract: SOW 6/91

Lab Code: IEA Case No.: 1589-172 SAS No.: SDG No.: 08103

Lab Sample ID: 960814714 Date Received: 08/07/96

Lab File ID: 0816503.D Date Analyzed: 08/16/96

Purge Volume: 25.0 (mL) Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION (ug/L)		Q
74-87-3	Chloromethane	U	1	
74-83-9	Bromomethane		1	U
75-01-4	Vinyl Chloride		1	U
75-00-3	Chloroethane		1	U
75-09-2	Methylene Chloride		2	U
67-64-1	Acetone	R K	6	
75-15-0	Carbon Disulfide		1	U
75-35-4	1,1-Dichloroethene		1	U
75-34-3	1,1-Dichloroethane		1	U
156-59-2	cis-1,2-Dichloroethene		1	U
156-60-5	trans-1,2-Dichloroethene		1	U
67-66-3	Chloroform		1	U
107-06-2	1,2-Dichloroethane	U	0.3	J
78-93-3	2-Butanone	R	5	U
74-97-5	Bromochloromethane		1	U
71-55-6	1,1,1-Trichloroethane		1	U
56-23-5	Carbon Tetrachloride		1	U
75-27-4	Bromodichloromethane		1	U
78-87-5	1,2-Dichloropropane		1	U
10061-01-5	cis-1,3-Dichloropropene		1	U
79-01-6	Trichloroethene		1	U
124-48-1	Dibromochloromethane		1	U
79-00-5	1,1,2-Trichloroethane		1	U
71-43-2	Benzene		1	U
10061-02-6	trans-1,3-Dichloropropene		1	U
75-25-2	Bromoform		1	U
108-10-1	4-Methyl-2-Pentanone	R	5	U
591-78-6	2-Hexanone	R	5	U
127-18-4	Tetrachloroethene		1	U
79-34-5	1,1,2,2-Tetrachloroethane		1	U
106-93-4	1,2-Dibromoethane		1	U
108-88-3	Toluene		1	U
108-90-7	Chlorobenzene		1	U
100-41-4	Ethylbenzene		1	U
100-42-5	Styrene		1	U
1330-20-7	Xylenes (total)		1	U
541-73-1	1,3-Dichlorobenzene		1	U
106-46-7	1,4-Dichlorobenzene		1	U
95-50-1	1,2-Dichlorobenzene		1	U
96-12-8	1,2-Dibromo-3-chloropropane		1	U

VALIDATED

1LCE

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

MW42

Lab Name: INDUSTRIAL & ENVIRONMENTA Contract: SOW 6/91

Lab Code: IEA Case No.: 1589-172 SAS No.: SDG No.: 08103

Lab Sample ID: 960814714 Date Received: 08/07/96

Lab File ID: 0816503.D Data Analyzed: 08/16/96

Purge Volume: 25.0 (mL) Dilution Factor: 1.0

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
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VALIDATED

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW42

Lab Name: INDUSTRIAL & ENVIRONMENTA Contract: SOW 1/91

Lab Code: IEA Case No.: 1589-172 SDG No.: 08103

Matrix: (soil/water) WATER Lab Sample ID: 960814714

Sample wt/vol: 1000 (g/mL) mL Lab File ID: 0816413.D

Level: (low/med) LOW Date Received: 08/08/96

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/12/96

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/16/96

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH:

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

VALIDATED

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW42

ab Name: INDUSTRIAL & ENVIRONMENTA Contract: SOW 1/91

Lab Code: IEA Case No.: 1589-172 SDG No.: 08103

Matrix: (soil/water) WATER Lab Sample ID: 960814714

Sample wt/vol: 1000 (g/mL) mL Lab File ID: 0816413.D

Level: (low/med) LOW Date Received: 08/08/96

% Moisture: _____ decanted: (Y/N)___ Date Extracted:08/12/96

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/16/96

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH:

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	4	J
117-84-0	Di-n-octylphthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenz(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

VALIDATED

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

MW42

Lab Name: INDUSTRIAL & ENVIRONMENTA Contract: SOW 1/91

Lab Code: IEA Case No.: 1589-172 SDG No.: 08103

Matrix: (soil/water) WATER Lab Sample ID: 960814714

Sample wt/vol: 1000 (g/mL) mL Lab File ID: 0816413.D

Level: (low/med) LOW Date Received: 08/08/96

% Moisture: _____ decanted: (Y/N)___ Date Extracted:08/12/96

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/16/96

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

Number TICs found: 4

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	Unknown	5.850	7	BJ
2. 822673	2-Cyclohexen-1-ol	6.520	2	XNJ
3. 930687	2-Cyclohexen-1-one	7.400	2	XNJ
4. 134623	Diethyltoluamide	17.030	19	NJ
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R

FORM I SV-TIC 3/90

VALIDATED

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW42

Lab Name: INDUSTRIAL & ENVIRONMENTA Contract: SOW 1/91

Lab Code: IEA Case No.: 1589-172 SDG No.: 08103

Matrix: (soil/water) WATER Lab Sample ID: 960814714

Sample wt/vol: 1000 (g/mL) ML Lab File ID: P2081296_054.D

% Moisture: _____ decanted: (Y/N)___ Date Received: 08/08/96

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 08/12/96

Concentrated Extract Volume: 10000(uL) Date Analyzed: 08/17/96

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ____ Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
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

VALIDATED

1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

AAP-GWMW43-01

MW43

8/8/96

ab Name: INDUSTRIAL & ENVIRONMENTA Contract: SOW 6/91

Lab Code: IEA Case No.: 1589-175 SAS No.: SDG No.: 08216

Lab Sample ID: 960821601 Date Received: 08/09/96

Lab File ID: 0816508.D Date Analyzed: 08/16/96

Purge Volume: 25.0 (mL) VALIDATED Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	14 0.6	J
74-83-9	Bromomethane	1	U
75-01-4	Vinyl Chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene Chloride	2	U
67-64-1	Acetone	RH 7	
75-15-0	Carbon Disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	R 5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon Tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-Pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U

1LCE

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

MW43

Lab Name: INDUSTRIAL & ENVIRONMENTA Contract: SOW 6/91

Lab Code: IEA Case No.: 1589-175 SAS No.: SDG No.: 08216

Lab Sample ID: 960821601 Date Received: 08/09/96

Lab File ID: 0816508.D Data Analyzed: 08/16/96

Purge Volume: 25.0 (mL) Dilution Factor: 1.0

VALIDATED

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
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1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.
APD-GWMW43-01
MW43
8-8-96

Lab Name: INDUSTRIAL & ENVIRONMENTA Contract: SOW 1/91

Lab Code: IEA Case No.: 1589-175 SDG No.: 08216

Matrix: (soil/water) WATER Lab Sample ID: 960821601

Sample wt/vol: 1000 (g/mL) mL Lab File ID: 0815407.D

Level: (low/med) LOW Date Received: 08/09/96

VALIDATED

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/13/96

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/15/96

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

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

CLIENT SAMPLE NO.

MW43

Lab Name: INDUSTRIAL & ENVIRONMENTA Contract: SOW 1/91

Lab Code: IEA Case No.: 1589-175 SDG No.: 08216

Matrix: (soil/water) WATER Lab Sample ID: 960821601

Sample wt/vol: 1000 (g/mL) mL Lab File ID: 0815407.D

VALIDATED

Level: (low/med) LOW Date Received: 08/09/96

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/13/96

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/15/96

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

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

CLIENT SAMPLE NO.

MW43

ab Name: INDUSTRIAL & ENVIRONMENTA Contract: SOW 1/91

Lab Code: IEA Case No.: 1589-175 SDG No.: 08216

Matrix: (soil/water) WATER Lab Sample ID: 960821601

Sample wt/vol: 1000 (g/mL) mL Lab File ID: 0815407.D

Level: (low/med) LOW VALIDATED Date Received: 08/09/96

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/13/96

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/15/96

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 134623	Diethyltoluamide	17.030	N.P. ~~17~~	~~NJ~~
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1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW43

Lab Name: INDUSTRIAL & ENVIRONMENTA Contract: SOW 1/91

Lab Code: IEA Case No.: 1589-175 SDG No.: 08216

VALIDATED

Matrix: (soil/water) WATER Lab Sample ID: 960821601

Sample wt/vol: 1000 (g/mL) ML Lab File ID: P1081496_037.D

% Moisture: _____ decanted: (Y/N)___ Date Received: 08/09/96

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted:08/14/96

Concentrated Extract Volume: 10000(uL) Date Analyzed: 08/17/96

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ____ Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
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

1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

VALIDATED

CLIENT SAMPLE NO.
APD-GWMW44-01

MW44

8/8/96

Lab Name: INDUSTRIAL & ENVIRONMENTA Contract: SOW 6/91

Lab Code: IEA Case No.: 1589-175 SAS No.: SDG No.: 08216

Lab Sample ID: 960821602 Date Received: 08/09/96

Lab File ID: 0816509.D Date Analyzed: 08/16/96

Purge Volume: 25.0 (mL) Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1.4 ~~0.9~~	J
74-83-9	Bromomethane	1	U
75-01-4	Vinyl Chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene Chloride	2	U
67-64-1	Acetone	R 5	U
75-15-0	Carbon Disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1.0 u ~~0.3~~	J
78-93-3	2-Butanone	R 5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon Tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-Pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1.0 u ~~0.1~~	J
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U

1LCE

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

VALIDATED

CLIENT SAMPLE NO.

MW44

Lab Name: INDUSTRIAL & ENVIRONMENTA Contract: SOW 6/91

Lab Code: IEA Case No.: 1589-175 SAS No.: SDG No.: 08216

Lab Sample ID: 960821602 Date Received: 08/09/96

Lab File ID: 0816509.D Data Analyzed: 08/16/96

Purge Volume: 25.0 (mL) Dilution Factor: 1.0

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
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1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.
APO-GWMW44-01

MW44

Lab Name: INDUSTRIAL & ENVIRONMENTA Contract: SOW 1/91

Lab Code: IEA Case No.: 1589-175 VALIDATED 8-8-96 SDG No.: 08216

Matrix: (soil/water) WATER Lab Sample ID: 960821602

Sample wt/vol: 1000 (g/mL) mL Lab File ID: 0815408.D

Level: (low/med) LOW Date Received: 08/09/96

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/13/96

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/15/96

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

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

CLIENT SAMPLE NO.

MW44

Lab Name: INDUSTRIAL & ENVIRONMENTA Contract: SOW 1/91

Lab Code: IEA Case No.: 1589-175 SDG No.: 08216

Matrix: (soil/water) WATER Lab Sample ID: 960821602

Sample wt/vol: 1000 (g/mL) mL Lab File ID: 0815408.D

Level: (low/med) LOW Date Received: 08/09/96

VALIDATED

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/13/96

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/15/96

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

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

CLIENT SAMPLE NO.

MW44

Lab Name: INDUSTRIAL & ENVIRONMENTA Contract: SOW 1/91

VALIDATED

Lab Code: IEA Case No.: 1589-175 SDG No.: 08216

Matrix: (soil/water) WATER Lab Sample ID: 960821602

Sample wt/vol: 1000 (g/mL) mL Lab File ID: 0815408.D

Level: (low/med) LOW Date Received: 08/09/96

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/13/96

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/15/96

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW44

Lab Name: INDUSTRIAL & ENVIRONMENTA Contract: SOW 1/91

VALIDATED

Lab Code: IEA Case No.: 1589-175 SDG No.: 08216

Matrix: (soil/water) WATER Lab Sample ID: 960821602

Sample wt/vol: 1000 (g/mL) ML Lab File ID: P1081496_038.D

% Moisture: _____ decanted: (Y/N)___ Date Received: 08/09/96

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted:08/14/96

Concentrated Extract Volume: 10000(uL) Date Analyzed: 08/17/96

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ____ Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
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

VALIDATED

1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.
ARD-GWMW45-01

MW45

8/8/96

Lab Name: INDUSTRIAL & ENVIRONMENTA Contract: SOW 6/91

Lab Code: IEA Case No.: 1589-175 SAS No.: SDG No.: 08216

Lab Sample ID: 960821603 Date Received: 08/09/96

Lab File ID: 0816510.D Date Analyzed: 08/16/96

Purge Volume: 25.0 (mL) Dilution Factor: 25.0

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	25	U
74-83-9	Bromomethane	25	U
75-01-4	Vinyl Chloride	25	U
75-00-3	Chloroethane	J 82	
75-09-2	Methylene Chloride	50	U
67-64-1	Acetone	R ~~45~~ 170	
75-15-0	Carbon Disulfide	25	U
75-35-4	1,1-Dichloroethene	25	U
75-34-3	1,1-Dichloroethane	25	U
156-59-2	cis-1,2-Dichloroethene	25	U
156-60-5	trans-1,2-Dichloroethene	25	U
67-66-3	Chloroform	25	U
107-06-2	1,2-Dichloroethane	~~25~~ 20	J
78-93-3	2-Butanone	R 120	U
74-97-5	Bromochloromethane	25	U
71-55-6	1,1,1-Trichloroethane	25	U
56-23-5	Carbon Tetrachloride	25	U
75-27-4	Bromodichloromethane	25	U
78-87-5	1,2-Dichloropropane	25	U
10061-01-5	cis-1,3-Dichloropropene	25	U
79-01-6	Trichloroethene	25	U
124-48-1	Dibromochloromethane	25	U
79-00-5	1,1,2-Trichloroethane	25	U
71-43-2	Benzene	530	
10061-02-6	trans-1,3-Dichloropropene	25	U
75-25-2	Bromoform	25	U
108-10-1	4-Methyl-2-Pentanone	120	U
591-78-6	2-Hexanone	120	U
127-18-4	Tetrachloroethene	25	U
79-34-5	1,1,2,2-Tetrachloroethane	25	U
106-93-4	1,2-Dibromoethane	25	U
108-88-3	Toluene	25	U
108-90-7	Chlorobenzene	16	J
100-41-4	Ethylbenzene	10	J
100-42-5	Styrene	25	U
1330-20-7	Xylenes (total)	60	
541-73-1	1,3-Dichlorobenzene	25	U
106-46-7	1,4-Dichlorobenzene	25	U
95-50-1	1,2-Dichlorobenzene	25	U
96-12-8	1,2-Dibromo-3-chloropropane	25	U

1LCE

VALIDATED

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

MW45

Lab Name: INDUSTRIAL & ENVIRONMENTA Contract: SOW 6/91

Lab Code: IEA Case No.: 1589-175 SAS No.: SDG No.: 08216

Lab Sample ID: 960821603 Date Received: 08/09/96

Lab File ID: 0816510.D Data Analyzed: 08/16/96

Purge Volume: 25.0 (mL) Dilution Factor: 25.0

Number TICs found: 2

CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.	Trimethylbenzene Isomer	22.320	210	J
2.	Substituted Benzene	23.320	70	J
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1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

VALIDATED

CLIENT SAMPLE NO.
APD-GWMW45-01

MW45

8/8/96

Lab Name: INDUSTRIAL & ENVIRONMENTA Contract: SOW 1/91

Lab Code: IEA Case No.: 1589-175 SDG No.: 08216

Matrix: (soil/water) WATER Lab Sample ID: 960821603

Sample wt/vol: 1000 (g/mL) mL Lab File ID: 0816402.D

Level: (low/med) LOW Date Received: 08/09/96

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/13/96

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/16/96

Injection Volume: 2.0(uL) Dilution Factor: 2.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	41	
111-44-4	bis(2-Chloroethyl)ether	7	J
95-57-8	2-Chlorophenol	20	U
541-73-1	1,3-Dichlorobenzene	20	U
106-46-7	1,4-Dichlorobenzene	20	U
95-50-1	1,2-Dichlorobenzene	20	U
95-48-7	2-Methylphenol	20	U
108-60-1	2,2'-oxybis(1-Chloropropane)	20	U
106-44-5	4-Methylphenol	20	U
621-64-7	N-Nitroso-di-n-propylamine	20	U
67-72-1	Hexachloroethane	20	U
98-95-3	Nitrobenzene	20	U
78-59-1	Isophorone	20	U
88-75-5	2-Nitrophenol	20	U
105-67-9	2,4-Dimethylphenol	20	U
111-91-1	bis(2-Chloroethoxy)methane	20	U
120-83-2	2,4-Dichlorophenol	20	U
120-82-1	1,2,4-Trichlorobenzene	20	U
91-20-3	Naphthalene	84	
106-47-8	4-Chloroaniline	20	U
87-68-3	Hexachlorobutadiene	20	U
59-50-7	4-Chloro-3-methylphenol	20	U
91-57-6	2-Methylnaphthalene	4	J
77-47-4	Hexachlorocyclopentadiene	20	U
88-06-2	2,4,6-Trichlorophenol	20	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	20	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethylphthalate	20	U
208-96-8	Acenaphthylene	20	U
606-20-2	2,6-Dinitrotoluene	20	U
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	20	U

VALIDATED

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW45

Lab Name: INDUSTRIAL & ENVIRONMENTA Contract: SOW 1/91

Lab Code: IEA Case No.: 1589-175 SDG No.: 08216

Matrix: (soil/water) WATER Lab Sample ID: 960821603

Sample wt/vol: 1000 (g/mL) mL Lab File ID: 0816402.D

Level: (low/med) LOW Date Received: 08/09/96

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/13/96

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/16/96

Injection Volume: 2.0(uL) Dilution Factor: 2.0

GPC Cleanup: (Y/N) N pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	20	U
121-14-2	2,4-Dinitrotoluene	20	U
84-66-2	Diethylphthalate	20	U
7005-72-3	4-Chlorophenyl-phenylether	20	U
86-73-7	Fluorene	20	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	20	U
101-55-3	4-Bromophenyl-phenylether	20	U
118-74-1	Hexachlorobenzene	20	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	20	U
120-12-7	Anthracene	20	U
86-74-8	Carbazole	20	U
84-74-2	Di-n-butylphthalate	20	U
206-44-0	Fluoranthene	20	U
129-00-0	Pyrene	20	U
85-68-7	Butylbenzylphthalate	20	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)anthracene	20	U
218-01-9	Chrysene	20	U
117-81-7	bis(2-Ethylhexyl)phthalate	20	U
117-84-0	Di-n-octylphthalate	20	U
205-99-2	Benzo(b)fluoranthene	20	U
207-08-9	Benzo(k)fluoranthene	20	U
50-32-8	Benzo(a)pyrene	20	U
193-39-5	Indeno(1,2,3-cd)pyrene	20	U
53-70-3	Dibenz(a,h)anthracene	20	U
191-24-2	Benzo(g,h,i)perylene	20	U

(1) - Cannot be separated from Diphenylamine

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

VALIDATED

CLIENT SAMPLE NO.

MW45

Lab Name: INDUSTRIAL & ENVIRONMENTA Contract: SOW 1/91

Lab Code: IEA Case No.: 1589-175 SDG No.: 08216

Matrix: (soil/water) WATER Lab Sample ID: 960821603

Sample wt/vol: 1000 (g/mL) mL Lab File ID: 0816402.D

Level: (low/med) LOW Date Received: 08/09/96

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/13/96

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/16/96

Injection Volume: 2.0(uL) Dilution Factor: 2.0

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

Number TICs found: 12

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	Substituted Benzene	8.000	6	J
2.	Substituted Benzene	8.100	19	J
3.	Substituted Benzene	8.570	100	J
4.	Substituted Benzene	9.090	72	J
5.	Unknown	10.110	22	J
6.	Unknown	11.230	5	J
7. 27129879	Benzenemethanol, 3,5-dimethy	12.850	4	NJ
8. 611018	Benzoic acid, 2,4-dimethyl-	14.090	7	NJ
9.	Unknown	15.100	8	J
10. 134623	~~Diethyltoluamide~~	17.030	~~7~~	~~NJ~~
11. 101100	Propanoic acid, 2-(3-chlorop	17.090	4	NJ
12. 76733	Secobarbital	19.570	9	NJ
13.				
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1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

VALIDATED

CLIENT SAMPLE NO.

MW45

Lab Name: INDUSTRIAL & ENVIRONMENTA Contract: SOW 1/91

Lab Code: IEA Case No.: 1589-175 SDG No.: 08216

Matrix: (soil/water) WATER Lab Sample ID: 960821603

Sample wt/vol: 1000 (g/mL) ML Lab File ID: P1081496_039.D

% Moisture: _____ decanted: (Y/N)___ Date Received: 08/09/96

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 08/14/96

Concentrated Extract Volume: 10000(uL) Date Analyzed: 08/17/96

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ____ Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
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

APD-GWMW46-01
8-5-96

1LCA
LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW46

Lab Name: INDUSTRIAL & ENVIRONMENTA Contract: SOW 6/91

Lab Code: IEA Case No.: 1589-172 SAS No.: SDG No.: 08103

Lab Sample ID: 960810301 Date Received: 08/06/96

Lab File ID: 0814505.D Date Analyzed: 08/14/96

Purge Volume: 25.0 (mL) Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	U 0.6	J
74-83-9	Bromomethane	1	U
75-01-4	Vinyl Chloride	0.2	J
75-00-3	Chloroethane	1	U
75-09-2	Methylene Chloride	2	U
67-64-1	Acetone	R ~~U~~ 8	
75-15-0	Carbon Disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	U 0.3	J
78-93-3	2-Butanone	R 5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon Tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	0.8	J
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-Pentanone	J 3	J
591-78-6	2-Hexanone	R 5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U

VALIDATED

1LCE

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

MW46

b Name: INDUSTRIAL & ENVIRONMENTA Contract: SOW 6/91

Lab Code: IEA Case No.: 1589-172 SAS No.: SDG No.: 08103

Lab Sample ID: 960810301 Date Received: 08/06/96

Lab File ID: 0814505.D Data Analyzed: 08/14/96

Purge Volume: 25.0 (mL) Dilution Factor: 1.0

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
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VALIDATED

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW46

b Name: INDUSTRIAL & ENVIRONMENTA Contract: SOW 1/91

Lab Code: IEA Case No.: 1589-172 SDG No.: 08103

Matrix: (soil/water) WATER Lab Sample ID: 960810301

Sample wt/vol: 1000 (g/mL) mL Lab File ID: 0815406.D

Level: (low/med) LOW Date Received: 08/06/96

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/07/96

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/15/96

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH:

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	3	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	3	J
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

VALIDATED

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW46

Lab Name: INDUSTRIAL & ENVIRONMENTA Contract: SOW 1/91

Lab Code: IEA Case No.: 1589-172 SDG No.: 08103

Matrix: (soil/water) WATER Lab Sample ID: 960810301

Sample wt/vol: 1000 (g/mL) mL Lab File ID: 0815406.D

Level: (low/med) LOW Date Received: 08/06/96

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/07/96

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/15/96

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
51-28-5	2,4-Dinitrophenol	25	U
100-02-7	4-Nitrophenol	25	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	25	U
534-52-1	4,6-Dinitro-2-methylphenol	25	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	25	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	3	J
117-84-0	Di-n-octylphthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenz(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

VALIDATED

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

MW46

ab Name: INDUSTRIAL & ENVIRONMENTA Contract: SOW 1/91

Lab Code: IEA Case No.: 1589-172 SDG No.: 08103

Matrix: (soil/water) WATER Lab Sample ID: 960810301

Sample wt/vol: 1000 (g/mL) mL Lab File ID: 0815406.D

Level: (low/med) LOW Date Received: 08/06/96

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/07/96

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/15/96

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

Number TICs found: 11

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	Unknown	5.860	13	J
2.	Unknown	6.070	11	J
3.	Unknown	6.440	2	J
4. 112367	Ethane, 1,1'-oxybis[2-ethoxy	10.120	4	NJ
5. 65850	Benzoic acid	11.550	8	NJ
6.	Unknown	12.770	11	J
7.	Unknown	13.990	13	J
8. 88197	Benzenesulfonamide, 2-methyl	17.580	2	NJ
9. 70553	Benzenesulfonamide, 4-methyl	18.030	2	NJ
10.	Unknown	20.980	3	J
11. 10544500	Sulfur, mol. (S8)	22.020	2	NJ
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FORM I SV-TIC

VALIDATED

3/90

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW46

ab Name: INDUSTRIAL & ENVIRONMENTA Contract: SOW 1/91

Lab Code: IEA Case No.: 1589-172 SDG No.: 08103

Matrix: (soil/water) WATER Lab Sample ID: 960810301

Sample wt/vol: 1000 (g/mL) ML Lab File ID: P2081296_090.D

% Moisture: _____ decanted: (Y/N)___ Date Received: 08/06/96

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted:08/09/96

Concentrated Extract Volume: 10000(uL) Date Analyzed: 08/21/96

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ____ Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
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

VALIDATED

APD-GWMW41-01
8-7-96

1LCA
LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW47

Lab Name: INDUSTRIAL & ENVIRONMENTA Contract: SOW 6/91

Lab Code: IEA Case No.: 1589-172 SAS No.: SDG No.: 08103

Lab Sample ID: 960814711 Date Received: 08/08/96

Lab File ID: 0815I12.D Date Analyzed: 08/16/96

Purge Volume: 25.0 (mL) Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION (ug/L)		Q
74-87-3	Chloromethane	U	0.5	J
74-83-9	Bromomethane		1	U
75-01-4	Vinyl Chloride		1	U
75-00-3	Chloroethane		1	U
75-09-2	Methylene Chloride	U	0.3	J
67-64-1	Acetone	U R	8	
75-15-0	Carbon Disulfide		1	U
75-35-4	1,1-Dichloroethene		1	U
75-34-3	1,1-Dichloroethane		1	U
156-59-2	cis-1,2-Dichloroethene		1	U
156-60-5	trans-1,2-Dichloroethene		1	U
67-66-3	Chloroform		1	U
107-06-2	1,2-Dichloroethane		1	U
78-93-3	2-Butanone	R	5	U
74-97-5	Bromochloromethane		1	U
71-55-6	1,1,1-Trichloroethane		1	U
56-23-5	Carbon Tetrachloride		1	U
75-27-4	Bromodichloromethane		1	U
78-87-5	1,2-Dichloropropane		1	U
10061-01-5	cis-1,3-Dichloropropene		1	U
79-01-6	Trichloroethene		1	U
124-48-1	Dibromochloromethane		1	U
79-00-5	1,1,2-Trichloroethane		1	U
71-43-2	Benzene		1	U
10061-02-6	trans-1,3-Dichloropropene		1	U
75-25-2	Bromoform		1	U
108-10-1	4-Methyl-2-Pentanone	R	5	U
591-78-6	2-Hexanone	R	5	U
127-18-4	Tetrachloroethene		1	U
79-34-5	1,1,2,2-Tetrachloroethane		1	U
106-93-4	1,2-Dibromoethane		1	U
108-88-3	Toluene		1	U
108-90-7	Chlorobenzene		1	U
100-41-4	Ethylbenzene		1	U
100-42-5	Styrene		1	U
1330-20-7	Xylenes (total)		1	U
541-73-1	1,3-Dichlorobenzene		1	U
106-46-7	1,4-Dichlorobenzene		1	U
95-50-1	1,2-Dichlorobenzene		1	U
96-12-8	1,2-Dibromo-3-chloropropane		1	U

VALIDATED

1LCE

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

MW47

ıb Name: INDUSTRIAL & ENVIRONMENTA Contract: SOW 6/91

Lab Code: IEA Case No.: 1589-172 SAS No.: SDG No.: 08103

Lab Sample ID: 960814711 Date Received: 08/08/96

Lab File ID: 0815I12.D Data Analyzed: 08/16/96

Purge Volume: 25.0 (mL) Dilution Factor: 1.0

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
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VALIDATED

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW47

Lab Name: INDUSTRIAL & ENVIRONMENTA Contract: SOW 1/91

Lab Code: IEA Case No.: 1589-172 SDG No.: 08103

Matrix: (soil/water) WATER Lab Sample ID: 960814711

Sample wt/vol: 1000 (g/mL) mL Lab File ID: 0816410.D

Level: (low/med) LOW Date Received: 08/08/96

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/12/96

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/16/96

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH:

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

VALIDATED

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW47

ab Name: INDUSTRIAL & ENVIRONMENTA Contract: SOW 1/91

Lab Code: IEA Case No.: 1589-172 SDG No.: 08103

Matrix: (soil/water) WATER Lab Sample ID: 960814711

Sample wt/vol: 1000 (g/mL) mL Lab File ID: 0816410.D

Level: (low/med) LOW Date Received: 08/08/96

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/12/96

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/16/96

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH:

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

VALIDATED

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

MW47

Lab Name: INDUSTRIAL & ENVIRONMENTA Contract: SOW 1/91

Lab Code: IEA Case No.: 1589-172 SDG No.: 08103

Matrix: (soil/water) WATER Lab Sample ID: 960814711

Sample wt/vol: 1000 (g/mL) mL Lab File ID: 0816410.D

Level: (low/med) LOW Date Received: 08/08/96

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/12/96

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/16/96

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

Number TICs found: 4

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	~~Unknown~~	~~5.850~~	~~6~~	~~BJ~~ R
2.	Unknown	6.510	2	J
3. ~~930687~~	~~2-Cyclohexen-1-one~~	~~7.400~~	~~2~~	~~XNJ~~ R
4. ~~134623~~	~~Diethyltoluamide~~	~~17.030~~	~~2~~	~~NJ~~ R
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VALIDATED

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW47

ab Name: INDUSTRIAL & ENVIRONMENTA Contract: SOW 1/91

Lab Code: IEA Case No.: 1589-172 SDG No.: 08103

Matrix: (soil/water) WATER Lab Sample ID: 960814711

Sample wt/vol: 1000 (g/mL) ML Lab File ID: P2081296_051.D

% Moisture: _____ decanted: (Y/N)___ Date Received: 08/08/96

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted:08/12/96

Concentrated Extract Volume: 10000(uL) Date Analyzed: 08/17/96

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ____ Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
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

VALIDATED

APD-GWMW 7-91
8-7-96

1LCA
LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW479

ıb Name: INDUSTRIAL & ENVIRONMENTA Contract: SOW 6/91

Lab Code: IEA Case No.: 1589-172 SAS No.: SDG No.: 08103

Lab Sample ID: 960814712 Date Received: 08/08/96

Lab File ID: 0815I13.D Date Analyzed: 08/16/96

Purge Volume: 25.0 (mL) Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	U 0.3	J
74-83-9	Bromomethane	1	U
75-01-4	Vinyl Chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene Chloride	U 0.5	J
67-64-1	Acetone	R U 8	
75-15-0	Carbon Disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	R 5	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon Tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-Pentanone	R 5	U
591-78-6	2-Hexanone	R 5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Xylenes (total)	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U

VALIDATED

1LCE

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

MW479

ab Name: INDUSTRIAL & ENVIRONMENTA Contract: SOW 6/91

Lab Code: IEA Case No.: 1589-172 SAS No.: SDG No.: 08103

Lab Sample ID: 960814712 Date Received: 08/08/96

Lab File ID: 0815I13.D Data Analyzed: 08/16/96

Purge Volume: 25.0 (mL) Dilution Factor: 1.0

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.				
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VALIDATED

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW479

Lab Name: INDUSTRIAL & ENVIRONMENTA Contract: SOW 1/91

Lab Code: IEA Case No.: 1589-172 SDG No.: 08103

Matrix: (soil/water) WATER Lab Sample ID: 960814712

Sample wt/vol: 1000 (g/mL) mL Lab File ID: 0816411.D

Level: (low/med) LOW Date Received: 08/08/96

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/12/96

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/16/96

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH:

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

VALIDATED

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW479

Lab Name: INDUSTRIAL & ENVIRONMENTA Contract: SOW 1/91

Lab Code: IEA Case No.: 1589-172 SDG No.: 08103

Matrix: (soil/water) WATER Lab Sample ID: 960814712

Sample wt/vol: 1000 (g/mL) mL Lab File ID: 0816411.D

Level: (low/med) LOW Date Received: 08/08/96

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/12/96

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/16/96

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH:

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

VALIDATED

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

MW479

ab Name: INDUSTRIAL & ENVIRONMENTA Contract: SOW 1/91

Lab Code: IEA Case No.: 1589-172 SDG No.: 08103

Matrix: (soil/water) WATER Lab Sample ID: 960814712

Sample wt/vol: 1000 (g/mL) mL Lab File ID: 0816411.D

Level: (low/med) LOW Date Received: 08/08/96

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/12/96

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/16/96

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

Number TICs found: 5

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q	
1.	~~Unknown~~	~~5.850~~	~~8~~	~~BJ~~	R
2. ~~822673~~	~~2-Cyclohexen-1-ol~~	~~6.510~~	~~2~~	~~XNJ~~	R
3. ~~930687~~	~~2-Cyclohexen-1-one~~	~~7.400~~	~~3~~	~~XNJ~~	R
4. 98862	Acetophenone	9.870	2	NJ	
5. ~~134623~~	~~Diethyltoluamide~~	~~17.030~~	~~14~~	~~NJ~~	R
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VALIDATED

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW479

Lab Name: INDUSTRIAL & ENVIRONMENTA Contract: SOW 1/91

Lab Code: IEA Case No.: 1589-172 SDG No.: 08103

Matrix: (soil/water) WATER Lab Sample ID: 960814712

Sample wt/vol: 1000 (g/mL) ML Lab File ID: P2081296_052.D

% Moisture: _____ decanted: (Y/N)___ Date Received: 08/08/96

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted:08/12/96

Concentrated Extract Volume: 10000(uL) Date Analyzed: 08/17/96

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ____ Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
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

VALIDATED

HPD-GWMW-15-01
8-6-96

1LCA
LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW48

ıb Name: INDUSTRIAL & ENVIRONMENTA Contract: SOW 6/91

Lab Code: IEA Case No.: 1589-172 SAS No.: SDG No.: 08103

Lab Sample ID: 960813505 Date Received: 08/07/96

Lab File ID: 0815508.D Date Analyzed: 08/15/96

Purge Volume: 25.0 (mL) Dilution Factor: 500.0

CAS NO.	COMPOUND		CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane		500	U
74-83-9	Bromomethane		500	U
75-01-4	Vinyl Chloride		500	U
75-00-3	Chloroethane		1000	
75-09-2	Methylene Chloride		70	J
67-64-1	Acetone	R	2500	U
75-15-0	Carbon Disulfide		500	U
75-35-4	1,1-Dichloroethene		500	U
75-34-3	1,1-Dichloroethane		500	U
156-59-2	cis-1,2-Dichloroethene		500	U
156-60-5	trans-1,2-Dichloroethene		500	U
67-66-3	Chloroform		500	U
107-06-2	1,2-Dichloroethane		500	U
78-93-3	2-Butanone	R	2500	U
74-97-5	Bromochloromethane		500	U
71-55-6	1,1,1-Trichloroethane		500	U
56-23-5	Carbon Tetrachloride		500	U
75-27-4	Bromodichloromethane		500	U
78-87-5	1,2-Dichloropropane		500	U
10061-01-5	cis-1,3-Dichloropropene		500	U
79-01-6	Trichloroethene		500	U
124-48-1	Dibromochloromethane		500	U
79-00-5	1,1,2-Trichloroethane		500	U
71-43-2	Benzene		9100	
10061-02-6	trans-1,3-Dichloropropene		500	U
75-25-2	Bromoform		500	U
108-10-1	4-Methyl-2-Pentanone	R	2500	U
591-78-6	2-Hexanone	R	2500	U
127-18-4	Tetrachloroethene		500	U
79-34-5	1,1,2,2-Tetrachloroethane		500	U
106-93-4	1,2-Dibromoethane		500	U
108-88-3	Toluene		500	U
108-90-7	Chlorobenzene		500	U
100-41-4	Ethylbenzene		500	U
100-42-5	Styrene		500	U
1330-20-7	Xylenes (total)		500	U
541-73-1	1,3-Dichlorobenzene		500	U
106-46-7	1,4-Dichlorobenzene		500	U
95-50-1	1,2-Dichlorobenzene		500	U
96-12-8	1,2-Dibromo-3-chloropropane		500	U

VALIDATED

1LCE

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

MW48

ab Name: INDUSTRIAL & ENVIRONMENTA Contract: SOW 6/91

Lab Code: IEA Case No.: 1589-172 SAS No.: SDG No.: 08103

Lab Sample ID: 960813505 Date Received: 08/07/96

Lab File ID: 0815508.D Data Analyzed: 08/15/96

Purge Volume: 25.0 (mL) Dilution Factor: 500.0

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
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VALIDATED

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW48

.b Name: INDUSTRIAL & ENVIRONMENTA Contract: SOW 1/91

Lab Code: IEA Case No.: 1589-172 SDG No.: 08103

Matrix: (soil/water) WATER Lab Sample ID: 960813505

Sample wt/vol: 1000 (g/mL) mL Lab File ID: 0816405.D

Level: (low/med) LOW Date Received: 08/07/96

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/12/96

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/16/96

Injection Volume: 2.0(uL) Dilution Factor: 2.0

GPC Cleanup: (Y/N) Y pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	110	
111-44-4	bis(2-Chloroethyl)ether	20	U
95-57-8	2-Chlorophenol	20	U
541-73-1	1,3-Dichlorobenzene	20	U
106-46-7	1,4-Dichlorobenzene	20	U
95-50-1	1,2-Dichlorobenzene	20	U
95-48-7	2-Methylphenol	20	U
108-60-1	2,2'-oxybis(1-Chloropropane)	20	U
106-44-5	4-Methylphenol	20	U
621-64-7	N-Nitroso-di-n-propylamine	20	U
67-72-1	Hexachloroethane	20	U
98-95-3	Nitrobenzene	20	U
78-59-1	Isophorone	20	U
88-75-5	2-Nitrophenol	20	U
105-67-9	2,4-Dimethylphenol	20	U
111-91-1	bis(2-Chloroethoxy)methane	20	U
120-83-2	2,4-Dichlorophenol	20	U
120-82-1	1,2,4-Trichlorobenzene	20	U
91-20-3	Naphthalene	20	U
106-47-8	4-Chloroaniline	20	U
87-68-3	Hexachlorobutadiene	20	U
59-50-7	4-Chloro-3-methylphenol	20	U
91-57-6	2-Methylnaphthalene	20	U
77-47-4	Hexachlorocyclopentadiene	20	U
88-06-2	2,4,6-Trichlorophenol	20	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	20	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethylphthalate	20	U
208-96-8	Acenaphthylene	20	U
606-20-2	2,6-Dinitrotoluene	0.9	J
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	20	U

VALIDATED

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW48

Lab Name: INDUSTRIAL & ENVIRONMENTA Contract: SOW 1/91

Lab Code: IEA Case No.: 1589-172 SDG No.: 08103

Matrix: (soil/water) WATER Lab Sample ID: 960813505

Sample wt/vol: 1000 (g/mL) mL Lab File ID: 0816405.D

Level: (low/med) LOW Date Received: 08/07/96

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/12/96

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/16/96

Injection Volume: 2.0(uL) Dilution Factor: 2.0

GPC Cleanup: (Y/N) Y pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	20	U
121-14-2	2,4-Dinitrotoluene	20	U
84-66-2	Diethylphthalate	20	U
7005-72-3	4-Chlorophenyl-phenylether	20	U
86-73-7	Fluorene	20	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	20	U
101-55-3	4-Bromophenyl-phenylether	20	U
118-74-1	Hexachlorobenzene	20	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	20	U
120-12-7	Anthracene	20	U
86-74-8	Carbazole	20	U
84-74-2	Di-n-butylphthalate	20	U
206-44-0	Fluoranthene	20	U
129-00-0	Pyrene	20	U
85-68-7	Butylbenzylphthalate	20	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)anthracene	20	U
218-01-9	Chrysene	20	U
117-81-7	bis(2-Ethylhexyl)phthalate	20	U
117-84-0	Di-n-octylphthalate	20	U
205-99-2	Benzo(b)fluoranthene	20	U
207-08-9	Benzo(k)fluoranthene	20	U
50-32-8	Benzo(a)pyrene	20	U
193-39-5	Indeno(1,2,3-cd)pyrene	20	U
53-70-3	Dibenz(a,h)anthracene	20	U
191-24-2	Benzo(g,h,i)perylene	20	U

(1) - Cannot be separated from Diphenylamine

VALIDATED

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

MW48

Lab Name: INDUSTRIAL & ENVIRONMENTA Contract: SOW 1/91

Lab Code: IEA Case No.: 1589-172 SDG No.: 08103

Matrix: (soil/water) WATER Lab Sample ID: 960813505

Sample wt/vol: 1000 (g/mL) mL Lab File ID: 0816405.D

Level: (low/med) LOW Date Received: 08/07/96

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/12/96

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/16/96

Injection Volume: 2.0(uL) Dilution Factor: 2.0

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

Number TICs found: 20

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 110816	Disulfide, diethyl	7.180	86	NJ
2. 873949	Cyclohexanone, 3,3,5-trimeth	9.420	310	NJ
3. 112367	Ethane, 1,1'-oxybis[2-ethoxy	10.130	27	NJ
4.	Unknown	10.580	53	J
5. 631674	Ethanethioamide, N,N-dimethy	10.740	10	NJ
6.	Unknown	11.080	52	J
7. 144194	1,3-Pentanediol, 2,2,4-trime	11.270	35	NJ
8. 6165442	Cyclohexane, 1,1'-(1,4-butan	12.130	16	NJ
9.	Unknown	12.310	28	J
10.	Unknown	12.940	20	J
11.	Chlorinated benzoic acid iso	14.170	48	J
12.	Unknown	14.510	22	J
13.	Unknown	14.640	12	J
14. 499069	Benzoic acid, 3,5-dimethyl-	14.880	10	NJ
15.	Unknown	16.310	140	J
16.	Unknown	16.390	7	J
17. 101100	Propanoic acid, 2-(3-chlorop	17.170	31	NJ
18. 76733	Secobarbital	19.610	15	NJ
19.	Unknown	20.470	25	J
20.	Unknown	24.920	67	J
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VALIDATED

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW48

Lab Name: INDUSTRIAL & ENVIRONMENTA Contract: SOW 1/91

Lab Code: IEA Case No.: 1589-172 SDG No.: 08103

Matrix: (soil/water) WATER Lab Sample ID: 960813505

Sample wt/vol: 1000 (g/mL) ML Lab File ID: P2081296_027.D

% Moisture: _____ decanted: (Y/N)___ Date Received: 08/07/96

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted:08/12/96

Concentrated Extract Volume: 10000(uL) Date Analyzed: 08/16/96

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ____ Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
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

VALIDATED

APD-GWMW77-01
8-6-96

1LCA
LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW49

Lab Name: INDUSTRIAL & ENVIRONMENTA Contract: SOW 6/91

Lab Code: IEA Case No.: 1589-172 SAS No.: SDG No.: 08103

Lab Sample ID: 960813502 Date Received: 08/07/96

Lab File ID: 0814E04.D Date Analyzed: 08/15/96

Purge Volume: 25.0 (mL) Dilution Factor: 500.0

CAS NO.	COMPOUND	CONCENTRATION (ug/L)		Q
74-87-3	Chloromethane		500	U
74-83-9	Bromomethane		500	U
75-01-4	Vinyl Chloride		500	U
75-00-3	Chloroethane		480	J
75-09-2	Methylene Chloride	U	70	J
67-64-1	Acetone	R	2500	U
75-15-0	Carbon Disulfide		500	U
75-35-4	1,1-Dichloroethene		500	U
75-34-3	1,1-Dichloroethane		500	U
156-59-2	cis-1,2-Dichloroethene		500	U
156-60-5	trans-1,2-Dichloroethene		500	U
67-66-3	Chloroform		500	U
107-06-2	1,2-Dichloroethane		500	U
78-93-3	2-Butanone	R	2500	U
74-97-5	Bromochloromethane		500	U
71-55-6	1,1,1-Trichloroethane		500	U
56-23-5	Carbon Tetrachloride		500	U
75-27-4	Bromodichloromethane		500	U
78-87-5	1,2-Dichloropropane		500	U
10061-01-5	cis-1,3-Dichloropropene		500	U
79-01-6	Trichloroethene		500	U
124-48-1	Dibromochloromethane		500	U
79-00-5	1,1,2-Trichloroethane		500	U
71-43-2	Benzene		5000	
10061-02-6	trans-1,3-Dichloropropene		500	U
75-25-2	Bromoform		500	U
108-10-1	4-Methyl-2-Pentanone	R	2500	U
591-78-6	2-Hexanone	R	2500	U
127-18-4	Tetrachloroethene		500	U
79-34-5	1,1,2,2-Tetrachloroethane		500	U
106-93-4	1,2-Dibromoethane		500	U
108-88-3	Toluene		500	U
108-90-7	Chlorobenzene		500	U
100-41-4	Ethylbenzene		500	U
100-42-5	Styrene		500	U
1330-20-7	Xylenes (total)		500	U
541-73-1	1,3-Dichlorobenzene		500	U
106-46-7	1,4-Dichlorobenzene		500	U
95-50-1	1,2-Dichlorobenzene		500	U
96-12-8	1,2-Dibromo-3-chloropropane		500	U

VALIDATED

1LCE

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

MW49

ab Name: INDUSTRIAL & ENVIRONMENTA Contract: SOW 6/91

Lab Code: IEA Case No.: 1589-172 SAS No.: SDG No.: 08103

Lab Sample ID: 960813502 Date Received: 08/07/96

Lab File ID: 0814E04.D Data Analyzed: 08/15/96

Purge Volume: 25.0 (mL) Dilution Factor: 500.0

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC. (ug/L)	Q
1.				
2.				
3.				
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30.				

VALIDATED

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW49

Lab Name: INDUSTRIAL & ENVIRONMENTA Contract: SOW 1/91

Lab Code: IEA Case No.: 1589-172 SDG No.: 08103

Matrix: (soil/water) WATER Lab Sample ID: 960813502

Sample wt/vol: 1000 (g/mL) mL Lab File ID: 0816403.D

Level: (low/med) LOW Date Received: 08/07/96

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/12/96

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/16/96

Injection Volume: 2.0(uL) Dilution Factor: 2.0

GPC Cleanup: (Y/N) Y pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	93	
111-44-4	bis(2-Chloroethyl)ether	20	U
95-57-8	2-Chlorophenol	20	U
541-73-1	1,3-Dichlorobenzene	20	U
106-46-7	1,4-Dichlorobenzene	20	U
95-50-1	1,2-Dichlorobenzene	20	U
95-48-7	2-Methylphenol	20	U
108-60-1	2,2'-oxybis(1-Chloropropane)	20	U
106-44-5	4-Methylphenol	20	U
621-64-7	N-Nitroso-di-n-propylamine	20	U
67-72-1	Hexachloroethane	20	U
98-95-3	Nitrobenzene	20	U
78-59-1	Isophorone	1	J
88-75-5	2-Nitrophenol	20	U
105-67-9	2,4-Dimethylphenol	20	U
111-91-1	bis(2-Chloroethoxy)methane	20	U
120-83-2	2,4-Dichlorophenol	20	U
120-82-1	1,2,4-Trichlorobenzene	20	U
91-20-3	Naphthalene	20	U
106-47-8	4-Chloroaniline	20	U
87-68-3	Hexachlorobutadiene	20	U
59-50-7	4-Chloro-3-methylphenol	20	U
91-57-6	2-Methylnaphthalene	20	U
77-47-4	Hexachlorocyclopentadiene	20	U
88-06-2	2,4,6-Trichlorophenol	20	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	20	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethylphthalate	20	U
208-96-8	Acenaphthylene	20	U
606-20-2	2,6-Dinitrotoluene	20	U
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	20	U

VALIDATED

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW49

Lab Name: INDUSTRIAL & ENVIRONMENTA Contract: SOW 1/91

Lab Code: IEA Case No.: 1589-172 SDG No.: 08103

Matrix: (soil/water) WATER Lab Sample ID: 960813502

Sample wt/vol: 1000 (g/mL) mL Lab File ID: 0816403.D

Level: (low/med) LOW Date Received: 08/07/96

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/12/96

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/16/96

Injection Volume: 2.0(uL) Dilution Factor: 2.0

GPC Cleanup: (Y/N) Y pH:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	20	U
121-14-2	2,4-Dinitrotoluene	20	U
84-66-2	Diethylphthalate	20	U
7005-72-3	4-Chlorophenyl-phenylether	20	U
86-73-7	Fluorene	20	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	20	U
101-55-3	4-Bromophenyl-phenylether	20	U
118-74-1	Hexachlorobenzene	20	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	20	U
120-12-7	Anthracene	20	U
86-74-8	Carbazole	20	U
84-74-2	Di-n-butylphthalate	20	U
206-44-0	Fluoranthene	20	U
129-00-0	Pyrene	20	U
85-68-7	Butylbenzylphthalate	20	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)anthracene	20	U
218-01-9	Chrysene	20	U
117-81-7	bis(2-Ethylhexyl)phthalate	20	U
117-84-0	Di-n-octylphthalate	20	U
205-99-2	Benzo(b)fluoranthene	20	U
207-08-9	Benzo(k)fluoranthene	20	U
50-32-8	Benzo(a)pyrene	20	U
193-39-5	Indeno(1,2,3-cd)pyrene	20	U
53-70-3	Dibenz(a,h)anthracene	20	U
191-24-2	Benzo(g,h,i)perylene	20	U

(1) - Cannot be separated from Diphenylamine

VALIDATED

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

MW49

Lab Name: INDUSTRIAL & ENVIRONMENTA Contract: SOW 1/91

Lab Code: IEA Case No.: 1589-172 SDG No.: 08103

Matrix: (soil/water) WATER Lab Sample ID: 960813502

Sample wt/vol: 1000 (g/mL) mL Lab File ID: 0816403.D

Level: (low/med) LOW Date Received: 08/07/96

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/12/96

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/16/96

Injection Volume: 2.0(uL) Dilution Factor: 2.0

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

Number TICs found: 17

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	Unknown	9.200	11	J
2. 873949	Cyclohexanone, 3,3,5-trimeth	9.430	360	NJ
3. 112367	Ethane, 1,1'-oxybis[2-ethoxy	10.110	14	NJ
4.	Unknown	10.520	38	J
5.	Unknown	11.120	12	J
6.	Unknown	12.130	14	J
7.	Chlorinated benzoic acid iso	14.030	20	J
8.	Unknown	14.130	7	J
9.	Unknown	14.450	13	J
10. 499069	Benzoic acid, 3,5-dimethyl-	14.820	8	NJ
11.	Unknown	15.800	7	J
12.	Unknown	16.300	180	J
13.	Unknown	16.700	9	J
~~14. 134623~~	~~Diethyltoluamide~~	~~17.040~~	~~15~~	~~NJ~~ R
15. 76733	Secobarbital	19.590	12	NJ
16.	Unknown	20.460	27	J
17.	Unknown	24.910	46	J
18.				
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30.				

VALIDATED

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW49

Lab Name: INDUSTRIAL & ENVIRONMENTA Contract: SOW 1/91

Lab Code: IEA Case No.: 1589-172 SDG No.: 08103

Matrix: (soil/water) WATER Lab Sample ID: 960813502

Sample wt/vol: 1000 (g/mL) ML Lab File ID: P2081296_091.D

% Moisture: _____ decanted: (Y/N)___ Date Received: 08/07/96

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 08/09/96

Concentrated Extract Volume: 10000(uL) Date Analyzed: 08/21/96

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ____ Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
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

FORM I PEST

VALIDATED 6/90

APD-GWMW37-01

8-7-96

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

137903

Lab Name: MWL Contract: 4077.0073

Lab Code: Case No.: SAS No.: SDG No.: SD1378

Matrix (soil/water): WATER Lab Sample ID: 1379-003

Level (low/med): LOW Date Received: 08/08/96

% Solids: 0.0 TOTAL

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1410			P
7440-36-0	Antimony	2.0	U	~~E~~	F
7440-38-2	Arsenic	1.0	U		F
7440-39-3	Barium	23.5	B		P
7440-41-7	Beryllium	0.26	B	~~E~~	F
7440-43-9	Cadmium	0.47	B	~~S~~	F
7440-70-2	Calcium	34300			P
7440-47-3	Chromium	10.0	U		P
7440-48-4	Cobalt	10.0	U		P
7440-50-8	Copper	U 20.5	B		P
7439-89-6	Iron	UJ 1240		E*	P
7439-92-1	Lead	U 8.6		S	F
7439-95-4	Magnesium	9160			P
7439-96-5	Manganese	J 273		E*	P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	UJ 20.0	U	*	P
7440-09-7	Potassium	1500	B		A
7782-49-2	Selenium	2.0	U		F
7440-22-4	Silver	10.0	U		P
7440-23-5	Sodium	5460			P
7440-28-0	Thallium	1.0	U		F
7440-62-2	Vanadium	20.0	U		P
7440-66-6	Zinc	10.0	U		P
	Cyanide				

Changes by JAH

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

VALIDATED

APD-GWMW37-01F

8-6-96

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

137910

Lab Name: MWL Contract: 4077.0073

Lab Code: Case No.: SAS No.: SDG No.: SD1378

Matrix (soil/water): WATER Lab Sample ID: 1379-010

Level (low/med): LOW Date Received: 08/08/96

% Solids: 0.0 DISSOLVED

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	U 144	B		P
7440-36-0	Antimony	2.0	U	E	F
7440-38-2	Arsenic	1.0	U		F
7440-39-3	Barium	20.0	B		P
7440-41-7	Beryllium	0.32	B	E	F
7440-43-9	Cadmium	0.24	B	E	F
7440-70-2	Calcium	34000			P
7440-47-3	Chromium	10.0	U		P
7440-48-4	Cobalt	10.0	U		P
7440-50-8	Copper	U 16.0	B		P
7439-89-6	Iron	UJ 228		E*	P
7439-92-1	Lead	U 8.8		S	F
7439-95-4	Magnesium	8500			P
7439-96-5	Manganese	J 256		E*	P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	UJ 20.0	U	*	P
7440-09-7	Potassium	1230	B		A
7782-49-2	Selenium	2.0	U		F
7440-22-4	Silver	10.0	U		P
7440-23-5	Sodium	6310			P
7440-28-0	Thallium	1.0	U		F
7440-62-2	Vanadium	20.0	U		P
7440-66-6	Zinc	U 13.5	B		P
	Cyanide				

changes by JAH

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

VALIDATED

APD-GMW38-01

8-7-96

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

137801

Lab Name: MWL Contract: 4077.0073

Lab Code: Case No.: SAS No.: SDG No.: SD1378

Matrix (soil/water): WATER Lab Sample ID: 1378-001

Level (low/med): LOW Date Received: 08/08/96

% Solids: 0.0 Total

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	U 118	B		P
7440-36-0	Antimony	2.0	U	E	F
7440-38-2	Arsenic	3.9	B		F
7440-39-3	Barium	36.5	B		P
7440-41-7	Beryllium	UJ 0.20	U	E N	F
7440-43-9	Cadmium	0.20	U	E	F
7440-70-2	Calcium	63500			P
7440-47-3	Chromium	10.0	U		P
7440-48-4	Cobalt	10.0	U		P
7440-50-8	Copper	U 12.0	B		P
7439-89-6	Iron	J 6440		E*	P
7439-92-1	Lead	1.5	U		F
7439-95-4	Magnesium	22000			P
7439-96-5	Manganese	J 511		E*	P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	20.0	U		P
7440-09-7	Potassium	494	B		A
7782-49-2	Selenium	2.0	U		F
7440-22-4	Silver	10.0	U		P
7440-23-5	Sodium	5130			P
7440-28-0	Thallium	1.0	U		F
7440-62-2	Vanadium	20.0	U		P
7440-66-6	Zinc	10.0	U		P
	Cyanide				

changes by JAH

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

VALIDATED

APD-GWM038-01 F

8-7-96

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

137807

Lab Name: MWL Contract: 4077.0073

Lab Code: Case No.: SAS No.: SDG No.: SD1378

Matrix (soil/water): WATER Lab Sample ID: 1378-007

Level (low/med): LOW Date Received: 08/08/96

% Solids: 0.0 DISSOLVED

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	U 113	B		P
7440-36-0	Antimony	2.0	U	~~E~~	F
7440-38-2	Arsenic	3.2	B		F
7440-39-3	Barium	38.5	B		P
7440-41-7	Beryllium	UJ 0.20	U	~~E~~ N	F
7440-43-9	Cadmium	0.20	U	~~E~~	F
7440-70-2	Calcium	64000			P
7440-47-3	Chromium	10.0	U		P
7440-48-4	Cobalt	10.0	U		P
7440-50-8	Copper	U 13.0	B		P
7439-89-6	Iron	J 6450		~~E~~*	P
7439-92-1	Lead	U 1.6	B		F
7439-95-4	Magnesium	22400			P
7439-96-5	Manganese	J 516		E*	P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	- 20.0	U		P
7440-09-7	Potassium	499	B		A
7782-49-2	Selenium	2.0	U		F
7440-22-4	Silver	10.0	U		P
7440-23-5	Sodium	5580			P
7440-28-0	Thallium	1.0	U		F
7440-62-2	Vanadium	20.0	U		P
7440-66-6	Zinc	10.0	U		P
	Cyanide				

changes by SAH

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

VALIDATED

APD-GWMW42-01

8-7-96

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

137806

Lab Name: MWL Contract: 4077.0073

Lab Code: Case No.: SAS No.: SDG No.: SD1378

Matrix (soil/water): WATER Lab Sample ID: 1378-006

Level (low/med): LOW Date Received: 08/08/96

% Solids: 0.0 TOTAL

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	808			P
7440-36-0	Antimony	2.0	U	E	F
7440-38-2	Arsenic	2.1	B		F
7440-39-3	Barium	90.0	B		P
7440-41-7	Beryllium	UJ 0.20	U	E N	F
7440-43-9	Cadmium	0.20	U	E	F
7440-70-2	Calcium	139000			P
7440-47-3	Chromium	10.0	U		P
7440-48-4	Cobalt	10.0	U		P
7440-50-8	Copper	U 16.5	B		P
7439-89-6	Iron	UJ 3340		E*	P
7439-92-1	Lead	U 5.7		S	F
7439-95-4	Magnesium	49800			P
7439-96-5	Manganese	J 928		E*	P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	20.0	U		P
7440-09-7	Potassium	1700	B		A
7782-49-2	Selenium	2.0	U		F
7440-22-4	Silver	10.0	U		P
7440-23-5	Sodium	12700			P
7440-28-0	Thallium	1.0	U		F
7440-62-2	Vanadium	20.0	U		P
7440-66-6	Zinc	10.0	U		P
	Cyanide				

changes by JAH

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

VALIDATED

APD-GWMW42-01F

8-7-96

U.S. EPA - CLP

EPA SAMPLE NO.

1

INORGANIC ANALYSIS DATA SHEET

137812

Lab Name: MWL Contract: 4077.0073

Lab Code: Case No.: SAS No.: SDG No.: SD1378

Matrix (soil/water): WATER Lab Sample ID: 1378-012

Level (low/med): LOW Date Received: 08/08/96

% Solids: 0.0 DISSOLVED

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	u 144	B		P
7440-36-0	Antimony	2.0	U	E	F
7440-38-2	Arsenic	1.5	B		F
7440-39-3	Barium	85.0	B		P
7440-41-7	Beryllium	UJ 0.20	U	E N	F
7440-43-9	Cadmium	0.20	U	E	F
7440-70-2	Calcium	136000			P
7440-47-3	Chromium	10.0	U		P
7440-48-4	Cobalt	10.0	U		P
7440-50-8	Copper	u 13.0	B		P
7439-89-6	Iron	UJ 1950		E*	P
7439-92-1	Lead	1.5	U		F
7439-95-4	Magnesium	49300			P
7439-96-5	Manganese	J 932		E*	P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	20.0	U		P
7440-09-7	Potassium	1450	B		A
7782-49-2	Selenium	2.0	U		F
7440-22-4	Silver	10.0	U		P
7440-23-5	Sodium	12400			P
7440-28-0	Thallium	1.0	U		F
7440-62-2	Vanadium	20.0	U		P
7440-66-6	Zinc	10.0	U		P
	Cyanide				

changes by JAH

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

VALIDATED

APD-GWMW44-01

8-8-96

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

137916

Lab Name: MWL Contract: 4077.0073

Lab Code: Case No.: SAS No.: SDG No.: SD1378

Matrix (soil/water): WATER Lab Sample ID: 1379-016

Level (low/med): LOW Date Received: 08/09/96

% Solids: 0.0 DISSOLVED

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	U 175	B		P
7440-36-0	Antimony	2.0	U	E	F
7440-38-2	Arsenic	6.0	B	S	F
7440-39-3	Barium	106	B		P
7440-41-7	Beryllium	0.20	U	E	F
7440-43-9	Cadmium	0.20	U	E	F
7440-70-2	Calcium	90500			P
7440-47-3	Chromium	10.0	U		P
7440-48-4	Cobalt	10.0	U		P
7440-50-8	Copper	U 15.5	B		P
7439-89-6	Iron	UJ 1480		E*	P
7439-92-1	Lead	1.5	U		F
7439-95-4	Magnesium	37200			P
7439-96-5	Manganese	J 38.5		E*	P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	UJ 23.0	B	*	P
7440-09-7	Potassium	990	B		A
7782-49-2	Selenium	2.0	U		F
7440-22-4	Silver	10.0	U		P
7440-23-5	Sodium	19700			P
7440-28-0	Thallium	1.0	U		F
7440-62-2	Vanadium	20.0	U		P
7440-66-6	Zinc	10.0	U		P
	Cyanide				

changes by JAH

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

VALIDATED

APD-GWMW-94-01F

8-8-96

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

137920

Lab Name: MWL Contract: 4077.0073

Lab Code: Case No.: SAS No.: SDG No.: SD1378

Matrix (soil/water): WATER Lab Sample ID: 1379-020

Level (low/med): LOW Date Received: 08/09/96

% Solids: 0.0 DISSOLVED

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	U 79.0	B		P
7440-36-0	Antimony	2.0	U	E	F
7440-38-2	Arsenic	6.6	B	S	F
7440-39-3	Barium	164	B		P
7440-41-7	Beryllium	0.20	U	E	F
7440-43-9	Cadmium	0.20	U	E	F
7440-70-2	Calcium	98000			P
7440-47-3	Chromium	10.0	U		P
7440-48-4	Cobalt	10.0	U		P
7440-50-8	Copper	10.0	U		P
7439-89-6	Iron	UJ 2050		E*	P
7439-92-1	Lead	1.5	U		F
7439-95-4	Magnesium	60700			P
7439-96-5	Manganese	UJ 45.5		E*	P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	UJ 20.0	U	*	P
7440-09-7	Potassium	982	B		A
7782-49-2	Selenium	2.0	U		F
7440-22-4	Silver	10.0	U		P
7440-23-5	Sodium	33100			P
7440-28-0	Thallium	1.0	U		F
7440-62-2	Vanadium	20.0	U		P
7440-66-6	Zinc	10.0	U		P
	Cyanide				

changes by JAH

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

VALIDATED

APD-GWMW45-01

8-8-96

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

137917

Lab Name: MWL Contract: 4077.0073

Lab Code: Case No.: SAS No.: SDG No.: SD1378

Matrix (soil/water): WATER Lab Sample ID: 1379-017

Level (low/med): LOW Date Received: 08/09/96

% Solids: 0.0 TOTAL

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	776			P
7440-36-0	Antimony	2.0	U	~~E~~	F
7440-38-2	Arsenic	21.5			F
7440-39-3	Barium	84.5	B		P
7440-41-7	Beryllium	0.20	U	~~E~~	F
7440-43-9	Cadmium	0.20	U	~~E~~	F
7440-70-2	Calcium	97100			P
7440-47-3	Chromium	29.0			P
7440-48-4	Cobalt	10.0	U		P
7440-50-8	Copper	U 21.0	B		P
7439-89-6	Iron	J 9570		E*	P
7439-92-1	Lead	38.5		S	F
7439-95-4	Magnesium	27500			P
7439-96-5	Manganese	J 641		E*	P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	UJ 35.0	B	*	P
7440-09-7	Potassium	5350			A
7782-49-2	Selenium	2.0	U		F
7440-22-4	Silver	10.0	U		P
7440-23-5	Sodium	70900			P
7440-28-0	Thallium	1.0	U		F
7440-62-2	Vanadium	20.0	U		P
7440-66-6	Zinc	U 15.0	B		P
	Cyanide				

Changes by JAH

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

VALIDATED

APD-GWMW45-01F

8-8-96

U.S. EPA - CLP

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

137921

Lab Name: MWL Contract: 4077.0073

Lab Code: Case No.: SAS No.: SDG No.: SD1378

Matrix (soil/water): WATER Lab Sample ID: 1379-021

Level (low/med): LOW Date Received: 08/09/96

% Solids: 0.0 DISSOLVED

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	U 97.5	B		P
7440-36-0	Antimony	2.0	U	E	F
7440-38-2	Arsenic	25.9		S	F
7440-39-3	Barium	82.5	B		P
7440-41-7	Beryllium	0.20	U	E	F
7440-43-9	Cadmium	0.20	U	E	F
7440-70-2	Calcium	93200			P
7440-47-3	Chromium	10.0	U		P
7440-48-4	Cobalt	10.0	U		P
7440-50-8	Copper	U 19.0	B		P
7439-89-6	Iron	J 8050		E*	P
7439-92-1	Lead	U 3.5		W	F
7439-95-4	Magnesium	24700			P
7439-96-5	Manganese	J 612		E*	P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	UJ 20.0	U	*	P
7440-09-7	Potassium	5070			A
7782-49-2	Selenium	2.0	U	S	F
7440-22-4	Silver	10.0	U		P
7440-23-5	Sodium	68100			P
7440-28-0	Thallium	1.0	U		F
7440-62-2	Vanadium	20.0	U		P
7440-66-6	Zinc	10.0	U		P
	Cyanide				

changes by JAH

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

VALIDATED

APD-GWMW46-01

8-5-96

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

137907

Lab Name: MWL Contract: 4077.0073

Lab Code: Case No.: SAS No.: SDG No.: SD1378

Matrix (soil/water): WATER Lab Sample ID: 1379-007

Level (low/med): LOW Date Received: 08/08/96

% Solids: 0.0

TOTAL

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	821			P
7440-36-0	Antimony	2.0	U	E	F
7440-38-2	Arsenic	3.7	B		F
7440-39-3	Barium	132	B		P
7440-41-7	Beryllium	0.20	U	E	F
7440-43-9	Cadmium	0.20	U	E	F
7440-70-2	Calcium	115000			P
7440-47-3	Chromium	10.0	U		P
7440-48-4	Cobalt	10.0	U		P
7440-50-8	Copper	U 13.0	B		P
7439-89-6	Iron	J 21700		E*	P
7439-92-1	Lead	U 5.0		S	F
7439-95-4	Magnesium	30500			P
7439-96-5	Manganese	J 1510		E*	P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	UJ 20.0	U	*	P
7440-09-7	Potassium	1450	B		A
7782-49-2	Selenium	2.0	U		F
7440-22-4	Silver	10.0	U		P
7440-23-5	Sodium	62200			P
7440-28-0	Thallium	1.0	U		F
7440-62-2	Vanadium	20.0	U		P
7440-66-6	Zinc	10.0	U		P
	Cyanide				

changes by JAR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts: ART

Comments:

VALIDATED

APD-GWMW46-01F

8-5-96

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

137914

Lab Name: MWL Contract: 4077.0073

Lab Code: Case No.: SAS No.: SDG No.: SD1378

Matrix (soil/water): WATER Lab Sample ID: 1379-014

Level (low/med): LOW Date Received: 08/08/96

% Solids: 0.0

DISSOLVED

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	U 121	B		P
7440-36-0	Antimony	2.0	U	E	F
7440-38-2	Arsenic	4.1	B	S	F
7440-39-3	Barium	131	B		P
7440-41-7	Beryllium	0.20	U	E	F
7440-43-9	Cadmium	0.20	U	E	F
7440-70-2	Calcium	115000			P
7440-47-3	Chromium	10.0	U		P
7440-48-4	Cobalt	10.0	U		P
7440-50-8	Copper	U 34.5			P
7439-89-6	Iron	J 21900		E*	P
7439-92-1	Lead	1.5	U	S	F
7439-95-4	Magnesium	30200			P
7439-96-5	Manganese	J 1510		E*	P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	UJ 20.0	U	*	P
7440-09-7	Potassium	1180	B		A
7782-49-2	Selenium	2.0	U	S	F
7440-22-4	Silver	10.0	U		P
7440-23-5	Sodium	60900			P
7440-28-0	Thallium	1.0	U		F
7440-62-2	Vanadium	20.0	U		P
7440-66-6	Zinc	10.0	U		P
	Cyanide				

changed by JAH

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

FORM I - IN 3/90

VALIDATED

APD-GWMW47-01

8-7-96

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

137803

Lab Name: MWL Contract: 4077.0073

Lab Code: Case No.: SAS No.: SDG No.: SD1378

Matrix (soil/water): WATER Lab Sample ID: 1378-003

Level (low/med): LOW Date Received: 08/08/96

% Solids: 0.0 Total

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	U 383			P
7440-36-0	Antimony	2.0	U	E	F
7440-38-2	Arsenic	1.0	U		F
7440-39-3	Barium	10.0	U		P
7440-41-7	Beryllium	UJ 0.20	U	EN	F
7440-43-9	Cadmium	0.20	B	E	F
7440-70-2	Calcium	8530			P
7440-47-3	Chromium	10.0	U		P
7440-48-4	Cobalt	10.0	U		P
7440-50-8	Copper	U 15.0	B		P
7439-89-6	Iron	UJ 254		E*	P
7439-92-1	Lead	23.0		S	F
7439-95-4	Magnesium	2630	B		P
7439-96-5	Manganese	J 27.0		E*	P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	20.0	U		P
7440-09-7	Potassium	1090	B		A
7782-49-2	Selenium	2.0	U		F
7440-22-4	Silver	10.0	U		P
7440-23-5	Sodium	3020	B		P
7440-28-0	Thallium	1.0	U		F
7440-62-2	Vanadium	20.0	U		P
7440-66-6	Zinc	10.0	U		P
	Cyanide				

changes by JAH

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

FORM I - IN

VALIDATED

3/90

APD-GWMW47-01F

8-7-96

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

137809

Lab Name: MWL Contract: 4077.0073

Lab Code: Case No.: SAS No.: SDG No.: SD1378

Matrix (soil/water): WATER Lab Sample ID: 1378-009

Level (low/med): LOW Date Received: 08/08/96

% Solids: 0.0 DISSOLVED

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	U 102	B		P
7440-36-0	Antimony	2.0	U	E	F
7440-38-2	Arsenic	1.0	U		F
7440-39-3	Barium	10.0	U		P
7440-41-7	Beryllium	UJ 0.20	U	E N	F
7440-43-9	Cadmium	0.20	U	E	F
7440-70-2	Calcium	8760			P
7440-47-3	Chromium	10.0	U		P
7440-48-4	Cobalt	10.0	U		P
7440-50-8	Copper	U 15.5	B		P
7439-89-6	Iron	UJ 162		E*	P
7439-92-1	Lead	20.0			F
7439-95-4	Magnesium	2650	B		P
7439-96-5	Manganese	J 19.0		E*	P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	20.0	U		P
7440-09-7	Potassium	1100	B		A
7782-49-2	Selenium	2.0	U		F
7440-22-4	Silver	10.0	U		P
7440-23-5	Sodium	3290	B		P
7440-28-0	Thallium	1.0	U		F
7440-62-2	Vanadium	20.0	U		P
7440-66-6	Zinc	10.0	U		P
	Cyanide				

changes by JAP

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

VALIDATED

APD-GWMW47-91

8-7-96

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

137804

Lab Name: MWL Contract: 4077.0073

Lab Code: Case No.: SAS No.: SDG No.: SD1378

Matrix (soil/water): WATER Lab Sample ID: 1378-004

Level (low/med): LOW Date Received: 08/08/96

% Solids: 0.0 TOTAL

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	476			P
7440-36-0	Antimony	2.0	U	~~E~~	F
7440-38-2	Arsenic	1.0	U		F
7440-39-3	Barium	10.0	U		P
7440-41-7	Beryllium	UJ 0.20	U	~~E~~ N	F
7440-43-9	Cadmium	0.20	U	~~E~~	F
7440-70-2	Calcium	8890			P
7440-47-3	Chromium	10.0	U		P
7440-48-4	Cobalt	10.0	U		P
7440-50-8	Copper	U 14.5	B		P
7439-89-6	Iron	UJ 346		~~E~~*	P
7439-92-1	Lead	23.0			F
7439-95-4	Magnesium	2740	B		P
7439-96-5	Manganese	J 26.5		E*	P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	20.0	U		P
7440-09-7	Potassium	1170	B		A
7782-49-2	Selenium	2.0	U	W	F
7440-22-4	Silver	10.0	U		P
7440-23-5	Sodium	4100	B		P
7440-28-0	Thallium	1.0	U		F
7440-62-2	Vanadium	20.0	U		P
7440-66-6	Zinc	10.0	U		P
	Cyanide				

changes by JAH

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

FORM I - IN

VALIDATED

3/90

APD-GWMW 47-91 F

8-7-96

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

137810

Lab Name: MWL Contract: 4077.0073

Lab Code: Case No.: SAS No.: SDG No.: SD1378

Matrix (soil/water): WATER Lab Sample ID: 1378-010

Level (low/med): LOW Date Received: 08/08/96

% Solids: 0.0 DISSOLVED

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	u 141	B		P
7440-36-0	Antimony	2.0	U	E	F
7440-38-2	Arsenic	1.0	U		F
7440-39-3	Barium	10.0	U		P
7440-41-7	Beryllium	uJ 0.20	U	EN	F
7440-43-9	Cadmium	0.20	U	E	F
7440-70-2	Calcium	8550			P
7440-47-3	Chromium	10.0	U		P
7440-48-4	Cobalt	10.0	U		P
7440-50-8	Copper	u 13.0	B		P
7439-89-6	Iron	uJ 88.5	B	E*	P
7439-92-1	Lead	31.2			F
7439-95-4	Magnesium	2750	B		P
7439-96-5	Manganese	J 22.0		E*	P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	20.0	U		P
7440-09-7	Potassium	1220	B		A
7782-49-2	Selenium	2.0	U	S	F
7440-22-4	Silver	10.0	U		P
7440-23-5	Sodium	3710	B		P
7440-28-0	Thallium	1.0	U		F
7440-62-2	Vanadium	20.0	U		P
7440-66-6	Zinc	10.0	U		P
	Cyanide				

changes by JAM

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

VALIDATED

APD-GWMW48-01

8-6-96

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

137904

Lab Name: MWL Contract: 4077.0073

Lab Code: Case No.: SAS No.: SDG No.: SD1378

Matrix (soil/water): WATER Lab Sample ID: 1379-004

Level (low/med): LOW Date Received: 08/08/96

% Solids: 0.0 TOTAL

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	U 254			P
7440-36-0	Antimony	2.0	U	E	F
7440-38-2	Arsenic	11.3			F
7440-39-3	Barium	160	B		P
7440-41-7	Beryllium	0.20	U	E	F
7440-43-9	Cadmium	0.20	U	E	F
7440-70-2	Calcium	142000			P
7440-47-3	Chromium	10.0	U		P
7440-48-4	Cobalt	10.0	U		P
7440-50-8	Copper	U 13.5	B		P
7439-89-6	Iron	J 30800		E*	P
7439-92-1	Lead	U 3.4		S	F
7439-95-4	Magnesium	20100			P
7439-96-5	Manganese	J 688		E*	P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	UJ 20.0	U	*	P
7440-09-7	Potassium	7560	B		A
7782-49-2	Selenium	2.0	U	S	F
7440-22-4	Silver	10.0	U		P
7440-23-5	Sodium	52100			P
7440-28-0	Thallium	1.1	B		F
7440-62-2	Vanadium	20.0	U		P
7440-66-6	Zinc	10.0	U		P
	Cyanide				

changes by IAH

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts: ART

Comments:

VALIDATED

APD-GWMN48-01F

8-6-96

U.S. EPA - CLP

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

137911

Lab Name: MWL Contract: 4077.0073

Lab Code: Case No.: SAS No.: SDG No.: SD1378

Matrix (soil/water): WATER Lab Sample ID: 1379-011

Level (low/med): LOW Date Received: 08/08/96

% Solids: 0.0

DISSOLVED

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	U 99.5	B		P
7440-36-0	Antimony	2.0	U	~~E~~	F
7440-38-2	Arsenic	14.2		S	F
7440-39-3	Barium	152	B		P
7440-41-7	Beryllium	0.20	U	~~E~~	F
7440-43-9	Cadmium	0.20	U	~~E~~	F
7440-70-2	Calcium	138000			P
7440-47-3	Chromium	10.0	U		P
7440-48-4	Cobalt	10.0	U		P
7440-50-8	Copper	U 11.5	B		P
7439-89-6	Iron	J 30300		~~E~~*	P
7439-92-1	Lead	1.5	U		F
7439-95-4	Magnesium	19300			P
7439-96-5	Manganese	J 566		E*	P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	UJ 32.0	B	*	P
7440-09-7	Potassium	7390	B		A
7782-49-2	Selenium	2.0	U		F
7440-22-4	Silver	10.0	U		P
7440-23-5	Sodium	51000			P
7440-28-0	Thallium	1.2	B		F
7440-62-2	Vanadium	20.0	U		P
7440-66-6	Zinc	U 11.0	B		P
	Cyanide				

Changed by IAH

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

VALIDATED

APD-GWMW49-01

8-6-96

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

137901

Lab Name: MWL Contract: 4077.0073

Lab Code: Case No.: SAS No.: SDG No.: SD1378

Matrix (soil/water): WATER Lab Sample ID: 1379-001

Level (low/med): LOW Date Received: 08/08/96

% Solids: 0.0

TOTAL

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	U 110	B		P
7440-36-0	Antimony	2.0	U	~~E~~	F
7440-38-2	Arsenic	24.5			F
7440-39-3	Barium	96.5	B		P
7440-41-7	Beryllium	0.20	U	~~E~~	F
7440-43-9	Cadmium	0.20	U	~~E~~	F
7440-70-2	Calcium	81200			P
7440-47-3	Chromium	10.0	U		P
7440-48-4	Cobalt	10.0	U		P
7440-50-8	Copper	U 11.0	B		P
7439-89-6	Iron	J 20100		~~E~~*	P
7439-92-1	Lead	1.5	U		F
7439-95-4	Magnesium	10700			P
7439-96-5	Manganese	J 1950		E*	P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	UJ 20.0	U	*	P
7440-09-7	Potassium	3760	B		A
7782-49-2	Selenium	2.0	U		F
7440-22-4	Silver	10.0	U		P
7440-23-5	Sodium	21300			P
7440-28-0	Thallium	1.0	U		F
7440-62-2	Vanadium	20.0	U		P
7440-66-6	Zinc	10.0	U		P
	Cyanide				

changes by JAH

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

VALIDATED

APD-GWMW49-01 F

8-6-96

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

137908

Lab Name: MWL Contract: 4077.0073

Lab Code: Case No.: SAS No.: SDG No.: SD1378

Matrix (soil/water): WATER Lab Sample ID: 1379-008

Level (low/med): LOW Date Received: 08/08/96

% Solids: 0.0 DISSOLVED

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	U 99.0	B		P
7440-36-0	Antimony	2.0	U	Z	F
7440-38-2	Arsenic	25.5			F
7440-39-3	Barium	95.5	B		P
7440-41-7	Beryllium	0.20	U	Z	F
7440-43-9	Cadmium	0.20	U	Z	F
7440-70-2	Calcium	84100			P
7440-47-3	Chromium	10.0	U		P
7440-48-4	Cobalt	10.0	U		P
7440-50-8	Copper	U 11.5	B		P
7439-89-6	Iron	J 18600		E*	P
7439-92-1	Lead	U 4.5		S	F
7439-95-4	Magnesium	10900			P
7439-96-5	Manganese	J 1860		E*	P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	UJ 20.0	U	*	P
7440-09-7	Potassium	3690	B		A
7782-49-2	Selenium	2.0	U		F
7440-22-4	Silver	10.0	U		P
7440-23-5	Sodium	22700			P
7440-28-0	Thallium	1.0	U		F
7440-62-2	Vanadium	20.0	U		P
7440-66-6	Zinc	10.0	U		P
	Cyanide				

changes by JAH

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

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APD-GWMW49-91

8-6-96

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

137902

Lab Name: MWL Contract: 4077.0073

Lab Code: Case No.: SAS No.: SDG No.: SD1378

Matrix (soil/water): WATER Lab Sample ID: 1379-002

Level (low/med): LOW Date Received: 08/08/96

% Solids: 0.0 TOTAL

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	U 61.5	B		P
7440-36-0	Antimony	2.0	U	~~E~~	F
7440-38-2	Arsenic	25.0			F
7440-39-3	Barium	100	B		P
7440-41-7	Beryllium	0.20	U	~~E~~	F
7440-43-9	Cadmium	0.20	U	~~E~~	F
7440-70-2	Calcium	80900			P
7440-47-3	Chromium	10.0	U		P
7440-48-4	Cobalt	10.0	U		P
7440-50-8	Copper	U 13.5	B		P
7439-89-6	Iron	J 20100		~~E~~*	P
7439-92-1	Lead	1.5	U		F
7439-95-4	Magnesium	10500			P
7439-96-5	Manganese	J 2000		E*	P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	UJ 21.0	B	*	P
7440-09-7	Potassium	3640	B		A
7782-49-2	Selenium	2.0	U		F
7440-22-4	Silver	10.0	U		P
7440-23-5	Sodium	20600			P
7440-28-0	Thallium	1.0	U		F
7440-62-2	Vanadium	20.0	U		P
7440-66-6	Zinc	10.0	U		P
	Cyanide				

changes by JAH

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

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8-6-96

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

137909

Lab Name: MWL Contract: 4077.0073

Lab Code: Case No.: SAS No.: SDG No.: SD1378

Matrix (soil/water): WATER Lab Sample ID: 1379-009

Level (low/med): LOW Date Received: 08/08/96

% Solids: 0.0 DISSOLVED

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	U 89.0	B		P
7440-36-0	Antimony	2.0	U	E	F
7440-38-2	Arsenic	22.3			F
7440-39-3	Barium	98.5	B		P
7440-41-7	Beryllium	0.20	U	E	F
7440-43-9	Cadmium	0.20	U	E	F
7440-70-2	Calcium	83500			P
7440-47-3	Chromium	10.0	U		P
7440-48-4	Cobalt	10.0	U		P
7440-50-8	Copper	U 12.0	B		P
7439-89-6	Iron	J 18800		E*	P
7439-92-1	Lead	U 4.6		S	F
7439-95-4	Magnesium	10700			P
7439-96-5	Manganese	J 1960		E*	P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	UJ 20.0	U	*	P
7440-09-7	Potassium	3530	B		A
7782-49-2	Selenium	2.0	U		F
7440-22-4	Silver	10.0	U		P
7440-23-5	Sodium	20300			P
7440-28-0	Thallium	1.0	U		F
7440-62-2	Vanadium	20.0	U		P
7440-66-6	Zinc	10.0	U		P
	Cyanide				

changes by JAH

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

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3/90

BLACK & VEATCH
SPECIAL PROJECTS CORP.

101 North Wacker Drive, Suite 1100, Chicago, Illinois 60606, (312) 346-3775

USEPA Region 5
American Chemical Services 80-5PJ7

BVSPC Project 71670
BVSPC File C.3
October 26, 1997

Ms. Sheri Bianchin
U.S. Environmental Protection Agency
77 West Jackson Boulevard (HSR-6J)
Chicago, Illinois 60604

Subject: Missing Data Pages for the June 1997 Groundwater Split Sampling Data

Dear Ms. Bianchin:

Enclosed are copies of four pages of analytical data that were missing from the June 1997 groundwater split sampling data packages we received from U.S. Environmental Protection Agency Region V. Patricia Scott, EPA Region V, arranged to have the missing pages faxed to me; however, I did not receive them until after I had sent you the Data Evaluation Report on October 24, 1997. I have also enclosed the revised data comparison table (Table 1) from the report to include the missing data. Please insert the enclosed pages into the report. Please contact me at 312/346-3775 if you have any questions or desire additional information.

Sincerely,

BLACK & VEATCH SPECIAL PROJECTS CORP.

Steve Mrkvicka
Site Manager

Enclosures

cc: P. Hendrixson, USEPA w/o enclosures
E. Howard, USEPA w/o enclosures

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Table 5 (Continued)
June 1997 Upper and Lower Aquifer
Monitoring Well Sample Data Comparison
American Chemical Services, Inc.

Compound/Analyte	Sample Location/Concentration (µg/l)							
	MW18 (Upper Aquifer)		MW46 (Upper Aquifer)		MW50 (Lower Aquifer)		MW51 (Lower Aquifer)	
	EBZA2 USEPA	PRP	EBZA7 USEPA	PRP	EBZA8 USEPA	PRP	EBZA4RE USEPA	PRP
Semivolatile Organic Compounds								
Phenol	6 U	10 U	5 U	10 U	23	18	**12**	**25 J**
bis(2-Chloroethyl)ether	5 U	10 U	4 J	4 J	5 U	10 U	5 U	10 U
2-Chlorophenol	5 U	10 U	5 U	10 U	5 U	10 U	5 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	5 U	10 U	5 U	10 U	5 U	10 U	5 U	10 U
2,2'-oxybis-(1-Chloropropane)	5 U	10 U	5 U	10 U	5 U	10 U	5 U	10 U
4-Methylphenol	5 U	10 U	5 U	10 U	5 U	10 U	5 U	10 U
N-Nitroso-di-n-propylamine	5 U	10 U	5 U	10 U	5 U	10 U	5 U	10 U
Hexachloroethane	5 U	10 UJ	5 U	10 U	5 U	10 U	5 U	10 UJ
Nitrobenzene	5 U	10 U	5 U	10 U	5 U	10 U	5 U	10 U
Isophorone	5 U	10 U	5 U	10 U	5 U	10 U	5 U	10 U
2-Nitrophenol	5 U	10 U	5 U	10 U	5 U	10 U	5 U	10 U
2,4-Dimethylphenol	5 U	10 U	5 U	10 U	5 U	10 U	5 U	10 U
bis(2-Chloroethoxy)methane	5 U	10 U	5 U	10 U	5 U	10 U	5 U	10 U
2,4-Dichlorophenol	5 U	10 U	5 U	10 U	5 U	10 U	5 U	10 U
1,2,4-Trichlorobenzene	--	10 U	--	10 U	--	10 U	--	10 U
Naphthalene	5 U	10 U	5 U	10 U	5 U	10 U	5 U	10 U
4-Chloroaniline	5 U	10 U	5 U	10 U	5 U	10 U	5 U	10 U
Hexachlorobutadiene	5 U	10 UJ	5 U	10 U	5 U	10 U	5 U	10 UJ
4-Chloro-3-methylphenol	5 U	10 U	5 U	10 U	5 U	10 U	5 U	10 U
2-Methylnaphthalene	5 U	10 U	5 U	10 U	5 U	10 U	5 U	10 U
Hexachlorocyclopentadiene	5 U	10 U	5 U	10 U	5 U	10 U	5 U	10 U
2,4,6-Trichlorophenol	5 U	10 U	5 U	10 U	5 U	10 U	5 U	10 U
2,4,5-Trichlorophenol	20 U	25 U	20 U	25 U	20 U	25 U	20 U	25 U
2-Chloronaphthalene	5 U	10 U	5 U	10 U	5 U	10 U	5 U	10 U
2-Nitroaniline	20 U	25 U	20 U	25 U	20 U	25 U	20 U	25 U
Dimethylphthalate	5 U	10 U	5 U	10 U	5 U	10 U	5 U	10 U
Acenaphthylene	5 U	10 U	5 U	10 U	5 U	10 U	5 U	10 U
2,6-Dinitrotoluene	5 U	10 U	5 U	10 U	5 U	10 U	5 U	10 U
3-Nitroaniline	20 U	25 U	20 U	25 U	20 U	25 U	20 U	25 U
Acenaphthene	5 U	10 U	5 U	10 U	5 U	10 U	5 U	10 U
2,4-Dinitrophenol	20 U	25 U	20 U	25 U	20 U	25 U	20 U	25 U
4-Nitrophenol	20 U	25 UJ	20 U	25 U	20 U	25 U	20 U	25 UJ
Dibenzofuran	5 U	10 U	5 U	10 U	5 U	10 U	5 U	10 U
2,4-Dinitrotoluene	5 U	10 U	5 U	10 U	5 U	10 U	5 U	10 U
Diethylphthalate	5 U	10 U	5 U	10 U	5 U	10 U	5 U	10 U
4-Chlorophenyl-phenylether	5 U	10 U	5 U	10 U	5 U	10 U	5 U	10 U
Fluorene	5 U	10 U	5 U	10 U	5 U	10 U	5 U	10 U
4-Nitroaniline	20 U	25 U	20 U	25 U	20 U	25 U	20 U	25 U
4,6-Dinitro-2-methylphenol	20 U	25 U	20 U	25 U	20 U	25 U	20 U	25 U
N-Nitrosodiphenylamine	5 U	10 U	5 U	10 U	5 U	10 U	5 U	10 U
4-Bromophenyl-phenylether	5 U	10 U	5 U	10 U	5 U	10 U	5 U	10 U
Hexachlorobenzene	5 U	10 U	5 U	10 U	5 U	10 U	5 U	10 U

Table 5 (Continued)
June 1997 Upper and Lower Aquifer
Monitoring Well Sample Data Comparison
American Chemical Services, Inc.

Compound/Analyte	Sample Location/Concentration (µg/l)							
	MW18 (Upper Aquifer)		MW46 (Upper Aquifer)		MW50 (Lower Aquifer)		MW51 (Lower Aquifer)	
	EBZA2 USEPA	PRP	EBZA7 USEPA	PRP	EBZA8 USEPA	PRP	EBZA4RE USEPA	PRP
Pentachlorophenol	20 U	25 U	20 U	25 U	20 U	25 U	20 U	25 U
Phenanthrene	5 U	10 U	5 U	10 U	5 U	10 U	5 U	10 U
Anthracene	5 U	10 U	5 U	10 U	5 U	10 U	5 U	10 U
Carbazole	--	10 U	--	10 U	--	10 U	--	10 U
Di-n-butylphthalate	5 U	10 U	5 U	10 U	2 J	10 U	5 U	10 U
Fluoranthene	5 U	10 U	5 U	10 U	5 U	10 U	5 U	10 U
Pyrene	5 U	10 U	5 U	10 U	5 U	10 U	5 U	10 U
Butylbenzylphthalate	5 U	10 U	5 U	10 U	5 U	10 U	5 U	10 U
3,3'-Dichlorobenzidine	5 U	10 U	5 U	10 U	5 U	10 U	5 U	10 U
Benzo(a)anthracene	5 U	10 U	5 U	10 U	5 U	10 U	5 U	10 U
Chrysene	5 U	10 U	5 U	10 U	5 U	10 U	5 U	10 U
bis(2-Ethylhexyl)phthalate	**8**	**15**	**89 E**	**10 U**	**66**	**2 J**	1 J	10 U
Di-n-octylphthalate	5 U	10 U	5 U	10 U	5 U	10 U	5 UJ	10 U
Benzo(b)fluoranthene	5 U	10 U	5 U	10 U	5 U	10 U	5 UJ	10 U
Benzo(k)fluoranthene	5 U	10 U	5 U	10 U	5 U	10 U	5 UJ	10 U
Benzo(a)pyrene	5 U	10 U	5 U	10 U	5 U	10 U	5 UJ	10 U
Indeno(1,2,3-cd)pyrene	5 U	10 U	5 U	10 U	5 U	10 U	5 UJ	10 U
Dibenzo(a,h)anthracene	5 U	10 U	5 U	10 U	5 U	10 U	5 UJ	10 U
Benzo(g,h,i)perylene	5 U	10 U	5 U	10 U	5 U	10 U	5 UJ	10 U
SVOA TICs	0	0	0	3	2	9	11	19
Pesticides								
Alpha-BHC	0.010 U	0.050 U	0.010 U	0.050 U	0.010 U	0.050 U	0.010 U	0.050 U
Beta-BHC	0.010 U	0.050 U	0.010 U	0.050 U	0.010 U	0.050 U	0.010 U	0.050 U
Delta-BHC	0.010 U	0.050 U	0.010 U	0.050 U	0.010 U	0.050 U	0.010 U	0.050 U
Lindane	0.010 U	0.050 U	0.010 U	0.050 U	0.010 U	0.050 U	0.010 U	0.050 U
Heptachlor	0.010 U	0.050 U	0.010 U	0.050 U	0.010 U	0.050 U	0.010 U	0.050 U
Aldrin	0.010 U	0.050 U	0.010 U	0.050 U	0.010 U	0.050 U	0.010 U	0.050 U
Heptachlor Epoxide	0.010 U	0.050 U	0.010 U	0.050 U	0.010 U	0.050 U	0.010 U	0.050 U
Endosulfan I	0.010 U	0.050 U	0.010 U	0.050 U	0.010 U	0.050 U	0.010 U	0.050 U
Dieldrin	0.020 U	0.10 U	0.020 U	0.10 U	0.020 U	0.10 U	0.020 U	0.10 U
p,p'-DDE	0.020 U	0.10 UJ	0.020 U	0.10 U	0.020 U	0.10 U	0.020 U	0.10 UJ
Endrin	0.020 U	0.10 UJ	0.020 U	0.10 U	0.020 U	0.10 U	0.020 U	0.10 UJ
Endosulfan II	0.020 U	0.10 U	0.020 U	0.10 U	0.020 U	0.10 U	0.020 U	0.10 U
p,p'-DDD	0.020 U	0.10 UJ	0.020 U	0.10 U	0.020 U	0.10 U	0.020 U	0.10 UJ
Endosulfan Sulfate	0.020 U	0.10 U	0.020 U	0.10 U	0.020 U	0.10 U	0.020 U	0.10 U
p,p'-DDT	0.020 U	0.10 UJ	0.020 U	0.10 U	0.013 J	0.10 U	0.020 U	0.10 UJ
Methoxychlor	0.10 U	0.50 U	0.10 U	0.50 U	0.10 U	0.50 U	0.10 U	0.50 U
Endrin Ketone	0.020 U	0.10 UJ	0.020 U	0.10 U	0.020 U	0.10 U	0.020 U	0.10 UJ
Endrin Aldehyde	0.020 U	0.10 UJ	0.020 U	0.10 U	0.020 U	0.10 U	0.020 U	0.10 UJ
Alpha-chlordane	0.010 U	0.050 U	0.010 U	0.050 U	0.010 U	0.050 U	0.010 U	0.050 U
Gamma-chlordane	0.010 U	0.050 U	0.010 U	0.050 U	0.010 U	0.050 U	0.010 U	0.050 U
Toxaphene	1.0 U	5.0 U	1.0 U	5.0 U	1.0 U	5.0 U	1.0 U	5.0 U

Table 5 (Continued)
June 1997 Upper and Lower Aquifer
Monitoring Well Sample Data Comparison
American Chemical Services, Inc.

Compound/Analyte	Sample Location/Concentration (µg/l)					
	MW11 (Upper Aquifer)		MW37 (Upper Aquifer)		MW8 (Lower Aquifer)	
	EBZB3 USEPA	PRP	EBZB7 USEPA	PRP	EBYZ7 USEPA	PRP
Semivolatile Organic Compounds						
Phenol	5 U	5 J	**14 U**	**23**	5 U	10 U
bis(2-Chloroethyl)ether	5 U	10 U	5 U	10 U	5 U	10 U
2-Chlorophenol	5 U	10 U	5 U	10 U	5 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	5 U	10 U	5 U	10 U	5 U	10 U
2,2'-oxybis-(1-Chloropropane)	5 U	10 U	5 U	10 U	5 U	10 U
4-Methylphenol	5 U	10 U	5 U	10 U	5 U	10 U
N-Nitroso-di-n-propylamine	5 U	10 U	5 U	10 U	5 U	10 U
Hexachloroethane	5 U	10 U	5 U	10 U	5 U	10 U
Nitrobenzene	5 U	10 U	5 U	10 U	5 U	10 U
Isophorone	5 U	10 U	5 U	10 U	5 U	10 U
2-Nitrophenol	5 U	10 U	5 U	10 U	5 U	10 U
2,4-Dimethylphenol	5 U	10 U	5 U	10 U	5 U	10 U
bis(2-Chloroethoxy)methane	5 U	10 U	5 U	10 U	5 U	10 U
2,4-Dichlorophenol	5 U	10 U	5 U	10 U	5 U	10 U
1,2,4-Trichlorobenzene	--	10 U	--	10 U	--	10 U
Naphthalene	5 U	10 U	5 U	10 U	5 U	10 U
4-Chloroaniline	5 U	10 U	5 U	10 U	5 U	10 U
Hexachlorobutadiene	5 U	10 U	5 U	10 U	5 U	10 U
4-Chloro-3-methylphenol	5 U	10 U	5 U	10 U	5 U	10 U
2-Methylnaphthalene	5 U	10 U	5 U	10 U	5 U	10 U
Hexachlorocyclopentadiene	5 U	10 U	5 U	10 U	5 U	10 U
2,4,6-Trichlorophenol	5 U	10 U	5 U	10 U	5 U	10 U
2,4,5-Trichlorophenol	20 U	25 U	20 U	25 U	20 U	25 U
2-Chloronaphthalene	5 U	10 U	5 U	10 U	5 U	10 U
2-Nitroaniline	20 U	25 U	20 U	25 U	20 U	25 U
Dimethylphthalate	5 U	10 U	5 U	10 U	5 U	10 U
Acenaphthylene	5 U	10 U	5 U	10 U	5 U	10 U
2,6-Dinitrotoluene	5 U	10 U	5 U	10 U	5 U	10 U
3-Nitroaniline	20 U	25 U	20 U	25 U	20 U	25 U
Acenaphthene	5 U	10 U	5 U	10 U	5 U	10 U
2,4-Dinitrophenol	20 U	25 U	20 U	25 U	20 U	25 U
4-Nitrophenol	20 U	25 U	20 U	25 U	20 U	25 U
Dibenzofuran	5 U	10 U	5 U	10 U	5 U	10 U
2,4-Dinitrotoluene	5 U	10 U	5 U	10 U	5 U	10 U
Diethylphthalate	5 U	10 U	5 U	10 U	5 U	10 U
4-Chlorophenyl-phenylether	5 U	10 U	5 U	10 U	5 U	10 U
Fluorene	5 U	10 U	5 U	10 U	5 U	10 U
4-Nitroaniline	20 U	25 U	20 U	25 U	20 U	25 U
4,6-Dinitro-2-methylphenol	20 U	25 U	20 U	25 U	20 U	25 U
N-Nitrosodiphenylamine	5 U	10 U	5 U	10 U	5 U	10 U
4-Bromophenyl-phenylether	5 U	10 U	5 U	10 U	5 U	10 U
Hexachlorobenzene	5 U	10 U	5 U	10 U	5 U	10 U

Table 5 (Continued)
June 1997 Upper and Lower Aquifer
Monitoring Well Sample Data Comparison
American Chemical Services, Inc.

Compound/Analyte	Sample Location/Concentration (µg/l)					
	MW11 (Upper Aquifer)		MW37 (Upper Aquifer)		MW8 (Lower Aquifer)	
	EBZB3 USEPA	PRP	EBZB7 USEPA	PRP	EBYZ7 USEPA	PRP
Pentachlorophenol	20 U	25 U	20 U	25 U	20 U	25 U
Phenanthrene	5 U	10 U	5 U	10 U	5 U	10 U
Anthracene	5 U	10 U	5 U	10 U	5 U	10 U
Carbazole	--	10 U	--	10 U	--	10 U
Di-n-butylphthalate	5 U	10 U	5 U	10 U	5 U	10 U
Fluoranthene	5 U	10 U	5 U	10 U	5 U	10 U
Pyrene	5 U	10 U	5 U	10 U	5 U	10 U
Butylbenzylphthalate	5 U	10 U	5 U	10 U	5 U	10 U
3,3'-Dichlorobenzidine	5 U	10 U	5 U	10 U	5 U	10 U
Benzo(a)anthracene	5 U	10 U	5 U	10 U	5 U	10 U
Chrysene	5 U	10 U	5 U	10 U	5 U	10 U
bis(2-Ethylhexyl)phthalate	**5 U**	**7 J**	**16**	**34**	**32**	**10 U**
Di-n-octylphthalate	5 U	10 U	5 U	10 U	5 U	10 U
Benzo(b)fluoranthene	5 U	10 U	5 U	10 U	5 U	10 U
Benzo(k)fluoranthene	5 U	10 U	5 U	10 U	5 U	10 U
Benzo(a)pyrene	5 U	10 U	5 U	10 U	5 U	10 U
Indeno(1,2,3-cd)pyrene	5 U	10 U	5 U	10 U	5 U	10 U
Dibenzo(a,h)anthracene	5 U	10 U	5 U	10 U	5 U	10 U
Benzo(g,h,i)perylene	5 U	10 U	5 U	10 U	5 U	10 U
SVOA TICs	1	2	0	4	0	2
Pesticides						
Alpha-BHC	0.010 U	0.050 U	0.010 U	0.050 U	0.010 U	0.050 U
Beta-BHC	0.010 U	0.050 U	0.010 U	0.050 U	0.010 U	0.050 U
Delta-BHC	0.010 U	0.050 U	0.010 U	0.050 U	0.010 U	0.050 U
Lindane	0.010 U	0.050 U	0.010 U	0.050 U	0.010 U	0.050 U
Heptachlor	0.010 U	0.050 U	0.010 U	0.050 U	0.010 U	0.050 U
Aldrin	0.010 U	0.050 U	0.010 U	0.050 U	0.010 U	0.050 U
Heptachlor Epoxide	0.010 U	0.050 U	0.010 U	0.050 U	0.010 U	0.050 U
Endosulfan I	0.010 U	0.050 U	0.010 U	0.050 U	0.010 U	0.050 U
Dieldrin	0.020 U	0.10 U	0.020 U	0.10 U	0.020 U	0.10 U
p,p'-DDE	0.020 U	0.10 U	0.020 U	0.10 U	0.020 U	0.10 U
Endrin	0.020 U	0.10 U	0.020 U	0.10 U	0.020 U	0.10 U
Endosulfan II	0.020 U	0.10 U	0.020 U	0.10 U	0.020 U	0.10 U
p,p'-DDD	0.020 U	0.10 U	0.020 U	0.10 U	0.020 U	0.10 U
Endosulfan Sulfate	0.020 U	0.10 U	0.020 U	0.10 U	0.020 U	0.10 U
p,p'-DDT	0.020 U	0.10 U	0.020 U	0.10 U	0.020 U	0.10 U
Methoxychlor	0.10 U	0.50 U	0.10 U	0.50 U	0.10 U	0.50 U
Endrin Ketone	0.020 U	0.10 U	0.020 U	0.10 U	0.020 U	0.10 U
Endrin Aldehyde	0.020 U	0.10 U	0.020 U	0.10 U	0.020 U	0.10 U
Alpha-chlordane	0.010 U	0.050 U	0.010 U	0.050 U	0.010 U	0.050 U
Gamma-chlordane	0.010 U	0.050 U	0.010 U	0.050 U	0.010 U	0.050 U
Toxaphene	1.0 U	5.0 U	1.0 U	5.0 U	1.0 U	5.0 U

1LCB

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EBZA7

Lab Name: REI Contract: 68-D6-0061

Lab Code: ROLLIN Case No.: 25525 SAS No.: SDG No.: EBZA7

Lab Sample ID: EBZA7 Date Received: 06/25/97

Lab File ID: 26506B.D Date Extracted: 06/25/97

Sample Volume: 1000 (ML) Date Analyzed: 06/27/97

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

MW-46

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl) ether	4	J
95-57-8	2-Chlorophenol	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	2,2'-oxybis-(1-Chloropropane)	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	n-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
111-91-1	bis(2-chloroethoxy) methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronapthalene	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenapththylene	5	U
606-20-2	2,6-Dinitrotoluene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U

1LCF

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EBZA2

Lab Name: REI Contract: 68-D6-0061

Lab Code: ROLLIN Case No.: 25525 SAS No.: SDG No.: EBZA7

Lab Sample ID: EBZA2 Date Received: 06/26/97

Lab File ID: 26634B.D Date Extracted: 06/26/97

Sample Volume: 1000 (ML) Date Analyzed: 06/30/97

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

MW18

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC. ug/L	Q

1LCC

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EBZB7

MW37

Lab Name: REI Contract: 68-D6-0061

Lab Code: ROLLIN Case No.: 25525 SAS No.: SDG No.: EBZA7

Lab Sample ID: EBZB7 Date Received: 06/26/97

Lab File ID: 26640B.D Date Extracted: 06/26/97

Sample Volume: 1000 (ML) Date Analyzed: 06/30/97

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl phenyl ether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	n-Nitrosodiphenylamine(1)	5	U
101-55-3	4-Bromophenyl phenyl ether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butyl benzyl phthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a) anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl) phthalate	16	
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b) fluoranthene	5	U
207-08-9	Benzo(k) fluoranthene	5	U
50-32-8	Benzo(a) pyrene	5	U
193-39-5	Indeno (1,2,3-cd) pyrene	5	U
53-70-3	Dibenz (ah) anthracene	5	U
191-24-2	Benzo (ghi) perylene	5	U

(1) - Cannot be separated from Diphenylamine

1LCC

EPA SAMPLE NO.

LOW CONC. WATER SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EBYZ7

Lab Name: REI Contract: 68-D6-0061

Lab Code: ROLLIN Case No.: 25525 SAS No.: SDG No.: EBZA7

MW8

Lab Sample ID: EBYZ7 Date Received: 06/26/97

Lab File ID: 26636B.D Date Extracted: 06/26/97

Sample Volume: 1000 (ML) Date Analyzed: 06/30/97

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL)

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl phenyl ether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	n-Nitrosodiphenylamine(1)	5	U
101-55-3	4-Bromophenyl phenyl ether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butyl benzyl phthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a) anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl) phthalate	32	
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b) fluoranthene	5	U
207-08-9	Benzo(k) fluoranthene	5	U
50-32-8	Benzo(a) pyrene	5	U
193-39-5	Indeno (1,2,3-cd) pyrene	5	U
53-70-3	Dibenz (ah) anthracene	5	U
191-24-2	Benzo (ghi) perylene	5	U

(1) - Cannot be separated from Diphenylamine

Mrkvicka, Steven

From: Mrkvicka, Steven
To: 'Sheri Bianchin, USEPA'
Subject: Comments on MW response to 1996 Groundwater Report
Date: Friday, August 29, 1997 11:38AM

1. Table 13, page 1 of 1. The table indicates that selenium has a ROD remediation level; however, there is not a level for selenium. (I think this is a typo).

2. Tables 13 and 14. Several compounds and analytes in these tables indicate concentrations above the ROD remediation levels; however, these exceedances were not highlighted in the tables or in Figures 6 and 7. The concentrations were flagged as either J (organics) or B (inorganics), which indicate estimated values. Granted these are qualified results, but why aren't these compounds and analytes indicated as hits above the ROD levels?

Qualified organic compounds above the ROD levels include methylene chloride, benzene, and bis(2-ethylhexyl)phthalate in Table 13. Qualified inorganic analytes above the ROD levels include arsenic, beryllium, manganese, and thallium in Table 13 and beryllium and thallium in Table 14.

3. Why are the inorganic results not included in Figures 6 and 7? The figures just show the organic hits.

Post-it® Fax Note 7671	Date 8-29	# of pages ▶ 2
To Sheri Bianchin	From Steve Mrkvicka	
Co./Dept. USEPA	Co. B&V	
Phone #	Phone #	
Fax #	Fax #	

Mrkvicka, Steven

From: Mrkvicka, Steven
To: 'Sheri Bianchin, USEPA'
Subject: Comments on the ACS Pre-Final Inspection Report
Date: Friday, August 29, 1997 11:47AM

1. MW should provide you with a date for completing the work on the punch list, so you can get a date for the Final Inspection.

2. The BWES PSVP states that pump tests will be performed at the 8 extraction locations. This work needs to be included in the punch list.

Letter of Transmittal
BLACK & VEATCH Special Projects Corp.

101 North Wacker Drive, Suite 1100, Chicago, Illinois, 60606, Phone (312) 346-3775, Fax (312) 346-4781

To: Ms. Sheri Bianchin
United States Environmental Protection Agency
77 West Jackson Boulevard (SRW-6J)
Chicago, Illinois 60604

Date: October 15, 1996
From: Steve Mrkvicka
Project: American Chemical Services
Project No.: 71670
File: C.3

We are sending you: [XXX] Attached [ ] Under separate cover via

[ ] Preliminary Report
[XXX] Final Report
[ ] Other:

[ ] Specifications
[ ] Change Order
[ ] Addendum

These items are transmitted:

[ ] As requested
[ ] For your approval
[XXX] For your information
[ ] For review and comment

Remarks: Enclosed is the data review and comparison of the USEPA split samples and the Montgomery Watson samples collected during the August 1996 Upper Aquifer Investigation.
If you have any questions, please call me at 312/683-7849.

American Chemical Services
Work Assignment 80-5PJ7

Copy To: P. Hendrixson, USEPA (w/o enclosures)
E. Howard, USEPA (w/o enclosures); D. Gountanis, USEPA (w/o enclosures)

Signed: October 15, 1996

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