LONGHORN ARMY AMMUNITION PLANT

KARNACK, TEXAS

ADMINISTRATIVE RECORD

VOLUME 10 of 13

1994

Bate Stamp Numbers
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Prepared for:

Department of the Army
Longhorn Army Ammunition Plant
Marshall, Texas 75671-1059

1995

VOLUME 10 of 13

1994

P. **Title:** Final Analytical Data - Interim Remedial Action (RFI) Burning Ground 3 & Unlined Evaporation Pond
Volume 4 of 4 - Chemical Data QA / QC Validation Summary Reports
Group(s): Early Interim Action At Burning Ground No. 3
Site(s): LHAAP-18 & LHAAP-24 Burning Ground / Washout Pond & Evaporation Pond
Location: Longhorn Army Ammunition Plant, Marshall, Texas
Company: AWD Technologies, Inc.
Author(s): AWD Technologies, Inc.
Recipient: U.S. Army Corps Of Engineers, Tulsa District
Date: September 6, 1994
Bate Stamp: 010909 - 011465

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FINAL

CHEMICAL DATA QA/QC VALIDATION REPORT
INTERIM REMEDIAL ACTION
BURNING GROUND 3 AND
UNLINED EVAPORATION POND
LHAAP UNITS 18 AND 24
LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

VOLUME 4 OF 4

PREPARED FOR

UNITED STATES ARMY CORPS OF ENGINEERS
TULSA DISTRICT

PREPARED BY

AWD TECHNOLOGIES, INC.
ROCKVILLE, MARYLAND

SEPTEMBER 6, 1994
USACE CONTRACT DACA56-93-D-0016
DELIVERY ORDER 0002
MODIFICATION 000203
AWD PROJECT 2379

FINAL

CHEMICAL DATA QA\QC
VALIDATION SUMMARY REPORT
Longhorn Army Ammunition Plant
Karnack, Texas

The Longhorn Army Ammunition Plant (LHAAP) Phase I and II analytical data for the Interim Remedial Action of Burning Ground 3 and Unlined Evaporation Pond (LHAAP Units 18 and 24), which were generated by PDP Analytical Services and Inchcape Testing Services, have been validated by AWD Technologies, Inc. (AWD) in accordance with the U.S. EPA's National Functional Guidelines for Organic Data Review (June 1991), the U.S. EPA's Laboratory Data Validation Functional Guidelines for Evaluating Inorganics Analyses (July, 1988), and with reference to appropriate method requirements. The resulting reports were produced by AWD in March and August of 1994 and are in accordance with the U.S. Army Corps of Engineers' (USACE) Regulation 1110-1-263 and Minimum Data Reporting Requirements, as well as with the Chemical Data Acquisition Plan (CDAP) for this site. The associated USACE Contract Number is DACA56-93-D-0016 and the Delivery Order Number is 0002.

The validated analytical results are reported in the data summary section of each validation or chemical data QA/QC report and should be accepted as qualified. With the exception of the relatively very few chemical concentrations that were qualified as unusable, "R", all results and data meet the requirements of the data quality objective (DQO) for this site and are deemed acceptable and valid for the intended use.

Among the criteria used to evaluate the data are accuracy, precision, and representativeness. Each of these criteria were examined for each type of analysis reported in each laboratory data package. The percent recoveries of laboratory control samples, surrogates, and matrix spike/matrix spike duplicates were evaluated under accuracy, which is the determination of how close a concentration is to its true value. Under precision, the relative percent differences (RPDs) between batch spikes and batch spike duplicates, laboratory control samples and laboratory control sample duplicates, matrix spikes and matrix spike duplicates, and site samples and their associated laboratory duplicates were evaluated. These measure the laboratory's ability to reproduce a chemical concentration. The criteria considered under representativeness include: holding times, sample preservation, laboratory and field blank contamination, and field duplicate comparisons. These enable the validator to further assess the chemical data and to decide the extent to which the chemical concentrations are acceptable, reliable, and appropriate.

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FINAL

CHEMICAL DATA QA/QC REPORT
INTERIM REMEDIAL ACTION
BURNING GROUND 3 AND
UNLINED EVAPORATION POND
LHAAP UNITS 18 AND 24
LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

PREPARED FOR

UNITED STATES ARMY CORPS OF ENGINEERS
TULSA DISTRICT

PREPARED BY

AWD TECHNOLOGIES, INC.
ROCKVILLE, MARYLAND

PDP ANALYTICAL SERVICES -- Episode 2209

AUGUST 31, 1994
USACE CONTRACT DACA56-93-D-0016
DELIVERY ORDER 0002
AWD PROJECT 2379

LONGHORN ARMY AMMUNITION PLANT, TEXAS
BURNING GROUND 3 AND UNLINED EVAPORATION POND
INTERIM REMEDIAL ACTION
PDP Analytical Services -- Episode 2209

1.0 Discussion.

This set of samples was collected from the Burning Ground 3 and the Unlined Evaporation Pond areas of the Longhorn Army Ammunition Plant in Karnack, Texas on April 5, 1994 as part of the Interim Remedial Action Investigation. The sampling activity was conducted by AWD Technologies, Inc. (AWD) for the U.S. Army Corps of Engineers (COE), Tulsa District. After collection, the samples were sent to the PDP Analytical Services laboratory in Spring, Texas and were placed under Episode Number 2209. Included in this work order are three (3) groundwater samples and one (1) trip blank. There were no field duplicates in this set of samples.

Groundwater Samples

LH18/24-MW12-1001
LH18/24-MW129-1001
LH18/24-MW20-1001

Trip Blank

LH18/24-MW129-TB

All samples, except the trip blank, were analyzed for volatile organic chemicals (VOCs), target analyte list (TAL) metals, chloride, nitrate as nitrogen, and sulfate. The trip blank was only analyzed for VOCs. All VOC and metals analyses were performed by U.S. EPA SW-846 methodologies: 8240 and 6000/7000 series, respectively. The chloride, nitrate, and sulfate analyses were performed according to U.S. EPA Methods 325.3, 352.1, and 375.4, respectively. Since the laboratory did not supply any of the analytical raw data in the deliverable package, data validation has been performed on the limited basis of examining QA/QC summary reports.

Other than the selenium results that were rejected, "R", all compounds and analytes were successfully analyzed in all samples. The organic analytical data were evaluated by the following quality assurance/quality control (QA/QC) parameters where applicable: technical holding times and preservation, system monitoring compound/surrogate spike recoveries, method blanks, matrix spike/matrix spike duplicates (MS/MSDs), laboratory control samples, field QC, and transcription. The inorganic analytical data were evaluated by the following QA/QC parameters where applicable: technical holding times and preservation, laboratory blanks, matrix spike recoveries, laboratory duplicates, laboratory control samples, field QC, and transcription. Validated sample analysis results are listed on the attached data summary forms. Areas of concern with respect to data quality and usability are discussed below.

2.0 Volatiles.

2.1 Accuracy. All surrogate, laboratory control sample (LCS), and MS/MSD percent recoveries were within acceptable control limits, except for two of the surrogate recoveries in sample LH18/24-MW20-1001. Bromofluorobenzene was high and 1,2-dichloroethane-d4 was low. Therefore, all VOC compounds in this sample have been qualified as estimated, "J" or "UJ".

2.2 Precision. The relative percent differences (RPDs) reported for the MS/MSD data were all within acceptable quality control limits.

2.3 Representativeness. All samples were received in good condition by the laboratory, but were not preserved. Consequently, the aromatic VOC compounds in all samples were analyzed outside of the 7-day holding time. Thus, all associated compounds have been qualified as estimated, "UJ", as they are all non-detects.

There was low level acetone and methylene chloride contamination in the method and trip blanks. Therefore, positive sample concentrations of these compounds that are less than ten (10) times the highest amount of contamination have been qualified as non-detect, "U". Note that associated sample concentrations that were less than the reporting limit have also been raised to this limit, in addition to the "U" flag.

3.0 Anions.

Chloride, nitrate as nitrogen, and sulfate were all analyzed as anions by the aforementioned wet chemistry methods.

3.1 Accuracy. The laboratory control sample and matrix spike percent recoveries were all within acceptable quality control limits for all three parameters, except for the MS/MSD recoveries of nitrate. Both of these spikes were recovered at 150 percent. Thus, the two positive sample values for nitrate have been qualified as estimated, "J"; the non-detect value reported for sample LH18/24-MW20-1001 was not impacted.

3.2 Precision. The LCS and sample duplicate RPDs were all within the acceptable control limit of 20 percent.

3.3 Representativeness. All samples were properly preserved and were received in good condition. All blanks were free of target analyte contamination and all samples were analyzed within acceptable holding times.

4.0 TAL Metals.

4.1 Accuracy. All laboratory control sample and matrix spike percent recoveries were within acceptable quality control limits, except for the lead matrix spike recovery and the laboratory control sample duplicate (LCSD) and MS/MSD recoveries for selenium. Although the matrix spike recovery for lead was high, the data was unaffected since all sample concentrations for lead are non-detect. The selenium MS/MSD recoveries, on the other hand, were both less than 30 percent. As a result, all sample values reported for this metal have been rejected, "R", and should be considered unusable since they are all non-detects. Note that the LCS duplicate recovery for selenium was high, but no further action was taken on the associated sample data since they were all previously rejected.

4.2 Precision. All LCS/LCSD and MS/MSD relative percent differences (RPDs) were within the acceptable quality control range, except for the lead MS/MSD RPD, which exceeded the 20 percent limit. Therefore, all sample results for lead have been qualified as estimated, "UJ", since they are all non-detects.

4.3 **Representativeness.** All samples were properly preserved and were received in good condition by the laboratory. All samples were prepared and analyzed within appropriate holding times and all blanks were free of target analyte contamination.

5.0 Notes.

The laboratory reports positive organic results that are below the quantitation limits but above the instrument detection limits (IDLs) as estimated, "J", since there is an unacceptable level of confidence in the detection and accurate reporting of concentrations less than the quantitation limits.

There were no tentatively identified compounds (TICs) reported by the laboratory for the volatile fraction of any sample.

Please note that all transcription and calculation errors found have been corrected in the support documentation and in the data summary of this report.

6.0 Conclusion.

These data were reviewed according to the U.S. EPA's National Functional Guidelines for Organic Data Review (June, 1991), the U.S. EPA's Laboratory Data Validation Functional Guidelines for Evaluating Inorganics Analyses (July, 1988), and with reference to method requirements. The results are presented in the data summary of this report and should be accepted as qualified. With the exception of the values that have been rejected, all results and data meet the requirements of the data quality objective (DQO) for this site and are deemed acceptable and valid for the intended use.

7.0 Information Regarding Report Content.

Attachments:

1. Glossary of data qualifier codes.
2. Data Summary. This may include:
   a) All positive results with qualifier codes, if applicable;
   b) All unusable detection limits qualified with "R"; and

c) All estimated detection limits qualified with "UJ".

3. Appendix A - Results as reported by the laboratory.

4. Appendix B - Support Documentation which includes details to support the statements made in this report.

GLOSSARY OF DATA QUALIFIER CODES

CODES RELATING TO IDENTIFICATION

(confidence concerning presence or absence of compounds)

U = Not detected. The associated number indicates approximate sample concentration necessary to be detected.

(NO CODE) = Confirmed identification.

R = Unreliable result. Analyte may or may not be present in the sample. Supporting data necessary to confirm result. The result is unusable.

CODES RELATED TO QUANTITATION

(can be used for positive results and sample quantitation limits)

J = Analyte present. Reported value may not be accurate or precise.

UJ = Not detected. Quantitation limit may be inaccurate or imprecise.

DATA SUMMARY

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES	Client Sample ID:	LH18&24-MW12-1001	Date Sampled:	04/05/94
Project Name:	LHAAP 18/24	PDP Sample ID:	2209.01	Date Received:	04/06/94
Project No.:	2379	Report No.:	B8594	Date Reported:	04/25/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8594
Sample Volume:	5.0 ml	Date Analyzed:	04/18/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	3 J	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND UJ
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	19	Chloromethane	10	ND
1,2-Dichloroethane	5	14	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
-Butanone	10	ND	Ethylbenzene	5	ND UJ
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	100
2-Hexanone	10	ND	Styrene	5	ND UJ
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND UJ
Benzene	5	ND UJ	Total xylenes	5	ND UJ
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	110
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	~~5~~ 125	~~2900 E~~ 4000
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	87
Toluene-d8	50	(88-110)	91
Bromofluorobenzene	50	(86-115)	96

Method Blank ID: 2210V.BLK1 LCS ID: 2210V.LCS1 MS ID: 2209.03MS MSD ID: 2209.03MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES	Client Sample ID:	LH18&24-MW129-1001	Date Sampled:	04/05/94
Project Name:	LHAAP 18/24	PDP Sample ID:	2209.02	Date Received:	04/06/94
Project No.:	2379	Report No.:	B8595	Date Reported:	04/25/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8595
Sample Volume:	5.0 ml	Date Analyzed:	04/18/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND UJ
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	28	Chloroform	5	3 J
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
',2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
-Butanone	10	ND	Ethylbenzene	5	ND W
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	5 U
2-Hexanone	10	ND	Styrene	5	ND UJ
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	~~7~~ 10 U	Toluene	5	ND UJ
Benzene	5	ND UJ	Total xylenes	5	ND UJ
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	15
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	~~5~~ 50	~~1400~~ 1560
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	97
Toluene-d8	50	(88-110)	96
Bromofluorobenzene	50	(86-115)	105

Method Blank ID: 2210V.BLK1 LCS ID: 2210V.LCS1 MS ID: 2209.03MS MSD ID: 2209.03MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES	Client Sample ID:	LH18&24-MW20-1001	Date Sampled:	04/05/94
Project Name:	LHAAP 18/24	PDP Sample ID:	2209.03	Date Received:	04/06/94
Project No.:	2379	Report No.:	B8596	Date Reported:	04/25/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8596
Sample Volume:	5.0 ml	Date Analyzed:	04/18/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND UJ	Carbon tetrachloride	5	ND UJ
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	6 UJ
2-Hexanone	10	ND	Styrene	5	ND UJ
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND UJ	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	13 J
Carbon disulfide	5	ND	Vinyl acetate	10	ND UJ
			Vinylchloride	10	ND UJ

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	60 *
Toluene-d8	50	(88-110)	104
Bromofluorobenzene	50	(86-115)	116

Method Blank ID: 2210V.BLK1 LCS ID: 2210V.LCS1 MS ID: 2209.03MS MSD ID: 2209.03MSD DUP ID: NA

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PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES	Client Sample ID:	LH18&24-MW129-TB	Date Sampled:	04/05/94
Project Name:	LHAAP 18/24	PDP Sample ID:	2209.04	Date Received:	04/06/94
Project No.:	2379	Report No.:	B8593	Date Reported:	04/25/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8593
Sample Volume:	5.0 ml	Date Analyzed:	04/18/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND UJ
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND UJ
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	8
2-Hexanone	10	ND	Styrene	5	ND UJ
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	14	Toluene	5	ND UJ
Benzene	5	ND UJ	Total xylenes	5	ND UJ
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	ND
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	96
Toluene-d8	50	(88-110)	95
Bromofluorobenzene	50	(86-115)	100

Method Blank ID: 2210V.BLK1 LCS ID: 2210V.LCS1 MS ID: 2209.03MS MSD ID: 2209.03MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES, INC
Project Name: LHAAP-18/24
Project Number: 2379

Client Sample ID: LH18&24-MW12 1001
PDP Sample ID: 2209.01
Report Number: I20901

Date Sampled: 04-05-94
Date Received: 04-06-94
Date Reported: 04-19-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-13-94	04-18-94	0.1	0.21	MBB
Antimony	SW-846 6010	04-13-94	04-18-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-13-94	04-18-94	0.005	ND	MBB
Barium	SW-846 6010	04-13-94	04-18-94	0.01	0.244	MBB
Beryllium	SW-846 6010	04-13-94	04-18-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-13-94	04-18-94	0.005	ND	MBB
Calcium	SW-846 6010	04-13-94	04-18-94	0.2	36.1	MBB
Chromium	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Cobalt	SW-846 6010	04-13-94	04-18-94	0.01	0.036	MBB
Copper	SW-846 6010	04-13-94	04-18-94	0.02	ND	MBB
Iron	SW-846 6010	04-13-94	04-18-94	0.1	65.2	MBB
Lead	SW-846 7421	04-13-94	04-15-94	0.005	ND UJ	MBB
Magnesium	SW-846 6010	04-13-94	04-18-94	0.2	23.1	MBB
Manganese	SW-846 6010	04-13-94	04-18-94	0.01	1.87	MBB
Mercury	SW-846 7470	04-18-94	04-20-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-13-94	04-18-94	0.04	0.074	MBB
Potassium	SW-846 6010	04-13-94	04-18-94	5	ND	MBB
Selenium	SW-846 7740	04-13-94	04-18-94	0.005	ND R	MBB
Silver	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Sodium	SW-846 6010	04-13-94	04-18-94	0.5	180	MBB
Thallium	SW-846 7841	04-13-94	04-14-94	0.01	ND	MBB
Vanadium	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Zinc	SW-846 6010	04-13-94	04-18-94	0.02	0.22	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP Method Blank ID: 2200.PBW1
GFAA Method Blank ID: 2200.PBW1
CVAA Method Blank ID: 2209.PBW1

ICP LCS ID: 2200.LCSW1
GFAA LCS ID: 2200.LCSW1
CVAA LCS ID: 2209.LCSW1

ICP LCSD ID: 2200.LCSW2
GFAA LCSD ID: 2200.LCSW2
CVAA LCSD ID: 2209.LCSW2

ICP MS ID: 2211.01MS
GFAA MS ID: 2211.01MS
CVAA MS ID: 2211.01MS

ICP MSD ID: 2211.01MSD
GFAA MSD ID: 2211.01MSD
CVAA MSD ID: 2211.01MSD

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES, INC
Project Name: LHAAP-18/24
Project Number: 2379

Client Sample ID: LH18&24-MW129 1001
PDP Sample ID: 2209.02
Report Number: I20902

Date Sampled: 04-05-94
Date Received: 04-06-94
Date Reported: 04-19-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-13-94	04-18-94	0.1	0.15	MBB
Antimony	SW-846 6010	04-13-94	04-18-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-13-94	04-18-94	0.005	ND	MBB
Barium	SW-846 6010	04-13-94	04-18-94	0.01	0.060	MBB
Beryllium	SW-846 6010	04-13-94	04-18-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-13-94	04-18-94	0.005	ND	MBB
Calcium	SW-846 6010	04-13-94	04-18-94	0.2	2.9	MBB
Chromium	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Cobalt	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Copper	SW-846 6010	04-13-94	04-18-94	0.02	ND	MBB
Iron	SW-846 6010	04-13-94	04-18-94	0.1	0.21	MBB
Lead	SW-846 7421	04-13-94	04-15-94	0.005	ND UJ	MBB
Magnesium	SW-846 6010	04-13-94	04-18-94	0.2	1.9	MBB
Manganese	SW-846 6010	04-13-94	04-18-94	0.01	0.069	MBB
Mercury	SW-846 7470	04-18-94	04-20-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-13-94	04-18-94	0.04	ND	MBB
Potassium	SW-846 6010	04-13-94	04-18-94	5	ND	MBB
Selenium	SW-846 7740	04-13-94	04-18-94	0.005	ND R	MBB
Silver	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Sodium	SW-846 6010	04-13-94	04-18-94	0.5	52.4	MBB
Thallium	SW-846 7841	04-13-94	04-14-94	0.005	ND	MBB
Vanadium	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Zinc	SW-846 6010	04-13-94	04-18-94	0.02	0.047	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP LCS ID: 2200.LCSW1
GFAA LCS ID: 2200.LCSW1
CVAA LCS ID: 2209.LCSW1

ICP MS ID: 2211.01MS
GFAA MS ID: 2211.01MS
CVAA MS ID: 2211.01MS

ICP Method Blank ID: 2200.PBW1
GFAA Method Blank ID: 2200.PBW1
CVAA Method Blank ID: 2209.PBW1

ICP LCSD ID: 2200.LCSW2
GFAA LCSD ID: 2200.LCSW2
CVAA LCSD ID: 2209.LCSW2

ICP MSD ID: 2211.01MSD
GFAA MSD ID: 2211.01MSD
CVAA MSD ID: 2211.01MSD

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES, INC
Project Name: LHAAP-18/24
Project Number: 2379

Client Sample ID: LH18&24-MW20 1001
PDP Sample ID: 2209.03
Report Number: I20903

Date Sampled: 04-05-94
Date Received: 04-06-94
Date Reported: 04-19-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-13-94	04-18-94	0.1	0.53	MBB
Antimony	SW-846 6010	04-13-94	04-18-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-13-94	04-18-94	0.005	ND	MBB
Barium	SW-846 6010	04-13-94	04-18-94	0.01	0.238	MBB
Beryllium	SW-846 6010	04-13-94	04-18-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-13-94	04-18-94	0.005	ND	MBB
Calcium	SW-846 6010	04-13-94	04-18-94	0.2	21.0	MBB
Chromium	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Cobalt	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Copper	SW-846 6010	04-13-94	04-18-94	0.02	ND	MBB
Iron	SW-846 6010	04-13-94	04-18-94	0.1	0.38	MBB
]ad	SW-846 7421	04-13-94	04-15-94	0.005	ND UJ	MBB
Magnesium	SW-846 6010	04-13-94	04-18-94	0.2	4.9	MBB
Manganese	SW-846 6010	04-13-94	04-18-94	0.01	0.071	MBB
Mercury	SW-846 7470	04-18-94	04-20-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-13-94	04-18-94	0.04	0.061	MBB
Potassium	SW-846 6010	04-13-94	04-18-94	5	ND	MBB
Selenium	SW-846 7740	04-13-94	04-18-94	0.005	ND R	MBB
Silver	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Sodium	SW-846 6010	04-13-94	04-18-94	0.5	37.5	MBB
Thallium	SW-846 7841	04-13-94	04-14-94	0.005	ND	MBB
Vanadium	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Zinc	SW-846 6010	04-13-94	04-18-94	0.02	0.098	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP Method Blank ID: 2200.PBW1
GFAA Method Blank ID: 2200.PBW1
CVAA Method Blank ID: 2209.PBW1

ICP LCS ID: 2200.LCSW1
GFAA LCS ID: 2200.LCSW1
CVAA LCS ID: 2209.LCSW1

ICP LCSD ID: 2200.LCSW2
GFAA LCSD ID: 2200.LCSW2
CVAA LCSD ID: 2209.LCSW2

ICP MS ID: 2211.01MS
GFAA MS ID: 2211.01MS
CVAA MS ID: 2211.01MS

ICP MSD ID: 2211.01MSD
GFAA MSD ID: 2211.01MSD
CVAA MSD ID: 2211.01MSD

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas; 77386 (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES, INC
Project Name: LHAAP-18/24
Project No.: 2379

Date Reported: 04-20-94
Report No.: I209CL
Analyst: HM

WET CHEMISTRY PARAMETER: Chloride

Method Reference: EPA 325.3 UNITS: mg/L

PDP LABORATORY ID	CLIENT ID	MATRIX	DATE SAMPLED	DATE RECEIVED	DATE ANALYZED	QUANT LIMIT	RESULT	SPIKE ADDED OR TRUE VALUE	RELATIVE PERCENT DIFF(20)	PERCENT RECOVERY (75-125)
2209.01	LH18&24-MW12 1001	WATER	04-05-94	04-06-94	04-08-94	2	528			
2209.02	LH18&24-MW129 1001	WATER	04-05-94	04-06-94	04-08-94	2	32			
2209.03	LH18&24-MW20 1001	WATER	04-05-94	04-06-94	04-08-94	2	11			
			QUALITY ASSURANCE/QUALITY CONTROL							
2193.PB1	PREPARATION BLANK	NA	NA	NA	04-08-94	2	ND			
2193.LCS1	LAB CONTROL STD	NA	NA	NA	04-08-94	2	136	125		109
2193.LCS2	LAB CONTROL STD	NA	NA	NA	04-08-94	2	136	125	0.0	109
2193.01	SAMPLE	NA	NA	NA	04-05-94	2	99			
2193.01D	DUPLICATE	NA	NA	NA	04-05-94	2	99		0.0	
2193.01MS	MATRIX SPIKE	NA	NA	NA	04-05-94	2	120	17.7		119

PDP ANALYTICAL SERVICES
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LABORATORY REPORT

Client: AWD TECHNOLOGIES, INC
Project Name: LHAAP-18\24
Project No.: 2379

Date Reported: 04-20-94
Report No.: I209N03
Analyst: HM

WET CHEMISTRY PARAMETER: Nitrate as N

Method Reference: EPA 352.1

UNITS: mg/L

PDP LABORATORY ID	CLIENT ID	MATRIX	DATE SAMPLED	DATE RECEIVED	DATE ANALYZED	QUANT LIMIT	RESULT	SPIKE ADDED OR TRUE VALUE	RELATIVE PERCENT DIFF(20)	PERCENT RECOVERY (75-125)
2209.01	LH18&24-MW12 1001	WATER	04-05-94	04-06-94	04-07-94	0.5	1.7J			
2209.02	LH18&24-MW129 1001	WATER	04-05-94	04-06-94	04-07-94	0.1	1.0J			
2209.03	LH18&24-MW20 1001	WATER	04-05-94	04-06-94	04-07-94	0.1	ND			
			QUALITY ASSURANCE/QUALITY CONTROL							
2209.PB1	PREPARATION BLANK	NA	NA	NA	04-07-94	0.1	ND			
2209.LCS1	LAB CONTROL STD	NA	NA	NA	04-07-94	0.1	0.32	0.40		80
2209.LCS2	LAB CONTROL STD	NA	NA	NA	04-07-94	0.1	0.36	0.40	12	90
2209.01MS	MATRIX SPIKE	NA	NA	NA	04-07-94	0.5	4.7	2.0		150*
2209.01MSD	MATRIX SPIKE DUP	NA	NA	NA	04-07-94	0.5	4.7	2.0	0	150*

PDP ANALYTICAL SERVICES
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LABORATORY REPORT

Client: AWD TECHNOLOGIES, INC
Project Name: LHAAP-18\24
Project No.: 2379

Date Reported: 04-20-94
Report No.: I209S04
Analyst: HM

WET CHEMISTRY PARAMETER: Sulfate

Method Reference: EPA 375.4 UNITS: mg/L

PDP LABORATORY ID	CLIENT ID	MATRIX	DATE SAMPLED	DATE RECEIVED	DATE ANALYZED	QUANT LIMIT	RESULT	SPIKE ADDED OR TRUE VALUE	RELATIVE PERCENT DIFF(20)	PERCENT RECOVERY (75-125)
2209.01	LH18&24-MW12 1001	WATER	04-05-94	04-06-94	04-06-94	25	63			
2209.02	LH18&24-MW129 1001	WATER	04-05-94	04-06-94	04-06-94	25	66			
2209.03	LH18&24-MW20 1001	WATER	04-05-94	04-06-94	04-06-94	5	24			
			QUALITY ASSURANCE/QUALITY CONTROL							
2176.PB1	PREPARATION BLANK	NA	NA	NA	04-06-94	5	ND			
2176.LCS1	LAB CONTROL STD	NA	NA	NA	04-06-94	5	99.8	109		92
2176.LCS2	LAB CONTROL STD	NA	NA	NA	04-06-94	5	103.5	109	3.6	95
2193.01	SAMPLE	NA	NA	NA	04-06-94	25	41			
2193.01MS	MATRIX SPIKE	NA	NA	NA	04-06-94	25	133	100		92
2193.01MSD	MATRIX SPIKE DUP	NA	NA	NA	04-06-94	25	132	100	0.8	91

APPENDIX A
RESULTS AS REPORTED BY THE LABORATORY

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES	Client Sample ID:	LH18&24-MW12-1001	Date Sampled:	04/05/94
Project Name:	LHAAP 18/24	PDP Sample ID:	2209.01	Date Received:	04/06/94
Project No.:	2379	Report No.:	B8594	Date Reported:	04/25/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8594
Sample Volume:	5.0 ml	Date Analyzed:	04/18/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	3 J	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	19	Chloromethane	10	ND
1,2-Dichloroethane	5	14	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
`-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	100
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	110
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	2900 E
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	87
Toluene-d8	50	(88-110)	91
Bromofluorobenzene	50	(86-115)	96

Method Blank ID: 2210V.BLK1 LCS ID: 2210V.LCS1 MS ID: 2209.03MS MSD ID: 2209.03MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES	Client Sample ID:	LH18&24-MW12-1001(DL)	Date Sampled:	04/05/94
Project Name:	LHAAP 18/24	PDP Sample ID:	2209.01(DILUTION)	Date Received:	04/06/94
Project No.:	2379	Report No.:	B8614	Date Reported:	04/25/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	25.00	GC/MS File ID:	B8614
Sample Volume:	5.0 ml	Date Analyzed:	04/18/94
Dilution:	25.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	125	ND	Carbon tetrachloride	125	ND
1,1,2,2-Tetrachloroethane	125	ND	Chlorobenzene	125	ND
1,1,2-Trichloroethane	125	ND	Chloroethane	250	ND
1,1-Dichloroethane	125	ND	Chloroform	125	ND
1,1-Dichloroethene	125	ND	Chloromethane	250	ND
1,2-Dichloroethane	125	ND	Cis-1,3-Dichloropropene	125	ND
1,2-Dichloropropane	125	ND	Dibromochloromethane	125	ND
-Butanone	250	ND	Ethylbenzene	125	ND
2-Chloroethyl vinyl ether	250	ND	Methylene chloride	125	140 B
2-Hexanone	250	ND	Styrene	125	ND
4-Methyl-2-pentanone	250	ND	Tetrachloroethene	125	ND
Acetone	250	ND	Toluene	125	ND
Benzene	125	ND	Total xylenes	125	ND
Bromodichloromethane	125	ND	Total-1,2-Dichloroethene	125	110 J
Bromoform	125	ND	Trans-1,3-Dichloropropene	125	ND
Bromomethane	250	ND	Trichloroethene	125	4000
Carbon disulfide	125	ND	Vinyl acetate	250	ND
			Vinylchloride	250	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	1250	(76-114)	98
Toluene-d8	1250	(88-110)	100
Bromofluorobenzene	1250	(86-115)	109

Method Blank ID: 2209V.BLK2 LCS ID: 2210V.LCS1 MS ID: 2209.03MS MSD ID: 2209.03MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES	Client Sample ID:	LH18&24-MW129-1001	Date Sampled:	04/05/94
Project Name:	LHAAP 18/24	PDP Sample ID:	2209.02	Date Received:	04/06/94
Project No.:	2379	Report No.:	B8595	Date Reported:	04/25/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8595
Sample Volume:	5.0 ml	Date Analyzed:	04/18/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	28	Chloroform	5	3 J
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	5
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	7	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	15
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	1400 E
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	97
Toluene-d8	50	(88-110)	96
Bromofluorobenzene	50	(86-115)	105

Method Blank ID: 2210V.BLK1 LCS ID: 2210V.LCS1 MS ID: 2209.03MS MSD ID: 2209.03MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES	Client Sample ID:	LH18&24-MW129-1001(DL)	Date Sampled:	04/05/94
Project Name:	LHAAP 18/24	PDP Sample ID:	2209.02(DILUTION)	Date Received:	04/06/94
Project No.:	2379	Report No.:	B8615	Date Reported:	04/25/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	10.00	GC/MS File ID:	B8615
Sample Volume:	5.0 ml	Date Analyzed:	04/18/94
Dilution:	10.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	50	ND	Carbon tetrachloride	50	ND
1,1,2,2-Tetrachloroethane	50	ND	Chlorobenzene	50	ND
1,1,2-Trichloroethane	50	ND	Chloroethane	100	ND
1,1-Dichloroethane	50	ND	Chloroform	50	ND
1,1-Dichloroethene	50	ND	Chloromethane	100	ND
1,2-Dichloroethane	50	ND	Cis-1,3-Dichloropropene	50	ND
1,2-Dichloropropane	50	ND	Dibromochloromethane	50	ND
2-Butanone	100	ND	Ethylbenzene	50	ND
2-Chloroethyl vinyl ether	100	ND	Methylene chloride	50	26 B
2-Hexanone	100	ND	Styrene	50	ND
4-Methyl-2-pentanone	100	ND	Tetrachloroethene	50	ND
Acetone	100	ND	Toluene	50	ND
Benzene	50	ND	Total xylenes	50	ND
Bromodichloromethane	50	ND	Total-1,2-Dichloroethene	50	ND
Bromoform	50	ND	Trans-1,3-Dichloropropene	50	ND
Bromomethane	100	ND	Trichloroethene	50	1560
Carbon disulfide	50	ND	Vinyl acetate	100	ND
			Vinylchloride	100	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	500	(76-114)	97
Toluene-d8	500	(88-110)	97
Bromofluorobenzene	500	(86-115)	105

Method Blank ID: 2209V.BLK2 LCS ID: 2210V.LCS1 MS ID: 2209.03MS MSD ID: 2209.03MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES	Client Sample ID:	LH18&24-MW20-1001	Date Sampled:	04/05/94
Project Name:	LHAAP 18/24	PDP Sample ID:	2209.03	Date Received:	04/06/94
Project No.:	2379	Report No.:	B8596	Date Reported:	04/25/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8596
Sample Volume:	5.0 ml	Date Analyzed:	04/18/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	6
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	13
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	60 *
Toluene-d8	50	(88-110)	104
Bromofluorobenzene	50	(86-115)	116

Method Blank ID: 2210V.BLK1 LCS ID: 2210V.LCS1 MS ID: 2209.03MS MSD ID: 2209.03MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES	Client Sample ID:	LH18&24-MW129-TB	Date Sampled:	04/05/94
Project Name:	LHAAP 18/24	PDP Sample ID:	2209.04	Date Received:	04/06/94
Project No.:	2379	Report No.:	B8593	Date Reported:	04/25/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8593
Sample Volume:	5.0 ml	Date Analyzed:	04/18/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	8
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	14	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	ND
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	96
Toluene-d8	50	(88-110)	95
Bromofluorobenzene	50	(86-115)	100

Method Blank ID: 2210V.BLK1 LCS ID: 2210V.LCS1 MS ID: 2209.03MS MSD ID: 2209.03MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES, INC
Project Name: LHAAP-18/24
Project Number: 2379

Client Sample ID: LH18&24-MW12 1001
PDP Sample ID: 2209.01
Report Number: I20901

Date Sampled: 04-05-94
Date Received: 04-06-94
Date Reported: 04-19-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-13-94	04-18-94	0.1	0.21	MBB
Antimony	SW-846 6010	04-13-94	04-18-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-13-94	04-18-94	0.005	ND	MBB
Barium	SW-846 6010	04-13-94	04-18-94	0.01	0.244	MBB
Beryllium	SW-846 6010	04-13-94	04-18-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-13-94	04-18-94	0.005	ND	MBB
Calcium	SW-846 6010	04-13-94	04-18-94	0.2	36.1	MBB
Chromium	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Cobalt	SW-846 6010	04-13-94	04-18-94	0.01	0.036	MBB
Copper	SW-846 6010	04-13-94	04-18-94	0.02	ND	MBB
Iron	SW-846 6010	04-13-94	04-18-94	0.1	65.2	MBB
Lead	SW-846 7421	04-13-94	04-15-94	0.005	ND	MBB
Magnesium	SW-846 6010	04-13-94	04-18-94	0.2	23.1	MBB
Manganese	SW-846 6010	04-13-94	04-18-94	0.01	1.87	MBB
Mercury	SW-846 7470	04-18-94	04-20-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-13-94	04-18-94	0.04	0.074	MBB
Potassium	SW-846 6010	04-13-94	04-18-94	5	ND	MBB
Selenium	SW-846 7740	04-13-94	04-18-94	0.005	ND	MBB
Silver	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Sodium	SW-846 6010	04-13-94	04-18-94	0.5	180	MBB
Thallium	SW-846 7841	04-13-94	04-14-94	0.01	ND	MBB
Vanadium	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Zinc	SW-846 6010	04-13-94	04-18-94	0.02	0.22	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP LCS ID: 2200.LCSW1
GFAA LCS ID: 2200.LCSW1
CVAA LCS ID: 2209.LCSW1

ICP MS ID: 2211.01MS
GFAA MS ID: 2211.01MS
CVAA MS ID: 2211.01MS

ICP Method Blank ID: 2200.PBW1
GFAA Method Blank ID: 2200.PBW1
CVAA Method Blank ID: 2209.PBW1

ICP LCSD ID: 2200.LCSW2
GFAA LCSD ID: 2200.LCSW2
CVAA LCSD ID: 2209.LCSW2

ICP MSD ID: 2211.01MSD
GFAA MSD ID: 2211.01MSD
CVAA MSD ID: 2211.01MSD

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES, INC
Project Name: LHAAP-18/24
Project Number: 2379

Client Sample ID: LH18&24-MW129 1001
PDP Sample ID: 2209.02
Report Number: I20902

Date Sampled: 04-05-94
Date Received: 04-06-94
Date Reported: 04-19-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-13-94	04-18-94	0.1	0.15	MBB
Antimony	SW-846 6010	04-13-94	04-18-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-13-94	04-18-94	0.005	ND	MBB
Barium	SW-846 6010	04-13-94	04-18-94	0.01	0.060	MBB
Beryllium	SW-846 6010	04-13-94	04-18-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-13-94	04-18-94	0.005	ND	MBB
Calcium	SW-846 6010	04-13-94	04-18-94	0.2	2.9	MBB
Chromium	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Cobalt	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Copper	SW-846 6010	04-13-94	04-18-94	0.02	ND	MBB
Iron	SW-846 6010	04-13-94	04-18-94	0.1	0.21	MBB
Lead	SW-846 7421	04-13-94	04-15-94	0.005	ND	MBB
Magnesium	SW-846 6010	04-13-94	04-18-94	0.2	1.9	MBB
Manganese	SW-846 6010	04-13-94	04-18-94	0.01	0.069	MBB
Mercury	SW-846 7470	04-18-94	04-20-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-13-94	04-18-94	0.04	ND	MBB
Potassium	SW-846 6010	04-13-94	04-18-94	5	ND	MBB
Selenium	SW-846 7740	04-13-94	04-18-94	0.005	ND	MBB
Silver	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Sodium	SW-846 6010	04-13-94	04-18-94	0.5	52.4	MBB
Thallium	SW-846 7841	04-13-94	04-14-94	0.005	ND	MBB
Vanadium	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Zinc	SW-846 6010	04-13-94	04-18-94	0.02	0.047	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP LCS ID: 2200.LCSW1
GFAA LCS ID: 2200.LCSW1
CVAA LCS ID: 2209.LCSW1

ICP MS ID: 2211.01MS
GFAA MS ID: 2211.01MS
CVAA MS ID: 2211.01MS

ICP Method Blank ID: 2200.PBW1
GFAA Method Blank ID: 2200.PBW1
CVAA Method Blank ID: 2209.PBW1

ICP LCSD ID: 2200.LCSW2
GFAA LCSD ID: 2200.LCSW2
CVAA LCSD ID: 2209.LCSW2

ICP MSD ID: 2211.01MSD
GFAA MSD ID: 2211.01MSD
CVAA MSD ID: 2211.01MSD

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES, INC
Project Name: LHAAP-18/24
Project Number: 2379

Client Sample ID: LH18&24-MW20 1001
PDP Sample ID: 2209.03
Report Number: I20903

Date Sampled: 04-05-94
Date Received: 04-06-94
Date Reported: 04-19-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-13-94	04-18-94	0.1	0.53	MBB
Antimony	SW-846 6010	04-13-94	04-18-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-13-94	04-18-94	0.005	ND	MBB
Barium	SW-846 6010	04-13-94	04-18-94	0.01	0.238	MBB
Beryllium	SW-846 6010	04-13-94	04-18-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-13-94	04-18-94	0.005	ND	MBB
Calcium	SW-846 6010	04-13-94	04-18-94	0.2	21.0	MBB
Chromium	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Cobalt	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Copper	SW-846 6010	04-13-94	04-18-94	0.02	ND	MBB
Iron	SW-846 6010	04-13-94	04-18-94	0.1	0.38	MBB
ead	SW-846 7421	04-13-94	04-15-94	0.005	ND	MBB
Magnesium	SW-846 6010	04-13-94	04-18-94	0.2	4.9	MBB
Manganese	SW-846 6010	04-13-94	04-18-94	0.01	0.071	MBB
Mercury	SW-846 7470	04-18-94	04-20-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-13-94	04-18-94	0.04	0.061	MBB
Potassium	SW-846 6010	04-13-94	04-18-94	5	ND	MBB
Selenium	SW-846 7740	04-13-94	04-18-94	0.005	ND	MBB
Silver	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Sodium	SW-846 6010	04-13-94	04-18-94	0.5	37.5	MBB
Thallium	SW-846 7841	04-13-94	04-14-94	0.005	ND	MBB
Vanadium	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Zinc	SW-846 6010	04-13-94	04-18-94	0.02	0.098	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP LCS ID: 2200.LCSW1
GFAA LCS ID: 2200.LCSW1
CVAA LCS ID: 2209.LCSW1

ICP MS ID: 2211.01MS
GFAA MS ID: 2211.01MS
CVAA MS ID: 2211.01MS

ICP Method Blank ID: 2200.PBW1
GFAA Method Blank ID: 2200.PBW1
CVAA Method Blank ID: 2209.PBW1

ICP LCSD ID: 2200.LCSW2
GFAA LCSD ID: 2200.LCSW2
CVAA LCSD ID: 2209.LCSW2

ICP MSD ID: 2211.01MSD
GFAA MSD ID: 2211.01MSD
CVAA MSD ID: 2211.01MSD

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas; 77386 (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES, INC
Project Name: LHAAP-18/24
Project No.: 2379

Date Reported: 04-20-94
Report No.: I209CL
Analyst: HM

WET CHEMISTRY PARAMETER: Chloride

Method Reference: EPA 325.3

UNITS: mg/L

PDP LABORATORY ID	CLIENT ID	MATRIX	DATE SAMPLED	DATE RECEIVED	DATE ANALYZED	QUANT LIMIT	RESULT	SPIKE ADDED OR TRUE VALUE	RELATIVE PERCENT DIFF(20)	PERCENT RECOVERY (75-125)
2209.01	LH18&24-MW12 1001	WATER	04-05-94	04-06-94	04-08-94	2	528			
2209.02	LH18&24-MW129 1001	WATER	04-05-94	04-06-94	04-08-94	2	32			
2209.03	LH18&24-MW20 1001	WATER	04-05-94	04-06-94	04-08-94	2	11			
			QUALITY ASSURANCE/QUALITY CONTROL							
2193.PB1	PREPARATION BLANK	NA	NA	NA	04-08-94	2	ND			
2193.LCS1	LAB CONTROL STD	NA	NA	NA	04-08-94	2	136	125		109
2193.LCS2	LAB CONTROL STD	NA	NA	NA	04-08-94	2	136	125	0.0	109
2193.01	SAMPLE	NA	NA	NA	04-05-94	2	99			
2193.01D	DUPLICATE	NA	NA	NA	04-05-94	2	99		0.0	
2193.01MS	MATRIX SPIKE	NA	NA	NA	04-05-94	2	120	17.7		119

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PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas; 77386 (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES, INC
Project Name: LHAAP-18\24
Project No.: 2379

Date Reported: 04-20-94
Report No.: I203NO3
Analyst: HM

WET CHEMISTRY PARAMETER: Nitrate as N

Method Reference: EPA 352.1 UNITS: mg/L

PDP LABORATORY ID	CLIENT ID	MATRIX	DATE SAMPLED	DATE RECEIVED	DATE ANALYZED	QUANT LIMIT	RESULT	SPIKE ADDED OR TRUE VALUE	RELATIVE PERCENT DIFF(20)	PERCENT RECOVERY (75-125)
2209.01	LH18&24-MW12 1001	WATER	04-05-94	04-06-94	04-07-94	0.5	1.7			
2209.02	LH18&24-MW129 1001	WATER	04-05-94	04-06-94	04-07-94	0.1	1.0			
2209.03	LH18&24-MW20 1001	WATER	04-05-94	04-06-94	04-07-94	0.1	ND			
			QUALITY ASSURANCE/QUALITY CONTROL							
2209.PB1	PREPARATION BLANK	NA	NA	NA	04-07-94	0.1	ND			
2209.LCS1	LAB CONTROL STD	NA	NA	NA	04-07-94	0.1	0.32	0.40		80
2209.LCS2	LAB CONTROL STD	NA	NA	NA	04-07-94	0.1	0.36	0.40	12	90
2209.01MS	MATRIX SPIKE	NA	NA	NA	04-07-94	0.5	4.7	2.0		150*
2209.01MSD	MATRIX SPIKE DUP	NA	NA	NA	04-07-94	0.5	4.7	2.0	0	150*

000021

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas; 77386 (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES, INC
Project Name: LHAAP-18\24
Project No.: 2379

Date Reported: 04-20-94
Report No.: I209S04
Analyst: HM

WET CHEMISTRY PARAMETER: Sulfate

Method Reference: EPA 375.4

UNITS: mg/L

PDP LABORATORY ID	CLIENT ID	MATRIX	DATE SAMPLED	DATE RECEIVED	DATE ANALYZED	QUANT LIMIT	RESULT	SPIKE ADDED OR TRUE VALUE	RELATIVE PERCENT DIFF(20)	PERCENT RECOVERY (75-125)
2209.01	LH18&24-MW12 1001	WATER	04-05-94	04-06-94	04-06-94	25	63			
2209.02	LH18&24-MW129 1001	WATER	04-05-94	04-06-94	04-06-94	25	66			
2209.03	LH18&24-MW20 1001	WATER	04-05-94	04-06-94	04-06-94	5	24			
			QUALITY ASSURANCE/QUALITY CONTROL							
2176.PB1	PREPARATION BLANK	NA	NA	NA	04-06-94	5	ND			
2176.LCS1	LAB CONTROL STD	NA	NA	NA	04-06-94	5	99.8	109		92
2176.LCS2	LAB CONTROL STD	NA	NA	NA	04-06-94	5	103.5	109	3.6	95
2193.01	SAMPLE	NA	NA	NA	04-06-94	25	41			
2193.01MS	MATRIX SPIKE	NA	NA	NA	04-06-94	25	133	100		92
2193.01MSD	MATRIX SPIKE DUP	NA	NA	NA	04-06-94	25	132	100	0.8	91

APPENDIX B
SUPPORT DOCUMENTATION

Chain of Custody Record

PDP Analytical Services
24900 Pitkin Drive, Suite 300 ■ Spring, Texas 77386 ■ Phone (713) 363-2233 ■ Fax (713) 298-5784

Client Name / Address: AWD TECHNOLOGIES 15204 OMEGA DRIVE ROCKVILLE, MD 20850

Send Report to: AMIVE BOU ONK

Project Number: 2379

Project Name: LHAAP 18/24 PHASE I

Samplers (Signature): Craig Mc Brian Dolan

P.O. Number:

Sta. No.	Date	Time	Comp.	Grab	Station Location	Number of Containers	Matrix	8240 V.O.C.	RCRA Metals	8330 Explosives	NO_3, SO_4, Cl			Remarks
	4-5-94	1430		X	LH 18/24-MW12-GW01	6	Water	X	X	X	X			2 V.O.A., 1 l PLASTIC, 3-1 l AMB.
	4.5.94	1450		X	LH 18/24-MW129-GW01	6	Water	X	X	X	X			" " "
	4-5-94	1500		X	LH 18&24-MW20-GW01	6	Water	X	X	X	X			" " "
	4-5-94	1700		X	LH 18&24-MW129-TB01	1	Water	X						Travel Blank

DOC 4-6-94

Relinquished by (Signature)	Date / Time	Received by (Signature)	Date / Time
Brian Dolan	4.5.94/1650		
Relinquished by (Signature)	Date / Time	Received by (Signature)	Date / Time
Relinquished by (Signature)	Date / Time	Received for Laboratory by (Signature)	Date / Time
		Deborah O'Connor	4-6-94/1:15

Remarks: holding time exceedance for aromatic VOAs

Method of Shipment: FED. EX.

PDP Quote Number:

Distribution: Original accompanies shipment; Copy to coordinator and field files

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010944

PDP Analytical Services

SAMPLE RECEIPT AND LOGIN CHECKLIST

EPISODE #: 2209 DATE/TIME REC'D: 4-6-94/ # OF COOLERS REC'D: 2 COOLER TEMP.: iced

CLIENT NAME: AWD Technologies Phase I # OF AQUEOUS SAMPLES RECEIVED: 3

PROJECT NAME/NUMBER: LHAAP 18/24 #2379 # OF SOIL SAMPLES RECEIVED: ——

DESCRIBE PACKING USED IN COOLER: Vermiculite # OF OTHER (SPECIFY): ——

COOLER CHAIN OF CUSTODY SEALS: (PRESENT) ABSENT (INTACT) BROKEN

HOW MANY & WHERE: 3 on each cooler lid SEAL DATE: 4-5-94 SEAL NAME: Brian Dolan

SAMPLE CONTAINER SEALS: PRESENT (ABSENT) INTACT BROKEN

	YES	NO
SHIPPING SLIP PRESENT (AIRBILL, ETC.)? CARRIER NAME: FedX AIRBILL NO.: 7468925533	✓	
WERE SAMPLES SCREENED FOR RADIOACTIVITY USING A GEIGER COUNTER?		✓
CHAIN OF CUSTODY PRESENT?	✓	
WERE CUSTODY PAPERS SEALED IN A PLASTIC BAG AND TAPED INSIDE THE LID?	✓	
CHAIN OF CUSTODY SIGNED AND DATED?	✓	
WERE CUSTODY PAPERS FILLED OUT PROPERLY (INK, SIGNED, ETC.)?	✓	
WAS PROJECT IDENTIFIABLE FROM CUSTODY PAPERS?	✓	
WERE ALL BOTTLES SEALED IN SEPARATE PLASTIC BAGS?		✓
CHAIN OF CUSTODY AGREES WITH BOTTLE COUNT?	✓	
WERE BOTTLE LABELS COMPLETE (ID, DATE, TIME, SIGNATURE, PRESERVATIVE, ETC.)?	✓	
CHAIN OF CUSTODY AGREES WITH LABELS?	✓	
BOTTLES BROKEN OR LEAKING?		✓
WERE CORRECT CONTAINERS USED FOR THE TESTS INDICATED?	✓	
WERE CORRECT PRESERVATIVES ADDED TO SAMPLES?	✓	
VOA SAMPLES FILLED COMPLETELY? IF NO, LIST SAMPLE #'S:	✓	
AQUEOUS VOA SAMPLES PRESERVED?		✓
WAS A SUFFICIENT AMOUNT OF SAMPLE SENT FOR TESTS INDICATED?	✓	
SHORT HOLDING TIME PARAMETERS? holding time exceedance for aromatic VOAs	✓	
SEDIMENT PRESENT IN AQUEOUS SAMPLES?	✓	
PROJECT MANAGER CALLED AND STATUS DISCUSSED? IF YES, GIVE DETAILS IN THE COMMENTS & RESOLUTIONS.	—	—
WHO WAS CALLED? BY WHOM? DATE:	—	—

COMMENTS & RESOLUTIONS:

LOGGED IN BY: Dana L O'Connor DATE: 4-6-94

000606

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP 18/24
Project No.: 2379

Client Sample ID: LH18&24-MW12-1001
PDP Sample ID: 2209.01
Report No.: B8594

Date Sampled: 04/05/94
Date Received: 04/06/94
Date Reported: 04/25/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix: WATER
Multiplying Factor: 1.00
Sample Volume: 5.0 ml
Dilution: 1.0

Method Ref.: SW846-8240
GC/MS File ID: B8594
Date Analyzed: 04/18/94
Analyst: MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	3 J	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	19	Chloromethane	10	ND
1,2-Dichloroethane	5	14	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	100
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	110
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	2900 E
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	87
Toluene-d8	50	(88-110)	91
Bromofluorobenzene	50	(86-115)	96

Method Blank ID: 2210V.BLK1 LCS ID: 2210V.LCS1 MS ID: 2209.03MS MSD ID: 2209.03MSD DUP ID: NA

- holding time exceedance for aromatics

010946

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP 18/24
Project No.: 2379
Client Sample ID:LH18&24-MW12-1001(DL)
PDP Sample ID: 2209.01(DILUTION)
Report No.: B8614
Date Sampled: 04/05/94
Date Received: 04/06/94
Date Reported: 04/25/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix: WATER
Multiplying Factor: 25.00
Sample Volume: 5.0 ml
Dilution: 25.0
Method Ref.: SW846-8240
GC/MS File ID: B8614
Date Analyzed: 04/18/94
Analyst: MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	125	ND	Carbon tetrachloride	125	ND
1,1,2,2-Tetrachloroethane	125	ND	Chlorobenzene	125	ND
1,1,2-Trichloroethane	125	ND	Chloroethane	250	ND
1,1-Dichloroethane	125	ND	Chloroform	125	ND
1,1-Dichloroethene	125	ND	Chloromethane	250	ND
1,2-Dichloroethane	125	ND	Cis-1,3-Dichloropropene	125	ND
',2-Dichloropropane	125	ND	Dibromochloromethane	125	ND
-Butanone	250	ND	Ethylbenzene	125	ND
2-Chloroethyl vinyl ether	250	ND	Methylene chloride	125	140 B
2-Hexanone	250	ND	Styrene	125	ND
4-Methyl-2-pentanone	250	ND	Tetrachloroethene	125	ND
Acetone	250	ND	Toluene	125	ND
Benzene	125	ND	Total xylenes	125	ND
Bromodichloromethane	125	ND	Total-1,2-Dichloroethene	125	110 J
Bromoform	125	ND	Trans-1,3-Dichloropropene	125	ND
Bromomethane	250	ND	Trichloroethene	125	4000
Carbon disulfide	125	ND	Vinyl acetate	250	ND
			Vinylchloride	250	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	1250	(76-114)	98
Toluene-d8	1250	(88-110)	100
Bromofluorobenzene	1250	(86-115)	109

Method Blank ID: 2209V.BLK2 LCS ID: 2210V.LCS1 MS ID: 2209.03MS MSD ID: 2209.03MSD DUP ID: NA

- holding time exceedance for aromatics

010946

010947

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES	Client Sample ID:	LH18&24-MW129-1001	Date Sampled:	04/05/94
Project Name:	LHAAP 18/24	PDP Sample ID:	2209.02	Date Received:	04/06/94
Project No.:	2379	Report No.:	B8595	Date Reported:	04/25/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8595
Sample Volume:	5.0 ml	Date Analyzed:	04/18/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	28	Chloroform	5	3 J
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	5
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	7	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	15
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	1400 E
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	97
Toluene-d8	50	(88-110)	96
Bromofluorobenzene	50	(86-115)	105

Method Blank ID: 2210V.BLK1 LCS ID: 2210V.LCS1 MS ID: 2209.03MS MSD ID: 2209.03MSD DUP ID: NA

- holding time exceedance for aromatics

000011

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES	Client Sample ID:	LH18&24-MW129-1001(DL)	Date Sampled:	04/05/94
Project Name:	LHAAP 18/24	PDP Sample ID:	2209.02(DILUTION)	Date Received:	04/06/94
Project No.:	2379	Report No.:	B8615	Date Reported:	04/25/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	10.00	GC/MS File ID:	B8615
Sample Volume:	5.0 ml	Date Analyzed:	04/18/94
Dilution:	10.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	50	ND	Carbon tetrachloride	50	ND
1,1,2,2-Tetrachloroethane	50	ND	Chlorobenzene	50	ND
1,1,2-Trichloroethane	50	ND	Chloroethane	100	ND
1,1-Dichloroethane	50	ND	Chloroform	50	ND
1,1-Dichloroethene	50	ND	Chloromethane	100	ND
1,2-Dichloroethane	50	ND	Cis-1,3-Dichloropropene	50	ND
1,2-Dichloropropane	50	ND	Dibromochloromethane	50	ND
-Butanone	100	ND	Ethylbenzene	50	ND
2-Chloroethyl vinyl ether	100	ND	Methylene chloride	50	26 B
2-Hexanone	100	ND	Styrene	50	ND
4-Methyl-2-pentanone	100	ND	Tetrachloroethene	50	ND
Acetone	100	ND	Toluene	50	ND
Benzene	50	ND	Total xylenes	50	ND
Bromodichloromethane	50	ND	Total-1,2-Dichloroethene	50	ND
Bromoform	50	ND	Trans-1,3-Dichloropropene	50	ND
Bromomethane	100	ND	Trichloroethene	50	1560
Carbon disulfide	50	ND	Vinyl acetate	100	ND
			Vinylchloride	100	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	500	(76-114)	97
Toluene-d8	500	(88-110)	97
Bromofluorobenzene	500	(86-115)	105

Method Blank ID: 2209V.BLK2 LCS ID: 2210V.LCS1 MS ID: 2209.03MS MSD ID: 2209.03MSD DUP ID: NA

- holding time exceedance for aromatics

010949

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES	Client Sample ID:	LH18&24-MW20-1001	Date Sampled:	04/05/94
Project Name:	LHAAP 18/24	PDP Sample ID:	2209.03	Date Received:	04/06/94
Project No.:	2379	Report No.:	B8596	Date Reported:	04/25/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8596
Sample Volume:	5.0 ml	Date Analyzed:	04/18/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	6
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	13
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	60 *
Toluene-d8	50	(88-110)	104
Bromofluorobenzene	50	(86-115)	116*

Method Blank ID: 2210V.BLK1 LCS ID: 2210V.LCS1 MS ID: 2209.03MS MSD ID: 2209.03MSD DUP ID: NA

- holding time exceedance for aromatics

- surrogate recovery is high for BFB
- surrogate recovery is low for DCE
=> flag as estimated all compounds

000013

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES	Client Sample ID:	LH18&24-MW129-TB	Date Sampled:	04/05/94
Project Name:	LHAAP 18/24	PDP Sample ID:	2209.04	Date Received:	04/06/94
Project No.:	2379	Report No.:	B8593	Date Reported:	04/25/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8593
Sample Volume:	5.0 ml	Date Analyzed:	04/18/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	8
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	14	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	ND
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	96
Toluene-d8	50	(88-110)	95
Bromofluorobenzene	50	(86-115)	100

Method Blank ID: 2210V.BLK1 LCS ID: 2210V.LCS1 MS ID: 2209.03MS MSD ID: 2209.03MSD DUP ID: NA

– blank contam.

– holding time exceedance for aromatics

010951

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	NA	Client Sample ID:	NA	Date Sampled:	NA
Project Name:	NA	PDP Sample ID:	2209V.BLK2 (METHOD BLANK)	Date Received:	NA
Project No.:	NA	Report No.:	B8600	Date Reported:	04/25/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8600
Sample Volume:	5.0 ml	Date Analyzed:	04/18/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	3 J
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	ND
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	95
Toluene-d8	50	(88-110)	95
Bromofluorobenzene	50	(86-115)	102

Method Blank ID: NA LCS ID: NA MS ID: NA MSD ID: NA DUP ID: NA

- blank contam.

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas; 77386 (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES, INC
Project Name: LHAAP-18\24
Project No.: 2379

Date Reported: 04-20-94
Report No.: I203N03
Analyst: HM

WET CHEMISTRY PARAMETER: Nitrate as N

Method Reference: EPA 352.1

UNITS: mg/L

PDP LABORATORY ID	CLIENT ID	MATRIX	DATE SAMPLED	DATE RECEIVED	DATE ANALYZED	QUANT LIMIT	RESULT	SPIKE ADDED OR TRUE VALUE	RELATIVE PERCENT DIFF(20)	PERCENT RECOVERY (75-125)
2209.01	LH18&24-MW12 1001	WATER	04-05-94	04-06-94	04-07-94	0.5	1.7			
2209.02	LH18&24-MW129 1001	WATER	04-05-94	04-06-94	04-07-94	0.1	1.0			
2209.03	LH18&24-MW20 1001	WATER	04-05-94	04-06-94	04-07-94	0.1	ND			
			QUALITY ASSURANCE/QUALITY CONTROL							
2209.PB1	PREPARATION BLANK	NA	NA	NA	04-07-94	0.1	ND			
2209.LCS1	LAB CONTROL STD	NA	NA	NA	04-07-94	0.1	0.32	0.40		80
2209.LCS2	LAB CONTROL STD	NA	NA	NA	04-07-94	0.1	0.36	0.40	12	90
2209.01MS	MATRIX SPIKE	NA	NA	NA	04-07-94	0.5	4.7	2.0		150*
2209.01MSD	MATRIX SPIKE DUP	NA	NA	NA	04-07-94	0.5	4.7	2.0	0	150*

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: NA
Project Name: NA
Project Number: NA

Client Sample ID: NA (MS/MSD)
PDP MS ID: 2211.01MS
PDP MSD ID: 2211.01MSD
Report Number: I211MS01

Date Sampled: NA
Date Received: NA
Date Reported: 04-19-94

TOTAL METALS (MATRIX SPIKE AND MATRIX SPIKE DUPLICATE)

Sample Matrix: WATER — Units: mg/L

ELEMENT	METHOD	DATE PREPARED	DATE ANALYZED	SAMPLE VALUE	SPIKE ADDED	MATRIX SPIKE VALUE	PERCENT RECOVERY (75-125)	MATRIX SPIKE DUP VALUE	PERCENT RECOVERY (75-125)	RPD (20)
Aluminum	SW-846 6010	04-13-94	04-18-94	ND	2.00	1.90	95	1.87	94	1.6
Antimony	SW-846 6010	04-13-94	04-18-94	ND	0.50	0.47	94	0.49	98	4.2
Arsenic	SW-846 7060	04-13-94	04-18-94	ND	0.040	0.038	95	0.038	95	0.0
Barium	SW-846 6010	04-13-94	04-18-94	1.65	2.00	3.63	99	3.47	91	4.5
Beryllium	SW-846 6010	04-13-94	04-18-94	ND	0.050	0.047	94	0.046	92	2.2
Cadmium	SW-846 6010	04-13-94	04-18-94	ND	0.050	0.049	98	0.047	94	4.2
Calcium	SW-846 6010	04-13-94	04-18-94	78.8	NA	NA	NA	NA	NA	NA
Chromium	SW-846 6010	04-13-94	04-18-94	ND	0.20	0.20	100	0.19	95	5.1
Cobalt	SW-846 6010	04-13-94	04-18-94	ND	0.50	0.49	98	0.48	96	2.1
Copper	SW-846 6010	04-13-94	04-18-94	ND	0.25	0.25	100	0.24	96	4.1
Iron	SW-846 6010	04-13-94	04-18-94	159	1.00	162	**	159	**	1.9
Lead	SW-846 7421	04-13-94	04-15-94	ND	0.020	0.032	160*	0.024	120	29*
Magnesium	SW-846 6010	04-13-94	04-18-94	46.8	NA	NA	NA	NA	NA	NA
Manganese	SW-846 6010	04-13-94	04-18-94	3.52	0.50	4.05	106	3.95	86	2.5
Mercury	SW-846 7471	04-18-94	04-20-94	ND	0.0010	0.0010	100	0.0010	100	0.0
Nickel	SW-846 6010	04-13-94	04-18-94	ND	0.50	0.51	102	0.49	98	4.0
Potassium	SW-846 6010	04-13-94	04-18-94	7.6	NA	NA	NA	NA	NA	NA
Selenium	SW-846 7740	04-13-94	04-18-94	ND	0.010	0.001	10*	ND	0*	NC
Silver	SW-846 6010	04-13-94	04-18-94	ND	0.050	0.042	84	0.042	84	0.0
Sodium	SW-846 6010	04-13-94	04-18-94	407	NA	NA	NA	NA	NA	NA
Thallium	SW-846 7841	04-13-94	04-14-94	ND	0.050	0.042	84	0.043	86	2.4
Vanadium	SW-846 6010	04-13-94	04-18-94	ND	0.50	0.49	98	0.47	94	4.2
Zinc	SW-846 6010	04-13-94	04-18-94	0.066	0.50	0.55	97	0.54	95	1.8

** High analyte concentration prevented accurate determination of the percent recovery.

QUALITY ASSURANCE/QUALITY CONTROL

Method Blank ID: NA — LCS ID: NA — LCSD ID: NA

010954

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: NA
Project Name: NA
Project Number: NA

LCS ID: 2200.LCSW1
LCSD ID: 2200.LCSW2

Date Reported: 04-19-94
Report Number: I200LCSW

METALS (LABORATORY CONTROL SAMPLE AND LABORATORY CONTROL SAMPLE DUPLICATE)

Sample Matrix: AQUEOUS — Units: mg/L

ELEMENT	METHOD	DATE PREPARED	DATE ANALYZED	TRUE VALUE	LCS FOUND VALUE	LCS % RECOVERY (80-120)	LCSD FOUND VALUE	LCSD % RECOVERY (80-120)	RPD (20)	ANALYST
Aluminum	SW-846 6010	04-13-94	04-18-94	10.0	9.58	96	9.57	96	0.1	MBB
Antimony	SW-846 6010	04-13-94	04-18-94	5.00	4.86	97	4.92	98	1.2	MBB
Arsenic	SW-846 7060	04-13-94	04-18-94	0.050	0.046	92	0.047	94	2.2	MBB
Barium	SW-846 6010	04-13-94	04-18-94	10.0	9.54	95	9.53	95	0.1	MBB
Beryllium	SW-846 6010	04-13-94	04-18-94	0.25	0.24	96	0.24	96	0.0	MBB
Cadmium	SW-846 6010	04-13-94	04-18-94	2.50	2.37	95	2.39	96	0.8	MBB
Calcium	SW-846 6010	04-13-94	04-18-94	25.0	24.2	97	24.3	97	0.4	MBB
Chromium	SW-846 6010	04-13-94	04-18-94	1.00	0.98	98	0.99	99	1.0	MBB
Cobalt	SW-846 6010	04-13-94	04-18-94	2.50	2.44	98	2.45	98	0.4	MBB
Copper	SW-846 6010	04-13-94	04-18-94	1.25	1.22	98	1.21	97	0.8	MBB
Iron	SW-846 6010	04-13-94	04-18-94	5.00	4.82	96	4.84	97	0.4	MBB
Lead	SW-846 7421	04-13-94	04-15-94	0.050	0.049	98	0.050	100	2.0	MBB
Magnesium	SW-846 6010	04-13-94	04-18-94	25.0	24.0	96	24.1	96	0.4	MBB
Manganese	SW-846 6010	04-13-94	04-18-94	2.50	2.42	97	2.42	97	0.0	MBB
Nickel	SW-846 6010	04-13-94	04-18-94	2.50	2.45	98	2.46	98	0.4	MBB
Potassium	SW-846 6010	04-13-94	04-18-94	25.0	23.7	95	23.5	94	0.8	MBB
Selenium	SW-846 7740	04-13-94	04-18-94	0.050	0.060	120	0.062	124*	3.3	MBB
Silver	SW-846 6010	04-13-94	04-18-94	1.25	1.13	90	1.15	92	1.8	MBB
Sodium	SW-846 6010	04-13-94	04-18-94	25.0	23.8	95	23.7	95	0.4	MBB
Thallium	SW-846 7841	04-13-94	04-14-94	0.050	0.052	104	0.047	94	10.1	MBB
Vanadium	SW-846 6010	04-13-94	04-18-94	2.50	2.40	96	2.40	96	0.0	MBB
Zinc	SW-846 6010	04-13-94	04-18-94	2.50	2.40	96	2.41	96	0.4	MBB

QUALITY ASSURANCE/QUALITY CONTROL

Method Blank ID: 2200.PBW1

- flag positive Se results
⇒ (- all Se results are non-detect)

010955

FINAL

CHEMICAL DATA QA/QC REPORT
INTERIM REMEDIAL ACTION
BURNING GROUND 3 AND
UNLINED EVAPORATION POND
LHAAP UNITS 18 AND 24
LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

PREPARED FOR

UNITED STATES ARMY CORPS OF ENGINEERS
TULSA DISTRICT

PREPARED BY

AWD TECHNOLOGIES, INC.
ROCKVILLE, MARYLAND

PDP ANALYTICAL SERVICES -- Episode 2211

AUGUST 31, 1994
USACE CONTRACT DACA56-93-D-0016
DELIVERY ORDER 0002
AWD PROJECT 2379

LONGHORN ARMY AMMUNITION PLANT, TEXAS
BURNING GROUND 3 AND UNLINED EVAPORATION POND
INTERIM REMEDIAL ACTION
PDP Analytical Services -- Episode 2211

1.0 Discussion.

This set of samples was collected from the Burning Ground 3 and the Unlined Evaporation Pond areas of the Longhorn Army Ammunition Plant in Karnack, Texas on April 6, 1994 as part of the Interim Remedial Action Investigation. The sampling activity was conducted by AWD Technologies, Inc. (AWD) for the U.S. Army Corps of Engineers (COE), Tulsa District. After collection, the samples were sent to the PDP Analytical Services laboratory in Spring, Texas and were placed under Episode Number 2211. Included in this work order are four (4) groundwater samples, including one (1) field duplicate pair, and three (3) trip blanks.

Groundwater Samples

LH18/24-MW14-1001
LH18/24-126-1001
LH18/24-102-1001
LH18/24-MW14-1001-QC

Field Duplicate

LH18/24-MW14-1001-QC is a field duplicate of LH18/24-MW14-1001.

Trip Blanks

LH18/24-MW14-TB
LH18/24-126-TB
LH18/24-MW14-1001-TB

All samples, except the trip blanks, were analyzed for volatile organic chemicals (VOCs), target analyte list (TAL) metals, chloride, nitrate as nitrogen, and sulfate. The trip

blanks were only analyzed for VOCs. All VOC and metals analyses were performed by U.S. EPA SW-846 methodologies: 8240 and 6000/7000 series, respectively. The chloride, nitrate, and sulfate analyses were performed according to U.S. EPA Methods 325.3, 352.1, and 375.4, respectively. Since the laboratory did not supply any of the analytical raw data in the deliverable package, data validation has been performed on the limited basis of examining QA/QC summary reports.

Other than the selenium results that were rejected, "R", all compounds and analytes were successfully analyzed in all samples. The organic analytical data were evaluated by the following quality assurance/quality control (QA/QC) parameters where applicable: technical holding times and preservation, system monitoring compound/surrogate spike recoveries, method blanks, matrix spike/matrix spike duplicates (MS/MSDs), laboratory control samples, field QC, and transcription. The inorganic analytical data were evaluated by the following QA/QC parameters where applicable: technical holding times and preservation, laboratory blanks, matrix spike recoveries, laboratory duplicates, laboratory control samples, field QC, and transcription. Validated sample analysis results are listed on the attached data summary forms. Areas of concern with respect to data quality and usability are discussed below.

2.0 Volatiles.

2.1 Accuracy. All surrogate, laboratory control sample (LCS), and MS/MSD percent recoveries were within acceptable control limits, except for the high 1,2-dichloroethane-d4 surrogate recovery in sample LH18/24-MW14-1001-QC. Therefore, all positive VOC compounds in this sample have been qualified as estimated, "J".

The total 1,2-dichloroethene results in samples LH18/24-MW14-1001 and LH18/24-MW14-1001-QC, as well as the trichloroethene concentration in the latter sample, have been qualified as estimated, "J", because they exceeded the calibration range. Both total 1,2-dichloroethene results were reported from the original undiluted analyses because they were diluted out in the second analysis of each sample. Furthermore, the trichloroethene result in LH18/24-MW14-1001-QC was reported from the undiluted analysis because it would have been qualified as a non-detect in the diluted analysis due to blank contamination.

2.2 Precision. The relative percent differences (RPDs) reported for the MS/MSD data were all within acceptable quality control limits.

2.3 Representativeness. All samples were properly preserved and were received in good condition by the laboratory.

All samples were analyzed within the appropriate holding time.

There was low level acetone, methylene chloride, and trichloroethene contamination in the method and trip blanks. Therefore, positive sample concentrations of these compounds that are less than ten (10) times the highest amount of contamination (five (5) times for trichloroethene) have been qualified as non-detect, "U". Note that associated sample concentrations that were less than the reporting limit have also been raised to this limit, in addition to the "U" flag.

All compounds in the field duplicate pair were found to be comparable except for 1,1-dichloroethane.

	LH18/24-MW14-1001	LH18/24-MW14-1001-QC	Control Limit
1,1-Dichloroethane	34 μg/L	Non-detect	$\pm$10 μg/L

As a result, the positive and non-detect concentrations of this compound in this pair have been qualified as estimated, "J" and "UJ", respectively.

3.0 Anions.

Chloride, nitrate as nitrogen, and sulfate were all analyzed as anions by the aforementioned wet chemistry methods.

3.1 Accuracy. The laboratory control sample and matrix spike percent recoveries were all within acceptable quality control limits for all three parameters.

3.2 Precision. The LCS and sample duplicate RPDs were all within the acceptable control limit of 20 percent.

3.3 Representativeness. All samples were properly preserved and were received in good condition. All blanks were free of target analyte contamination and all samples were analyzed within acceptable holding times.

The field duplicate pair was found to be comparable for all three analytes.

4.0 TAL Metals.

4.1 Accuracy. All laboratory control sample and matrix spike percent recoveries were within acceptable quality control limits, except for the lead matrix spike recovery and the laboratory control sample duplicate (LCSD) and MS/MSD recoveries for selenium. Although the matrix spike recovery for lead was high, the data was unaffected since all sample concentrations for lead are non-detect. The selenium MS/MSD recoveries, on the other hand, were both less than 30 percent. As a result, all sample values reported for this metal have been rejected, "R", and should be considered unusable since they are all non-detects. Note that the LCS duplicate recovery for selenium was high, but no further action was taken on the associated sample data since they were all previously rejected.

4.2 Precision. All LCS/LCSD and MS/MSD relative percent differences (RPDs) were within the acceptable quality control range, except for the lead MS/MSD RPD, which exceeded the 20 percent limit. Therefore, all sample results for lead have been qualified as estimated, "UJ", since they are all non-detects.

4.3 Representativeness. All samples were properly preserved and were received in good condition by the laboratory. All samples were prepared and analyzed within appropriate holding times and all blanks were free of target analyte contamination.

The field duplicate pair was found to be comparable for all metals analyzed.

5.0 Notes.

The laboratory reports positive organic results that are below the quantitation limits but above the instrument detection limits (IDLs) as estimated, "J", since there is an unacceptable level of confidence in the detection and accurate reporting of concentrations less than the quantitation limits.

There were no tentatively identified compounds (TICs) reported by the laboratory for the volatile fraction of any sample.

The criteria used to evaluate the field duplicate data was a control of plus or minus two (2) times the reporting limit when one or both compounds or analytes of the duplicate pair were less than five (5) times the reporting limit or an upper bound of 35 percent RPD when both compounds or analytes of the pair were greater than or equal to five (5) times the reporting limit.

6.0 Conclusion.

These data were reviewed according to the U.S. EPA's National Functional Guidelines for Organic Data Review (June, 1991), the U.S. EPA's Laboratory Data Validation Functional Guidelines for Evaluating Inorganics Analyses (July, 1988), and with reference to method requirements. The results are presented in the data summary of this report and should be accepted as qualified. With the exception of the values that have been rejected, all results and data meet the requirements of the data quality objective (DQO) for this site and are deemed acceptable and valid for the intended use.

7.0 Information Regarding Report Content.

Attachments:

1. Glossary of data qualifier codes.
2. Data Summary. This may include:
   a) All positive results with qualifier codes, if applicable;
   b) All unusable detection limits qualified with "R"; and
   c) All estimated detection limits qualified with "UJ".
3. Appendix A - Results as reported by the laboratory.
4. Appendix B - Support Documentation which includes details to support the statements made in this report.

GLOSSARY OF DATA QUALIFIER CODES

CODES RELATING TO IDENTIFICATION

(confidence concerning presence or absence of compounds)

U = Not detected. The associated number indicates approximate sample concentration necessary to be detected.

(NO CODE) = Confirmed identification.

R = Unreliable result. Analyte may or may not be present in the sample. Supporting data necessary to confirm result. The result is unusable.

CODES RELATED TO QUANTITATION

(can be used for positive results and sample quantitation limits)

J = Analyte present. Reported value may not be accurate or precise.

UJ = Not detected. Quantitation limit may be inaccurate or imprecise.

DATA SUMMARY

010963

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES	Client Sample ID:	LH18&24-MW14-1001	Date Sampled:	04/06/94
Project Name:	LHAAP 18/24	PDP Sample ID:	2211.01	Date Received:	04/07/94
Project No.:	2379	Report No.:	B8606	Date Reported:	04/27/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8606
Sample Volume:	5.0 ML	Date Analyzed:	04/19/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	10	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	3 J	Chloroethane	10	ND
1,1-Dichloroethane	5	34 J	Chloroform	5	4 J
1,1-Dichloroethene	5	120	Chloromethane	10	ND
1,2-Dichloroethane	5	23	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	7 U
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	400 E J
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	~~5~~ 500	~~5000 E~~ 12,400
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	99
Toluene-d8	50	(88-110)	97
Bromofluorobenzene	50	(86-115)	100

Method Blank ID: 2209V.BLK2 LCS ID: 2210V.LCS1 MS ID: 2209.03MS MSD ID: 2209.03MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES	Client Sample ID:	LH18&24-MW14-TB	Date Sampled:	04/06/94
Project Name:	LHAAP 18/24	PDP Sample ID:	2211.02	Date Received:	04/07/94
Project No.:	2379	Report No.:	B8604	Date Reported:	04/27/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8604
Sample Volume:	5.0 ML	Date Analyzed:	04/19/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	4 J
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	11	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	ND
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	94
Toluene-d8	50	(88-110)	95
Bromofluorobenzene	50	(86-115)	104

Method Blank ID: 2209V.BLK2 LCS ID: 2210V.LCS1 MS ID: 2209.03MS MSD ID: 2209.03MSD DUP ID: NA

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PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES	Client Sample ID:	LH18&24-126-1001	Date Sampled:	04/06/94
Project Name:	LHAAP 18/24	PDP Sample ID:	2211.03	Date Received:	04/07/94
Project No.:	2379	Report No.:	B8632	Date Reported:	04/27/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8632
Sample Volume:	5.0 ML	Date Analyzed:	04/19/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	13 BU
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	~~3~~ 5U
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	95
Toluene-d8	50	(88-110)	94
Bromofluorobenzene	50	(86-115)	101

Method Blank ID: 2211V.WBLK1 LCS ID: 2211V.WLCS1 MS ID: 2209.03MS MSD ID: 2209.03MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES	Client Sample ID:	LH18&24-126-TB	Date Sampled:	04/06/94
Project Name:	LHAAP 18/24	PDP Sample ID:	2211.04	Date Received:	04/07/94
Project No.:	2379	Report No.:	B8608	Date Reported:	04/27/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8608
Sample Volume:	5.0 ML	Date Analyzed:	04/19/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	4 J
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	ND
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	96
Toluene-d8	50	(88-110)	95
Bromofluorobenzene	50	(86-115)	104

Method Blank ID: 2209V.BLK2 LCS ID: 2210V.LCS1 MS ID: 2209.03MS MSD ID: 2209.03MSD DUP ID: NA

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PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES	Client Sample ID:	LH18&24-102-1001	Date Sampled:	04/06/94
Project Name:	LHAAP 18/24	PDP Sample ID:	2211.05	Date Received:	04/07/94
Project No.:	2379	Report No.:	B8609	Date Reported:	04/27/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8609
Sample Volume:	5.0 ML	Date Analyzed:	04/19/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	~~3~~ 5U
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	5U
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	96
Toluene-d8	50	(88-110)	93
Bromofluorobenzene	50	(86-115)	102

Method Blank ID: 2209V.BLK2 LCS ID: 2210V.LCS1 MS ID: 2209.03MS MSD ID: 2209.03MSD DUP ID: NA

010968

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES	Client Sample ID:	LH18&24-MW14-1001QC	Date Sampled:	04/06/94
Project Name:	LHAAP 18/24	PDP Sample ID:	2211.06	Date Received:	04/07/94
Project No.:	2379	Report No.:	B8610	Date Reported:	04/27/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8610
Sample Volume:	5.0 ML	Date Analyzed:	04/19/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND UJ	Chloroform	5	ND
1,1-Dichloroethene	5	110 J	Chloromethane	10	ND
1,2-Dichloroethane	5	13 J	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	ND
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	4 J	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	410 J
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	12000 J
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	120 *
Toluene-d8	50	(88-110)	93
Bromofluorobenzene	50	(86-115)	107

Method Blank ID: 2209V.BLK2 LCS ID: 2210V.LCS1 MS ID: 2209.03MS MSD ID: 2209.03MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES	Client Sample ID:	LH18&24-MW14-1001TB	Date Sampled:	04/06/94
Project Name:	LHAAP 18/24	PDP Sample ID:	2211.07	Date Received:	04/07/94
Project No.:	2379	Report No.:	B8603	Date Reported:	04/27/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8603
Sample Volume:	5.0 ML	Date Analyzed:	04/18/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	4 J
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	ND
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	96
Toluene-d8	50	(88-110)	95
Bromofluorobenzene	50	(86-115)	104

Method Blank ID: 2209V.BLK2 LCS ID: 2210V.LCS1 MS ID: 2209.03MS MSD ID: 2209.03MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES, INC
Project Name: LHAAP-18/24
Project Number: 2379

Client Sample ID: LH18&24-MW14-1001
PDP Sample ID: 2211.01
Report Number: I21101

Date Sampled: 04-06-94
Date Received: 04-07-94
Date Reported: 04-20-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-13-94	04-18-94	0.1	ND	MBB
Antimony	SW-846 6010	04-13-94	04-18-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-13-94	04-18-94	0.005	ND	MBB
Barium	SW-846 6010	04-13-94	04-18-94	0.01	1.65	MBB
Beryllium	SW-846 6010	04-13-94	04-18-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-13-94	04-18-94	0.005	ND	MBB
Calcium	SW-846 6010	04-13-94	04-18-94	0.2	78.8	MBB
Chromium	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Cobalt	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Copper	SW-846 6010	04-13-94	04-18-94	0.02	ND	MBB
Iron	SW-846 6010	04-13-94	04-18-94	0.1	159	MBB
Lead	SW-846 7421	04-13-94	04-15-94	0.01	ND UJ	MBB
Magnesium	SW-846 6010	04-13-94	04-18-94	0.2	46.8	MBB
Manganese	SW-846 6010	04-13-94	04-18-94	0.01	3.52	MBB
Mercury	SW-846 7470	04-18-94	04-20-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-13-94	04-18-94	0.04	ND	MBB
Potassium	SW-846 6010	04-13-94	04-18-94	5	7.6	MBB
Selenium	SW-846 7740	04-13-94	04-18-94	0.005	ND R	MBB
Silver	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Sodium	SW-846 6010	04-13-94	04-18-94	0.5	407	MBB
Thallium	SW-846 7841	04-13-94	04-14-94	0.005	ND	MBB
Vanadium	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Zinc	SW-846 6010	04-13-94	04-18-94	0.02	0.066	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP Method Blank ID: 2200.PBW1
GFAA Method Blank ID: 2200.PBW1
CVAA Method Blank ID: 2209.PBW1

ICP LCS ID: 2200.LCSW1
GFAA LCS ID: 2200.LCSW1
CVAA LCS ID: 2209.LCSW1

ICP LCSD ID: 2200.LCSW2
GFAA LCSD ID: 2200.LCSW2
CVAA LCSD ID: 2209.LCSW2

ICP MS ID: 2211.01MS
GFAA MS ID: 2211.01MS
CVAA MS ID: 2211.01MS

ICP MSD ID: 2211.01MSD
GFAA MSD ID: 2211.01MSD
CVAA MSD ID: 2211.01MSD

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES, INC
Project Name: LHAAP-18/24
Project Number: 2379

Client Sample ID: LH18&24-126-1001
PDP Sample ID: 2211.03
Report Number: I21103

Date Sampled: 04-06-94
Date Received: 04-07-94
Date Reported: 04-20-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-13-94	04-18-94	0.1	0.71	MBB
Antimony	SW-846 6010	04-13-94	04-18-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-13-94	04-18-94	0.005	ND	MBB
Barium	SW-846 6010	04-13-94	04-18-94	0.01	3.23	MBB
Beryllium	SW-846 6010	04-13-94	04-18-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-13-94	04-18-94	0.005	ND	MBB
Calcium	SW-846 6010	04-13-94	04-18-94	0.2	105	MBB
Chromium	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Cobalt	SW-846 6010	04-13-94	04-18-94	0.01	0.016	MBB
Copper	SW-846 6010	04-13-94	04-18-94	0.02	ND	MBB
Iron	SW-846 6010	04-13-94	04-18-94	0.1	1.08	MBB
Lead	SW-846 7421	04-13-94	04-15-94	0.01	ND UJ	MBB
Magnesium	SW-846 6010	04-13-94	04-18-94	0.2	84.3	MBB
Manganese	SW-846 6010	04-13-94	04-18-94	0.01	0.235	MBB
Mercury	SW-846 7470	04-18-94	04-20-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-13-94	04-18-94	0.04	ND	MBB
Potassium	SW-846 6010	04-13-94	04-18-94	5	ND	MBB
Selenium	SW-846 7740	04-13-94	04-18-94	0.01	ND R	MBB
Silver	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Sodium	SW-846 6010	04-13-94	04-18-94	0.5	345	MBB
Thallium	SW-846 7841	04-13-94	04-14-94	0.005	0.005	MBB
Vanadium	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Zinc	SW-846 6010	04-13-94	04-18-94	0.02	0.054	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP Method Blank ID: 2200.PBW1
GFAA Method Blank ID: 2200.PBW1
CVAA Method Blank ID: 2209.PBW1

ICP LCS ID: 2200.LCSW1
GFAA LCS ID: 2200.LCSW1
CVAA LCS ID: 2209.LCSW1

ICP LCSD ID: 2200.LCSW2
GFAA LCSD ID: 2200.LCSW2
CVAA LCSD ID: 2209.LCSW2

ICP MS ID: 2211.01MS
GFAA MS ID: 2211.01MS
CVAA MS ID: 2211.01MS

ICP MSD ID: 2211.01MSD
GFAA MSD ID: 2211.01MSD
CVAA MSD ID: 2211.01MSD

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PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES, INC
Project Name: LHAAP-18/24
Project Number: 2379

Client Sample ID: LH18&24-102-1001
PDP Sample ID: 2211.05
Report Number: I21105

Date Sampled: 04-06-94
Date Received: 04-07-94
Date Reported: 04-20-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-13-94	04-18-94	0.1	0.78	MBB
Antimony	SW-846 6010	04-13-94	04-18-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-13-94	04-18-94	0.005	ND	MBB
Barium	SW-846 6010	04-13-94	04-18-94	0.01	0.25	MBB
Beryllium	SW-846 6010	04-13-94	04-18-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-13-94	04-18-94	0.005	ND	MBB
Calcium	SW-846 6010	04-13-94	04-18-94	0.2	3.94	MBB
Chromium	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Cobalt	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Copper	SW-846 6010	04-13-94	04-18-94	0.02	ND	MBB
Iron	SW-846 6010	04-13-94	04-18-94	0.1	0.74	MBB
Lead	SW-846 7421	04-13-94	04-15-94	0.005	ND UJ	MBB
Magnesium	SW-846 6010	04-13-94	04-18-94	0.2	2.8	MBB
Manganese	SW-846 6010	04-13-94	04-18-94	0.01	0.021	MBB
Mercury	SW-846 7470	04-18-94	04-20-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-13-94	04-18-94	0.04	ND	MBB
Potassium	SW-846 6010	04-13-94	04-18-94	5	ND	MBB
Selenium	SW-846 7740	04-13-94	04-18-94	0.01	ND R	MBB
Silver	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Sodium	SW-846 6010	04-13-94	04-18-94	0.5	13.6	MBB
Thallium	SW-846 7841	04-13-94	04-14-94	0.005	ND	MBB
Vanadium	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Zinc	SW-846 6010	04-13-94	04-18-94	0.02	0.033	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP LCS ID: 2200.LCSW1
GFAA LCS ID: 2200.LCSW1
CVAA LCS ID: 2209.LCSW1

ICP MS ID: 2211.01MS
GFAA MS ID: 2211.01MS
CVAA MS ID: 2211.01MS

ICP Method Blank ID: 2200.PBW1
GFAA Method Blank ID: 2200.PBW1
CVAA Method Blank ID: 2209.PBW1

ICP LCSD ID: 2200.LCSW2
GFAA LCSD ID: 2200.LCSW2
CVAA LCSD ID: 2209.LCSW2

ICP MSD ID: 2211.01MSD
GFAA MSD ID: 2211.01MSD
CVAA MSD ID: 2211.01MSD

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PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES, INC
Project Name: LHAAP-18/24
Project Number: 2379

Client Sample ID: LH18&24-MW14-1001-QC
PDP Sample ID: 2211.06
Report Number: I21106

Date Sampled: 04-06-94
Date Received: 04-07-94
Date Reported: 04-20-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-13-94	04-18-94	0.1	ND	MBB
Antimony	SW-846 6010	04-13-94	04-18-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-13-94	04-18-94	0.005	ND	MBB
Barium	SW-846 6010	04-13-94	04-18-94	0.01	1.62	MBB
Beryllium	SW-846 6010	04-13-94	04-18-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-13-94	04-18-94	0.005	ND	MBB
Calcium	SW-846 6010	04-13-94	04-18-94	0.2	78.6	MBB
Chromium	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Cobalt	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Copper	SW-846 6010	04-13-94	04-18-94	0.02	ND	MBB
Iron	SW-846 6010	04-13-94	04-18-94	0.1	158	MBB
Lead	SW-846 7421	04-13-94	04-15-94	0.005	ND W	MBB
Magnesium	SW-846 6010	04-13-94	04-18-94	0.2	46.8	MBB
Manganese	SW-846 6010	04-13-94	04-18-94	0.01	3.52	MBB
Mercury	SW-846 7470	04-18-94	04-20-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-13-94	04-18-94	0.04	ND	MBB
Potassium	SW-846 6010	04-13-94	04-18-94	5	8.3	MBB
Selenium	SW-846 7740	04-13-94	04-18-94	0.01	ND R	MBB
Silver	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Sodium	SW-846 6010	04-13-94	04-18-94	0.5	400	MBB
Thallium	SW-846 7841	04-13-94	04-14-94	0.005	ND	MBB
Vanadium	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Zinc	SW-846 6010	04-13-94	04-18-94	0.02	0.058	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP LCS ID: 2200.LCSW1
GFAA LCS ID: 2200.LCSW1
CVAA LCS ID: 2209.LCSW1

ICP MS ID: 2211.01MS
GFAA MS ID: 2211.01MS
CVAA MS ID: 2211.01MS

ICP Method Blank ID: 2200.PBW1
GFAA Method Blank ID: 2200.PBW1
CVAA Method Blank ID: 2209.PBW1

ICP LCSD ID: 2200.LCSW2
GFAA LCSD ID: 2200.LCSW2
CVAA LCSD ID: 2209.LCSW2

ICP MSD ID: 2211.01MSD
GFAA MSD ID: 2211.01MSD
CVAA MSD ID: 2211.01MSD

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PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas; 77386 (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES, INC
Project Name: LHAAP-18/24
Project No.: 2379

Date Reported: 04-20-94
Report No.: I211CL
Analyst: HM

WET CHEMISTRY PARAMETER: Chloride

Method Reference: EPA 325.3 UNITS: mg/L

PDP LABORATORY ID	CLIENT ID	MATRIX	DATE SAMPLED	DATE RECEIVED	DATE ANALYZED	QUANT LIMIT	RESULT	SPIKE ADDED OR TRUE VALUE	RELATIVE PERCENT DIFF(20)	PERCENT RECOVERY (75-125)
2211.01	LH18&24-MW14-1001	WATER	04-06-94	04-07-94	04-08-94	2	1140			
2211.03	LH18&24-126-1001	WATER	04-06-94	04-07-94	04-08-94	2	1090			
2211.05	LH18&24-102-1001	WATER	04-06-94	04-07-94	04-08-94	2	7			
2211.06	LH18&24-MW14-1001QC	WATER	04-06-94	04-07-94	04-08-94	2	1160			
			QUALITY ASSURANCE/QUALITY CONTROL							
2193.PB1	PREPARATION BLANK	NA	NA	NA	04-08-94	2	ND			
2193.LCS1	LAB CONTROL STD	NA	NA	NA	04-08-94	2	136	125		109
2193.LCS2	LAB CONTROL STD	NA	NA	NA	04-08-94	2	136	125	0.0	109
2193.01	SAMPLE	NA	NA	NA	04-05-94	2	99			
2193.01D	DUPLICATE	NA	NA	NA	04-05-94	2	99		0.0	
2193.01MS	MATRIX SPIKE	NA	NA	NA	04-05-94	2	120	17.7		119

PDP ANALYTICAL SERVICES
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LABORATORY REPORT

Client: AWD TECHNOLOGIES, INC
Project Name: LHAAP-18\24
Project No.: 2379

Date Reported: 04-20-94
Report No.: I211N03
Analyst: HM

WET CHEMISTRY PARAMETER: Nitrate as N

Method Reference: EPA 352.1

UNITS: mg/L

PDP LABORATORY ID	CLIENT ID	MATRIX	DATE SAMPLED	DATE RECEIVED	DATE ANALYZED	QUANT LIMIT	RESULT	SPIKE ADDED OR TRUE VALUE	RELATIVE PERCENT DIFF(20)	PERCENT RECOVERY (75-125)
2211.01	LH18&24-MW14-1001	WATER	04-06-94	04-07-94	04-07-94	0.1	ND			
2211.03	LH18&24-126-1001	WATER	04-06-94	04-07-94	04-07-94	0.1	ND			
2211.05	LH18&24-102-1001	WATER	04-06-94	04-07-94	04-07-94	0.5	1.3			
2211.06	LLH18&24-MW14-1001QC	WATER	04-06-94	04-07-94	04-07-94	0.1	ND			
			QUALITY ASSURANCE/QUALITY CONTROL							
2209.PB1	PREPARATION BLANK	NA	NA	NA	04-07-94	0.1	ND			
2209.LCS1	LAB CONTROL STD	NA	NA	NA	04-07-94	0.1	0.32	0.40		80
2209.LCS2	LAB CONTROL STD	NA	NA	NA	04-07-94	0.1	0.36	0.40	12	90
2211.01MS	MATRIX SPIKE	NA	NA	NA	04-07-94	0.1	0.40	0.40		100
2211.01MSD	MATRIX SPIKE DUP	NA	NA	NA	04-07-94	0.1	0.36	0.40	11	90

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas; 77386 (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES, INC
Project Name: LHAAP 18\24
Project No.: 2379

Date Reported: 04-21-94
Report No.: I211S04
Analyst: EK

WET CHEMISTRY PARAMETER: Sulfate

Method Reference: EPA 375.4 UNITS: mg/L

PDP LABORATORY ID	CLIENT ID	MATRIX	DATE SAMPLED	DATE RECEIVED	DATE ANALYZED	QUANT LIMIT	RESULT	SPIKE ADDED OR TRUE VALUE	RELATIVE PERCENT DIFF(20)	PERCENT RECOVERY (75-125)
2211.01	LH18&24-MW14-1001	WATER	04-06-94	04-07-94	04-20-94	10	45			
2211.03	LH18&24-126-1001	WATER	04-06-94	04-07-94	04-20-94	5	ND			
2211.05	LH18&24-102-1001	WATER	04-06-94	04-07-94	04-20-94	25	69			
2211.06	LH18&24-MW14-1001QC	WATER	04-06-94	04-07-94	04-20-94	10	43			
			QUALITY ASSURANCE/QUALITY CONTROL							
2210.PB1	PREPARATION BLANK	NA	NA	NA	04-20-94	5	ND			
2210.LCS1	LAB CONTROL STD	NA	NA	NA	04-20-94	5	138	151		91
2210.LCS2	LAB CONTROL STD	NA	NA	NA	04-20-94	5	131	151	5.2	87
2211.01MS	MATRIX SPIKE	NA	NA	NA	04-20-94	10	69	20		120
2211.01MSD	MATRIX SPIKE DUP	NA	NA	NA	04-20-94	10	61	20	12	80

APPENDIX A
RESULTS AS REPORTED BY THE LABORATORY

010978

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES	Client Sample ID:	LH18&24-MW14-1001	Date Sampled:	04/06/94
Project Name:	LHAAP 18/24	PDP Sample ID:	2211.01	Date Received:	04/07/94
Project No.:	2379	Report No.:	B8606	Date Reported:	04/27/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8606
Sample Volume:	5.0 ML	Date Analyzed:	04/19/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	10	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	3 J	Chloroethane	10	ND
1,1-Dichloroethane	5	34	Chloroform	5	4 J
1,1-Dichloroethene	5	120	Chloromethane	10	ND
1,2-Dichloroethane	5	23	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	7
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	400 E
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	5000 E
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	99
Toluene-d8	50	(88-110)	97
Bromofluorobenzene	50	(86-115)	100

Method Blank ID: 2209V.BLK2 LCS ID: 2210V.LCS1 MS ID: 2209.03MS MSD ID: 2209.03MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES	Client Sample ID:	LH18&24-MW14-1001(DL)	Date Sampled:	04/06/94
Project Name:	LHAAP 18/24	PDP Sample ID:	2211.01(DILUTION)	Date Received:	04/07/94
Project No.:	2379	Report No.:	B8631	Date Reported:	04/27/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	100.00	GC/MS File ID:	B8631
Sample Volume:	5.0 ML	Date Analyzed:	04/19/94
Dilution:	100.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	500	ND	Carbon tetrachloride	500	ND
1,1,2,2-Tetrachloroethane	500	ND	Chlorobenzene	500	ND
1,1,2-Trichloroethane	500	ND	Chloroethane	1000	ND
1,1-Dichloroethane	500	ND	Chloroform	500	ND
1,1-Dichloroethene	500	ND	Chloromethane	1000	ND
1,2-Dichloroethane	500	ND	Cis-1,3-Dichloropropene	500	ND
',2-Dichloropropane	500	ND	Dibromochloromethane	500	ND
.-Butanone	1000	ND	Ethylbenzene	500	ND
2-Chloroethyl vinyl ether	1000	ND	Methylene chloride	500	1200 B
2-Hexanone	1000	ND	Styrene	500	ND
4-Methyl-2-pentanone	1000	ND	Tetrachloroethene	500	ND
Acetone	1000	ND	Toluene	500	ND
Benzene	500	ND	Total xylenes	500	ND
Bromodichloromethane	500	ND	Total-1,2-Dichloroethene	500	ND
Bromoform	500	ND	Trans-1,3-Dichloropropene	500	ND
Bromomethane	1000	ND	Trichloroethene	500	12400 B
Carbon disulfide	500	ND	Vinyl acetate	1000	ND
			Vinylchloride	1000	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	95
Toluene-d8	50	(88-110)	95
Bromofluorobenzene	50	(86-115)	102

Method Blank ID: 2211V.WBLK1 LCS ID: 2211V.WLCS1 MS ID: 2209.03MS MSD ID: 2209.03MSD DUP ID: NA

010980

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES	Client Sample ID:	LH18&24-MW14-TB	Date Sampled:	04/06/94
Project Name:	LHAAP 18/24	PDP Sample ID:	2211.02	Date Received:	04/07/94
Project No.:	2379	Report No.:	B8604	Date Reported:	04/27/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8604
Sample Volume:	5.0 ML	Date Analyzed:	04/19/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	4 J
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	11	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	ND
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	94
Toluene-d8	50	(88-110)	95
Bromofluorobenzene	50	(86-115)	104

Method Blank ID: 2209V.BLK2 LCS ID: 2210V.LCS1 MS ID: 2209.03MS MSD ID: 2209.03MSD DUP ID: NA

010981

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES	Client Sample ID:	LH18&24-126-1001	Date Sampled:	04/06/94
Project Name:	LHAAP 18/24	PDP Sample ID:	2211.03	Date Received:	04/07/94
Project No.:	2379	Report No.:	B8632	Date Reported:	04/27/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8632
Sample Volume:	5.0 ML	Date Analyzed:	04/19/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
`-Butanone	10	ND	Ethylbenzene	5	ND
-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	13 B
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	3 B
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	95
Toluene-d8	50	(88-110)	94
Bromofluorobenzene	50	(86-115)	101

Method Blank ID: 2211V.WBLK1 LCS ID: 2211V.WLCS1 MS ID: 2209.03MS MSD ID: 2209.03MSD DUP ID: NA

010982

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES	Client Sample ID:	LH18&24-126-TB	Date Sampled:	04/06/94
Project Name:	LHAAP 18/24	PDP Sample ID:	2211.04	Date Received:	04/07/94
Project No.:	2379	Report No.:	B8608	Date Reported:	04/27/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8608
Sample Volume:	5.0 ML	Date Analyzed:	04/19/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	4 J
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	ND
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	96
Toluene-d8	50	(88-110)	95
Bromofluorobenzene	50	(86-115)	104

Method Blank ID: 2209V.BLK2 LCS ID: 2210V.LCS1 MS ID: 2209.03MS MSD ID: 2209.03MSD DUP ID: NA

010983

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES	Client Sample ID:	LH18&24-102-1001	Date Sampled:	04/06/94
Project Name:	LHAAP 18/24	PDP Sample ID:	2211.05	Date Received:	04/07/94
Project No.:	2379	Report No.:	B8609	Date Reported:	04/27/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8609
Sample Volume:	5.0 ML	Date Analyzed:	04/19/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	3 J
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	5
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	96
Toluene-d8	50	(88-110)	93
Bromofluorobenzene	50	(86-115)	102

Method Blank ID: 2209V.BLK2 LCS ID: 2210V.LCS1 MS ID: 2209.03MS MSD ID: 2209.03MSD DUP ID: NA

010984

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES	Client Sample ID:	LH18&24-MW14-1001QC	Date Sampled:	04/06/94
Project Name:	LHAAP 18/24	PDP Sample ID:	2211.06	Date Received:	04/07/94
Project No.:	2379	Report No.:	B8610	Date Reported:	04/27/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8610
Sample Volume:	5.0 ML	Date Analyzed:	04/19/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	110	Chloromethane	10	ND
1,2-Dichloroethane	5	13	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	ND
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	4 J	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	410 E
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	12000 E
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	120 *
Toluene-d8	50	(88-110)	93
Bromofluorobenzene	50	(86-115)	107

Method Blank ID: 2209V.BLK2 LCS ID: 2210V.LCS1 MS ID: 2209.03MS MSD ID: 2209.03MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES	Client Sample ID:	LH18&24-MW14-1001QC(DL)	Date Sampled:	04/06/94
Project Name:	LHAAP 18/24	PDP Sample ID:	2211.06(DILUTION)	Date Received:	04/07/94
Project No.:	2379	Report No.:	B8633	Date Reported:	04/27/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	200.00	GC/MS File ID:	B8633
Sample Volume:	5.0 ML	Date Analyzed:	04/19/94
Dilution:	200.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	1000	ND	Carbon tetrachloride	1000	ND
1,1,2,2-Tetrachloroethane	1000	ND	Chlorobenzene	1000	ND
1,1,2-Trichloroethane	1000	ND	Chloroethane	2000	ND
1,1-Dichloroethane	1000	ND	Chloroform	1000	ND
1,1-Dichloroethene	1000	ND	Chloromethane	2000	ND
1,2-Dichloroethane	1000	ND	Cis-1,3-Dichloropropene	1000	ND
1,2-Dichloropropane	1000	ND	Dibromochloromethane	1000	ND
-Butanone	2000	ND	Ethylbenzene	1000	ND
2-Chloroethyl vinyl ether	2000	ND	Methylene chloride	1000	2200 B
2-Hexanone	2000	ND	Styrene	1000	ND
4-Methyl-2-pentanone	2000	ND	Tetrachloroethene	1000	ND
Acetone	2000	ND	Toluene	1000	ND
Benzene	1000	ND	Total xylenes	1000	ND
Bromodichloromethane	1000	ND	Total-1,2-Dichloroethene	1000	ND
Bromoform	1000	ND	Trans-1,3-Dichloropropene	1000	ND
Bromomethane	2000	ND	Trichloroethene	1000	12000 B
Carbon disulfide	1000	ND	Vinyl acetate	2000	ND
			Vinylchloride	2000	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	93
Toluene-d8	50	(88-110)	91
Bromofluorobenzene	50	(86-115)	101

Method Blank ID: 2211V.WBLK1 LCS ID: 2211V.WLCS1 MS ID: 2209.03MS MSD ID: 2209.03MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES	Client Sample ID:	LH18&24-MW14-1001TB	Date Sampled:	04/06/94
Project Name:	LHAAP 18/24	PDP Sample ID:	2211.07	Date Received:	04/07/94
Project No.:	2379	Report No.:	B8603	Date Reported:	04/27/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8603
Sample Volume:	5.0 ML	Date Analyzed:	04/18/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	4 J
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	ND
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	96
Toluene-d8	50	(88-110)	95
Bromofluorobenzene	50	(86-115)	104

Method Blank ID: 2209V.BLK2 LCS ID: 2210V.LCS1 MS ID: 2209.03MS MSD ID: 2209.03MSD DUP ID: NA

010987

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES, INC
Project Name: LHAAP-18/24
Project Number: 2379

Client Sample ID: LH18&24-MW14-1001
PDP Sample ID: 2211.01
Report Number: I21101

Date Sampled: 04-06-94
Date Received: 04-07-94
Date Reported: 04-20-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-13-94	04-18-94	0.1	ND	MBB
Antimony	SW-846 6010	04-13-94	04-18-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-13-94	04-18-94	0.005	ND	MBB
Barium	SW-846 6010	04-13-94	04-18-94	0.01	1.65	MBB
Beryllium	SW-846 6010	04-13-94	04-18-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-13-94	04-18-94	0.005	ND	MBB
Calcium	SW-846 6010	04-13-94	04-18-94	0.2	78.8	MBB
Chromium	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Cobalt	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Copper	SW-846 6010	04-13-94	04-18-94	0.02	ND	MBB
Iron	SW-846 6010	04-13-94	04-18-94	0.1	159	MBB
Lead	SW-846 7421	04-13-94	04-15-94	0.01	ND	MBB
Magnesium	SW-846 6010	04-13-94	04-18-94	0.2	46.8	MBB
Manganese	SW-846 6010	04-13-94	04-18-94	0.01	3.52	MBB
Mercury	SW-846 7470	04-18-94	04-20-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-13-94	04-18-94	0.04	ND	MBB
Potassium	SW-846 6010	04-13-94	04-18-94	5	7.6	MBB
Selenium	SW-846 7740	04-13-94	04-18-94	0.005	ND	MBB
Silver	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Sodium	SW-846 6010	04-13-94	04-18-94	0.5	407	MBB
Thallium	SW-846 7841	04-13-94	04-14-94	0.005	ND	MBB
Vanadium	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Zinc	SW-846 6010	04-13-94	04-18-94	0.02	0.066	MBB

QUALITY ASSURANCE/QUALITY CONTROL

		ICP LCS ID: 2200.LCSW1	ICP MS ID: 2211.01MS
		GFAA LCS ID: 2200.LCSW1	GFAA MS ID: 2211.01MS
ICP Method Blank ID:	2200.PBW1	CVAA LCS ID: 2209.LCSW1	CVAA MS ID: 2211.01MS
GFAA Method Blank ID:	2200.PBW1		
CVAA Method Blank ID:	2209.PBW1	ICP LCSD ID: 2200.LCSW2	ICP MSD ID: 2211.01MSD
		GFAA LCSD ID: 2200.LCSW2	GFAA MSD ID: 2211.01MSD
		CVAA LCSD ID: 2209.LCSW2	CVAA MSD ID: 2211.01MSD

000020

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES, INC
Project Name: LHAAP-18/24
Project Number: 2379

Client Sample ID: LH18&24-126-1001
PDP Sample ID: 2211.03
Report Number: I21103

Date Sampled: 04-06-94
Date Received: 04-07-94
Date Reported: 04-20-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-13-94	04-18-94	0.1	0.71	MBB
Antimony	SW-846 6010	04-13-94	04-18-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-13-94	04-18-94	0.005	ND	MBB
Barium	SW-846 6010	04-13-94	04-18-94	0.01	3.23	MBB
Beryllium	SW-846 6010	04-13-94	04-18-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-13-94	04-18-94	0.005	ND	MBB
Calcium	SW-846 6010	04-13-94	04-18-94	0.2	105	MBB
Chromium	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Cobalt	SW-846 6010	04-13-94	04-18-94	0.01	0.016	MBB
Copper	SW-846 6010	04-13-94	04-18-94	0.02	ND	MBB
Iron	SW-846 6010	04-13-94	04-18-94	0.1	1.08	MBB
Lead	SW-846 7421	04-13-94	04-15-94	0.01	ND	MBB
Magnesium	SW-846 6010	04-13-94	04-18-94	0.2	84.3	MBB
Manganese	SW-846 6010	04-13-94	04-18-94	0.01	0.235	MBB
Mercury	SW-846 7470	04-18-94	04-20-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-13-94	04-18-94	0.04	ND	MBB
Potassium	SW-846 6010	04-13-94	04-18-94	5	ND	MBB
Selenium	SW-846 7740	04-13-94	04-18-94	0.01	ND	MBB
Silver	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Sodium	SW-846 6010	04-13-94	04-18-94	0.5	345	MBB
Thallium	SW-846 7841	04-13-94	04-14-94	0.005	0.005	MBB
Vanadium	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Zinc	SW-846 6010	04-13-94	04-18-94	0.02	0.054	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP Method Blank ID: 2200.PBW1
GFAA Method Blank ID: 2200.PBW1
CVAA Method Blank ID: 2209.PBW1

ICP LCS ID: 2200.LCSW1
GFAA LCS ID: 2200.LCSW1
CVAA LCS ID: 2209.LCSW1

ICP LCSD ID: 2200.LCSW2
GFAA LCSD ID: 2200.LCSW2
CVAA LCSD ID: 2209.LCSW2

ICP MS ID: 2211.01MS
GFAA MS ID: 2211.01MS
CVAA MS ID: 2211.01MS

ICP MSD ID: 2211.01MSD
GFAA MSD ID: 2211.01MSD
CVAA MSD ID: 2211.01MSD

010989

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES, INC
Project Name: LHAAP-18/24
Project Number: 2379

Client Sample ID: LH18&24-102-1001
PDP Sample ID: 2211.05
Report Number: I21105

Date Sampled: 04-06-94
Date Received: 04-07-94
Date Reported: 04-20-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-13-94	04-18-94	0.1	0.78	MBB
Antimony	SW-846 6010	04-13-94	04-18-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-13-94	04-18-94	0.005	ND	MBB
Barium	SW-846 6010	04-13-94	04-18-94	0.01	0.25	MBB
Beryllium	SW-846 6010	04-13-94	04-18-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-13-94	04-18-94	0.005	ND	MBB
Calcium	SW-846 6010	04-13-94	04-18-94	0.2	3.94	MBB
Chromium	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Cobalt	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Copper	SW-846 6010	04-13-94	04-18-94	0.02	ND	MBB
Iron	SW-846 6010	04-13-94	04-18-94	0.1	0.74	MBB
Lead	SW-846 7421	04-13-94	04-15-94	0.005	ND	MBB
Magnesium	SW-846 6010	04-13-94	04-18-94	0.2	2.8	MBB
Manganese	SW-846 6010	04-13-94	04-18-94	0.01	0.021	MBB
Mercury	SW-846 7470	04-18-94	04-20-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-13-94	04-18-94	0.04	ND	MBB
Potassium	SW-846 6010	04-13-94	04-18-94	5	ND	MBB
Selenium	SW-846 7740	04-13-94	04-18-94	0.01	ND	MBB
Silver	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Sodium	SW-846 6010	04-13-94	04-18-94	0.5	13.6	MBB
Thallium	SW-846 7841	04-13-94	04-14-94	0.005	ND	MBB
Vanadium	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Zinc	SW-846 6010	04-13-94	04-18-94	0.02	0.033	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP LCS ID: 2200.LCSW1
GFAA LCS ID: 2200.LCSW1
CVAA LCS ID: 2209.LCSW1

ICP MS ID: 2211.01MS
GFAA MS ID: 2211.01MS
CVAA MS ID: 2211.01MS

ICP Method Blank ID: 2200.PBW1
GFAA Method Blank ID: 2200.PBW1
CVAA Method Blank ID: 2209.PBW1

ICP LCSD ID: 2200.LCSW2
GFAA LCSD ID: 2200.LCSW2
CVAA LCSD ID: 2209.LCSW2

ICP MSD ID: 2211.01MSD
GFAA MSD ID: 2211.01MSD
CVAA MSD ID: 2211.01MSD

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES, INC
Project Name: LHAAP-18/24
Project Number: 2379

Client Sample ID: LH18&24-MW14-1001-QC
PDP Sample ID: 2211.06
Report Number: I21106

Date Sampled: 04-06-94
Date Received: 04-07-94
Date Reported: 04-20-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-13-94	04-18-94	0.1	ND	MBB
Antimony	SW-846 6010	04-13-94	04-18-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-13-94	04-18-94	0.005	ND	MBB
Barium	SW-846 6010	04-13-94	04-18-94	0.01	1.62	MBB
Beryllium	SW-846 6010	04-13-94	04-18-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-13-94	04-18-94	0.005	ND	MBB
Calcium	SW-846 6010	04-13-94	04-18-94	0.2	78.6	MBB
Chromium	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Cobalt	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Copper	SW-846 6010	04-13-94	04-18-94	0.02	ND	MBB
Iron	SW-846 6010	04-13-94	04-18-94	0.1	158	MBB
Lead	SW-846 7421	04-13-94	04-15-94	0.005	ND	MBB
Magnesium	SW-846 6010	04-13-94	04-18-94	0.2	46.8	MBB
Manganese	SW-846 6010	04-13-94	04-18-94	0.01	3.52	MBB
Mercury	SW-846 7470	04-18-94	04-20-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-13-94	04-18-94	0.04	ND	MBB
Potassium	SW-846 6010	04-13-94	04-18-94	5	8.3	MBB
Selenium	SW-846 7740	04-13-94	04-18-94	0.01	ND	MBB
Silver	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Sodium	SW-846 6010	04-13-94	04-18-94	0.5	400	MBB
Thallium	SW-846 7841	04-13-94	04-14-94	0.005	ND	MBB
Vanadium	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Zinc	SW-846 6010	04-13-94	04-18-94	0.02	0.058	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP Method Blank ID: 2200.PBW1
GFAA Method Blank ID: 2200.PBW1
CVAA Method Blank ID: 2209.PBW1

ICP LCS ID: 2200.LCSW1
GFAA LCS ID: 2200.LCSW1
CVAA LCS ID: 2209.LCSW1

ICP LCSD ID: 2200.LCSW2
GFAA LCSD ID: 2200.LCSW2
CVAA LCSD ID: 2209.LCSW2

ICP MS ID: 2211.01MS
GFAA MS ID: 2211.01MS
CVAA MS ID: 2211.01MS

ICP MSD ID: 2211.01MSD
GFAA MSD ID: 2211.01MSD
CVAA MSD ID: 2211.01MSD

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas; 77386 (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES, INC
Project Name: LHAAP-18/24
Project No.: 2379

Date Reported: 04-20-94
Report No.: I211CL
Analyst: HM

WET CHEMISTRY PARAMETER: Chloride

Method Reference: EPA 325.3 UNITS: mg/L

PDP LABORATORY ID	CLIENT ID	MATRIX	DATE SAMPLED	DATE RECEIVED	DATE ANALYZED	QUANT LIMIT	RESULT	SPIKE ADDED OR TRUE VALUE	RELATIVE PERCENT DIFF(20)	PERCENT RECOVERY (75-125)
2211.01	LH18&24-MW14-1001	WATER	04-06-94	04-07-94	04-08-94	2	1140			
2211.03	LH18&24-126-1001	WATER	04-06-94	04-07-94	04-08-94	2	1090			
2211.05	LH18&24-102-1001	WATER	04-06-94	04-07-94	04-08-94	2	7			
2211.06	LH18&24-MW14-1001QC	WATER	04-06-94	04-07-94	04-08-94	2	1160			
			QUALITY ASSURANCE/QUALITY CONTROL							
2193.PB1	PREPARATION BLANK	NA	NA	NA	04-08-94	2	ND			
2193.LCS1	LAB CONTROL STD	NA	NA	NA	04-08-94	2	136	125		109
2193.LCS2	LAB CONTROL STD	NA	NA	NA	04-08-94	2	136	125	0.0	109
2193.01	SAMPLE	NA	NA	NA	04-05-94	2	99			
2193.01D	DUPLICATE	NA	NA	NA	04-05-94	2	99		0.0	
2193.01MS	MATRIX SPIKE	NA	NA	NA	04-05-94	2	120	17.7		119

PDP ANALYTICAL SERVICES
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LABORATORY REPORT

Client: AWD TECHNOLOGIES, INC
Project Name: LHAAP-18\24
Project No.: 2379

Date Reported: 04-20-94
Report No.: I211NO3
Analyst: HM

WET CHEMISTRY PARAMETER: Nitrate as N

Method Reference: EPA 352.1 UNITS: mg/L

PDP LABORATORY ID	CLIENT ID	MATRIX	DATE SAMPLED	DATE RECEIVED	DATE ANALYZED	QUANT LIMIT	RESULT	SPIKE ADDED OR TRUE VALUE	RELATIVE PERCENT DIFF(20)	PERCENT RECOVERY (75-125)
2211.01	LH18&224-MW14-1001	WATER	04-06-94	04-07-94	04-07-94	0.1	ND			
2211.03	LH18&24-126-1001	WATER	04-06-94	04-07-94	04-07-94	0.1	ND			
2211.05	LH18&24-102-1001	WATER	04-06-94	04-07-94	04-07-94	0.5	1.3			
2211.06	LLH18&24-MW14-1001QC	WATER	04-06-94	04-07-94	04-07-94	0.1	ND			
			QUALITY ASSURANCE/QUALITY CONTROL							
2209.PB1	PREPARATION BLANK	NA	NA	NA	04-07-94	0.1	ND			
2209.LCS1	LAB CONTROL STD	NA	NA	NA	04-07-94	0.1	0.32	0.40		80
2209.LCS2	LAB CONTROL STD	NA	NA	NA	04-07-94	0.1	0.36	0.40	12	90
2211.01MS	MATRIX SPIKE	NA	NA	NA	04-07-94	0.1	0.40	0.40		100
2211.01MSD	MATRIX SPIKE DUP	NA	NA	NA	04-07-94	0.1	0.36	0.40	11	90

PDP ANALYTICAL SERVICES
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LABORATORY REPORT

Client: AWD TECHNOLOGIES, INC
Project Name: LHAAP 18\24
Project No.: 2379

Date Reported: 04-21-94
Report No.: I211S04
Analyst: EK

WET CHEMISTRY PARAMETER: Sulfate

Method Reference: EPA 375.4 UNITS: mg/L

PDP LABORATORY ID	CLIENT ID	MATRIX	DATE SAMPLED	DATE RECEIVED	DATE ANALYZED	QUANT LIMIT	RESULT	SPIKE ADDED OR TRUE VALUE	RELATIVE PERCENT DIFF(20)	PERCENT RECOVERY (75-125)
2211.01	LH18&24-MW14-1001	WATER	04-06-94	04-07-94	04-20-94	10	45			
2211.03	LH18&24-126-1001	WATER	04-06-94	04-07-94	04-20-94	5	ND			
2211.05	LH18&24-102-1001	WATER	04-06-94	04-07-94	04-20-94	25	69			
2211.06	LH18&24-MW14-1001QC	WATER	04-06-94	04-07-94	04-20-94	10	43			
			QUALITY ASSURANCE/QUALITY CONTROL							
2210.PB1	PREPARATION BLANK	NA	NA	NA	04-20-94	5	ND			
2210.LCS1	LAB CONTROL STD	NA	NA	NA	04-20-94	5	138	151		91
2210.LCS2	LAB CONTROL STD	NA	NA	NA	04-20-94	5	131	151	5.2	87
2211.01MS	MATRIX SPIKE	NA	NA	NA	04-20-94	10	69	20		120
2211.01MSD	MATRIX SPIKE DUP	NA	NA	NA	04-20-94	10	61	20	12	80

APPENDIX B
SUPPORT DOCUMENTATION

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES	Client Sample ID:	LH18&24-MW14-1001QC	Date Sampled:	04/06/94
Project Name:	LHAAP 18/24	PDP Sample ID:	2211.06	Date Received:	04/07/94
Project No.:	2379	Report No.:	B8610	Date Reported:	04/27/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8610
Sample Volume:	5.0 ML	Date Analyzed:	04/19/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	110	Chloromethane	10	ND
1,2-Dichloroethane	5	13	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
.-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	ND
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	4 J	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	410 E
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	12000 E
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	120 *
Toluene-d8	50	(88-110)	93
Bromofluorobenzene	50	(86-115)	107

Method Blank ID: 2209V.BLK2 LCS ID: 2210V.LCS1 MS ID: 2209.03MS MSD ID: 2209.03MSD DUP ID: NA

-flag positive hits as estimated

010996

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	NA	Client Sample ID:	NA	Date Sampled:	NA
Project Name:	NA	PDP Sample ID:	2211V.WBLK1(METHOD BLANK)	Date Received:	NA
Project No.:	NA	Report No.:	B8629	Date Reported:	04/27/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8629
Sample Volume:	5.0 ml	Date Analyzed:	04/19/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	13
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	22
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	96
Toluene-d8	50	(88-110)	95
Bromofluorobenzene	50	(86-115)	102

Method Blank ID: NA LCS ID: NA MS ID: NA MSD ID: NA DUP ID: NA

- blank contam.

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010997

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	NA	Client Sample ID:	NA	Date Sampled:	NA
Project Name:	NA	PDP Sample ID:	2209V.BLK2 (METHOD BLANK)	Date Received:	NA
Project No.:	NA	Report No.:	B8600	Date Reported:	04/25/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8600
Sample Volume:	5.0 ml	Date Analyzed:	04/18/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	3 J
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	ND
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	95
Toluene-d8	50	(88-110)	95
Bromofluorobenzene	50	(86-115)	102

Method Blank ID: NA LCS ID: NA MS ID: NA MSD ID: NA DUP ID: NA

- blank contam.

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010998

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES	Client Sample ID:	LH18&24-MW14-TB	Date Sampled:	04/06/94
Project Name:	LHAAP 18/24	PDP Sample ID:	2211.02	Date Received:	04/07/94
Project No.:	2379	Report No.:	B8604	Date Reported:	04/27/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8604
Sample Volume:	5.0 ML	Date Analyzed:	04/19/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	4 J
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	11	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	ND
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	94
Toluene-d8	50	(88-110)	95
Bromofluorobenzene	50	(86-115)	104

Method Blank ID: 2209V.BLK2 LCS ID: 2210V.LCS1 MS ID: 2209.03MS MSD ID: 2209.03MSD DUP ID: NA

- blank contam.

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES	Client Sample ID:	LH18&24-126-TB	Date Sampled:	04/06/94
Project Name:	LHAAP 18/24	PDP Sample ID:	2211.04	Date Received:	04/07/94
Project No.:	2379	Report No.:	B8608	Date Reported:	04/27/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8608
Sample Volume:	5.0 ML	Date Analyzed:	04/19/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	4 J
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	ND
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	96
Toluene-d8	50	(88-110)	95
Bromofluorobenzene	50	(86-115)	104

Method Blank ID: 2209V.BLK2 LCS ID: 2210V.LCS1 MS ID: 2209.03MS MSD ID: 2209.03MSD DUP ID: NA

- blank contam.

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES	Client Sample ID:	LH18&24-MW14-1001TB	Date Sampled:	04/06/94
Project Name:	LHAAP 18/24	PDP Sample ID:	2211.07	Date Received:	04/07/94
Project No.:	2379	Report No.:	B8603	Date Reported:	04/27/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8603
Sample Volume:	5.0 ML	Date Analyzed:	04/18/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	4 J
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	ND
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	96
Toluene-d8	50	(88-110)	95
Bromofluorobenzene	50	(86-115)	104

Method Blank ID: 2209V.BLK2 LCS ID: 2210V.LCS1 MS ID: 2209.03MS MSD ID: 2209.03MSD DUP ID: NA

- blank contam.

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: NA
Project Name: NA
Project Number: NA

Client Sample ID: NA (MS/MSD)
PDP MS ID: 2211.01MS
PDP MSD ID: 2211.01MSD
Report Number: I211MS01

Date Sampled: NA
Date Received: NA
Date Reported: 04-19-94

TOTAL METALS (MATRIX SPIKE AND MATRIX SPIKE DUPLICATE)

Sample Matrix: WATER

Units: mg/L

ELEMENT	METHOD	DATE PREPARED	DATE ANALYZED	SAMPLE VALUE	SPIKE ADDED	MATRIX SPIKE VALUE	PERCENT RECOVERY (75-125)	MATRIX SPIKE DUP VALUE	PERCENT RECOVERY (75-125)	RPD (20)
Aluminum	SW-846 6010	04-13-94	04-18-94	ND	2.00	1.90	95	1.87	94	1.6
Antimony	SW-846 6010	04-13-94	04-18-94	ND	0.50	0.47	94	0.49	98	4.2
Arsenic	SW-846 7060	04-13-94	04-18-94	ND	0.040	0.038	95	0.038	95	0.0
Barium	SW-846 6010	04-13-94	04-18-94	1.65	2.00	3.63	99	3.47	91	4.5
Beryllium	SW-846 6010	04-13-94	04-18-94	ND	0.050	0.047	94	0.046	92	2.2
Cadmium	SW-846 6010	04-13-94	04-18-94	ND	0.050	0.049	98	0.047	94	4.2
Calcium	SW-846 6010	04-13-94	04-18-94	78.8	NA	NA	NA	NA	NA	NA
Chromium	SW-846 6010	04-13-94	04-18-94	ND	0.20	0.20	100	0.19	95	5.1
Cobalt	SW-846 6010	04-13-94	04-18-94	ND	0.50	0.49	98	0.48	96	2.1
Copper	SW-846 6010	04-13-94	04-18-94	ND	0.25	0.25	100	0.24	96	4.1
Iron	SW-846 6010	04-13-94	04-18-94	159	1.00	162	**	159	**	1.9
Lead	SW-846 7421	04-13-94	04-15-94	ND	0.020	0.032	160*	0.024	120	29*
Magnesium	SW-846 6010	04-13-94	04-18-94	46.8	NA	NA	NA	NA	NA	NA
Manganese	SW-846 6010	04-13-94	04-18-94	3.52	0.50	4.05	106	3.95	86	2.5
Mercury	SW-846 7471	04-18-94	04-20-94	ND	0.0010	0.0010	100	0.0010	100	0.0
Nickel	SW-846 6010	04-13-94	04-18-94	ND	0.50	0.51	102	0.49	98	4.0
Potassium	SW-846 6010	04-13-94	04-18-94	7.6	NA	NA	NA	NA	NA	NA
Selenium	SW-846 7740	04-13-94	04-18-94	ND	0.010	0.001	10*	ND	0*	NC
Silver	SW-846 6010	04-13-94	04-18-94	ND	0.050	0.042	84	0.042	84	0.0
Sodium	SW-846 6010	04-13-94	04-18-94	407	NA	NA	NA	NA	NA	NA
Thallium	SW-846 7841	04-13-94	04-14-94	ND	0.050	0.042	84	0.043	86	2.4
Vanadium	SW-846 6010	04-13-94	04-18-94	ND	0.50	0.49	98	0.47	94	4.2
Zinc	SW-846 6010	04-13-94	04-18-94	0.066	0.50	0.55	97	0.54	95	1.8

** High analyte concentration prevented accurate determination of the percent recovery.

QUALITY ASSURANCE/QUALITY CONTROL

Method Blank ID: NA
LCS ID: NA
LCSD ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: NA
Project Name: NA
Project Number: NA

LCS ID: 2200.LCSW1
LCSD ID: 2200.LCSW2

Date Reported: 04-19-94
Report Number: I200LCSW

METALS (LABORATORY CONTROL SAMPLE AND LABORATORY CONTROL SAMPLE DUPLICATE)

Sample Matrix: AQUEOUS — Units: ug/L

ELEMENT	METHOD	DATE PREPARED	DATE ANALYZED	TRUE VALUE	LCS FOUND VALUE	LCS % RECOVERY (80-120)	LCSD FOUND VALUE	LCSD % RECOVERY (80-120)	RPD (20)	ANALYST
Aluminum	SW-846 6010	04-13-94	04-18-94	10.0	9.58	96	9.57	96	0.1	MBB
Antimony	SW-846 6010	04-13-94	04-18-94	5.00	4.86	97	4.92	98	1.2	MBB
Arsenic	SW-846 7060	04-13-94	04-18-94	0.050	0.046	92	0.047	94	2.2	MBB
Barium	SW-846 6010	04-13-94	04-18-94	10.0	9.54	95	9.53	95	0.1	MBB
Beryllium	SW-846 6010	04-13-94	04-18-94	0.25	0.24	96	0.24	96	0.0	MBB
Cadmium	SW-846 6010	04-13-94	04-18-94	2.50	2.37	95	2.39	96	0.8	MBB
Calcium	SW-846 6010	04-13-94	04-18-94	25.0	24.2	97	24.3	97	0.4	MBB
Chromium	SW-846 6010	04-13-94	04-18-94	1.00	0.98	98	0.99	99	1.0	MBB
Cobalt	SW-846 6010	04-13-94	04-18-94	2.50	2.44	98	2.45	98	0.4	MBB
Copper	SW-846 6010	04-13-94	04-18-94	1.25	1.22	98	1.21	97	0.8	MBB
Iron	SW-846 6010	04-13-94	04-18-94	5.00	4.82	96	4.84	97	0.4	MBB
Lead	SW-846 7421	04-13-94	04-15-94	0.050	0.049	98	0.050	100	2.0	MBB
Magnesium	SW-846 6010	04-13-94	04-18-94	25.0	24.0	96	24.1	96	0.4	MBB
Manganese	SW-846 6010	04-13-94	04-18-94	2.50	2.42	97	2.42	97	0.0	MBB
Nickel	SW-846 6010	04-13-94	04-18-94	2.50	2.45	98	2.46	98	0.4	MBB
Potassium	SW-846 6010	04-13-94	04-18-94	25.0	23.7	95	23.5	94	0.8	MBB
Selenium	SW-846 7740	04-13-94	04-18-94	0.050	0.060	120	0.062	124*	3.3	MBB
Silver	SW-846 6010	04-13-94	04-18-94	1.25	1.13	90	1.15	92	1.8	MBB
Sodium	SW-846 6010	04-13-94	04-18-94	25.0	23.8	95	23.7	95	0.4	MBB
Thallium	SW-846 7841	04-13-94	04-14-94	0.050	0.052	104	0.047	94	10.1	MBB
Vanadium	SW-846 6010	04-13-94	04-18-94	2.50	2.40	96	2.40	96	0.0	MBB
Zinc	SW-846 6010	04-13-94	04-18-94	2.50	2.40	96	2.41	96	0.4	MBB

QUALITY ASSURANCE/QUALITY CONTROL

Method Blank ID: 2200.PBW1

– flag positive Se values as estimated

011003

FINAL

CHEMICAL DATA QA/QC REPORT
INTERIM REMEDIAL ACTION
BURNING GROUND 3 AND
UNLINED EVAPORATION POND
LHAAP UNITS 18 AND 24
LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

PREPARED FOR

UNITED STATES ARMY CORPS OF ENGINEERS
TULSA DISTRICT

PREPARED BY

AWD TECHNOLOGIES, INC.
ROCKVILLE, MARYLAND

PDP ANALYTICAL SERVICES -- Episode 2213

AUGUST 31, 1994
USACE CONTRACT DACA56-93-D-0016
DELIVERY ORDER 0002
AWD PROJECT 2379

LONGHORN ARMY AMMUNITION PLANT, TEXAS
BURNING GROUND 3 AND UNLINED EVAPORATION POND
INTERIM REMEDIAL ACTION
PDP Analytical Services -- Episode 2213

1.0 Discussion.

This set of samples was collected from the Burning Ground 3 and the Unlined Evaporation Pond areas of the Longhorn Army Ammunition Plant in Karnack, Texas on April 7, 1994 as part of the Interim Remedial Action Investigation. The sampling activity was conducted by AWD Technologies, Inc. (AWD) for the U.S. Army Corps of Engineers (COE), Tulsa District. After collection, the samples were sent to the PDP Analytical Services laboratory in Spring, Texas and were placed under Episode Number 2213. Included in this work order are three (3) groundwater samples and one (1) trip blank. There were no field duplicates in this set of samples.

Groundwater Samples

LH18/24-C8-1001
LH18/24-C3-1001
LH18/24-130-1001

Trip Blank

LH18/24-XXX-TB

All samples, except the trip blank, were analyzed for volatile organic chemicals (VOCs), target analyte list (TAL) metals, chloride, nitrate as nitrogen, and sulfate. The trip blank was only analyzed for VOCs. All VOC and metals analyses were performed by U.S. EPA SW-846 methodologies: 8240 and 6000/7000 series, respectively. The chloride, nitrate, and sulfate analyses were performed according to U.S. EPA Methods 325.3, 352.1, and 375.4, respectively. Since the laboratory did not supply any of the analytical raw data in the deliverable package, data validation has been performed on the limited basis of examining QA/QC summary reports.

Other than the selenium results that were rejected, "R", all compounds and analytes were successfully analyzed in all samples. The organic analytical data were evaluated by the following quality assurance/quality control (QA/QC) parameters where applicable: technical holding times and preservation, system monitoring compound/surrogate spike recoveries, method blanks, matrix spike/matrix spike duplicates (MS/MSDs), laboratory control samples, field QC, and transcription. The inorganic analytical data were evaluated by the following QA/QC parameters where applicable: technical holding times and preservation, laboratory blanks, matrix spike recoveries, laboratory duplicates, laboratory control samples, field QC, and transcription. Validated sample analysis results are listed on the attached data summary forms. Areas of concern with respect to data quality and usability are discussed below.

2.0 Volatiles.

2.1 Accuracy. All surrogate, laboratory control sample (LCS), and MS/MSD percent recoveries were within acceptable control limits.

2.2 Precision. The relative percent differences (RPDs) reported for the MS/MSD data were all within acceptable quality control limits.

2.3 Representativeness. All samples were properly preserved and were received in good condition by the laboratory. All samples were also analyzed within the appropriate holding time.

There was low level methylene chloride contamination in the method blank. Therefore, positive sample concentrations of this compound that are less than ten (10) times the amount of contamination in the method blank have been qualified as non-detect, "U". Note that associated sample concentrations that were less than the reporting limit have also been raised to this limit, in addition to the "U" flag.

3.0 Anions.

Chloride, nitrate as nitrogen, and sulfate were all analyzed as anions by the aforementioned wet chemistry methods.

3.1 **Accuracy.** The laboratory control sample and matrix spike percent recoveries were all within acceptable quality control limits for all three parameters.

3.2 **Precision.** The LCS and sample duplicate RPDs were all within the acceptable control limit of 20 percent.

3.3 **Representativeness.** All samples were properly preserved and were received in good condition by the laboratory. All blanks were free of target analyte contamination and all samples were analyzed within acceptable holding times.

Note that the nitrate preparation blank and laboratory control samples were run two days prior to the samples in this episode, when they should have been analyzed together. However, no flags were assigned since this quality control data was in control.

4.0 TAL Metals.

4.1 **Accuracy.** All laboratory control sample and matrix spike percent recoveries were within acceptable quality control limits, except for the lead matrix spike recovery and the laboratory control sample duplicate (LCSD) and MS/MSD recoveries for selenium. Although the matrix spike recovery for lead was high, the data was unaffected since all sample concentrations for lead are non-detect. The selenium MS/MSD recoveries, on the other hand, were both less than 30 percent. As a result, all sample values reported for this metal have been rejected, "R", and should be considered unusable since they are all non-detects. Note that the LCS duplicate recovery for selenium was high, but no further action was taken on the associated sample data since they were all previously rejected.

4.2 **Precision.** All LCS/LCSD and MS/MSD relative percent differences (RPDs) were within the acceptable quality control range, except for the lead MS/MSD RPD, which exceeded the 20 percent limit. Therefore, all sample results for lead have been qualified as estimated, "UJ", since they are all non-detects.

4.3 **Representativeness.** All samples were properly preserved and were received in good condition by the laboratory. All samples were prepared and analyzed within appropriate holding times and all blanks were free of target analyte contamination.

5.0 Notes.

The laboratory reports positive organic results that are below the quantitation limits but above the instrument detection limits (IDLs) as estimated, "J", since there is an unacceptable level of confidence in the detection and accurate reporting of concentrations less than the quantitation limits.

There were no tentatively identified compounds (TICs) reported by the laboratory for the volatile fraction of any sample.

6.0 Conclusion.

These data were reviewed according to the U.S. EPA's National Functional Guidelines for Organic Data Review (June, 1991), the U.S. EPA's Laboratory Data Validation Functional Guidelines for Evaluating Inorganics Analyses (July, 1988), and with reference to method requirements. The results are presented in the data summary of this report and should be accepted as qualified. With the exception of the values that have been rejected, all results and data meet the requirements of the data quality objective (DQO) for this site and are deemed acceptable and valid for the intended use.

7.0 Information Regarding Report Content.

Attachments:

1. Glossary of data qualifier codes.
2. Data Summary. This may include:
   a) All positive results with qualifier codes, if applicable;
   b) All unusable detection limits qualified with "R"; and
   c) All estimated detection limits qualified with "UJ".
3. Appendix A - Results as reported by the laboratory.
4. Appendix B - Support Documentation which includes details to support the statements made in this report.

GLOSSARY OF DATA QUALIFIER CODES

CODES RELATING TO IDENTIFICATION

(confidence concerning presence or absence of compounds)

U = Not detected. The associated number indicates approximate sample concentration necessary to be detected.

(NO CODE) = Confirmed identification.

R = Unreliable result. Analyte may or may not be present in the sample. Supporting data necessary to confirm result. The result is unusable.

CODES RELATED TO QUANTITATION

(can be used for positive results and sample quantitation limits)

J = Analyte present. Reported value may not be accurate or precise.

UJ = Not detected. Quantitation limit may be inaccurate or imprecise.

DATA SUMMARY

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

011016

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project No.: 2379

Client Sample ID: LH18&24-C8-1001
PDP Sample ID: 2213.01
Report No.: B8611

Date Sampled: 04/07/94
Date Received: 04/08/94
Date Reported: 04/28/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix: WATER
Multiplying Factor: 1.00
Sample Volume: 5.0 ml
Dilution: 1.0

Method Ref.: SW846-8240
GC/MS File ID: B8611
Date Analyzed: 04/19/94
Analyst: MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	~~4 JB~~ 5U
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	9
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	93
Toluene-d8	50	(88-110)	94
Bromofluorobenzene	50	(86-115)	103

Method Blank ID: 2209V.BLK2 LCS ID: 2210V.LCS1 MS ID: 2210.05MS MSD ID: 2210.05MSD DUP ID: NA

011011

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project No.: 2379
Client Sample ID:LH18&24-C3-1001
PDP Sample ID: 2213.02
Report No.: B8612
Date Sampled: 04/07/94
Date Received: 04/08/94
Date Reported: 04/28/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix: WATER
Multiplying Factor: 1.00
Sample Volume: 5.0 ml
Dilution: 1.0
Method Ref.: SW846-8240
GC/MS File ID: B8612
Date Analyzed: 04/19/94
Analyst: MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	15 B U
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	20
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	45
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	97
Toluene-d8	50	(88-110)	96
Bromofluorobenzene	50	(86-115)	105

Method Blank ID: 2209V.BLK2 LCS ID: 2210V.LCS1 MS ID: 2209.03MS MSD ID: 2209.03MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES	Client Sample ID:	LH18&24-130-1001	Date Sampled:	04/07/94
Project Name:	LHAAP	PDP Sample ID:	2213.03	Date Received:	04/08/94
Project No.:	2379	Report No.:	B8613	Date Reported:	04/28/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8613
Sample Volume:	5.0 ml	Date Analyzed:	04/19/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	ND
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	12
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	97
Toluene-d8	50	(88-110)	98
Bromofluorobenzene	50	(86-115)	107

Method Blank ID: 2209V.BLK2 LCS ID: 2210V.LCS1 MS ID: 2209.03MS MSD ID: 2209.03MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES	Client Sample ID:	LH18424-XXX-TB	Date Sampled:	04/07/94
Project Name:	LHAAP	PDP Sample ID:	2213.04	Date Received:	04/08/94
Project No.:	2379	Report No.:	B8605	Date Reported:	04/28/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8605
Sample Volume:	5.0 ml	Date Analyzed:	04/19/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	ND
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	ND
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	96
Toluene-d8	50	(88-110)	94
Bromofluorobenzene	50	(86-115)	104

Method Blank ID: 2209V.BLK2 LCS ID: 2210V.LCS1 MS ID: 2209.03MS MSD ID: 2209.03MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES, INC
Project Name: LHAAP
Project Number: 2379

Client Sample ID: LH18&24-C8-1001
PDP Sample ID: 2213.01
Report Number: I21301

Date Sampled: 04-07-94
Date Received: 04-08-94
Date Reported: 04-20-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-13-94	04-18-94	0.2	1.5	MBB
Antimony	SW-846 6010	04-13-94	04-18-94	0.12	ND	MBB
Arsenic	SW-846 7060	04-13-94	04-18-94	0.005	ND	MBB
Barium	SW-846 6010	04-13-94	04-18-94	0.02	4.43	MBB
Beryllium	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Cadmium	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Calcium	SW-846 6010	04-13-94	04-18-94	0.4	202	MBB
Chromium	SW-846 6010	04-13-94	04-18-94	0.02	ND	MBB
Cobalt	SW-846 6010	04-13-94	04-18-94	0.02	ND	MBB
Copper	SW-846 6010	04-13-94	04-18-94	0.04	ND	MBB
Iron	SW-846 6010	04-13-94	04-18-94	0.2	1.6	MBB
Lead	SW-846 7421	04-13-94	04-15-94	0.01	ND UJ	MBB
agnesium	SW-846 6010	04-13-94	04-18-94	0.4	151	MBB
Manganese	SW-846 6010	04-13-94	04-18-94	0.02	0.12	MBB
Mercury	SW-846 7470	04-18-94	04-20-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-13-94	04-18-94	0.08	ND	MBB
Potassium	SW-846 6010	04-13-94	04-18-94	10	ND	MBB
Selenium	SW-846 7740	04-13-94	04-18-94	0.01	ND R	MBB
Silver	SW-846 6010	04-13-94	04-18-94	0.02	ND	MBB
Sodium	SW-846 6010	04-13-94	04-18-94	1	819	MBB
Thallium	SW-846 7841	04-13-94	04-14-94	0.005	0.005	MBB
Vanadium	SW-846 6010	04-13-94	04-18-94	0.02	ND	MBB
Zinc	SW-846 6010	04-13-94	04-18-94	0.04	ND	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP LCS ID: 2200.LCSW1
GFAA LCS ID: 2200.LCSW1
CVAA LCS ID: 2209.LCSW1

ICP MS ID: 2211.01MS
GFAA MS ID: 2211.01MS
CVAA MS ID: 2211.01MS

ICP Method Blank ID: 2200.PBW1
GFAA Method Blank ID: 2200.PBW1
CVAA Method Blank ID: 2209.PBW1

ICP LCSD ID: 2200.LCSW2
GFAA LCSD ID: 2200.LCSW2
CVAA LCSD ID: 2209.LCSW2

ICP MSD ID: 2211.01MSD
GFAA MSD ID: 2211.01MSD
CVAA MSD ID: 2211.01MSD

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES, INC
Project Name: LHAAP
Project Number: 2379

Client Sample ID: LH18&24-C3-1001
PDP Sample ID: 2213.02
Report Number: I21302

Date Sampled: 04-07-94
Date Received: 04-08-94
Date Reported: 04-20-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-13-94	04-18-94	0.1	0.13	MBB
Antimony	SW-846 6010	04-13-94	04-18-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-13-94	04-18-94	0.005	ND	MBB
Barium	SW-846 6010	04-13-94	04-18-94	0.01	1.12	MBB
Beryllium	SW-846 6010	04-13-94	04-18-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-13-94	04-18-94	0.005	ND	MBB
Calcium	SW-846 6010	04-13-94	04-18-94	0.2	51.9	MBB
Chromium	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Cobalt	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Copper	SW-846 6010	04-13-94	04-18-94	0.02	ND	MBB
Iron	SW-846 6010	04-13-94	04-18-94	0.1	93.6	MBB
Lead	SW-846 7421	04-13-94	04-15-94	0.01	ND UJ	MBB
Magnesium	SW-846 6010	04-13-94	04-18-94	0.2	30.5	MBB
Manganese	SW-846 6010	04-13-94	04-18-94	0.01	1.99	MBB
Mercury	SW-846 7470	04-18-94	04-20-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-13-94	04-18-94	0.04	ND	MBB
Potassium	SW-846 6010	04-13-94	04-18-94	5	ND	MBB
Selenium	SW-846 7740	04-13-94	04-18-94	0.005	ND R	MBB
Silver	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Sodium	SW-846 6010	04-13-94	04-18-94	0.5	121	MBB
Thallium	SW-846 7841	04-13-94	04-14-94	0.005	0.005	MBB
Vanadium	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Zinc	SW-846 6010	04-13-94	04-18-94	0.02	0.078	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP LCS ID: 2200.LCSW1
GFAA LCS ID: 2200.LCSW1
CVAA LCS ID: 2209.LCSW1

ICP MS ID: 2211.01MS
GFAA MS ID: 2211.01MS
CVAA MS ID: 2211.01MS

ICP Method Blank ID: 2200.PBW1
GFAA Method Blank ID: 2200.PBW1
CVAA Method Blank ID: 2209.PBW1

ICP LCSD ID: 2200.LCSW2
GFAA LCSD ID: 2200.LCSW2
CVAA LCSD ID: 2209.LCSW2

ICP MSD ID: 2211.01MSD
GFAA MSD ID: 2211.01MSD
CVAA MSD ID: 2211.01MSD

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES, INC
Project Name: LHAAP
Project Number: 2379

Client Sample ID: LH18&24-130-1001
PDP Sample ID: 2213.03
Report Number: I21303

Date Sampled: 04-07-94
Date Received: 04-08-94
Date Reported: 04-20-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-13-94	04-18-94	0.2	ND	MBB
Antimony	SW-846 6010	04-13-94	04-18-94	0.12	ND	MBB
Arsenic	SW-846 7060	04-13-94	04-18-94	0.005	ND	MBB
Barium	SW-846 6010	04-13-94	04-18-94	0.02	0.217	MBB
Beryllium	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Cadmium	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Calcium	SW-846 6010	04-13-94	04-18-94	0.4	64	MBB
Chromium	SW-846 6010	04-13-94	04-18-94	0.02	ND	MBB
Cobalt	SW-846 6010	04-13-94	04-18-94	0.02	ND	MBB
Copper	SW-846 6010	04-13-94	04-18-94	0.04	ND	MBB
Iron	SW-846 6010	04-13-94	04-18-94	0.2	0.16	MBB
Lead	SW-846 7421	04-13-94	04-15-94	0.01	ND UJ	MBB
Magnesium	SW-846 6010	04-13-94	04-18-94	0.4	43	MBB
Manganese	SW-846 6010	04-13-94	04-18-94	0.02	0.524	MBB
Mercury	SW-846 7470	04-18-94	04-20-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-13-94	04-18-94	0.08	ND	MBB
Potassium	SW-846 6010	04-13-94	04-18-94	10	ND	MBB
Selenium	SW-846 7740	04-13-94	04-18-94	0.005	ND R	MBB
Silver	SW-846 6010	04-13-94	04-18-94	0.02	ND	MBB
Sodium	SW-846 6010	04-13-94	04-18-94	1	927	MBB
Thallium	SW-846 7841	04-13-94	04-14-94	0.005	ND	MBB
Vanadium	SW-846 6010	04-13-94	04-18-94	0.02	ND	MBB
Zinc	SW-846 6010	04-13-94	04-18-94	0.04	0.053	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP Method Blank ID: 2200.PBW1
GFAA Method Blank ID: 2200.PBW1
CVAA Method Blank ID: 2209.PBW1

ICP LCS ID: 2200.LCSW1
GFAA LCS ID: 2200.LCSW1
CVAA LCS ID: 2209.LCSW1

ICP LCSD ID: 2200.LCSW2
GFAA LCSD ID: 2200.LCSW2
CVAA LCSD ID: 2209.LCSW2

ICP MS ID: 2211.01MS
GFAA MS ID: 2211.01MS
CVAA MS ID: 2211.01MS

ICP MSD ID: 2211.01MSD
GFAA MSD ID: 2211.01MSD
CVAA MSD ID: 2211.01MSD

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas; 77386 (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES, INC
Project Name: LHAAP
Project No.: 2379

Date Reported: 04-20-94
Report No.: I213CL
Analyst: HM

WET CHEMISTRY PARAMETER: Chloride

Method Reference: EPA 325.3 UNITS: mg/L

PDP LABORATORY ID	CLIENT ID	MATRIX	DATE SAMPLED	DATE RECEIVED	DATE ANALYZED	QUANT LIMIT	RESULT	SPIKE ADDED OR TRUE VALUE	RELATIVE PERCENT DIFF(20)	PERCENT RECOVERY (75-125)
2213.01	LH18&24-C8-1001	WATER	04-07-94	04-08-94	04-08-94	2	2280			
2213.02	LH18&24-C3-1001	WATER	04-07-94	04-08-94	04-08-94	2	514			
2213.03	LH18&24-130-1001	WATER	04-07-94	04-08-94	04-08-94	2	1390			
			QUALITY ASSURANCE/QUALITY CONTROL							
2193.PB1	PREPARATION BLANK	NA	NA	NA	04-08-94	2	ND			
2193.LCS1	LAB CONTROL STD	NA	NA	NA	04-08-94	2	136	125		109
2193.LCS2	LAB CONTROL STD	NA	NA	NA	04-08-94	2	136	125	0.0	109
2193.01	SAMPLE	NA	NA	NA	04-05-94	2	99			
2193.01D	DUPLICATE	NA	NA	NA	04-05-94	2	99		0.0	
2193.01MS	MATRIX SPIKE	NA	NA	NA	04-05-94	2	120	17.7		119

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas; 77386 (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES, INC
Project Name: LHAAP
Project No.: 2379

Date Reported: 04-20-94
Report No.: I213N03
Analyst: EM

WET CHEMISTRY PARAMETER: Nitrate as N

Method Reference: EPA 352.1 UNITS: mg/L

PDP LABORATORY ID	CLIENT ID	MATRIX	DATE SAMPLED	DATE RECEIVED	DATE ANALYZED	QUANT LIMIT	RESULT	SPIKE ADDED OR TRUE VALUE	RELATIVE PERCENT DIFF(20)	PERCENT RECOVERY (75-125)
2213.01	LH18&24-C8-1001	WATER	04-07-94	04-08-94	04-09-94	0.1	0.2			
2213.02	LH18&24-C3-1001	WATER	04-07-94	04-08-94	04-09-94	0.1	ND			
2213.03	LH18&24-130-1001	WATER	04-07-94	04-08-94	04-09-94	0.1	0.7			
			QUALITY ASSURANCE/QUALITY CONTROL							
2209.PB1	PREPARATION BLANK	NA	NA	NA	04-07-94	0.1	ND			
2209.LCS1	LAB CONTROL STD	NA	NA	NA	04-07-94	0.1	0.32	0.40		80
2209.LCS2	LAB CONTROL STD	NA	NA	NA	04-07-94	0.1	0.36	0.40	12	90
2211.01	SAMPLE	NA	NA	NA	04-07-94	0.1	ND			
2211.01MS	MATRIX SPIKE	NA	NA	NA	04-07-94	0.1	0.40	0.40		100
2211.01MSD	MATRIX SPIKE DUP	NA	NA	NA	04-07-94	0.1	0.36	0.40	11	90

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas; 77386 (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES, INC
Project Name: LHAAP
Project No.: 2379

Date Reported: 04-21-94
Report No.: I213S04
Analyst: HM

WET CHEMISTRY PARAMETER: Sulfate

Method Reference: EPA 375.4

UNITS: mg/L

PDP LABORATORY ID	CLIENT ID	MATRIX	DATE SAMPLED	DATE RECEIVED	DATE ANALYZED	QUANT LIMIT	RESULT	SPIKE ADDED OR TRUE VALUE	RELATIVE PERCENT DIFF(20)	PERCENT RECOVERY (75-125)
2213.01	LH18&24-C8-1001	WATER	04-07-94	04-08-94	04-20-94	5	ND			
2213.02	LH18&24-C3-1001	WATER	04-07-94	04-08-94	04-20-94	5	ND			
2213.03	LH18&24-130-1001	WATER	04-07-94	04-08-94	04-20-94	50	209			
				QUALITY ASSURANCE/QUALITY CONTROL						
2210.PB1	PREPARATION BLANK	NA	NA	NA	04-20-94	5	ND			
2210.LCS1	LAB CONTROL STD	NA	NA	NA	04-20-94	5	138	151		91
2210.LCS2	LAB CONTROL STD	NA	NA	NA	04-20-94	5	131	151	5.2	87
2211.01	SAMPLE	NA	NA	NA	04-20-94	10	45			
2211.01MS	MATRIX SPIKE	NA	NA	NA	04-20-94	10	69	20		120
2211.01MSD	MATRIX SPIKE DUP	NA	NA	NA	04-20-94	10	61	20	12	80

APPENDIX A
RESULTS AS REPORTED BY THE LABORATORY

011021

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES	Client Sample ID:	LH18&24-C8-1001	Date Sampled:	04/07/94
Project Name:	LHAAP	PDP Sample ID:	2213.01	Date Received:	04/08/94
Project No.:	2379	Report No.:	B8611	Date Reported:	04/28/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8611
Sample Volume:	5.0 ml	Date Analyzed:	04/19/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	4 JB
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	9
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	93
Toluene-d8	50	(88-110)	94
Bromofluorobenzene	50	(86-115)	103

Method Blank ID: 2209V.BLK2 LCS ID: 2210V.LCS1 MS ID: 2210.05MS MSD ID: 2210.05MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES	Client Sample ID:	LH18&24-C3-1001	Date Sampled:	04/07/94
Project Name:	LHAAP	PDP Sample ID:	2213.02	Date Received:	04/08/94
Project No.:	2379	Report No.:	B8612	Date Reported:	04/28/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8612
Sample Volume:	5.0 ml	Date Analyzed:	04/19/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	15 B
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	20
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	45
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	97
Toluene-d8	50	(88-110)	96
Bromofluorobenzene	50	(86-115)	105

Method Blank ID: 2209V.BLK2 LCS ID: 2210V.LCS1 MS ID: 2209.03MS MSD ID: 2209.03MSD DUP ID: NA

011023

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES	Client Sample ID:	LH18&24-130-1001	Date Sampled:	04/07/94
Project Name:	LHAAP	PDP Sample ID:	2213.03	Date Received:	04/08/94
Project No.:	2379	Report No.:	B8613	Date Reported:	04/28/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8613
Sample Volume:	5.0 ml	Date Analyzed:	04/19/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
?-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	ND
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	12
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	97
Toluene-d8	50	(88-110)	98
Bromofluorobenzene	50	(86-115)	107

Method Blank ID: 2209V.BLK2 LCS ID: 2210V.LCS1 MS ID: 2209.03MS MSD ID: 2209.03MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES	Client Sample ID:	LH18&24-XXX-TB	Date Sampled:	04/07/94
Project Name:	LHAAP	PDP Sample ID:	2213.04	Date Received:	04/08/94
Project No.:	2379	Report No.:	B8605	Date Reported:	04/28/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8605
Sample Volume:	5.0 ml	Date Analyzed:	04/19/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	ND
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	ND
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	96
Toluene-d8	50	(88-110)	94
Bromofluorobenzene	50	(86-115)	104

Method Blank ID: 2209V.BLK2 LCS ID: 2210V.LCS1 MS ID: 2209.03MS MSD ID: 2209.03MSD DUP ID: NA

011025

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES, INC
Project Name: LHAAP
Project Number: 2379

Client Sample ID: LH18&24-C8-1001
PDP Sample ID: 2213.01
Report Number: I21301

Date Sampled: 04-07-94
Date Received: 04-08-94
Date Reported: 04-20-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-13-94	04-18-94	0.2	1.5	MBB
Antimony	SW-846 6010	04-13-94	04-18-94	0.12	ND	MBB
Arsenic	SW-846 7060	04-13-94	04-18-94	0.005	ND	MBB
Barium	SW-846 6010	04-13-94	04-18-94	0.02	4.43	MBB
Beryllium	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Cadmium	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Calcium	SW-846 6010	04-13-94	04-18-94	0.4	202	MBB
Chromium	SW-846 6010	04-13-94	04-18-94	0.02	ND	MBB
Cobalt	SW-846 6010	04-13-94	04-18-94	0.02	ND	MBB
Copper	SW-846 6010	04-13-94	04-18-94	0.04	ND	MBB
Iron	SW-846 6010	04-13-94	04-18-94	0.2	1.6	MBB
Lead	SW-846 7421	04-13-94	04-15-94	0.01	ND	MBB
Magnesium	SW-846 6010	04-13-94	04-18-94	0.4	151	MBB
Manganese	SW-846 6010	04-13-94	04-18-94	0.02	0.12	MBB
Mercury	SW-846 7470	04-18-94	04-20-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-13-94	04-18-94	0.08	ND	MBB
Potassium	SW-846 6010	04-13-94	04-18-94	10	ND	MBB
Selenium	SW-846 7740	04-13-94	04-18-94	0.01	ND	MBB
Silver	SW-846 6010	04-13-94	04-18-94	0.02	ND	MBB
Sodium	SW-846 6010	04-13-94	04-18-94	1	819	MBB
Thallium	SW-846 7841	04-13-94	04-14-94	0.005	0.005	MBB
Vanadium	SW-846 6010	04-13-94	04-18-94	0.02	ND	MBB
Zinc	SW-846 6010	04-13-94	04-18-94	0.04	ND	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP LCS ID: 2200.LCSW1
GFAA LCS ID: 2200.LCSW1
CVAA LCS ID: 2209.LCSW1

ICP MS ID: 2211.01MS
GFAA MS ID: 2211.01MS
CVAA MS ID: 2211.01MS

ICP Method Blank ID: 2200.PBW1
GFAA Method Blank ID: 2200.PBW1
CVAA Method Blank ID: 2209.PBW1

ICP LCSD ID: 2200.LCSW2
GFAA LCSD ID: 2200.LCSW2
CVAA LCSD ID: 2209.LCSW2

ICP MSD ID: 2211.01MSD
GFAA MSD ID: 2211.01MSD
CVAA MSD ID: 2211.01MSD

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

011026

LABORATORY REPORT

Client: AWD TECHNOLOGIES, INC
Project Name: LHAAP
Project Number: 2379

Client Sample ID: LH18&24-C3-1001
PDP Sample ID: 2213.02
Report Number: I21302

Date Sampled: 04-07-94
Date Received: 04-08-94
Date Reported: 04-20-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-13-94	04-18-94	0.1	0.13	MBB
Antimony	SW-846 6010	04-13-94	04-18-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-13-94	04-18-94	0.005	ND	MBB
Barium	SW-846 6010	04-13-94	04-18-94	0.01	1.12	MBB
Beryllium	SW-846 6010	04-13-94	04-18-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-13-94	04-18-94	0.005	ND	MBB
Calcium	SW-846 6010	04-13-94	04-18-94	0.2	51.9	MBB
Chromium	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Cobalt	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Copper	SW-846 6010	04-13-94	04-18-94	0.02	ND	MBB
Iron	SW-846 6010	04-13-94	04-18-94	0.1	93.6	MBB
Lead	SW-846 7421	04-13-94	04-15-94	0.01	ND	MBB
Magnesium	SW-846 6010	04-13-94	04-18-94	0.2	30.5	MBB
Manganese	SW-846 6010	04-13-94	04-18-94	0.01	1.99	MBB
Mercury	SW-846 7470	04-18-94	04-20-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-13-94	04-18-94	0.04	ND	MBB
Potassium	SW-846 6010	04-13-94	04-18-94	5	ND	MBB
Selenium	SW-846 7740	04-13-94	04-18-94	0.005	ND	MBB
Silver	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Sodium	SW-846 6010	04-13-94	04-18-94	0.5	121	MBB
Thallium	SW-846 7841	04-13-94	04-14-94	0.005	0.005	MBB
Vanadium	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Zinc	SW-846 6010	04-13-94	04-18-94	0.02	0.078	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP Method Blank ID: 2200.PBW1
GFAA Method Blank ID: 2200.PBW1
CVAA Method Blank ID: 2209.PBW1

ICP LCS ID: 2200.LCSW1
GFAA LCS ID: 2200.LCSW1
CVAA LCS ID: 2209.LCSW1

ICP LCSD ID: 2200.LCSW2
GFAA LCSD ID: 2200.LCSW2
CVAA LCSD ID: 2209.LCSW2

ICP MS ID: 2211.01MS
GFAA MS ID: 2211.01MS
CVAA MS ID: 2211.01MS

ICP MSD ID: 2211.01MSD
GFAA MSD ID: 2211.01MSD
CVAA MSD ID: 2211.01MSD

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES, INC
Project Name: LHAAP
Project Number: 2379

Client Sample ID: LH18&24-130-1001
PDP Sample ID: 2213.03
Report Number: I21303

Date Sampled: 04-07-94
Date Received: 04-08-94
Date Reported: 04-20-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-13-94	04-18-94	0.2	ND	MBB
Antimony	SW-846 6010	04-13-94	04-18-94	0.12	ND	MBB
Arsenic	SW-846 7060	04-13-94	04-18-94	0.005	ND	MBB
Barium	SW-846 6010	04-13-94	04-18-94	0.02	0.217	MBB
Beryllium	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Cadmium	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Calcium	SW-846 6010	04-13-94	04-18-94	0.4	64	MBB
Chromium	SW-846 6010	04-13-94	04-18-94	0.02	ND	MBB
Cobalt	SW-846 6010	04-13-94	04-18-94	0.02	ND	MBB
Copper	SW-846 6010	04-13-94	04-18-94	0.04	ND	MBB
Iron	SW-846 6010	04-13-94	04-18-94	0.2	0.16	MBB
Lead	SW-846 7421	04-13-94	04-15-94	0.01	ND	MBB
Magnesium	SW-846 6010	04-13-94	04-18-94	0.4	43	MBB
Manganese	SW-846 6010	04-13-94	04-18-94	0.02	0.524	MBB
Mercury	SW-846 7470	04-18-94	04-20-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-13-94	04-18-94	0.08	ND	MBB
Potassium	SW-846 6010	04-13-94	04-18-94	10	ND	MBB
Selenium	SW-846 7740	04-13-94	04-18-94	0.005	ND	MBB
Silver	SW-846 6010	04-13-94	04-18-94	0.02	ND	MBB
Sodium	SW-846 6010	04-13-94	04-18-94	1	927	MBB
Thallium	SW-846 7841	04-13-94	04-14-94	0.005	ND	MBB
Vanadium	SW-846 6010	04-13-94	04-18-94	0.02	ND	MBB
Zinc	SW-846 6010	04-13-94	04-18-94	0.04	0.053	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP Method Blank ID: 2200.PBW1
GFAA Method Blank ID: 2200.PBW1
CVAA Method Blank ID: 2209.PBW1

ICP LCS ID: 2200.LCSW1
GFAA LCS ID: 2200.LCSW1
CVAA LCS ID: 2209.LCSW1

ICP LCSD ID: 2200.LCSW2
GFAA LCSD ID: 2200.LCSW2
CVAA LCSD ID: 2209.LCSW2

ICP MS ID: 2211.01MS
GFAA MS ID: 2211.01MS
CVAA MS ID: 2211.01MS

ICP MSD ID: 2211.01MSD
GFAA MSD ID: 2211.01MSD
CVAA MSD ID: 2211.01MSD

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas; 77386 (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES, INC
Project Name: LHAAP
Project No.: 2379

Date Reported: 04-20-94
Report No.: I213CL
Analyst: HM

WET CHEMISTRY PARAMETER: Chloride

Method Reference: EPA 325.3

UNITS: mg/L

PDP LABORATORY ID	CLIENT ID	MATRIX	DATE SAMPLED	DATE RECEIVED	DATE ANALYZED	QUANT LIMIT	RESULT	SPIKE ADDED OR TRUE VALUE	RELATIVE PERCENT DIFF(20)	PERCENT RECOVERY (75-125)
2213.01	LH18&24-C8-1001	WATER	04-07-94	04-08-94	04-08-94	2	2280			
2213.02	LH18&24-C3-1001	WATER	04-07-94	04-08-94	04-08-94	2	514			
2213.03	LH18&24-130-1001	WATER	04-07-94	04-08-94	04-08-94	2	1390			
			QUALITY ASSURANCE/QUALITY CONTROL							
2193.PB1	PREPARATION BLANK	NA	NA	NA	04-08-94	2	ND			
2193.LCS1	LAB CONTROL STD	NA	NA	NA	04-08-94	2	136	125		109
2193.LCS2	LAB CONTROL STD	NA	NA	NA	04-08-94	2	136	125	0.0	109
2193.01	SAMPLE	NA	NA	NA	04-05-94	2	99			
2193.01D	DUPLICATE	NA	NA	NA	04-05-94	2	99		0.0	
2193.01MS	MATRIX SPIKE	NA	NA	NA	04-05-94	2	120	17.7		119

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas; 77386 (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES, INC
Project Name: LHAAP
Project No.: 2379

Date Reported: 04-20-94
Report No.: I213N03
Analyst: EM

WET CHEMISTRY PARAMETER: Nitrate as N

Method Reference: EPA 352.1

UNITS: mg/L

PDP LABORATORY ID	CLIENT ID	MATRIX	DATE SAMPLED	DATE RECEIVED	DATE ANALYZED	QUANT LIMIT	RESULT	SPIKE ADDED OR TRUE VALUE	RELATIVE PERCENT DIFF(20)	PERCENT RECOVERY (75-125)
2213.01	LH18&24-C8-1001	WATER	04-07-94	04-08-94	04-09-94	0.1	0.2			
2213.02	LH18&24-C3-1001	WATER	04-07-94	04-08-94	04-09-94	0.1	ND			
2213.03	LH18&24-130-1001	WATER	04-07-94	04-08-94	04-09-94	0.1	0.7			
			QUALITY ASSURANCE/QUALITY CONTROL							
2209.PB1	PREPARATION BLANK	NA	NA	NA	04-07-94	0.1	ND			
2209.LCS1	LAB CONTROL STD	NA	NA	NA	04-07-94	0.1	0.32	0.40		80
2209.LCS2	LAB CONTROL STD	NA	NA	NA	04-07-94	0.1	0.36	0.40	12	90
2211.01	SAMPLE	NA	NA	NA	04-07-94	0.1	ND			
2211.01MS	MATRIX SPIKE	NA	NA	NA	04-07-94	0.1	0.40	0.40		100
211.01MSD	MATRIX SPIKE DUP	NA	NA	NA	04-07-94	0.1	0.36	0.40	11	90

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas; 77386 (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES, INC
Project Name: LHAAP
Project No.: 2379

Date Reported: 04-21-94
Report No.: I213SO4
Analyst: HM

WET CHEMISTRY PARAMETER: Sulfate

Method Reference: EPA 375.4

UNITS: mg/L

PDP LABORATORY ID	CLIENT ID	MATRIX	DATE SAMPLED	DATE RECEIVED	DATE ANALYZED	QUANT LIMIT	RESULT	SPIKE ADDED OR TRUE VALUE	RELATIVE PERCENT DIFF(20)	PERCENT RECOVERY (75-125)
2213.01	LH18&24-C8-1001	WATER	04-07-94	04-08-94	04-20-94	5	ND			
2213.02	LH18&24-C3-1001	WATER	04-07-94	04-08-94	04-20-94	5	ND			
2213.03	LH18&24-130-1001	WATER	04-07-94	04-08-94	04-20-94	50	209			
				QUALITY ASSURANCE/QUALITY CONTROL						
2210.PB1	PREPARATION BLANK	NA	NA	NA	04-20-94	5	ND			
2210.LCS1	LAB CONTROL STD	NA	NA	NA	04-20-94	5	138	151		91
2210.LCS2	LAB CONTROL STD	NA	NA	NA	04-20-94	5	131	151	5.2	87
2211.01	SAMPLE	NA	NA	NA	04-20-94	10	45			
2211.01MS	MATRIX SPIKE	NA	NA	NA	04-20-94	10	69	20		120
2211.01MSD	MATRIX SPIKE DUP	NA	NA	NA	04-20-94	10	61	20	12	80

APPENDIX B
SUPPORT DOCUMENTATION

011032

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: NA
Project Name: NA
Project No.: NA

Client Sample ID:NA
PDP Sample ID: 2209V.BLK2 (METHOD BLANK)
Report No.: B8600

Date Sampled: NA
Date Received: NA
Date Reported: 04/25/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix: WATER
Multiplying Factor: 1.00
Sample Volume: 5.0 ml
Dilution: 1.0

Method Ref.: SW846-8240
GC/MS File ID: B8600
Date Analyzed: 04/18/94
Analyst: MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
',2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
⁄-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	3 J
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	ND
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	95
Toluene-d8	50	(88-110)	95
Bromofluorobenzene	50	(86-115)	102

Method Blank ID: NA LCS ID: NA MS ID: NA MSD ID: NA DUP ID: NA

- blank contam.

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas; 77386 (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES, INC
Project Name: LHAAP
Project No.: 2379

Date Reported: 04-20-94
Report No.: I213R03
Analyst: SM

WET CHEMISTRY PARAMETER: Nitrate as N

Method Reference: EPA 352.1 UNITS: mg/L

PDP LABORATORY ID	CLIENT ID	MATRIX	DATE SAMPLED	DATE RECEIVED	DATE ANALYZED	QUANT LIMIT	RESULT	SPIKE ADDED OR TRUE VALUE	RELATIVE PERCENT DIFF(20)	PERCENT RECOVERY (75-125)
2213.01	LH18&24-C8-1001	WATER	04-07-94	04-08-94	04-09-94	0.1	0.2			
2213.02	LH18&24-C3-1001	WATER	04-07-94	04-08-94	04-09-94	0.1	ND			
2213.03	LH18&24-130-1001	WATER	04-07-94	04-08-94	04-09-94	0.1	0.7			
			QUALITY ASSURANCE/QUALITY CONTROL							
2209.PB1	PREPARATION BLANK	NA	NA	NA	04-07-94	0.1	ND			
2209.LCS1	LAB CONTROL STD	NA	NA	NA	04-07-94	0.1	0.32	0.40		80
2209.LCS2	LAB CONTROL STD	NA	NA	NA	04-07-94	0.1	0.36	0.40	12	90
2211.01	SAMPLE	NA	NA	NA	04-07-94	0.1	ND			
2211.01MS	MATRIX SPIKE	NA	NA	NA	04-07-94	0.1	0.40	0.40		100
2211.01MSD	MATRIX SPIKE DUP	NA	NA	NA	04-07-94	0.1	0.36	0.40	11	90

- prep blank and LCS/LCSD were run 2 days prior to the samples in this episode.

⇒ all O.K., so no flags

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: NA
Project Name: NA
Project Number: NA

Client Sample ID: NA (MS/MSD)
PDP MS ID: 2211.01MS
PDP MSD ID: 2211.01MSD
Report Number: I211MS01

Date Sampled: NA
Date Received: NA
Date Reported: 04-19-94

TOTAL METALS (MATRIX SPIKE AND MATRIX SPIKE DUPLICATE)

Sample Matrix: WATER

Units: mg/L

ELEMENT	METHOD	DATE PREPARED	DATE ANALYZED	SAMPLE VALUE	SPIKE ADDED	MATRIX SPIKE VALUE	PERCENT RECOVERY (75-125)	MATRIX SPIKE DUP VALUE	PERCENT RECOVERY (75-125)	RPD (20)
Aluminum	SW-846 6010	04-13-94	04-18-94	ND	2.00	1.90	95	1.87	94	1.6
Antimony	SW-846 6010	04-13-94	04-18-94	ND	0.50	0.47	94	0.49	98	4.2
Arsenic	SW-846 7060	04-13-94	04-18-94	ND	0.040	0.038	95	0.038	95	0.0
Barium	SW-846 6010	04-13-94	04-18-94	1.65	2.00	3.63	99	3.47	91	4.5
Beryllium	SW-846 6010	04-13-94	04-18-94	ND	0.050	0.047	94	0.046	92	2.2
Cadmium	SW-846 6010	04-13-94	04-18-94	ND	0.050	0.049	98	0.047	94	4.2
Calcium	SW-846 6010	04-13-94	04-18-94	78.8	NA	NA	NA	NA	NA	NA
Chromium	SW-846 6010	04-13-94	04-18-94	ND	0.20	0.20	100	0.19	95	5.1
Cobalt	SW-846 6010	04-13-94	04-18-94	ND	0.50	0.49	98	0.48	96	2.1
Copper	SW-846 6010	04-13-94	04-18-94	ND	0.25	0.25	100	0.24	96	4.1
Iron	SW-846 6010	04-13-94	04-18-94	159	1.00	162	**	159	**	1.9
Lead	SW-846 7421	04-13-94	04-15-94	ND	0.020	0.032	160*	0.024	120	29*
Magnesium	SW-846 6010	04-13-94	04-18-94	46.8	NA	NA	NA	NA	NA	NA
Manganese	SW-846 6010	04-13-94	04-18-94	3.52	0.50	4.05	106	3.95	86	2.5
Mercury	SW-846 7471	04-18-94	04-20-94	ND	0.0010	0.0010	100	0.0010	100	0.0
Nickel	SW-846 6010	04-13-94	04-18-94	ND	0.50	0.51	102	0.49	98	4.0
Potassium	SW-846 6010	04-13-94	04-18-94	7.6	NA	NA	NA	NA	NA	NA
Selenium	SW-846 7740	04-13-94	04-18-94	ND	0.010	0.001	10*	ND	0*	NC
Silver	SW-846 6010	04-13-94	04-18-94	ND	0.050	0.042	84	0.042	84	0.0
Sodium	SW-846 6010	04-13-94	04-18-94	407	NA	NA	NA	NA	NA	NA
Thallium	SW-846 7841	04-13-94	04-14-94	ND	0.050	0.042	84	0.043	86	2.4
Vanadium	SW-846 6010	04-13-94	04-18-94	ND	0.50	0.49	98	0.47	94	4.2
Zinc	SW-846 6010	04-13-94	04-18-94	0.066	0.50	0.55	97	0.54	95	1.8

** High analyte concentration prevented accurate determination of the percent recovery.

QUALITY ASSURANCE/QUALITY CONTROL

Method Blank ID: NA
LCS ID: NA
LCSD ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: NA
Project Name: NA
Project Number: NA

LCS ID: 2200.LCSW1
LCSD ID: 2200.LCSW2

Date Reported: 04-19-94
Report Number: I200LCSW

METALS (LABORATORY CONTROL SAMPLE AND LABORATORY CONTROL SAMPLE DUPLICATE)

Sample Matrix: AQUEOUS

Units: ug/L

ELEMENT	METHOD	DATE PREPARED	DATE ANALYZED	TRUE VALUE	LCS FOUND VALUE	LCS % RECOVERY (80-120)	LCSD FOUND VALUE	LCSD % RECOVERY (80-120)	RPD (20)	ANALYST
Aluminum	SW-846 6010	04-13-94	04-18-94	10.0	9.58	96	9.57	96	0.1	MBB
Antimony	SW-846 6010	04-13-94	04-18-94	5.00	4.86	97	4.92	98	1.2	MBB
Arsenic	SW-846 7060	04-13-94	04-18-94	0.050	0.046	92	0.047	94	2.2	MBB
Barium	SW-846 6010	04-13-94	04-18-94	10.0	9.54	95	9.53	95	0.1	MBB
Beryllium	SW-846 6010	04-13-94	04-18-94	0.25	0.24	96	0.24	96	0.0	MBB
Cadmium	SW-846 6010	04-13-94	04-18-94	2.50	2.37	95	2.39	96	0.8	MBB
Calcium	SW-846 6010	04-13-94	04-18-94	25.0	24.2	97	24.3	97	0.4	MBB
Chromium	SW-846 6010	04-13-94	04-18-94	1.00	0.98	98	0.99	99	1.0	MBB
Cobalt	SW-846 6010	04-13-94	04-18-94	2.50	2.44	98	2.45	98	0.4	MBB
Copper	SW-846 6010	04-13-94	04-18-94	1.25	1.22	98	1.21	97	0.8	MBB
Iron	SW-846 6010	04-13-94	04-18-94	5.00	4.82	96	4.84	97	0.4	MBB
Lead	SW-846 7421	04-13-94	04-15-94	0.050	0.049	98	0.050	100	2.0	MBB
Magnesium	SW-846 6010	04-13-94	04-18-94	25.0	24.0	96	24.1	96	0.4	MBB
Manganese	SW-846 6010	04-13-94	04-18-94	2.50	2.42	97	2.42	97	0.0	MBB
Nickel	SW-846 6010	04-13-94	04-18-94	2.50	2.45	98	2.46	98	0.4	MBB
Potassium	SW-846 6010	04-13-94	04-18-94	25.0	23.7	95	23.5	94	0.8	MBB
Selenium	SW-846 7740	04-13-94	04-18-94	0.050	0.060	120	0.062	124*	3.3	MBB
Silver	SW-846 6010	04-13-94	04-18-94	1.25	1.13	90	1.15	92	1.8	MBB
Sodium	SW-846 6010	04-13-94	04-18-94	25.0	23.8	95	23.7	95	0.4	MBB
Thallium	SW-846 7841	04-13-94	04-14-94	0.050	0.052	104	0.047	94	10.1	MBB
Vanadium	SW-846 6010	04-13-94	04-18-94	2.50	2.40	96	2.40	96	0.0	MBB
Zinc	SW-846 6010	04-13-94	04-18-94	2.50	2.40	96	2.41	96	0.4	MBB

QUALITY ASSURANCE/QUALITY CONTROL

Method Blank ID: 2200.PBW1

- flag positive Se results as estimated.

011036

FINAL

CHEMICAL DATA QA/QC REPORT
INTERIM REMEDIAL ACTION
BURNING GROUND 3 AND
UNLINED EVAPORATION POND
LHAAP UNITS 18 AND 24
LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

PREPARED FOR

UNITED STATES ARMY CORPS OF ENGINEERS
TULSA DISTRICT

PREPARED BY

AWD TECHNOLOGIES, INC.
ROCKVILLE, MARYLAND

PDP ANALYTICAL SERVICES -- Episode 2215

AUGUST 31, 1994
USACE CONTRACT DACA56-93-D-0016
DELIVERY ORDER 0002
AWD PROJECT 2379

LONGHORN ARMY AMMUNITION PLANT, TEXAS
BURNING GROUND 3 AND UNLINED EVAPORATION POND
INTERIM REMEDIAL ACTION
PDP Analytical Services -- Episode 2215

1.0 Discussion.

This set of samples was collected from the Burning Ground 3 and the Unlined Evaporation Pond areas of the Longhorn Army Ammunition Plant in Karnack, Texas on April 9, 1994 as part of the Interim Remedial Action Investigation. The sampling activity was conducted by AWD Technologies, Inc. (AWD) for the U.S. Army Corps of Engineers (COE), Tulsa District. After collection, the samples were sent to the PDP Analytical Services laboratory in Spring, Texas and were placed under Episode Number 2215. Included in this work order are four (4) groundwater samples and one (1) trip blank. There were no field duplicates in this set of samples.

Groundwater Samples

LH18/24-EW1-1001
LH18/24-109-1001
LH18/24-MW1-1001
LH18/24-125-1001

Trip Blank

LH18/24-XXX-TB

All samples, except the trip blank, were analyzed for volatile organic chemicals (VOCs), target analyte list (TAL) metals, chloride, nitrate as nitrogen, and sulfate. The trip blank was only analyzed for VOCs. All VOC and metals analyses were performed by U.S. EPA SW-846 methodologies: 8240 and 6000/7000 series, respectively. The chloride, nitrate, and sulfate analyses were performed according to U.S. EPA Methods 325.3, 352.1, and 375.4, respectively. Since the laboratory did not supply any of the analytical raw data in the deliverable package, data validation has been performed on the limited basis of examining QA/QC summary reports.

Other than the selenium results that were rejected, "R", all compounds and analytes were successfully analyzed in all samples. The organic analytical data were evaluated by the following quality assurance/quality control (QA/QC) parameters where applicable: technical holding times and preservation, system monitoring compound/surrogate spike recoveries, method blanks, matrix spike/matrix spike duplicates (MS/MSDs), laboratory control samples, field QC, and transcription. The inorganic analytical data were evaluated by the following QA/QC parameters where applicable: technical holding times and preservation, laboratory blanks, matrix spike recoveries, laboratory duplicates, laboratory control samples, field QC, and transcription. Validated sample analysis results are listed on the attached data summary forms. Areas of concern with respect to data quality and usability are discussed below.

2.0 Volatiles.

2.1 Accuracy. All surrogate, laboratory control sample (LCS), and MS/MSD percent recoveries were within acceptable control limits, except for the low toluene-d8 surrogate recovery in sample LH18/24-109-1001. Therefore, all VOC compounds in this sample have been qualified as estimated, "J" or "UJ".

The methylene chloride results in samples LH18/24-EW1-1001 and LH18/24-MW1-1001 have been qualified as estimated, "J", because they exceeded the calibration range. Both results were reported from the undiluted analyses because they would have been qualified as non-detects in the diluted analyses due to blank contamination. Although these values are high enough in the original analyses that they appear to be "real" or site-related concentrations, the data user should exercise caution when utilizing these results; it is difficult to be certain that they are not attributable to blank contamination with the given laboratory information.

2.2 Precision. The relative percent differences (RPDs) reported for the MS/MSD data were all within acceptable quality control limits.

2.3 Representativeness. All samples were properly preserved and were received in good condition by the laboratory.

All samples were analyzed within the appropriate holding time.

There was low level methylene chloride contamination in the method and trip blanks. Therefore, positive sample concentrations of this compound that are less than ten (10) times the highest amount of contamination have been qualified as non-detect, "U".

Note that there were no tentatively identified compounds (TICs) reported by the laboratory for the volatile fraction of any sample.

3.0 Anions.

Chloride, nitrate as nitrogen, and sulfate were all analyzed as anions by the aforementioned wet chemistry methods.

3.1 Accuracy. The laboratory control sample and matrix spike percent recoveries were all within acceptable quality control limits for all three parameters.

3.2 Precision. The LCS and sample duplicate RPDs were all within the acceptable control limit of 20 percent.

3.3 Representativeness. All samples were properly preserved and were received in good condition by the laboratory.

All samples were analyzed for chloride and sulfate within acceptable holding times. However, the nitrate analyses were performed two days after the 48-hour holding time had expired. As a result, all nitrate values have been qualified as estimated, "J", since they are all positive concentrations.

All blanks were free of target analyte contamination.

4.0 TAL Metals.

4.1 Accuracy. All laboratory control sample and matrix spike percent recoveries were within acceptable quality control limits, except for the lead matrix spike recovery and the laboratory control sample duplicate (LCSD) and MS/MSD recoveries for selenium. Although the matrix spike recovery for lead was high, the data was unaffected since all sample concentrations for lead are non-detect. The selenium MS/MSD recoveries, on the other hand,

were both less than 30 percent. As a result, all sample values reported for this metal have been rejected, "R", and should be considered unusable since they are all non-detects. Note that the LCS duplicate recovery for selenium was high, but no further action was taken on the associated sample data since they were all previously rejected.

4.2 Precision. All LCS/LCSD and MS/MSD relative percent differences (RPDs) were within the acceptable quality control range, except for the lead MS/MSD RPD, which exceeded the 20 percent limit. Therefore, all sample results for lead have been qualified as estimated, "UJ", since they are all non-detects.

4.3 Representativeness. All samples were properly preserved and were received in good condition by the laboratory. All samples were prepared and analyzed within appropriate holding times and all blanks were free of target analyte contamination.

5.0 Conclusion.

These data were reviewed according to the U.S. EPA's National Functional Guidelines for Organic Data Review (June, 1991), the U.S. EPA's Laboratory Data Validation Functional Guidelines for Evaluating Inorganics Analyses (July, 1988), and with reference to method requirements. The results are presented in the data summary of this report and should be accepted as qualified. With the exception of the values that have been rejected, all results and data meet the requirements of the data quality objective (DQO) for this site and are deemed acceptable and valid for the intended use.

6.0 Information Regarding Report Content.

Attachments:

1. Glossary of data qualifier codes.
2. Data Summary. This may include:
   a) All positive results with qualifier codes, if applicable;
   b) All unusable detection limits qualified with "R"; and
   c) All estimated detection limits qualified with "UJ".
3. Appendix A - Results as reported by the laboratory.
4. Appendix B - Support Documentation which includes details to support the statements made in this report.

GLOSSARY OF DATA QUALIFIER CODES

CODES RELATING TO IDENTIFICATION

(confidence concerning presence or absence of compounds)

U = Not detected. The associated number indicates approximate sample concentration necessary to be detected.

(NO CODE) = Confirmed identification.

R = Unreliable result. Analyte may or may not be present in the sample. Supporting data necessary to confirm result. The result is unusable.

CODES RELATED TO QUANTITATION

(can be used for positive results and sample quantitation limits)

J = Analyte present. Reported value may not be accurate or precise.

UJ = Not detected. Quantitation limit may be inaccurate or imprecise.

DATA SUMMARY

011044

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES INC.	Client Sample ID:	LH18&24-EW1-1001	Date Sampled:	04/09/94
Project Name:	LHAAP	PDP Sample ID:	2215.01	Date Received:	04/11/94
Project No.:	2379	Report No.:	B8647	Date Reported:	04/28/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	200.00	GC/MS File ID:	B8647
Sample Volume:	5.0 ml	Date Analyzed:	04/20/94
Dilution:	200.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	1000	ND	Carbon tetrachloride	1000	ND
1,1,2,2-Tetrachloroethane	1000	ND	Chlorobenzene	1000	ND
1,1,2-Trichloroethane	1000	ND	Chloroethane	2000	ND
1,1-Dichloroethane	1000	ND	Chloroform	1000	ND
1,1-Dichloroethene	1000	ND	Chloromethane	2000	ND
1,2-Dichloroethane	1000	ND	Cis-1,3-Dichloropropene	1000	ND
1,2-Dichloropropane	1000	ND	Dibromochloromethane	1000	ND
2-Butanone	2000	ND	Ethylbenzene	1000	ND
2-Chloroethyl vinyl ether	2000	ND	Methylene chloride	1000	85000 ~~BF~~ J
2-Hexanone	2000	ND	Styrene	1000	ND
4-Methyl-2-pentanone	2000	ND	Tetrachloroethene	1000	ND
Acetone	2000	9400	Toluene	1000	ND
Benzene	1000	ND	Total xylenes	1000	ND
Bromodichloromethane	1000	ND	Total-1,2-Dichloroethene	1000	ND
Bromoform	1000	ND	Trans-1,3-Dichloropropene	1000	ND
Bromomethane	2000	ND	Trichloroethene	1000	9800
Carbon disulfide	1000	ND	Vinyl acetate	2000	ND
			Vinylchloride	2000	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	104
Toluene-d8	50	(88-110)	98
Bromofluorobenzene	50	(86-115)	110

Method Blank ID: 2215V.WBLK1 LCS ID: 2215V.WLCS1 MS ID: 2209.03MS MSD ID: 2209.03MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES INC.	Client Sample ID:	LH18&24-109-1001	Date Sampled:	04/09/94
Project Name:	LHAAP	PDP Sample ID:	2215.02	Date Received:	04/11/94
Project No.:	2379	Report No.:	B8648	Date Reported:	04/28/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	10.00	GC/MS File ID:	B8648
Sample Volume:	5.0 ml	Date Analyzed:	04/20/94
Dilution:	10.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	50	ND UJ	Carbon tetrachloride	50	ND UJ
1,1,2,2-Tetrachloroethane	50	ND	Chlorobenzene	50	ND
1,1,2-Trichloroethane	50	ND	Chloroethane	100	ND
1,1-Dichloroethane	50	ND	Chloroform	50	ND
1,1-Dichloroethene	50	ND	Chloromethane	100	ND
1,2-Dichloroethane	50	ND	Cis-1,3-Dichloropropene	50	ND
1,2-Dichloropropane	50	ND	Dibromochloromethane	50	ND
2-Butanone	100	ND	Ethylbenzene	50	ND
2-Chloroethyl vinyl ether	100	ND	Methylene chloride	50	400 BUJ
2-Hexanone	100	ND	Styrene	50	ND UJ
4-Methyl-2-pentanone	100	ND	Tetrachloroethene	50	ND
Acetone	100	ND	Toluene	50	ND
Benzene	50	ND	Total xylenes	50	ND
Bromodichloromethane	50	ND	Total-1,2-Dichloroethene	50	ND
Bromoform	50	ND	Trans-1,3-Dichloropropene	50	ND
Bromomethane	100	ND	Trichloroethene	50	250 J
Carbon disulfide	50	ND	Vinyl acetate	100	ND UJ
			Vinylchloride	100	ND UJ

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	91
Toluene-d8	50	(88-110)	85
Bromofluorobenzene	50	(86-115)	96

Method Blank ID: 2215V.WBLK1 LCS ID: 2215V.WLCS1 MS ID: 2209.03MS MSD ID: 2209.03MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES INC.	Client Sample ID:	LH18&24-MW1-1001	Date Sampled:	04/09/94
Project Name:	LHAAP	PDP Sample ID:	2215.03	Date Received:	04/11/94
Project No.:	2379	Report No.:	B8649	Date Reported:	04/28/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	200.00	GC/MS File ID:	B8649
Sample Volume:	5.0 ml	Date Analyzed:	04/20/94
Dilution:	200.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	1000	ND	Carbon tetrachloride	1000	ND
1,1,2,2-Tetrachloroethane	1000	ND	Chlorobenzene	1000	ND
1,1,2-Trichloroethane	1000	ND	Chloroethane	2000	ND
1,1-Dichloroethane	1000	ND	Chloroform	1000	ND
1,1-Dichloroethene	1000	ND	Chloromethane	2000	ND
1,2-Dichloroethane	1000	ND	Cis-1,3-Dichloropropene	1000	ND
1,2-Dichloropropane	1000	ND	Dibromochloromethane	1000	ND
2-Butanone	2000	ND	Ethylbenzene	1000	ND
2-Chloroethyl vinyl ether	2000	ND	Methylene chloride	1000	349000 ~~B~~ J
2-Hexanone	2000	ND	Styrene	1000	ND
4-Methyl-2-pentanone	2000	ND	Tetrachloroethene	1000	ND
Acetone	2000	ND	Toluene	1000	ND
Benzene	1000	ND	Total xylenes	1000	ND
Bromodichloromethane	1000	ND	Total-1,2-Dichloroethene	1000	ND
Bromoform	1000	ND	Trans-1,3-Dichloropropene	1000	ND
Bromomethane	2000	ND	Trichloroethene	1000	17100
Carbon disulfide	1000	ND	Vinyl acetate	2000	ND
			Vinylchloride	2000	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	100
Toluene-d8	50	(88-110)	96
Bromofluorobenzene	50	(86-115)	101

Method Blank ID: 2215V.WBLK1 LCS ID: 2215V.WLCS1 MS ID: 2209.03MS MSD ID: 2209.03MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES INC.	Client Sample ID:	LH18&24-125-1001	Date Sampled:	04/09/94
Project Name:	LHAAP	PDP Sample ID:	2215.04	Date Received:	04/11/94
Project No.:	2379	Report No.:	B8650	Date Reported:	04/28/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	50.00	GC/MS File ID:	B8650
Sample Volume:	5.0 ml	Date Analyzed:	04/20/94
Dilution:	50.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	250	ND	Carbon tetrachloride	250	ND
1,1,2,2-Tetrachloroethane	250	ND	Chlorobenzene	250	ND
1,1,2-Trichloroethane	250	ND	Chloroethane	500	ND
1,1-Dichloroethane	250	ND	Chloroform	250	ND
1,1-Dichloroethene	250	ND	Chloromethane	500	ND
1,2-Dichloroethane	250	ND	Cis-1,3-Dichloropropene	250	ND
1,2-Dichloropropane	250	ND	Dibromochloromethane	250	ND
2-Butanone	500	ND	Ethylbenzene	250	ND
2-Chloroethyl vinyl ether	500	ND	Methylene chloride	250	600 B U
2-Hexanone	500	ND	Styrene	250	ND
4-Methyl-2-pentanone	500	ND	Tetrachloroethene	250	ND
Acetone	500	1100	Toluene	250	ND
Benzene	250	ND	Total xylenes	250	ND
Bromodichloromethane	250	ND	Total-1,2-Dichloroethene	250	ND
Bromoform	250	ND	Trans-1,3-Dichloropropene	250	ND
Bromomethane	500	ND	Trichloroethene	250	ND
Carbon disulfide	250	ND	Vinyl acetate	500	ND
			Vinylchloride	500	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	98
Toluene-d8	50	(88-110)	96
Bromofluorobenzene	50	(86-115)	106

Method Blank ID: 2215V.WBLK1 LCS ID: 2215V.WLCS1 MS ID: 2209.03MS MSD ID: 2209.03MSD DUP ID: NA

011048

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES INC.	Client Sample ID:	LH18&24-XXX-TB	Date Sampled:	04/09/94
Project Name:	LHAAP	PDP Sample ID:	2215.05	Date Received:	04/11/94
Project No.:	2379	Report No.:	B8646	Date Reported:	04/28/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8646
Sample Volume:	5.0 ml	Date Analyzed:	04/20/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	10 B
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	ND
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	99
Toluene-d8	50	(88-110)	95
Bromofluorobenzene	50	(86-115)	108

Method Blank ID: 2215V.WBLK1 LCS ID: 2215V.WLCS1 MS ID: 2209.03MS MSD ID: 2209.03MSD DUP ID: NA

000015

011049

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES, INC
Project Name: LHAAP
Project Number: 2379

Client Sample ID: LH18&24-EW1-1001
PDP Sample ID: 2215.01
Report Number: I21501

Date Sampled: 04-09-94
Date Received: 04-11-94
Date Reported: 04-20-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-13-94	04-18-94	0.1	ND	MBB
Antimony	SW-846 6010	04-13-94	04-18-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-13-94	04-18-94	0.005	ND	MBB
Barium	SW-846 6010	04-13-94	04-18-94	0.01	0.329	MBB
Beryllium	SW-846 6010	04-13-94	04-18-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-13-94	04-18-94	0.005	ND	MBB
Calcium	SW-846 6010	04-13-94	04-18-94	0.2	8.9	MBB
Chromium	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Cobalt	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Copper	SW-846 6010	04-13-94	04-18-94	0.02	ND	MBB
Iron	SW-846 6010	04-13-94	04-18-94	0.1	0.10	MBB
Lead	SW-846 7421	04-13-94	04-15-94	0.005	ND UJ	MBB
'agnesium	SW-846 6010	04-13-94	04-18-94	0.2	6.6	MBB
Manganese	SW-846 6010	04-13-94	04-18-94	0.01	0.358	MBB
Mercury	SW-846 7470	04-18-94	04-20-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-13-94	04-18-94	0.04	ND	MBB
Potassium	SW-846 6010	04-13-94	04-18-94	5	ND	MBB
Selenium	SW-846 7740	04-13-94	04-18-94	0.005	ND R	MBB
Silver	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Sodium	SW-846 6010	04-13-94	04-18-94	0.5	102	MBB
Thallium	SW-846 7841	04-13-94	04-14-94	0.005	ND	MBB
Vanadium	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Zinc	SW-846 6010	04-13-94	04-18-94	0.02	0.056	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP Method Blank ID: 2200.PBW1
GFAA Method Blank ID: 2200.PBW1
CVAA Method Blank ID: 2209.PBW1

ICP LCS ID: 2200.LCSW1
GFAA LCS ID: 2200.LCSW1
CVAA LCS ID: 2209.LCSW1

ICP LCSD ID: 2200.LCSW2
GFAA LCSD ID: 2200.LCSW2
CVAA LCSD ID: 2209.LCSW2

ICP MS ID: 2211.01MS
GFAA MS ID: 2211.01MS
CVAA MS ID: 2211.01MS

ICP MSD ID: 2211.01MSD
GFAA MSD ID: 2211.01MSD
CVAA MSD ID: 2211.01MSD

011050

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES, INC
Project Name: LHAAP
Project Number: 2379

Client Sample ID: LH18&24-109-1001
PDP Sample ID: 2215.02
Report Number: I21502

Date Sampled: 04-09-94
Date Received: 04-11-94
Date Reported: 04-20-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-13-94	04-18-94	0.1	0.22	MBB
Antimony	SW-846 6010	04-13-94	04-18-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-13-94	04-18-94	0.005	ND	MBB
Barium	SW-846 6010	04-13-94	04-18-94	0.01	1.03	MBB
Beryllium	SW-846 6010	04-13-94	04-18-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-13-94	04-18-94	0.005	ND	MBB
Calcium	SW-846 6010	04-13-94	04-18-94	0.2	53.7	MBB
Chromium	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Cobalt	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Copper	SW-846 6010	04-13-94	04-18-94	0.02	ND	MBB
Iron	SW-846 6010	04-13-94	04-18-94	0.1	0.52	MBB
Lead	SW-846 7421	04-13-94	04-15-94	0.01	ND W	MBB
Magnesium	SW-846 6010	04-13-94	04-18-94	0.2	40.0	MBB
Manganese	SW-846 6010	04-13-94	04-18-94	0.01	0.105	MBB
Mercury	SW-846 7470	04-18-94	04-20-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-13-94	04-18-94	0.04	ND	MBB
Potassium	SW-846 6010	04-13-94	04-18-94	5	ND	MBB
Selenium	SW-846 7740	04-13-94	04-18-94	0.01	ND R	MBB
Silver	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Sodium	SW-846 6010	04-13-94	04-18-94	0.5	346	MBB
Thallium	SW-846 7841	04-13-94	04-14-94	0.005	ND	MBB
Vanadium	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Zinc	SW-846 6010	04-13-94	04-18-94	0.02	0.041	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP LCS ID: 2200.LCSW1
GFAA LCS ID: 2200.LCSW1
CVAA LCS ID: 2209.LCSW1

ICP MS ID: 2211.01MS
GFAA MS ID: 2211.01MS
CVAA MS ID: 2211.01MS

ICP Method Blank ID: 2200.PBW1
GFAA Method Blank ID: 2200.PBW1
CVAA Method Blank ID: 2209.PBW1

ICP LCSD ID: 2200.LCSW2
GFAA LCSD ID: 2200.LCSW2
CVAA LCSD ID: 2209.LCSW2

ICP MSD ID: 2211.01MSD
GFAA MSD ID: 2211.01MSD
CVAA MSD ID: 2211.01MSD

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES, INC
Project Name: LHAAP
Project Number: 2379

Client Sample ID: LH18&24-MW1-1001
PDP Sample ID: 2215.03
Report Number: I21503

Date Sampled: 04-09-94
Date Received: 04-11-94
Date Reported: 04-20-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-13-94	04-18-94	0.1	ND	MBB
Antimony	SW-846 6010	04-13-94	04-18-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-13-94	04-18-94	0.005	ND	MBB
Barium	SW-846 6010	04-13-94	04-18-94	0.01	4.54	MBB
Beryllium	SW-846 6010	04-13-94	04-18-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-13-94	04-18-94	0.005	ND	MBB
Calcium	SW-846 6010	04-13-94	04-18-94	0.2	122	MBB
Chromium	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Cobalt	SW-846 6010	04-13-94	04-18-94	0.01	0.031	MBB
Copper	SW-846 6010	04-13-94	04-18-94	0.02	ND	MBB
Iron	SW-846 6010	04-13-94	04-18-94	0.1	ND	MBB
Lead	SW-846 7421	04-13-94	04-15-94	0.01	ND UJ	MBB
Magnesium	SW-846 6010	04-13-94	04-18-94	0.2	110	MBB
Manganese	SW-846 6010	04-13-94	04-18-94	0.01	2.17	MBB
Mercury	SW-846 7470	04-18-94	04-20-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-13-94	04-18-94	0.04	ND	MBB
Potassium	SW-846 6010	04-13-94	04-18-94	5	ND	MBB
Selenium	SW-846 7740	04-13-94	04-18-94	0.01	ND R	MBB
Silver	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Sodium	SW-846 6010	04-13-94	04-18-94	0.5	384	MBB
Thallium	SW-846 7841	04-13-94	04-14-94	0.005	ND	MBB
Vanadium	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Zinc	SW-846 6010	04-13-94	04-18-94	0.02	0.031	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP Method Blank ID: 2200.PBW1
GFAA Method Blank ID: 2200.PBW1
CVAA Method Blank ID: 2209.PBW1

ICP LCS ID: 2200.LCSW1
GFAA LCS ID: 2200.LCSW1
CVAA LCS ID: 2209.LCSW1

ICP LCSD ID: 2200.LCSW2
GFAA LCSD ID: 2200.LCSW2
CVAA LCSD ID: 2209.LCSW2

ICP MS ID: 2211.01MS
GFAA MS ID: 2211.01MS
CVAA MS ID: 2211.01MS

ICP MSD ID: 2211.01MSD
GFAA MSD ID: 2211.01MSD
CVAA MSD ID: 2211.01MSD

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PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES, INC
Project Name: LHAAP
Project Number: 2379

Client Sample ID: LH18&24-125-1001
PDP Sample ID: 2215.04
Report Number: I21504

Date Sampled: 04-09-94
Date Received: 04-11-94
Date Reported: 04-20-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: ug/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-13-94	04-18-94	0.1	2.6	MBB
Antimony	SW-846 6010	04-13-94	04-18-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-13-94	04-18-94	0.005	ND	MBB
Barium	SW-846 6010	04-13-94	04-18-94	0.01	0.188	MBB
Beryllium	SW-846 6010	04-13-94	04-18-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-13-94	04-18-94	0.005	ND	MBB
Calcium	SW-846 6010	04-13-94	04-18-94	0.2	2.5	MBB
Chromium	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Cobalt	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Copper	SW-846 6010	04-13-94	04-18-94	0.02	ND	MBB
Iron	SW-846 6010	04-13-94	04-18-94	0.1	3.62	MBB
Lead	SW-846 7421	04-13-94	04-15-94	0.005	ND UJ	MBB
.agnesium	SW-846 6010	04-13-94	04-18-94	0.2	1.9	MBB
Manganese	SW-846 6010	04-13-94	04-18-94	0.01	0.043	MBB
Mercury	SW-846 7470	04-18-94	04-20-94	0.0002	0.0002	DOC
Nickel	SW-846 6010	04-13-94	04-18-94	0.04	ND	MBB
Potassium	SW-846 6010	04-13-94	04-18-94	5	ND	MBB
Selenium	SW-846 7740	04-13-94	04-18-94	0.01	ND R	MBB
Silver	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Sodium	SW-846 6010	04-13-94	04-18-94	0.5	24.4	MBB
Thallium	SW-846 7841	04-13-94	04-14-94	0.01	ND	MBB
Vanadium	SW-846 6010	04-13-94	04-18-94	0.01	0.01	MBB
Zinc	SW-846 6010	04-13-94	04-18-94	0.02	0.048	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP LCS ID: 2200.LCSW1
GFAA LCS ID: 2200.LCSW1
CVAA LCS ID: 2209.LCSW1

ICP MS ID: 2211.01MS
GFAA MS ID: 2211.01MS
CVAA MS ID: 2211.01MS

ICP Method Blank ID: 2200.PBW1
GFAA Method Blank ID: 2200.PBW1
CVAA Method Blank ID: 2209.PBW1

ICP LCSD ID: 2200.LCSW2
GFAA LCSD ID: 2200.LCSW2
CVAA LCSD ID: 2209.LCSW2

ICP MSD ID: 2211.01MSD
GFAA MSD ID: 2211.01MSD
CVAA MSD ID: 2211.01MSD

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas; 77386 (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES, INC
Project Name: LHAAP
Project No.: 2379

Date Reported: 04-21-94
Report No.: I215CL
Analyst: HM

WET CHEMISTRY PARAMETER: Chloride

Method Reference: EPA 325.3 UNITS: mg/L

PDP LABORATORY ID	CLIENT ID	MATRIX	DATE SAMPLED	DATE RECEIVED	DATE ANALYZED	QUANT LIMIT	RESULT	SPIKE ADDED OR TRUE VALUE	RELATIVE PERCENT DIFF(20)	PERCENT RECOVERY (75-125)
2215.01	LH18&24-EW1-1001	WATER	04-09-94	04-11-94	04-11-94	2	128			
2215.02	LH18&24-109-1001	WATER	04-09-94	04-11-94	04-11-94	2	931			
2215.03	LH18&24-MW1-1001	WATER	04-09-94	04-11-94	04-11-94	2	1420			
2215.04	LH18&24-125-1001	WATER	04-09-94	04-11-94	04-11-94	2	35			
			QUALITY ASSURANCE/QUALITY CONTROL							
2215.PB1	PREPARATION BLANK	NA	NA	NA	04-11-94	2	ND			
2215.LCS1	LAB CONTROL STD	NA	NA	NA	04-11-94	2	142	125		114
2215.LCS2	LAB CONTROL STD	NA	NA	NA	04-11-94	2	142	125	0.0	114
2215.01MS	MATRIX SPIKE	NA	NA	NA	04-11-94	2	149			119
2215.01MSD	MATRIX SPIKE DUP	NA	NA	NA	04-11-94	2	149	17.7	0.0	119

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PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas; 77386 (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES, INC
Project Name: LHAAP
Project No.: 2379

Date Reported: 04-20-94
Report No.: I215N03
Analyst: HM

WET CHEMISTRY PARAMETER: Nitrate as N

Method Reference: EPA 352.1 UNITS: mg/L

PDP LABORATORY ID	CLIENT ID	MATRIX	DATE SAMPLED	DATE RECEIVED	DATE ANALYZED	QUANT LIMIT	RESULT	SPIKE ADDED OR TRUE VALUE	RELATIVE PERCENT DIFF(20)	PERCENT RECOVERY (75-125)
2215.01	LH18&24-EW1-1001	WATER	04-09-94	04-11-94	04-13-94	5.0	10.6J			
2215.02	LH18&24-109-1001	WATER	04-09-94	04-11-94	04-13-94	0.1	0.50J			
2215.03	LH18&24-MW1-1001	WATER	04-09-94	04-11-94	04-13-94	0.1	0.2J			
2215.04	LH18&24-125-1001	WATER	04-09-94	04-11-94	04-13-94	0.5	1.8J			
				QUALITY ASSURANCE/QUALITY CONTROL						
2209.PB1	PREPARATION BLANK	NA	NA	NA	04-13-94	0.1	ND			
2209.LCS1	LAB CONTROL STD	NA	NA	NA	04-13-94	0.1	0.41	0.40		102
2209.LCS2	LAB CONTROL STD	NA	NA	NA	04-13-94	0.1	0.40	0.40	2.5	100
2211.01	SAMPLE	NA	NA	NA	04-07-94	0.1	ND			
2211.01MS	MATRIX SPIKE	NA	NA	NA	04-07-94	0.1	0.40	0.40		100
2211.01MSD	MATRIX SPIKE DUP	NA	NA	NA	04-07-94	0.1	0.36	0.40	11	90

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas; 77386 (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES, INC
Project Name: LHAAP
Project No.: 2379

Date Reported: 04-21-94
Report No.: I215S04
Analyst: HM

WET CHEMISTRY PARAMETER: Sulfate

Method Reference: EPA 375.4 UNITS: mg/L

PDP LABORATORY ID	CLIENT ID	MATRIX	DATE SAMPLED	DATE RECEIVED	DATE ANALYZED	QUANT LIMIT	RESULT	SPIKE ADDED OR TRUE VALUE	RELATIVE PERCENT DIFF(20)	PERCENT RECOVERY (75-125)
2215.01	LH18&24-EW1-1001	WATER	04-09-94	04-11-94	04-20-94	5	ND			
2215.02	LH18&24-109-1001	WATER	04-09-94	04-11-94	04-20-94	5	12			
2215.03	LH18&24-MW1-1001	WATER	04-09-94	04-11-94	04-20-94	5	ND			
2215.04	LH18&24-125-1001	WATER	04-09-94	04-11-94	04-20-94	5	19			
			QUALITY ASSURANCE/QUALITY CONTROL							
2210.PB1	PREPARATION BLANK	NA	NA	NA	04-20-94	5	ND			
2210.LCS1	LAB CONTROL STD	NA	NA	NA	04-20-94	5	138	151		91
2210.LCS2	LAB CONTROL STD	NA	NA	NA	04-20-94	5	131	151	5.2	87
2215.01MS	MATRIX SPIKE	NA	NA	NA	04-20-94	5	11.5	10		115
2215.01MSD	MATRIX SPIKE DUP	NA	NA	NA	04-20-94	5	11.6	10	0.9	116

APPENDIX A
RESULTS AS REPORTED BY THE LABORATORY

011057

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES INC.	Client Sample ID:	LH18&24-EW1-1001	Date Sampled:	04/09/94
Project Name:	LHAAP	PDP Sample ID:	2215.01	Date Received:	04/11/94
Project No.:	2379	Report No.:	B8647	Date Reported:	04/28/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	200.00	GC/MS File ID:	B8647
Sample Volume:	5.0 ml	Date Analyzed:	04/20/94
Dilution:	200.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	1000	ND	Carbon tetrachloride	1000	ND
1,1,2,2-Tetrachloroethane	1000	ND	Chlorobenzene	1000	ND
1,1,2-Trichloroethane	1000	ND	Chloroethane	2000	ND
1,1-Dichloroethane	1000	ND	Chloroform	1000	ND
1,1-Dichloroethene	1000	ND	Chloromethane	2000	ND
1,2-Dichloroethane	1000	ND	Cis-1,3-Dichloropropene	1000	ND
1,2-Dichloropropane	1000	ND	Dibromochloromethane	1000	ND
.-Butanone	2000	ND	Ethylbenzene	1000	ND
2-Chloroethyl vinyl ether	2000	ND	Methylene chloride	1000	85000 BE
2-Hexanone	2000	ND	Styrene	1000	ND
4-Methyl-2-pentanone	2000	ND	Tetrachloroethene	1000	ND
Acetone	2000	9400	Toluene	1000	ND
Benzene	1000	ND	Total xylenes	1000	ND
Bromodichloromethane	1000	ND	Total-1,2-Dichloroethene	1000	ND
Bromoform	1000	ND	Trans-1,3-Dichloropropene	1000	ND
Bromomethane	2000	ND	Trichloroethene	1000	9800
Carbon disulfide	1000	ND	Vinyl acetate	2000	ND
			Vinylchloride	2000	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	104
Toluene-d8	50	(88-110)	98
Bromofluorobenzene	50	(86-115)	110

Method Blank ID: 2215V.WBLK1 LCS ID: 2215V.WLCS1 MS ID: 2209.03MS MSD ID: 2209.03MSD DUP ID: NA

000209

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

011058

LABORATORY REPORT

Client:	AWD TECHNOLOGIES INC.	Client Sample ID:	LH18&24-EW1-1001(DL)	Date Sampled:	04/09/94
Project Name:	LHAAP	PDP Sample ID:	2215.01(DILUTION)	Date Received:	04/11/94
Project No.:	2379	Report No.:	B8671	Date Reported:	04/28/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	500.00	GC/MS File ID:	B8671
Sample Volume:	5.0 ml	Date Analyzed:	04/21/94
Dilution:	500.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	2500	ND	Carbon tetrachloride	2500	ND
1,1,2,2-Tetrachloroethane	2500	ND	Chlorobenzene	2500	ND
1,1,2-Trichloroethane	2500	ND	Chloroethane	5000	ND
1,1-Dichloroethane	2500	ND	Chloroform	2500	ND
1,1-Dichloroethene	2500	ND	Chloromethane	5000	ND
1,2-Dichloroethane	2500	ND	Cis-1,3-Dichloropropene	2500	ND
1,2-Dichloropropane	2500	ND	Dibromochloromethane	2500	ND
2-Butanone	5000	ND	Ethylbenzene	2500	ND
2-Chloroethyl vinyl ether	5000	ND	Methylene chloride	2500	87000 B
2-Hexanone	5000	ND	Styrene	2500	ND
4-Methyl-2-pentanone	5000	ND	Tetrachloroethene	2500	ND
Acetone	5000	ND	Toluene	2500	ND
Benzene	2500	ND	Total xylenes	2500	ND
Bromodichloromethane	2500	ND	Total-1,2-Dichloroethene	2500	ND
Bromoform	2500	ND	Trans-1,3-Dichloropropene	2500	ND
Bromomethane	5000	ND	Trichloroethene	2500	9050
Carbon disulfide	2500	ND	Vinyl acetate	5000	ND
			Vinylchloride	5000	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	103
Toluene-d8	50	(88-110)	99
Bromofluorobenzene	50	(86-115)	110

Method Blank ID: 2215V.WBLK2 LCS ID: 2215V.WLCS2 MS ID: 2209.03MS MSD ID: 2209.03MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES INC.	Client Sample ID:	LH18&24-109-1001	Date Sampled:	04/09/94
Project Name:	LHAAP	PDP Sample ID:	2215.02	Date Received:	04/11/94
Project No.:	2379	Report No.:	B8648	Date Reported:	04/28/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	10.00	GC/MS File ID:	B8648
Sample Volume:	5.0 ml	Date Analyzed:	04/20/94
Dilution:	10.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	50	ND	Carbon tetrachloride	50	ND
1,1,2,2-Tetrachloroethane	50	ND	Chlorobenzene	50	ND
1,1,2-Trichloroethane	50	ND	Chloroethane	100	ND
1,1-Dichloroethane	50	ND	Chloroform	50	ND
1,1-Dichloroethene	50	ND	Chloromethane	100	ND
1,2-Dichloroethane	50	ND	Cis-1,3-Dichloropropene	50	ND
1,2-Dichloropropane	50	ND	Dibromochloromethane	50	ND
2-Butanone	100	ND	Ethylbenzene	50	ND
2-Chloroethyl vinyl ether	100	ND	Methylene chloride	50	400 B
2-Hexanone	100	ND	Styrene	50	ND
4-Methyl-2-pentanone	100	ND	Tetrachloroethene	50	ND
Acetone	100	ND	Toluene	50	ND
Benzene	50	ND	Total xylenes	50	ND
Bromodichloromethane	50	ND	Total-1,2-Dichloroethene	50	ND
Bromoform	50	ND	Trans-1,3-Dichloropropene	50	ND
Bromomethane	100	ND	Trichloroethene	50	250
Carbon disulfide	50	ND	Vinyl acetate	100	ND
			Vinylchloride	100	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	91
Toluene-d8	50	(88-110)	85
Bromofluorobenzene	50	(86-115)	96

Method Blank ID: 2215V.WBLK1 LCS ID: 2215V.WLCS1 MS ID: 2209.03MS MSD ID: 2209.03MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring. Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES INC.	Client Sample ID:	LH18&24-MW1-1001	Date Sampled:	04/09/94
Project Name:	LHAAP	PDP Sample ID:	2215.03	Date Received:	04/11/94
Project No.:	2379	Report No.:	B8649	Date Reported:	04/28/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	200.00	GC/MS File ID:	B8649
Sample Volume:	5.0 ml	Date Analyzed:	04/20/94
Dilution:	200.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	1000	ND	Carbon tetrachloride	1000	ND
1,1,2,2-Tetrachloroethane	1000	ND	Chlorobenzene	1000	ND
1,1,2-Trichloroethane	1000	ND	Chloroethane	2000	ND
1,1-Dichloroethane	1000	ND	Chloroform	1000	ND
1,1-Dichloroethene	1000	ND	Chloromethane	2000	ND
1,2-Dichloroethane	1000	ND	Cis-1,3-Dichloropropene	1000	ND
1,2-Dichloropropane	1000	ND	Dibromochloromethane	1000	ND
-Butanone	2000	ND	Ethylbenzene	1000	ND
2-Chloroethyl vinyl ether	2000	ND	Methylene chloride	1000	349000 BE
2-Hexanone	2000	ND	Styrene	1000	ND
4-Methyl-2-pentanone	2000	ND	Tetrachloroethene	1000	ND
Acetone	2000	ND	Toluene	1000	ND
Benzene	1000	ND	Total xylenes	1000	ND
Bromodichloromethane	1000	ND	Total-1,2-Dichloroethene	1000	ND
Bromoform	1000	ND	Trans-1,3-Dichloropropene	1000	ND
Bromomethane	2000	ND	Trichloroethene	1000	17100
Carbon disulfide	1000	ND	Vinyl acetate	2000	ND
			Vinylchloride	2000	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	100
Toluene-d8	50	(88-110)	96
Bromofluorobenzene	50	(86-115)	101

Method Blank ID: 2215V.WBLK1 LCS ID: 2215V.WLCS1 MS ID: 2209.03MS MSD ID: 2209.03MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES INC.	Client Sample ID:	LH18&24-MW1-1001(DL)	Date Sampled:	04/09/94
Project Name:	LHAAP	PDP Sample ID:	2215.03(DILUTION)	Date Received:	04/11/94
Project No.:	2379	Report No.:	B8672	Date Reported:	04/28/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	4000.00	GC/MS File ID:	B8672
Sample Volume:	5.0 ml	Date Analyzed:	04/21/94
Dilution:	4000.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	20000	ND	Carbon tetrachloride	20000	ND
1,1,2,2-Tetrachloroethane	20000	ND	Chlorobenzene	20000	ND
1,1,2-Trichloroethane	20000	ND	Chloroethane	40000	ND
1,1-Dichloroethane	20000	ND	Chloroform	20000	ND
1,1-Dichloroethene	20000	ND	Chloromethane	40000	ND
1,2-Dichloroethane	20000	ND	Cis-1,3-Dichloropropene	20000	ND
1,2-Dichloropropane	20000	ND	Dibromochloromethane	20000	ND
2-Butanone	40000	ND	Ethylbenzene	20000	ND
2-Chloroethyl vinyl ether	40000	ND	Methylene chloride	20000	444000 B
2-Hexanone	40000	ND	Styrene	20000	ND
4-Methyl-2-pentanone	40000	ND	Tetrachloroethene	20000	ND
Acetone	40000	ND	Toluene	20000	ND
Benzene	20000	ND	Total xylenes	20000	ND
Bromodichloromethane	20000	ND	Total-1,2-Dichloroethene	20000	ND
Bromoform	20000	ND	Trans-1,3-Dichloropropene	20000	ND
Bromomethane	40000	ND	Trichloroethene	20000	ND
Carbon disulfide	20000	ND	Vinyl acetate	40000	ND
			Vinylchloride	40000	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	97
Toluene-d8	50	(88-110)	93
Bromofluorobenzene	50	(86-115)	105

Method Blank ID: 2215V.WBLK2 LCS ID: 2215V.WLCS2 MS ID: 2209.03MS MSD ID: 2209.03MSD DUP ID: NA

PDP ANALYTICAL SERVICES
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011062

LABORATORY REPORT

Client:	AWD TECHNOLOGIES INC.	Client Sample ID:	LH18&24-125-1001	Date Sampled:	04/09/94
Project Name:	LHAAP	PDP Sample ID:	2215.04	Date Received:	04/11/94
Project No.:	2379	Report No.:	B8650	Date Reported:	04/28/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	50.00	GC/MS File ID:	B8650
Sample Volume:	5.0 ml	Date Analyzed:	04/20/94
Dilution:	50.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	250	ND	Carbon tetrachloride	250	ND
1,1,2,2-Tetrachloroethane	250	ND	Chlorobenzene	250	ND
1,1,2-Trichloroethane	250	ND	Chloroethane	500	ND
1,1-Dichloroethane	250	ND	Chloroform	250	ND
1,1-Dichloroethene	250	ND	Chloromethane	500	ND
1,2-Dichloroethane	250	ND	Cis-1,3-Dichloropropene	250	ND
1,2-Dichloropropane	250	ND	Dibromochloromethane	250	ND
2-Butanone	500	ND	Ethylbenzene	250	ND
2-Chloroethyl vinyl ether	500	ND	Methylene chloride	250	600 B
2-Hexanone	500	ND	Styrene	250	ND
4-Methyl-2-pentanone	500	ND	Tetrachloroethene	250	ND
Acetone	500	1100	Toluene	250	ND
Benzene	250	ND	Total xylenes	250	ND
Bromodichloromethane	250	ND	Total-1,2-Dichloroethene	250	ND
Bromoform	250	ND	Trans-1,3-Dichloropropene	250	ND
Bromomethane	500	ND	Trichloroethene	250	ND
Carbon disulfide	250	ND	Vinyl acetate	500	ND
			Vinylchloride	500	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	98
Toluene-d8	50	(88-110)	96
Bromofluorobenzene	50	(86-115)	106

Method Blank ID: 2215V.WBLK1 LCS ID: 2215V.WLCS1 MS ID: 2209.03MS MSD ID: 2209.03MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

011063

LABORATORY REPORT

Client:	AWD TECHNOLOGIES INC.	Client Sample ID:	LH18&24-XXX-TB	Date Sampled:	04/09/94
Project Name:	LHAAP	PDP Sample ID:	2215.05	Date Received:	04/11/94
Project No.:	2379	Report No.:	B8646	Date Reported:	04/28/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8646
Sample Volume:	5.0 ml	Date Analyzed:	04/20/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	10 B
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	ND
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	99
Toluene-d8	50	(88-110)	95
Bromofluorobenzene	50	(86-115)	108

Method Blank ID: 2215V.WBLK1 LCS ID: 2215V.WLCS1 MS ID: 2209.03MS MSD ID: 2209.03MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES, INC
Project Name: LHAAP
Project Number: 2379

Client Sample ID: LH18&24-EW1-1001
PDP Sample ID: 2215.01
Report Number: I21501

Date Sampled: 04-09-94
Date Received: 04-11-94
Date Reported: 04-20-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-13-94	04-18-94	0.1	ND	MBB
Antimony	SW-846 6010	04-13-94	04-18-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-13-94	04-18-94	0.005	ND	MBB
Barium	SW-846 6010	04-13-94	04-18-94	0.01	0.329	MBB
Beryllium	SW-846 6010	04-13-94	04-18-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-13-94	04-18-94	0.005	ND	MBB
Calcium	SW-846 6010	04-13-94	04-18-94	0.2	8.9	MBB
Chromium	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Cobalt	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Copper	SW-846 6010	04-13-94	04-18-94	0.02	ND	MBB
Iron	SW-846 6010	04-13-94	04-18-94	0.1	0.10	MBB
Lead	SW-846 7421	04-13-94	04-15-94	0.005	ND	MBB
'agnesium	SW-846 6010	04-13-94	04-18-94	0.2	6.6	MBB
Manganese	SW-846 6010	04-13-94	04-18-94	0.01	0.358	MBB
Mercury	SW-846 7470	04-18-94	04-20-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-13-94	04-18-94	0.04	ND	MBB
Potassium	SW-846 6010	04-13-94	04-18-94	5	ND	MBB
Selenium	SW-846 7740	04-13-94	04-18-94	0.005	ND	MBB
Silver	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Sodium	SW-846 6010	04-13-94	04-18-94	0.5	102	MBB
Thallium	SW-846 7841	04-13-94	04-14-94	0.005	ND	MBB
Vanadium	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Zinc	SW-846 6010	04-13-94	04-18-94	0.02	0.056	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP Method Blank ID: 2200.PBW1
GFAA Method Blank ID: 2200.PBW1
CVAA Method Blank ID: 2209.PBW1

ICP LCS ID: 2200.LCSW1
GFAA LCS ID: 2200.LCSW1
CVAA LCS ID: 2209.LCSW1

ICP LCSD ID: 2200.LCSW2
GFAA LCSD ID: 2200.LCSW2
CVAA LCSD ID: 2209.LCSW2

ICP MS ID: 2211.01MS
GFAA MS ID: 2211.01MS
CVAA MS ID: 2211.01MS

ICP MSD ID: 2211.01MSD
GFAA MSD ID: 2211.01MSD
CVAA MSD ID: 2211.01MSD

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233 011065

LABORATORY REPORT

Client: AWD TECHNOLOGIES, INC
Project Name: LHAAP
Project Number: 2379

Client Sample ID: LH18&24-109-1001
PDP Sample ID: 2215.02
Report Number: I21502

Date Sampled: 04-09-94
Date Received: 04-11-94
Date Reported: 04-20-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-13-94	04-18-94	0.1	0.22	MBB
Antimony	SW-846 6010	04-13-94	04-18-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-13-94	04-18-94	0.005	ND	MBB
Barium	SW-846 6010	04-13-94	04-18-94	0.01	1.03	MBB
Beryllium	SW-846 6010	04-13-94	04-18-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-13-94	04-18-94	0.005	ND	MBB
Calcium	SW-846 6010	04-13-94	04-18-94	0.2	53.7	MBB
Chromium	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Cobalt	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Copper	SW-846 6010	04-13-94	04-18-94	0.02	ND	MBB
Iron	SW-846 6010	04-13-94	04-18-94	0.1	0.52	MBB
Lead	SW-846 7421	04-13-94	04-15-94	0.01	ND	MBB
Magnesium	SW-846 6010	04-13-94	04-18-94	0.2	40.0	MBB
Manganese	SW-846 6010	04-13-94	04-18-94	0.01	0.105	MBB
Mercury	SW-846 7470	04-18-94	04-20-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-13-94	04-18-94	0.04	ND	MBB
Potassium	SW-846 6010	04-13-94	04-18-94	5	ND	MBB
Selenium	SW-846 7740	04-13-94	04-18-94	0.01	ND	MBB
Silver	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Sodium	SW-846 6010	04-13-94	04-18-94	0.5	346	MBB
Thallium	SW-846 7841	04-13-94	04-14-94	0.005	ND	MBB
Vanadium	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Zinc	SW-846 6010	04-13-94	04-18-94	0.02	0.041	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP LCS ID: 2200.LCSW1
GFAA LCS ID: 2200.LCSW1
CVAA LCS ID: 2209.LCSW1

ICP MS ID: 2211.01MS
GFAA MS ID: 2211.01MS
CVAA MS ID: 2211.01MS

ICP Method Blank ID: 2200.PBW1
GFAA Method Blank ID: 2200.PBW1
CVAA Method Blank ID: 2209.PBW1

ICP LCSD ID: 2200.LCSW2
GFAA LCSD ID: 2200.LCSW2
CVAA LCSD ID: 2209.LCSW2

ICP MSD ID: 2211.01MSD
GFAA MSD ID: 2211.01MSD
CVAA MSD ID: 2211.01MSD

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES, INC
Project Name: LHAAP
Project Number: 2379

Client Sample ID: LH18&24-MW1-1001
PDP Sample ID: 2215.03
Report Number: I21503

Date Sampled: 04-09-94
Date Received: 04-11-94
Date Reported: 04-20-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-13-94	04-18-94	0.1	ND	MBB
Antimony	SW-846 6010	04-13-94	04-18-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-13-94	04-18-94	0.005	ND	MBB
Barium	SW-846 6010	04-13-94	04-18-94	0.01	4.54	MBB
Beryllium	SW-846 6010	04-13-94	04-18-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-13-94	04-18-94	0.005	ND	MBB
Calcium	SW-846 6010	04-13-94	04-18-94	0.2	122	MBB
Chromium	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Cobalt	SW-846 6010	04-13-94	04-18-94	0.01	0.031	MBB
Copper	SW-846 6010	04-13-94	04-18-94	0.02	ND	MBB
Iron	SW-846 6010	04-13-94	04-18-94	0.1	ND	MBB
Lead	SW-846 7421	04-13-94	04-15-94	0.01	ND	MBB
.agnesium	SW-846 6010	04-13-94	04-18-94	0.2	110	MBB
Manganese	SW-846 6010	04-13-94	04-18-94	0.01	2.17	MBB
Mercury	SW-846 7470	04-18-94	04-20-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-13-94	04-18-94	0.04	ND	MBB
Potassium	SW-846 6010	04-13-94	04-18-94	5	ND	MBB
Selenium	SW-846 7740	04-13-94	04-18-94	0.01	ND	MBB
Silver	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Sodium	SW-846 6010	04-13-94	04-18-94	0.5	384	MBB
Thallium	SW-846 7841	04-13-94	04-14-94	0.005	ND	MBB
Vanadium	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Zinc	SW-846 6010	04-13-94	04-18-94	0.02	0.031	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP LCS ID: 2200.LCSW1
GFAA LCS ID: 2200.LCSW1
CVAA LCS ID: 2209.LCSW1

ICP MS ID: 2211.01MS
GFAA MS ID: 2211.01MS
CVAA MS ID: 2211.01MS

ICP Method Blank ID: 2200.PBW1
GFAA Method Blank ID: 2200.PBW1
CVAA Method Blank ID: 2209.PBW1

ICP LCSD ID: 2200.LCSW2
GFAA LCSD ID: 2200.LCSW2
CVAA LCSD ID: 2209.LCSW2

ICP MSD ID: 2211.01MSD
GFAA MSD ID: 2211.01MSD
CVAA MSD ID: 2211.01MSD

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES, INC
Project Name: LHAAP
Project Number: 2379

Client Sample ID: LH18&24-125-1001
PDP Sample ID: 2215.04
Report Number: I21504

Date Sampled: 04-09-94
Date Received: 04-11-94
Date Reported: 04-20-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-13-94	04-18-94	0.1	2.6	MBB
Antimony	SW-846 6010	04-13-94	04-18-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-13-94	04-18-94	0.005	ND	MBB
Barium	SW-846 6010	04-13-94	04-18-94	0.01	0.188	MBB
Beryllium	SW-846 6010	04-13-94	04-18-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-13-94	04-18-94	0.005	ND	MBB
Calcium	SW-846 6010	04-13-94	04-18-94	0.2	2.5	MBB
Chromium	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Cobalt	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Copper	SW-846 6010	04-13-94	04-18-94	0.02	ND	MBB
Iron	SW-846 6010	04-13-94	04-18-94	0.1	3.62	MBB
Lead	SW-846 7421	04-13-94	04-15-94	0.005	ND	MBB
agnesium	SW-846 6010	04-13-94	04-18-94	0.2	1.9	MBB
Manganese	SW-846 6010	04-13-94	04-18-94	0.01	0.043	MBB
Mercury	SW-846 7470	04-18-94	04-20-94	0.0002	0.0002	DOC
Nickel	SW-846 6010	04-13-94	04-18-94	0.04	ND	MBB
Potassium	SW-846 6010	04-13-94	04-18-94	5	ND	MBB
Selenium	SW-846 7740	04-13-94	04-18-94	0.01	ND	MBB
Silver	SW-846 6010	04-13-94	04-18-94	0.01	ND	MBB
Sodium	SW-846 6010	04-13-94	04-18-94	0.5	24.4	MBB
Thallium	SW-846 7841	04-13-94	04-14-94	0.01	ND	MBB
Vanadium	SW-846 6010	04-13-94	04-18-94	0.01	0.01	MBB
Zinc	SW-846 6010	04-13-94	04-18-94	0.02	0.048	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP Method Blank ID: 2200.PBW1
GFAA Method Blank ID: 2200.PBW1
CVAA Method Blank ID: 2209.PBW1

ICP LCS ID: 2200.LCSW1
GFAA LCS ID: 2200.LCSW1
CVAA LCS ID: 2209.LCSW1

ICP LCSD ID: 2200.LCSW2
GFAA LCSD ID: 2200.LCSW2
CVAA LCSD ID: 2209.LCSW2

ICP MS ID: 2211.01MS
GFAA MS ID: 2211.01MS
CVAA MS ID: 2211.01MS

ICP MSD ID: 2211.01MSD
GFAA MSD ID: 2211.01MSD
CVAA MSD ID: 2211.01MSD

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas; 77386 (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES, INC
Project Name: LHAAP
Project No.: 2379

Date Reported: 04-21-94
Report No.: I215CL
Analyst: HM

WET CHEMISTRY PARAMETER: Chloride

Method Reference: EPA 325.3

UNITS: mg/L

PDP LABORATORY ID	CLIENT ID	MATRIX	DATE SAMPLED	DATE RECEIVED	DATE ANALYZED	QUANT LIMIT	RESULT	SPIKE ADDED OR TRUE VALUE	RELATIVE PERCENT DIFF(20)	PERCENT RECOVERY (75-125)
2215.01	LH18&24-EW1-1001	WATER	04-09-94	04-11-94	04-11-94	2	128			
2215.02	LH18&24-109-1001	WATER	04-09-94	04-11-94	04-11-94	2	931			
2215.03	LH18&24-MW1-1001	WATER	04-09-94	04-11-94	04-11-94	2	1420			
2215.04	LH18&24-125-1001	WATER	04-09-94	04-11-94	04-11-94	2	35			
			QUALITY ASSURANCE/QUALITY CONTROL							
2215.PB1	PREPARATION BLANK	NA	NA	NA	04-11-94	2	ND			
2215.LCS1	LAB CONTROL STD	NA	NA	NA	04-11-94	2	142	125		114
2215.LCS2	LAB CONTROL STD	NA	NA	NA	04-11-94	2	142	125	0.0	114
2215.01MS	MATRIX SPIKE	NA	NA	NA	04-11-94	2	149			119
2215.01MSD	MATRIX SPIKE DUP	NA	NA	NA	04-11-94	2	149	17.7	0.0	119

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas; 77386 (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES, INC
Project Name: LHAAP
Project No.: 2379

Date Reported: 04-20-94
Report No.: I215N03
Analyst: HM

WET CHEMISTRY PARAMETER: Nitrate as N

Method Reference: EPA 352.1 UNITS: mg/L

PDP LABORATORY ID	CLIENT ID	MATRIX	DATE SAMPLED	DATE RECEIVED	DATE ANALYZED	QUANT LIMIT	RESULT	SPIKE ADDED OR TRUE VALUE	RELATIVE PERCENT DIFF(20)	PERCENT RECOVERY (75-125)
2215.01	LH18&24-EW1-1001	WATER	04-09-94	04-11-94	04-13-94	5.0	10.6			
2215.02	LH18&24-109-1001	WATER	04-09-94	04-11-94	04-13-94	0.1	0.50			
2215.03	LH18&24-MW1-1001	WATER	04-09-94	04-11-94	04-13-94	0.1	0.2			
2215.04	LH18&24-125-1001	WATER	04-09-94	04-11-94	04-13-94	0.5	1.8			
			QUALITY ASSURANCE/QUALITY CONTROL							
2209.PB1	PREPARATION BLANK	NA	NA	NA	04-13-94	0.1	ND			
2209.LCS1	LAB CONTROL STD	NA	NA	NA	04-13-94	0.1	0.41	0.40		102
2209.LCS2	LAB CONTROL STD	NA	NA	NA	04-13-94	0.1	0.40	0.40	2.5	100
?211.01	SAMPLE	NA	NA	NA	04-07-94	0.1	ND			
.211.01MS	MATRIX SPIKE	NA	NA	NA	04-07-94	0.1	0.40	0.40		100
2211.01MSD	MATRIX SPIKE DUP	NA	NA	NA	04-07-94	0.1	0.36	0.40	11	90

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas; 77386 (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES, INC
Project Name: LHAAP
Project No.: 2379

Date Reported: 04-21-94
Report No.: I215S04
Analyst: HM

WET CHEMISTRY PARAMETER: Sulfate

Method Reference: EPA 375.4

UNITS: mg/L

PDP LABORATORY ID	CLIENT ID	MATRIX	DATE SAMPLED	DATE RECEIVED	DATE ANALYZED	QUANT LIMIT	RESULT	SPIKE ADDED OR TRUE VALUE	RELATIVE PERCENT DIFF(20)	PERCENT RECOVERY (75-125)
2215.01	LH18&24-EW1-1001	WATER	04-09-94	04-11-94	04-20-94	5	ND			
2215.02	LH18&24-109-1001	WATER	04-09-94	04-11-94	04-20-94	5	12			
2215.03	LH18&24-MW1-1001	WATER	04-09-94	04-11-94	04-20-94	5	ND			
2215.04	LH18&24-125-1001	WATER	04-09-94	04-11-94	04-20-94	5	19			
			QUALITY ASSURANCE/QUALITY CONTROL							
2210.PB1	PREPARATION BLANK	NA	NA	NA	04-20-94	5	ND			
2210.LCS1	LAB CONTROL STD	NA	NA	NA	04-20-94	5	138	151		91
2210.LCS2	LAB CONTROL STD	NA	NA	NA	04-20-94	5	131	151	5.2	87
2215.01MS	MATRIX SPIKE	NA	NA	NA	04-20-94	5	11.5	10		115
2215.01MSD	MATRIX SPIKE DUP	NA	NA	NA	04-20-94	5	11.6	10	0.9	116

APPENDIX B
SUPPORT DOCUMENTATION

011072

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES INC.	Client Sample ID:	LH18&24-109-1001	Date Sampled:	04/09/94
Project Name:	LHAAP	PDP Sample ID:	2215.02	Date Received:	04/11/94
Project No.:	2379	Report No.:	B8648	Date Reported:	04/28/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	10.00	GC/MS File ID:	B8648
Sample Volume:	5.0 ml	Date Analyzed:	04/20/94
Dilution:	10.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	50	ND	Carbon tetrachloride	50	ND
1,1,2,2-Tetrachloroethane	50	ND	Chlorobenzene	50	ND
1,1,2-Trichloroethane	50	ND	Chloroethane	100	ND
1,1-Dichloroethane	50	ND	Chloroform	50	ND
1,1-Dichloroethene	50	ND	Chloromethane	100	ND
1,2-Dichloroethane	50	ND	Cis-1,3-Dichloropropene	50	ND
1,2-Dichloropropane	50	ND	Dibromochloromethane	50	ND
2-Butanone	100	ND	Ethylbenzene	50	ND
2-Chloroethyl vinyl ether	100	ND	Methylene chloride	50	400 B
2-Hexanone	100	ND	Styrene	50	ND
4-Methyl-2-pentanone	100	ND	Tetrachloroethene	50	ND
Acetone	100	ND	Toluene	50	ND
Benzene	50	ND	Total xylenes	50	ND
Bromodichloromethane	50	ND	Total-1,2-Dichloroethene	50	ND
Bromoform	50	ND	Trans-1,3-Dichloropropene	50	ND
Bromomethane	100	ND	Trichloroethene	50	250
Carbon disulfide	50	ND	Vinyl acetate	100	ND
			Vinylchloride	100	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	91
Toluene-d8	50	(88-110)	85
Bromofluorobenzene	50	(86-115)	96

Method Blank ID: 2215V.WBLK1 LCS ID: 2215V.WLCS1 MS ID: 2209.03MS MSD ID: 2209.03MSD DUP ID: NA

- low surrogate recovery
⇒ flag all compounds as estimated.

000011

011073

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES INC.	Client Sample ID:	LH18&24-XXX-TB	Date Sampled:	04/09/94
Project Name:	LHAAP	PDP Sample ID:	2215.05	Date Received:	04/11/94
Project No.:	2379	Report No.:	B8646	Date Reported:	04/28/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8646
Sample Volume:	5.0 ml	Date Analyzed:	04/20/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	10 B
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	ND
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	99
Toluene-d8	50	(88-110)	95
Bromofluorobenzene	50	(86-115)	108

Method Blank ID: 2215V.WBLK1 LCS ID: 2215V.WLCS1 MS ID: 2209.03MS MSD ID: 2209.03MSD DUP ID: NA

- blank contam.

000015

011074

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	NA	Client Sample ID:	NA	Date Sampled:	NA
Project Name:	NA	PDP Sample ID:	2215V.WBLK1(METHOD BLANK)	Date Received:	NA
Project No.:	NA	Report No.:	B8642	Date Reported:	04/28/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8642
Sample Volume:	5.0 ml	Date Analyzed:	04/20/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
4-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	10
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	ND
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	90
Toluene-d8	50	(88-110)	88
Bromofluorobenzene	50	(86-115)	99

Method Blank ID: NA LCS ID: NA MS ID: NA MSD ID: NA DUP ID: NA

- blank contam.

011075

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: NA
Project Name: NA
Project No.: NA

Client Sample ID:NA
PDP Sample ID: 2215V.WBLK2(METHOD BLANK)
Report No.: M8666

Date Sampled: NA
Date Received: NA
Date Reported: 04/26/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix: WATER
Multiplying Factor: 1.00
Sample Volume: 5.0 ml
Dilution: 1.0

Method Ref.: SW846-8240
GC/MS File ID: M8666
Date Analyzed: 04/21/94
Analyst: MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
',2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
.-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	16
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	ND
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	94
Toluene-d8	50	(88-110)	92
Bromofluorobenzene	50	(86-115)	104

Method Blank ID: NA LCS ID: NA MS ID: NA MSD ID: NA DUP ID: NA

- blank contam.

000028

PDP ANALYTICAL SERVICES

24900 Pitkin Drive, Suite 300 • Spring, Texas 77386 • Phone (713)363-2233

Client: AWD TECHNOLOGIES, INC. Episode No.: 2215	Project Name: LHAAP Project No.: 2379

CASE NARRATIVE

Five water samples were received for analysis on 04/11/94.

All batch quality control (QC) results (Duplicates, Matrix Spikes, Matrix Spike Duplicates) are included in this data package. Batch QC may or may not have been performed on your samples. If it was, the QC reports will reference our internal sample identification.

VOLATILES:

Sample "LH18&24-EW1-1001" and "LH18&24-MW1-1001" required analysis at a secondary dilution. Both analyses are reported.

TOTAL METALS:

Dilutions performed because of low recoveries of post-digest spike additions caused the reporting limit for some metals analyzed by graphite furnace atomic absorption to be elevated.

Low matrix spike recovery in both the matrix spike and matrix spike duplicate was observed for total selenium. High matrix spike recovery was noted for one of the matrix spike duplicates for total lead, which also elevated the RPD.

Due to high concentrations of iron present in the sample, the matrix spike added to the sample was saturated, preventing accurate determination of the matrix spike recovery.

GENERAL CHEMISTRY:

Nitrate analyses were attempted on 4-11-94 and 4-12-94 without success. Upon arrival of new reagents, the samples were successfully analyzed on 4-13-94, two days outside of holding time.

011077

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas; 77386 (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES, INC
Project Name: LHAAP
Project No.: 2379

Date Reported: 04-20-94
Report No.: I215N03
Analyst: HM

WET CHEMISTRY PARAMETER: Nitrate as N

Method Reference: EPA 352.1 UNITS: mg/L

PDP LABORATORY ID	CLIENT ID	MATRIX	DATE SAMPLED	DATE RECEIVED	DATE ANALYZED	QUANT LIMIT	RESULT	SPIKE ADDED OR TRUE VALUE	RELATIVE PERCENT DIFF(20)	PERCENT RECOVERY (75-125)
2215.01	LH18&24-EW1-1001	WATER	04-09-94	04-11-94	04-13-94	5.0	10.6			
2215.02	LH18&24-109-1001	WATER	04-09-94	04-11-94	04-13-94	0.1	0.50			
2215.03	LH18&24-MW1-1001	WATER	04-09-94	04-11-94	04-13-94	0.1	0.2			
2215.04	LH18&24-125-1001	WATER	04-09-94	04-11-94	04-13-94	0.5	1.8			
			QUALITY ASSURANCE/QUALITY CONTROL							
2209.PB1	PREPARATION BLANK	NA	NA	NA	04-13-94	0.1	ND			
2209.LCS1	LAB CONTROL STD	NA	NA	NA	04-13-94	0.1	0.41	0.40		102
2209.LCS2	LAB CONTROL STD	NA	NA	NA	04-13-94	0.1	0.40	0.40	2.5	100
2211.01	SAMPLE	NA	NA	NA	04-07-94	0.1	ND			
2211.01MS	MATRIX SPIKE	NA	NA	NA	04-07-94	0.1	0.40	0.40		100
2211.01MSD	MATRIX SPIKE DUP	NA	NA	NA	04-07-94	0.1	0.36	0.40	11	90

- holding time exceedance

011078

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: NA
Project Name: NA
Project Number: NA

Client Sample ID: NA (MS/MSD)
PDP MS ID: 2211.01MS
PDP MSD ID: 2211.01MSD
Report Number: I211MS01

Date Sampled: NA
Date Received: NA
Date Reported: 04-19-94

TOTAL METALS (MATRIX SPIKE AND MATRIX SPIKE DUPLICATE)

Sample Matrix: WATER

Units: mg/L

ELEMENT	METHOD	DATE PREPARED	DATE ANALYZED	SAMPLE VALUE	SPIKE ADDED	MATRIX SPIKE VALUE	PERCENT RECOVERY (75-125)	MATRIX SPIKE DUP VALUE	PERCENT RECOVERY (75-125)	RPD (20)
Aluminum	SW-846 6010	04-13-94	04-18-94	ND	2.00	1.90	95	1.87	94	1.6
Antimony	SW-846 6010	04-13-94	04-18-94	ND	0.50	0.47	94	0.49	98	4.2
Arsenic	SW-846 7060	04-13-94	04-18-94	ND	0.040	0.038	95	0.038	95	0.0
Barium	SW-846 6010	04-13-94	04-18-94	1.65	2.00	3.63	99	3.47	91	4.5
Beryllium	SW-846 6010	04-13-94	04-18-94	ND	0.050	0.047	94	0.046	92	2.2
Cadmium	SW-846 6010	04-13-94	04-18-94	ND	0.050	0.049	98	0.047	94	4.2
Calcium	SW-846 6010	04-13-94	04-18-94	78.8	NA	NA	NA	NA	NA	NA
Chromium	SW-846 6010	04-13-94	04-18-94	ND	0.20	0.20	100	0.19	95	5.1
Cobalt	SW-846 6010	04-13-94	04-18-94	ND	0.50	0.49	98	0.48	96	2.1
opper	SW-846 6010	04-13-94	04-18-94	ND	0.25	0.25	100	0.24	96	4.1
Iron	SW-846 6010	04-13-94	04-18-94	159	1.00	162	**	159	**	1.9
Lead	SW-846 7421	04-13-94	04-15-94	ND	0.020	0.032	160*	0.024	120	29*
Magnesium	SW-846 6010	04-13-94	04-18-94	46.8	NA	NA	NA	NA	NA	NA
Manganese	SW-846 6010	04-13-94	04-18-94	3.52	0.50	4.05	106	3.95	86	2.5
Mercury	SW-846 7471	04-18-94	04-20-94	ND	0.0010	0.0010	100	0.0010	100	0.0
Nickel	SW-846 6010	04-13-94	04-18-94	ND	0.50	0.51	102	0.49	98	4.0
Potassium	SW-846 6010	04-13-94	04-18-94	7.6	NA	NA	NA	NA	NA	NA
Selenium	SW-846 7740	04-13-94	04-18-94	ND	0.010	0.001	10*	ND	0*	NC
Silver	SW-846 6010	04-13-94	04-18-94	ND	0.050	0.042	84	0.042	84	0.0
Sodium	SW-846 6010	04-13-94	04-18-94	407	NA	NA	NA	NA	NA	NA
Thallium	SW-846 7841	04-13-94	04-14-94	ND	0.050	0.042	84	0.043	86	2.4
Vanadium	SW-846 6010	04-13-94	04-18-94	ND	0.50	0.49	98	0.47	94	4.2
Zinc	SW-846 6010	04-13-94	04-18-94	0.066	0.50	0.55	97	0.54	95	1.8

** High analyte concentration prevented accurate determination of the percent recovery.

QUALITY ASSURANCE/QUALITY CONTROL

Method Blank ID: NA

LCS ID: NA

LCSD ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

011079

LABORATORY REPORT

Client: NA
Project Name: NA
Project Number: NA

LCS ID: 2200.LCSW1
LCSD ID: 2200.LCSW2

Date Reported: 04-19-94
Report Number: I200LCSW

METALS (LABORATORY CONTROL SAMPLE AND LABORATORY CONTROL SAMPLE DUPLICATE)

Sample Matrix: AQUEOUS

Units: mg/L

ELEMENT	METHOD	DATE PREPARED	DATE ANALYZED	TRUE VALUE	LCS FOUND VALUE	LCS % RECOVERY (80-120)	LCSD FOUND VALUE	LCSD % RECOVERY (80-120)	RPD (20)	ANALYST
Aluminum	SW-846 6010	04-13-94	04-18-94	10.0	9.58	96	9.57	96	0.1	MBB
Antimony	SW-846 6010	04-13-94	04-18-94	5.00	4.86	97	4.92	98	1.2	MBB
Arsenic	SW-846 7060	04-13-94	04-18-94	0.050	0.046	92	0.047	94	2.2	MBB
Barium	SW-846 6010	04-13-94	04-18-94	10.0	9.54	95	9.53	95	0.1	MBB
Beryllium	SW-846 6010	04-13-94	04-18-94	0.25	0.24	96	0.24	96	0.0	MBB
Cadmium	SW-846 6010	04-13-94	04-18-94	2.50	2.37	95	2.39	96	0.8	MBB
Calcium	SW-846 6010	04-13-94	04-18-94	25.0	24.2	97	24.3	97	0.4	MBB
Chromium	SW-846 6010	04-13-94	04-18-94	1.00	0.98	98	0.99	99	1.0	MBB
Cobalt	SW-846 6010	04-13-94	04-18-94	2.50	2.44	98	2.45	98	0.4	MBB
Copper	SW-846 6010	04-13-94	04-18-94	1.25	1.22	98	1.21	97	0.8	MBB
Iron	SW-846 6010	04-13-94	04-18-94	5.00	4.82	96	4.84	97	0.4	MBB
Lead	SW-846 7421	04-13-94	04-15-94	0.050	0.049	98	0.050	100	2.0	MBB
Magnesium	SW-846 6010	04-13-94	04-18-94	25.0	24.0	96	24.1	96	0.4	MBB
Manganese	SW-846 6010	04-13-94	04-18-94	2.50	2.42	97	2.42	97	0.0	MBB
Nickel	SW-846 6010	04-13-94	04-18-94	2.50	2.45	98	2.46	98	0.4	MBB
Potassium	SW-846 6010	04-13-94	04-18-94	25.0	23.7	95	23.5	94	0.8	MBB
Selenium	SW-846 7740	04-13-94	04-18-94	0.050	0.060	120	0.062	124*	3.3	MBB
Silver	SW-846 6010	04-13-94	04-18-94	1.25	1.13	90	1.15	92	1.8	MBB
Sodium	SW-846 6010	04-13-94	04-18-94	25.0	23.8	95	23.7	95	0.4	MBB
Thallium	SW-846 7841	04-13-94	04-14-94	0.050	0.052	104	0.047	94	10.1	MBB
Vanadium	SW-846 6010	04-13-94	04-18-94	2.50	2.40	96	2.40	96	0.0	MBB
Zinc	SW-846 6010	04-13-94	04-18-94	2.50	2.40	96	2.41	96	0.4	MBB

QUALITY ASSURANCE/QUALITY CONTROL

Method Blank ID: 2200.PBW1

- flag positive Se results as estimated.

000835

011080

FINAL

CHEMICAL DATA QA/QC REPORT
INTERIM REMEDIAL ACTION
BURNING GROUND 3 AND
UNLINED EVAPORATION POND
LHAAP UNITS 18 AND 24
LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

PREPARED FOR

UNITED STATES ARMY CORPS OF ENGINEERS
TULSA DISTRICT

PREPARED BY

AWD TECHNOLOGIES, INC.
ROCKVILLE, MARYLAND

PDP ANALYTICAL SERVICES -- Episode 2216

AUGUST 31, 1994
USACE CONTRACT DACA56-93-D-0016
DELIVERY ORDER 0002
AWD PROJECT 2379

LONGHORN ARMY AMMUNITION PLANT, TEXAS
BURNING GROUND 3 AND UNLINED EVAPORATION POND
INTERIM REMEDIAL ACTION
PDP Analytical Services -- Episode 2216

1.0 Discussion.

This set of samples was collected from the Burning Ground 3 and the Unlined Evaporation Pond areas of the Longhorn Army Ammunition Plant in Karnack, Texas on April 8, 1994 as part of the Interim Remedial Action Investigation. The sampling activity was conducted by AWD Technologies, Inc. (AWD) for the U.S. Army Corps of Engineers (COE), Tulsa District. After collection, the samples were sent to the PDP Analytical Services laboratory in Spring, Texas and were placed under Episode Number 2216. Included in this work order are seven (7) groundwater samples and one (1) trip blank. There were no field duplicates in this set of samples.

Groundwater Samples

LH18/24-C4-1001	LH18/24-C4A-1001
LH18/24-MW7-1001	LH18/24-C5-1001
LH18/24-MW9-1001	LH18/24-MW10-1001
LH18/24-MW8-1001	

Trip Blank

LH18/24-XXX-TB

All samples, except the trip blank, were analyzed for volatile organic chemicals (VOCs), target analyte list (TAL) metals, chloride, and sulfate. The trip blank was only analyzed for VOCs. All VOC and metals analyses were performed by U.S. EPA SW-846 methodologies: 8240 and 6000/7000 series, respectively. The chloride and sulfate analyses were performed according to U.S. EPA Methods 325.3 and 375.4, respectively. Since the laboratory did not supply any of the analytical raw data in the deliverable package, data validation has been performed on the limited basis of examining QA/QC summary reports.

Other than the thallium results that were rejected, "R", all compounds and analytes were successfully analyzed in all samples. The organic analytical data were evaluated by the following quality assurance/quality control (QA/QC) parameters where applicable: technical holding times and preservation, system monitoring compound/surrogate spike recoveries, method blanks, matrix spike/matrix spike duplicates (MS/MSDs), laboratory control samples, field QC, and transcription. The inorganic analytical data were evaluated by the following QA/QC parameters where applicable: technical holding times and preservation, laboratory blanks, matrix spike recoveries, laboratory duplicates, laboratory control samples, field QC, and transcription. Validated sample analysis results are listed on the attached data summary forms. Areas of concern with respect to data quality and usability are discussed below.

2.0 Volatiles.

2.1 Accuracy. All surrogate, laboratory control sample (LCS), and MS/MSD percent recoveries were within acceptable control limits.

2.2 Precision. The relative percent differences (RPDs) reported for the MS/MSD data were all within acceptable quality control limits.

2.3 Representativeness. All samples were properly preserved and were received in good condition by the laboratory. All samples were also analyzed within the appropriate holding time.

There was low level methylene chloride contamination in the method and trip blanks. Therefore, positive sample concentrations of this compound that are less than ten (10) times the highest amount of contamination have been qualified as non-detect, "U".

3.0 Anions.

Chloride and sulfate were analyzed as anions by the aforementioned wet chemistry methods.

3.1 Accuracy. The laboratory control sample and matrix spike percent recoveries were all within acceptable quality control limits for both parameters.

3.2 Precision. The LCS and sample duplicate RPDs were all within the acceptable control limit of 20 percent.

3.3 Representativeness. All samples were properly preserved and were received in good condition by the laboratory. All blanks were free of target analyte contamination and all samples were analyzed within acceptable holding times.

4.0 TAL Metals.

4.1 Accuracy. All laboratory control sample and matrix spike percent recoveries were within acceptable quality control limits, except for the selenium and thallium MS/MSD recoveries. The selenium MS/MSD spikes were both recovered at 30 percent. As a result, all sample values reported for this metal have been qualified as estimated, "UJ", and should be considered biased low since they are all non-detects. The thallium MS/MSD recoveries, on the other hand, were both less than 30 percent, so all associated sample data have been rejected, "R", and should be considered unusable, as they are all non-detects.

4.2 Precision. All laboratory control sample/laboratory control sample duplicate (LCS/LCSD) and MS/MSD relative percent differences (RPDs) were within the acceptable quality control range, except for the thallium MS/MSD RPD, which exceeded the 20 percent limit. However, since all associated thallium data have already been rejected due to poor spike recoveries, no further action was necessary.

4.3 Representativeness. All samples were properly preserved and were received in good condition by the laboratory. All samples were prepared and analyzed within appropriate holding times and all blanks were free of target analyte contamination.

5.0 Notes.

The laboratory reports positive organic results that are below the quantitation limits but above the instrument detection limits (IDLs) as estimated, "J", since there is an unacceptable level of confidence in the detection and accurate reporting of concentrations less than the quantitation limits.

There were no tentatively identified compounds (TICs) reported by the laboratory for the volatile fraction of any sample.

Please note that all transcription and calculation errors found have been corrected in the support documentation of this report.

6.0 Conclusion.

These data were reviewed according to the U.S. EPA's National Functional Guidelines for Organic Data Review (June, 1991), the U.S. EPA's Laboratory Data Validation Functional Guidelines for Evaluating Inorganics Analyses (July, 1988), and with reference to method requirements. The results are presented in the data summary of this report and should be accepted as qualified. With the exception of the values that have been rejected, all results and data meet the requirements of the data quality objective (DQO) for this site and are deemed acceptable and valid for the intended use.

7.0 Information Regarding Report Content.

Attachments:

1. Glossary of data qualifier codes.
2. Data Summary. This may include:
   a) All positive results with qualifier codes, if applicable;
   b) All unusable detection limits qualified with "R"; and
   c) All estimated detection limits qualified with "UJ".
3. Appendix A - Results as reported by the laboratory.
4. Appendix B - Support Documentation which includes details to support the statements made in this report.

GLOSSARY OF DATA QUALIFIER CODES

CODES RELATING TO IDENTIFICATION

(confidence concerning presence or absence of compounds)

U = Not detected. The associated number indicates approximate sample concentration necessary to be detected.

(NO CODE) = Confirmed identification.

R = Unreliable result. Analyte may or may not be present in the sample. Supporting data necessary to confirm result. The result is unusable.

CODES RELATED TO QUANTITATION

(can be used for positive results and sample quantitation limits)

J = Analyte present. Reported value may not be accurate or precise.

UJ = Not detected. Quantitation limit may be inaccurate or imprecise.

DATA SUMMARY

011087

PDP ANALYTICAL SERVICES
24900 Pitkin Drive. Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES INC.	Client Sample ID:	LH18&24-C4-1001	Date Sampled:	04/08/94
Project Name:	LHAAP	PDP Sample ID:	2216.01	Date Received:	04/11/94
Project No.:	2379	Report No.:	B8673	Date Reported:	04/28/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	10.00	GC/MS File ID:	B8673
Sample Volume:	5.0 ml	Date Analyzed:	04/21/94
Dilution:	10.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	50	ND	Carbon tetrachloride	50	ND
1,1,2,2-Tetrachloroethane	50	ND	Chlorobenzene	50	ND
1,1,2-Trichloroethane	50	ND	Chloroethane	100	ND
1,1-Dichloroethane	50	ND	Chloroform	50	ND
1,1-Dichloroethene	50	ND	Chloromethane	100	ND
1,2-Dichloroethane	50	ND	Cis-1,3-Dichloropropene	50	ND
1,2-Dichloropropane	50	ND	Dibromochloromethane	50	ND
-Butanone	100	ND	Ethylbenzene	50	ND
2-Chloroethyl vinyl ether	100	ND	Methylene chloride	50	270 U
2-Hexanone	100	ND	Styrene	50	ND
4-Methyl-2-pentanone	100	ND	Tetrachloroethene	50	ND
Acetone	100	ND	Toluene	50	ND
Benzene	50	ND	Total xylenes	50	ND
Bromodichloromethane	50	ND	Total-1,2-Dichloroethene	50	ND
Bromoform	50	ND	Trans-1,3-Dichloropropene	50	ND
Bromomethane	100	ND	Trichloroethene	50	60
Carbon disulfide	50	ND	Vinyl acetate	100	ND
			Vinylchloride	100	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	102
Toluene-d8	50	(88-110)	101
Bromofluorobenzene	50	(86-115)	104

Method Blank ID: 2215V.WBLK2 LCS ID: 2215V.WLCS2 MS ID: 2216.01MS MSD ID: 2216.01MSD DUP ID: NA

011088

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300: Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES INC. Client Sample ID:LH18&24-MW7-1001 Date Sampled: 04/08/94
Project Name: LHAAP PDP Sample ID: 2216.02 Date Received: 04/11/94
Project No.: 2379 Report No.: B8653 Date Reported: 04/28/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix: WATER Method Ref.: SW846-8240
Multiplying Factor: 50.00 GC/MS File ID: B8653
Sample Volume: 5.0 ml Date Analyzed: 04/20/94
Dilution: 50.0 Analyst: MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	250	ND	Carbon tetrachloride	250	ND
1,1,2,2-Tetrachloroethane	250	ND	Chlorobenzene	250	ND
1,1,2-Trichloroethane	250	ND	Chloroethane	500	ND
1,1-Dichloroethane	250	ND	Chloroform	250	120 J
1,1-Dichloroethene	250	ND	Chloromethane	500	ND
1,2-Dichloroethane	250	150 J	Cis-1,3-Dichloropropene	250	ND
1,2-Dichloropropane	250	ND	Dibromochloromethane	250	ND
2-Butanone	500	ND	Ethylbenzene	250	ND
2-Chloroethyl vinyl ether	500	ND	Methylene chloride	250	2100 B U
2-Hexanone	500	ND	Styrene	250	ND
4-Methyl-2-pentanone	500	ND	Tetrachloroethene	250	ND
Acetone	500	ND	Toluene	250	ND
Benzene	250	ND	Total xylenes	250	ND
Bromodichloromethane	250	ND	Total-1,2-Dichloroethene	250	ND
Bromoform	250	ND	Trans-1,3-Dichloropropene	250	ND
Bromomethane	500	ND	Trichloroethene	~~250~~ 500	~~15500 E~~ 15,000
Carbon disulfide	250	ND	Vinyl acetate	500	ND
			Vinylchloride	500	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	102
Toluene-d8	50	(88-110)	96
Bromofluorobenzene	50	(86-115)	106

Method Blank ID: 2215V.WBLK1 LCS ID: 2215V.WLCS1 MS ID: 2216.01MS MSD ID: 2216.01MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES INC.	Client Sample ID:	LH18&24-MW9-1001	Date Sampled:	04/08/94
Project Name:	LHAAP	PDP Sample ID:	2216.03	Date Received:	04/11/94
Project No.:	2379	Report No.:	B8654	Date Reported:	04/28/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	50.00	GC/MS File ID:	B8654
Sample Volume:	5.0 ml	Date Analyzed:	04/20/94
Dilution:	50.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	250	ND	Carbon tetrachloride	250	ND
1,1,2,2-Tetrachloroethane	250	ND	Chlorobenzene	250	ND
1,1,2-Trichloroethane	250	ND	Chloroethane	500	ND
1,1-Dichloroethane	250	ND	Chloroform	250	ND
1,1-Dichloroethene	250	ND	Chloromethane	500	ND
1,2-Dichloroethane	250	ND	Cis-1,3-Dichloropropene	250	ND
1,2-Dichloropropane	250	ND	Dibromochloromethane	250	ND
-Butanone	500	ND	Ethylbenzene	250	ND
2-Chloroethyl vinyl ether	500	ND	Methylene chloride	250	950 U
2-Hexanone	500	ND	Styrene	250	ND
4-Methyl-2-pentanone	500	ND	Tetrachloroethene	250	ND
Acetone	500	ND	Toluene	250	ND
Benzene	250	ND	Total xylenes	250	ND
Bromodichloromethane	250	ND	Total-1,2-Dichloroethene	250	ND
Bromoform	250	ND	Trans-1,3-Dichloropropene	250	ND
Bromomethane	500	ND	Trichloroethene	250	3600
Carbon disulfide	250	ND	Vinyl acetate	500	ND
			Vinylchloride	500	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	99
Toluene-d8	50	(88-110)	95
Bromofluorobenzene	50	(86-115)	105

Method Blank ID: 2215V.WBLK1 LCS ID: 2215V.WLCS1 MS ID: 2216.01MS MSD ID: 2216.01MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES INC.	Client Sample ID:	LH18&24-MW8-1001	Date Sampled:	04/08/94
Project Name:	LHAAP	PDP Sample ID:	2216.04	Date Received:	04/11/94
Project No.:	2379	Report No.:	B8655	Date Reported:	04/28/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	50.00	GC/MS File ID:	B8655
Sample Volume:	5.0 ml	Date Analyzed:	04/20/94
Dilution:	50.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	250	ND	Carbon tetrachloride	250	ND
1,1,2,2-Tetrachloroethane	250	ND	Chlorobenzene	250	ND
1,1,2-Trichloroethane	250	ND	Chloroethane	500	ND
1,1-Dichloroethane	250	ND	Chloroform	250	ND
1,1-Dichloroethene	250	ND	Chloromethane	500	ND
1,2-Dichloroethane	250	ND	Cis-1,3-Dichloropropene	250	ND
1,2-Dichloropropane	250	ND	Dibromochloromethane	250	ND
2-Butanone	500	ND	Ethylbenzene	250	ND
2-Chloroethyl vinyl ether	500	ND	Methylene chloride	250	390 B U
2-Hexanone	500	ND	Styrene	250	ND
4-Methyl-2-pentanone	500	ND	Tetrachloroethene	250	ND
Acetone	500	ND	Toluene	250	ND
Benzene	250	ND	Total xylenes	250	ND
Bromodichloromethane	250	ND	Total-1,2-Dichloroethene	250	ND
Bromoform	250	ND	Trans-1,3-Dichloropropene	250	ND
Bromomethane	500	ND	Trichloroethene	250	8200
Carbon disulfide	250	ND	Vinyl acetate	500	ND
			Vinylchloride	500	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	97
Toluene-d8	50	(88-110)	93
Bromofluorobenzene	50	(86-115)	102

Method Blank ID: 2215V.WBLK1 LCS ID: 2215V.WLCS1 MS ID: 2216.01MS MSD ID: 2216.01MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES INC.	Client Sample ID:	LH18&24-C4A-1001	Date Sampled:	04/08/94
Project Name:	LHAAP	PDP Sample ID:	2216.05	Date Received:	04/11/94
Project No.:	2379	Report No.:	B8656	Date Reported:	04/28/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	50.00	GC/MS File ID:	B8656
Sample Volume:	5.0 ml	Date Analyzed:	04/21/94
Dilution:	50.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	250	ND	Carbon tetrachloride	250	ND
1,1,2,2-Tetrachloroethane	250	ND	Chlorobenzene	250	ND
1,1,2-Trichloroethane	250	ND	Chloroethane	500	ND
1,1-Dichloroethane	250	ND	Chloroform	250	ND
1,1-Dichloroethene	250	ND	Chloromethane	500	ND
1,2-Dichloroethane	250	ND	Cis-1,3-Dichloropropene	250	ND
1,2-Dichloropropane	250	ND	Dibromochloromethane	250	ND
2-Butanone	500	ND	Ethylbenzene	250	ND
2-Chloroethyl vinyl ether	500	ND	Methylene chloride	250	2000 B U
2-Hexanone	500	ND	Styrene	250	ND
4-Methyl-2-pentanone	500	ND	Tetrachloroethene	250	ND
Acetone	500	ND	Toluene	250	ND
Benzene	250	ND	Total xylenes	250	ND
Bromodichloromethane	250	ND	Total-1,2-Dichloroethene	250	ND
Bromoform	250	ND	Trans-1,3-Dichloropropene	250	ND
Bromomethane	500	ND	Trichloroethene	250	ND
Carbon disulfide	250	ND	Vinyl acetate	500	ND
			Vinylchloride	500	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	102
Toluene-d8	50	(88-110)	97
Bromofluorobenzene	50	(86-115)	107

Method Blank ID: 2215V.WBLK1 LCS ID: 2215V.WLCS1 MS ID: 2216.01MS MSD ID: 2216.01MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES INC.	Client Sample ID:	LH18&24-C5-1001	Date Sampled:	04/08/94
Project Name:	LHAAP	PDP Sample ID:	2216.06	Date Received:	04/11/94
Project No.:	2379	Report No.:	B8657	Date Reported:	04/28/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	50.00	GC/MS File ID:	B8657
Sample Volume:	5.0 ml	Date Analyzed:	04/21/94
Dilution:	50.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	250	ND	Carbon tetrachloride	250	ND
1,1,2,2-Tetrachloroethane	250	ND	Chlorobenzene	250	ND
1,1,2-Trichloroethane	250	ND	Chloroethane	500	ND
1,1-Dichloroethane	250	ND	Chloroform	250	ND
1,1-Dichloroethene	250	ND	Chloromethane	500	ND
1,2-Dichloroethane	250	ND	Cis-1,3-Dichloropropene	250	ND
1,2-Dichloropropane	250	ND	Dibromochloromethane	250	ND
2-Butanone	500	ND	Ethylbenzene	250	ND
2-Chloroethyl vinyl ether	500	ND	Methylene chloride	250	1800 B U
2-Hexanone	500	ND	Styrene	250	ND
4-Methyl-2-pentanone	500	ND	Tetrachloroethene	250	ND
Acetone	500	ND	Toluene	250	ND
Benzene	250	ND	Total xylenes	250	ND
Bromodichloromethane	250	ND	Total-1,2-Dichloroethene	250	ND
Bromoform	250	ND	Trans-1,3-Dichloropropene	250	ND
Bromomethane	500	ND	Trichloroethene	250	130 J
Carbon disulfide	250	ND	Vinyl acetate	500	ND
			Vinylchloride	500	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	99
Toluene-d8	50	(88-110)	96
Bromofluorobenzene	50	(86-115)	104

Method Blank ID: 2215V.WBLK1 LCS ID: 2215V.WLCS1 MS ID: 2216.01MS MSD ID: 2216.01MSD DUP ID: NA

011093

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES INC.	Client Sample ID:	LH18&24-MW10-1001	Date Sampled:	04/08/94
Project Name:	LHAAP	PDP Sample ID:	2216.07	Date Received:	04/11/94
Project No.:	2379	Report No.:	B8658	Date Reported:	04/28/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	50.00	GC/MS File ID:	B8658
Sample Volume:	5.0 ml	Date Analyzed:	04/21/94
Dilution:	50.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	250	ND	Carbon tetrachloride	250	ND
1,1,2,2-Tetrachloroethane	250	ND	Chlorobenzene	250	ND
1,1,2-Trichloroethane	250	ND	Chloroethane	500	ND
1,1-Dichloroethane	250	ND	Chloroform	250	ND
1,1-Dichloroethene	250	ND	Chloromethane	500	ND
1,2-Dichloroethane	250	ND	Cis-1,3-Dichloropropene	250	ND
1,2-Dichloropropane	250	ND	Dibromochloromethane	250	ND
2-Butanone	500	ND	Ethylbenzene	250	ND
2-Chloroethyl vinyl ether	500	ND	Methylene chloride	250	2100 B U
2-Hexanone	500	ND	Styrene	250	ND
4-Methyl-2-pentanone	500	ND	Tetrachloroethene	250	ND
Acetone	500	ND	Toluene	250	ND
Benzene	250	ND	Total xylenes	250	ND
Bromodichloromethane	250	ND	Total-1,2-Dichloroethene	250	ND
Bromoform	250	ND	Trans-1,3-Dichloropropene	250	ND
Bromomethane	500	ND	Trichloroethene	250	ND
Carbon disulfide	250	ND	Vinyl acetate	500	ND
			Vinylchloride	500	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	100
Toluene-d8	50	(88-110)	93
Bromofluorobenzene	50	(86-115)	105

Method Blank ID: 2215V.WBLK1 LCS ID: 2215V.WLCS1 MS ID: 2216.01MS MSD ID: 2216.01MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES INC.	Client Sample ID:	LH18&24-XXX-TB	Date Sampled:	04/08/94
Project Name:	LHAAP	PDP Sample ID:	2216.08	Date Received:	04/11/94
Project No.:	2379	Report No.:	B8651	Date Reported:	04/28/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8651
Sample Volume:	5.0 ml	Date Analyzed:	04/20/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	7 B
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	ND
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	98
Toluene-d8	50	(88-110)	93
Bromofluorobenzene	50	(86-115)	103

Method Blank ID: 2215V.WBLK1 LCS ID: 2215V.WLCS1 MS ID: 2216.01MS MSD ID: 2216.01MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project Number: 2379

Client Sample ID: LH18&24-C4-1001
PDP Sample ID: 2216.01
Report Number: I21601

Date Sampled: 04-08-94
Date Received: 04-11-94
Date Reported: 05-02-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-15-94	04-20-94	0.1	ND	MBB
Antimony	SW-846 6010	04-15-94	04-20-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-21-94	04-27-94	0.01	ND	MBB
Barium	SW-846 6010	04-15-94	04-20-94	0.01	0.206	MBB
Beryllium	SW-846 6010	04-15-94	04-20-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-15-94	04-20-94	0.005	ND	MBB
Calcium	SW-846 6010	04-15-94	04-20-94	0.2	18.9	MBB
Chromium	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Cobalt	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Copper	SW-846 6010	04-15-94	04-20-94	0.02	ND	MBB
Iron	SW-846 6010	04-15-94	04-20-94	0.1	1.47	MBB
Lead	SW-846 7421	04-21-94	04-28-94	0.005	ND	MBB
Magnesium	SW-846 6010	04-15-94	04-20-94	0.2	4.1	MBB
Manganese	SW-846 6010	04-15-94	04-20-94	0.01	0.211	MBB
Mercury	SW-846 7470	04-18-94	04-20-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-15-94	04-20-94	0.04	ND	MBB
Potassium	SW-846 6010	04-15-94	04-20-94	5	ND	MBB
Selenium	SW-846 7740	04-21-94	04-26-94	0.005	ND UJ	MBB
Silver	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Sodium	SW-846 6010	04-15-94	04-20-94	0.5	19.9	MBB
Thallium	SW-846 7841	04-21-94	04-28-94	0.005	ND R	MBB
Vanadium	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Zinc	SW-846 6010	04-15-94	04-20-94	0.02	0.052	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP Method Blank ID: 2216.PBW1
GFAA Method Blank ID: 2216.PBW1
CVAA Method Blank ID: 2209.PBW1

ICP LCS ID: 2216.LCSW1
GFAA LCS ID: 2216.LCSW1
CVAA LCS ID: 2209.LCSW1

ICP LCSD ID: 2216.LCSW2
GFAA LCSD ID: 2216.LCSW2
CVAA LCSD ID: 2209.LCSW2

ICP MS ID: 2219.01MS
GFAA MS ID: 2219.01MS
CVAA MS ID: 2219.01MS

ICP MSD ID: 2219.01MSD
GFAA MSD ID: 2219.01MSD
CVAA MSD ID: 2219.01MSD

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project Number: 2379

Client Sample ID: LH18&24-MW7-1001
PDP Sample ID: 2216.02
Report Number: I21602

Date Sampled: 04-08-94
Date Received: 04-11-94
Date Reported: 05-02-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-15-94	04-20-94	0.1	ND	MBB
Antimony	SW-846 6010	04-15-94	04-20-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-21-94	04-27-94	0.01	ND	MBB
Barium	SW-846 6010	04-15-94	04-20-94	0.01	0.128	MBB
Beryllium	SW-846 6010	04-15-94	04-20-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-15-94	04-20-94	0.005	ND	MBB
Calcium	SW-846 6010	04-15-94	04-20-94	0.2	20.6	MBB
Chromium	SW-846 6010	04-15-94	04-20-94	0.01	0.291	MBB
Cobalt	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Copper	SW-846 6010	04-15-94	04-20-94	0.02	ND	MBB
Iron	SW-846 6010	04-15-94	04-20-94	0.1	0.95	MBB
Lead	SW-846 7421	04-21-94	04-28-94	0.005	ND	MBB
Magnesium	SW-846 6010	04-15-94	04-20-94	0.2	15.3	MBB
Manganese	SW-846 6010	04-15-94	04-20-94	0.01	0.071	MBB
Mercury	SW-846 7470	04-18-94	04-20-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-15-94	04-20-94	0.04	0.29	MBB
Potassium	SW-846 6010	04-15-94	04-20-94	5	ND	MBB
Selenium	SW-846 7740	04-21-94	04-26-94	0.01	ND UJ	MBB
Silver	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Sodium	SW-846 6010	04-15-94	04-20-94	0.5	332	MBB
Thallium	SW-846 7841	04-21-94	04-28-94	0.01	ND R	MBB
Vanadium	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Zinc	SW-846 6010	04-15-94	04-20-94	0.02	ND	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP LCS ID: 2216.LCSW1
GFAA LCS ID: 2216.LCSW1
CVAA LCS ID: 2209.LCSW1

ICP MS ID: 2219.01MS
GFAA MS ID: 2219.01MS
CVAA MS ID: 2219.01MS

ICP Method Blank ID: 2216.PBW1
GFAA Method Blank ID: 2216.PBW1
CVAA Method Blank ID: 2209.PBW1

ICP LCSD ID: 2216.LCSW2
GFAA LCSD ID: 2216.LCSW2
CVAA LCSD ID: 2209.LCSW2

ICP MSD ID: 2219.01MSD
GFAA MSD ID: 2219.01MSD
CVAA MSD ID: 2219.01MSD

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project Number: 2379

Client Sample ID: LH18&24-MW9-1001
PDP Sample ID: 2216.03
Report Number: I21603

Date Sampled: 04-08-94
Date Received: 04-11-94
Date Reported: 05-02-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-15-94	04-20-94	0.1	0.61	MBB
Antimony	SW-846 6010	04-15-94	04-20-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-21-94	04-27-94	0.005	ND	MBB
Barium	SW-846 6010	04-15-94	04-20-94	0.01	0.045	MBB
Beryllium	SW-846 6010	04-15-94	04-20-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-15-94	04-20-94	0.005	ND	MBB
Calcium	SW-846 6010	04-15-94	04-20-94	0.2	2.6	MBB
Chromium	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Cobalt	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Copper	SW-846 6010	04-15-94	04-20-94	0.02	ND	MBB
Iron	SW-846 6010	04-15-94	04-20-94	0.1	0.57	MBB
Lead	SW-846 7421	04-21-94	04-28-94	0.005	ND	MBB
Magnesium	SW-846 6010	04-15-94	04-20-94	0.2	1.3	MBB
Manganese	SW-846 6010	04-15-94	04-20-94	0.01	0.070	MBB
Mercury	SW-846 7470	04-18-94	04-20-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-15-94	04-20-94	0.04	ND	MBB
Potassium	SW-846 6010	04-15-94	04-20-94	5	ND	MBB
Selenium	SW-846 7740	04-21-94	04-26-94	0.01	ND UJ	MBB
Silver	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Sodium	SW-846 6010	04-15-94	04-20-94	0.5	15.0	MBB
Thallium	SW-846 7841	04-21-94	04-28-94	0.005	ND R	MBB
Vanadium	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Zinc	SW-846 6010	04-15-94	04-20-94	0.02	ND	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP Method Blank ID: 2216.PBW1
GFAA Method Blank ID: 2216.PBW1
CVAA Method Blank ID: 2209.PBW1

ICP LCS ID: 2216.LCSW1
GFAA LCS ID: 2216.LCSW1
CVAA LCS ID: 2209.LCSW1

ICP LCSD ID: 2216.LCSW2
GFAA LCSD ID: 2216.LCSW2
CVAA LCSD ID: 2209.LCSW2

ICP MS ID: 2219.01MS
GFAA MS ID: 2219.01MS
CVAA MS ID: 2219.01MS

ICP MSD ID: 2219.01MSD
GFAA MSD ID: 2219.01MSD
CVAA MSD ID: 2219.01MSD

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PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project Number: 2379

Client Sample ID: LH18&24-MW8-1001
PDP Sample ID: 2216.04
Report Number: I21604

Date Sampled: 04-08-94
Date Received: 04-11-94
Date Reported: 05-02-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: ug/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-15-94	04-20-94	0.1	ND	MBB
Antimony	SW-846 6010	04-15-94	04-20-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-21-94	04-27-94	0.005	ND	MBB
Barium	SW-846 6010	04-15-94	04-20-94	0.01	0.222	MBB
Beryllium	SW-846 6010	04-15-94	04-20-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-15-94	04-20-94	0.005	ND	MBB
Calcium	SW-846 6010	04-15-94	04-20-94	0.2	7.6	MBB
Chromium	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Cobalt	SW-846 6010	04-15-94	04-20-94	0.01	0.010	MBB
Copper	SW-846 6010	04-15-94	04-20-94	0.02	ND	MBB
Iron	SW-846 6010	04-15-94	04-20-94	0.1	ND	MBB
Lead	SW-846 7421	04-21-94	04-28-94	0.005	ND	MBB
Magnesium	SW-846 6010	04-15-94	04-20-94	0.2	6.2	MBB
Manganese	SW-846 6010	04-15-94	04-20-94	0.01	0.107	MBB
Mercury	SW-846 7470	04-18-94	04-20-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-15-94	04-20-94	0.04	ND	MBB
Potassium	SW-846 6010	04-15-94	04-20-94	5	ND	MBB
Selenium	SW-846 7740	04-21-94	04-26-94	0.01	ND UJ	MBB
Silver	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Sodium	SW-846 6010	04-15-94	04-20-94	0.5	97.3	MBB
Thallium	SW-846 7841	04-21-94	04-28-94	0.005	ND R	MBB
Vanadium	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Zinc	SW-846 6010	04-15-94	04-20-94	0.02	ND	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP LCS ID: 2216.LCSW1
GFAA LCS ID: 2216.LCSW1
CVAA LCS ID: 2209.LCSW1

ICP MS ID: 2219.01MS
GFAA MS ID: 2219.01MS
CVAA MS ID: 2219.01MS

ICP Method Blank ID: 2216.PBW1
GFAA Method Blank ID: 2216.PBW1
CVAA Method Blank ID: 2209.PBW1

ICP LCSD ID: 2216.LCSW2
GFAA LCSD ID: 2216.LCSW2
CVAA LCSD ID: 2209.LCSW2

ICP MSD ID: 2219.01MSD
GFAA MSD ID: 2219.01MSD
CVAA MSD ID: 2219.01MSD

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PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project Number: 2379

Client Sample ID: LH18&24-C4A-1001
PDP Sample ID: 2216.05
Report Number: I21605

Date Sampled: 04-08-94
Date Received: 04-11-94
Date Reported: 05-02-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/l

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-15-94	04-20-94	0.1	ND	MBB
Antimony	SW-846 6010	04-15-94	04-20-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-21-94	04-27-94	0.005	ND	MBB
Barium	SW-846 6010	04-15-94	04-20-94	0.01	0.101	MBB
Beryllium	SW-846 6010	04-15-94	04-20-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-15-94	04-20-94	0.005	ND	MBB
Calcium	SW-846 6010	04-15-94	04-20-94	0.2	14.8	MBB
Chromium	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Cobalt	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Copper	SW-846 6010	04-15-94	04-20-94	0.02	ND	MBB
Iron	SW-846 6010	04-15-94	04-20-94	0.1	4.1	MBB
Lead	SW-846 7421	04-21-94	04-28-94	0.005	ND	MBB
Magnesium	SW-846 6010	04-15-94	04-20-94	0.2	2.8	MBB
Manganese	SW-846 6010	04-15-94	04-20-94	0.01	0.173	MBB
Mercury	SW-846 7470	04-18-94	04-20-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-15-94	04-20-94	0.04	ND	MBB
Potassium	SW-846 6010	04-15-94	04-20-94	5	ND	MBB
Selenium	SW-846 7740	04-21-94	04-26-94	0.01	ND W	MBB
Silver	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Sodium	SW-846 6010	04-15-94	04-20-94	0.5	86.8	MBB
Thallium	SW-846 7841	04-21-94	04-28-94	0.005	ND R	MBB
Vanadium	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Zinc	SW-846 6010	04-15-94	04-20-94	0.02	0.079	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP Method Blank ID: 2216.PBW1
GFAA Method Blank ID: 2216.PBW1
CVAA Method Blank ID: 2209.PBW1

ICP LCS ID: 2216.LCSW1
GFAA LCS ID: 2216.LCSW1
CVAA LCS ID: 2209.LCSW1

ICP LCSD ID: 2216.LCSW2
GFAA LCSD ID: 2216.LCSW2
CVAA LCSD ID: 2209.LCSW2

ICP MS ID: 2219.01MS
GFAA MS ID: 2219.01MS
CVAA MS ID: 2219.01MS

ICP MSD ID: 2219.01MSD
GFAA MSD ID: 2219.01MSD
CVAA MSD ID: 2219.01MSD

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project Number: 2379

Client Sample ID: LH18&24-C5-1001
PDP Sample ID: 2216.06
Report Number: I21606

Date Sampled: 04-08-94
Date Received: 04-11-94
Date Reported: 05-02-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-15-94	04-20-94	0.1	ND	MBB
Antimony	SW-846 6010	04-15-94	04-20-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-21-94	04-27-94	0.005	ND	MBB
Barium	SW-846 6010	04-15-94	04-20-94	0.01	0.078	MBB
Beryllium	SW-846 6010	04-15-94	04-20-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-15-94	04-20-94	0.005	ND	MBB
Calcium	SW-846 6010	04-15-94	04-20-94	0.2	12.2	MBB
Chromium	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Cobalt	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Copper	SW-846 6010	04-15-94	04-20-94	0.02	ND	MBB
Iron	SW-846 6010	04-15-94	04-20-94	0.1	2.4	MBB
Lead	SW-846 7421	04-21-94	04-28-94	0.005	ND	MBB
Magnesium	SW-846 6010	04-15-94	04-20-94	0.2	2.9	MBB
Manganese	SW-846 6010	04-15-94	04-20-94	0.01	0.200	MBB
Mercury	SW-846 7470	04-18-94	04-20-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-15-94	04-20-94	0.04	ND	MBB
Potassium	SW-846 6010	04-15-94	04-20-94	5	ND	MBB
Selenium	SW-846 7740	04-21-94	04-26-94	0.01	ND W	MBB
Silver	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Sodium	SW-846 6010	04-15-94	04-20-94	0.5	66.8	MBB
Thallium	SW-846 7841	04-21-94	04-28-94	0.005	ND R	MBB
Vanadium	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Zinc	SW-846 6010	04-15-94	04-20-94	0.02	0.032	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP LCS ID: 2216.LCSW1
GFAA LCS ID: 2216.LCSW1
CVAA LCS ID: 2209.LCSW1

ICP MS ID: 2219.01MS
GFAA MS ID: 2219.01MS
CVAA MS ID: 2219.01MS

ICP Method Blank ID: 2216.PBW1
GFAA Method Blank ID: 2216.PBW1
CVAA Method Blank ID: 2209.PBW1

ICP LCSD ID: 2216.LCSW2
GFAA LCSD ID: 2216.LCSW2
CVAA LCSD ID: 2209.LCSW2

ICP MSD ID: 2219.01MSD
GFAA MSD ID: 2219.01MSD
CVAA MSD ID: 2219.01MSD

011101

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project Number: 2379

Client Sample ID: LH18&24-MW10-1001
PDP Sample ID: 2216.07
Report Number: I21607

Date Sampled: 04-08-94
Date Received: 04-11-94
Date Reported: 05-02-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-15-94	04-20-94	0.1	ND	MBB
Antimony	SW-846 6010	04-15-94	04-20-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-21-94	04-27-94	0.005	ND	MBB
Barium	SW-846 6010	04-15-94	04-20-94	0.01	0.658	MBB
Beryllium	SW-846 6010	04-15-94	04-20-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-15-94	04-20-94	0.005	ND	MBB
Calcium	SW-846 6010	04-15-94	04-20-94	0.2	24.7	MBB
Chromium	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Cobalt	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Copper	SW-846 6010	04-15-94	04-20-94	0.02	ND	MBB
Iron	SW-846 6010	04-15-94	04-20-94	0.1	54.8	MBB
Lead	SW-846 7421	04-21-94	04-28-94	0.005	ND	MBB
Magnesium	SW-846 6010	04-15-94	04-20-94	0.2	14.0	MBB
Manganese	SW-846 6010	04-15-94	04-20-94	0.01	1.23	MBB
Mercury	SW-846 7470	04-18-94	04-20-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-15-94	04-20-94	0.04	ND	MBB
Potassium	SW-846 6010	04-15-94	04-20-94	5	ND	MBB
Selenium	SW-846 7740	04-21-94	04-26-94	0.01	ND UJ	MBB
Silver	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Sodium	SW-846 6010	04-15-94	04-20-94	0.5	106	MBB
Thallium	SW-846 7841	04-21-94	04-28-94	0.005	ND R	MBB
Vanadium	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Zinc	SW-846 6010	04-15-94	04-20-94	0.02	0.020	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP LCS ID: 2216.LCSW1
GFAA LCS ID: 2216.LCSW1
CVAA LCS ID: 2209.LCSW1

ICP MS ID: 2219.01MS
GFAA MS ID: 2219.01MS
CVAA MS ID: 2219.01MS

ICP Method Blank ID: 2216.PBW1
GFAA Method Blank ID: 2216.PBW1
CVAA Method Blank ID: 2209.PBW1

ICP LCSD ID: 2216.LCSW2
GFAA LCSD ID: 2216.LCSW2
CVAA LCSD ID: 2209.LCSW2

ICP MSD ID: 2219.01MSD
GFAA MSD ID: 2219.01MSD
CVAA MSD ID: 2219.01MSD

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PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas; 77386 (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project No.: 2373

Date Reported: 05-03-94
Report No.: I216CL
Analyst: HM

WET CHEMISTRY PARAMETER: Chloride

Method Reference: EPA 325.3

UNITS: mg/L

PDP LABORATORY ID	CLIENT ID	MATRIX	DATE SAMPLED	DATE RECEIVED	DATE ANALYZED	QUANT LIMIT	RESULT	SPIKE ADDED OR TRUE VALUE	RELATIVE PERCENT DIFF(20)	PERCENT RECOVERY (75-125)
2216.01	LH18&24-C4-1001	WATER	04-08-94	04-11-94	04-11-94	2	53			
2216.02	LH18&24-MW7-1001	WATER	04-08-94	04-11-94	04-11-94	2	436			
2216.03	LH18&24-MW9-1001	WATER	04-08-94	04-11-94	04-11-94	2	14			
2216.04	LH18&24-MW8-1001	WATER	04-08-94	04-11-94	04-11-94	2	167			
2216.05	LH18&24-C4A-1001	WATER	04-08-94	04-11-94	04-11-94	2	78			
2216.06	LH18&24-C5-1001	WATER	04-08-94	04-11-94	04-11-94	2	57			
2216.07	LH18&24-MW10-1001	WATER	04-08-94	04-11-94	04-11-94	2	316			
			QUALITY ASSURANCE/QUALITY CONTROL							
2215.PB1	PREPARATION BLANK	NA	NA	NA	04-11-94	2	ND			
2215.LCS1	LAB CONTROL STD	NA	NA	NA	04-11-94	2	142	125		114
2215.LCS2	LAB CONTROL STD	NA	NA	NA	04-11-94	2	142	125	0.0	114
2215.01	SAMPLE	NA	NA	NA	04-11-94	2	128			
2215.01MS	MATRIX SPIKE	NA	NA	NA	04-11-94	2	149	17.7		119
2215.01MSD	MATRIX SPIKE DUP	NA	NA	NA	04-11-94	2	149	17.7	0.0	119

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas; 77386 (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project No.: 2379

Date Reported: 05-03-94
Report No.: I216S04
Analyst: HM

WET CHEMISTRY PARAMETER: Sulfate

Method Reference: EPA 375.4

UNITS: mg/L

PDP LABORATORY ID	CLIENT ID	MATRIX	DATE SAMPLED	DATE RECEIVED	DATE ANALYZED	QUANT LIMIT	RESULT	SPIKE ADDED OR TRUE VALUE	RELATIVE PERCENT DIFF(20)	PERCENT RECOVERY (75-125)
2216.01	LH18&24-C4-1001	WATER	04-08-94	04-11-94	04-20-94	5	ND			
2216.02	LH18&24-MW7-1001	WATER	04-08-94	04-11-94	04-20-94	5	70			
2216.03	LH18&24-MW9-1001	WATER	04-08-94	04-11-94	04-20-94	5	18			
2216.04	LH18&24-MW8-1001	WATER	04-08-94	04-11-94	04-20-94	5	32			
2216.05	LH18&24-C4A-1001	WATER	04-08-94	04-11-94	04-20-94	5	10			
2216.06	LH18&24-C5-1001	WATER	04-08-94	04-11-94	04-20-94	5	16			
2216.07	LH18&24-MW10-1001	WATER	04-08-94	04-11-94	04-20-94	5	28			
			QUALITY ASSURANCE/QUALITY CONTROL							
2210.PB1	PREPARATION BLANK	NA	NA	NA	04-20-94	5	ND			
2210.LCS1	LAB CONTROL STD	NA	NA	NA	04-20-94	5	138	151		91
2210.LCS2	LAB CONTROL STD	NA	NA	NA	04-20-94	5	131	151	5.2	87
2215.01	SAMPLE	NA	NA	NA	04-20-94	5	ND			
2215.01MS	MATRIX SPIKE	NA	NA	NA	04-20-94	5	12	10		120
2215.01MSD	MATRIX SPIKE DUP	NA	NA	NA	04-20-94	5	12	10	0.0	120

APPENDIX A
RESULTS AS REPORTED BY THE LABORATORY

011105

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES INC.
Project Name: LHAAP
Project No.: 2379

Client Sample ID: LH18&24-C4-1001
PDP Sample ID: 2216.01
Report No.: B8673

Date Sampled: 04/08/94
Date Received: 04/11/94
Date Reported: 04/28/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix: WATER
Multiplying Factor: 10.00
Sample Volume: 5.0 ml
Dilution: 10.0

Method Ref.: SW846-8240
GC/MS File ID: B8673
Date Analyzed: 04/21/94
Analyst: MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	50	ND	Carbon tetrachloride	50	ND
1,1,2,2-Tetrachloroethane	50	ND	Chlorobenzene	50	ND
1,1,2-Trichloroethane	50	ND	Chloroethane	100	ND
1,1-Dichloroethane	50	ND	Chloroform	50	ND
1,1-Dichloroethene	50	ND	Chloromethane	100	ND
1,2-Dichloroethane	50	ND	Cis-1,3-Dichloropropene	50	ND
',2-Dichloropropane	50	ND	Dibromochloromethane	50	ND
-Butanone	100	ND	Ethylbenzene	50	ND
2-Chloroethyl vinyl ether	100	ND	Methylene chloride	50	270
2-Hexanone	100	ND	Styrene	50	ND
4-Methyl-2-pentanone	100	ND	Tetrachloroethene	50	ND
Acetone	100	ND	Toluene	50	ND
Benzene	50	ND	Total xylenes	50	ND
Bromodichloromethane	50	ND	Total-1,2-Dichloroethene	50	ND
Bromoform	50	ND	Trans-1,3-Dichloropropene	50	ND
Bromomethane	100	ND	Trichloroethene	50	60
Carbon disulfide	50	ND	Vinyl acetate	100	ND
			Vinylchloride	100	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	102
Toluene-d8	50	(88-110)	101
Bromofluorobenzene	50	(86-115)	104

Method Blank ID: 2215V.WBLK2 LCS ID: 2215V.WLCS2 MS ID: 2216.01MS MSD ID: 2216.01MSD DUP ID: NA

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PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES INC.	Client Sample ID:	LH18&24-MW7-1001	Date Sampled:	04/08/94
Project Name:	LHAAP	PDP Sample ID:	2216.02	Date Received:	04/11/94
Project No.:	2379	Report No.:	B8653	Date Reported:	04/28/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	50.00	GC/MS File ID:	B8653
Sample Volume:	5.0 ml	Date Analyzed:	04/20/94
Dilution:	50.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	250	ND	Carbon tetrachloride	250	ND
1,1,2,2-Tetrachloroethane	250	ND	Chlorobenzene	250	ND
1,1,2-Trichloroethane	250	ND	Chloroethane	500	ND
1,1-Dichloroethane	250	ND	Chloroform	250	120 J
1,1-Dichloroethene	250	ND	Chloromethane	500	ND
1,2-Dichloroethane	250	150 J	Cis-1,3-Dichloropropene	250	ND
1,2-Dichloropropane	250	ND	Dibromochloromethane	250	ND
2-Butanone	500	ND	Ethylbenzene	250	ND
2-Chloroethyl vinyl ether	500	ND	Methylene chloride	250	2100 B
2-Hexanone	500	ND	Styrene	250	ND
4-Methyl-2-pentanone	500	ND	Tetrachloroethene	250	ND
Acetone	500	ND	Toluene	250	ND
Benzene	250	ND	Total xylenes	250	ND
Bromodichloromethane	250	ND	Total-1,2-Dichloroethene	250	ND
Bromoform	250	ND	Trans-1,3-Dichloropropene	250	ND
Bromomethane	500	ND	Trichloroethene	250	15500 E
Carbon disulfide	250	ND	Vinyl acetate	500	ND
			Vinylchloride	500	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	102
Toluene-d8	50	(88-110)	96
Bromofluorobenzene	50	(86-115)	106

Method Blank ID: 2215V.WBLK1 LCS ID: 2215V.WLCS1 MS ID: 2216.01MS MSD ID: 2216.01MSD DUP ID: NA

066303

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES INC.	Client Sample ID:	LH18&24-MW7-1001(DL)	Date Sampled:	04/08/94
Project Name:	LHAAP	PDP Sample ID:	2216.02(DILUTION)	Date Received:	04/11/94
Project No.:	2379	Report No.:	B8676	Date Reported:	04/28/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	100.00	GC/MS File ID:	B8676
Sample Volume:	5.0 ml	Date Analyzed:	04/21/94
Dilution:	100.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	500	ND	Carbon tetrachloride	500	ND
1,1,2,2-Tetrachloroethane	500	ND	Chlorobenzene	500	ND
1,1,2-Trichloroethane	500	ND	Chloroethane	1000	ND
1,1-Dichloroethane	500	ND	Chloroform	500	ND
1,1-Dichloroethene	500	ND	Chloromethane	1000	ND
1,2-Dichloroethane	500	ND	Cis-1,3-Dichloropropene	500	ND
1,2-Dichloropropane	500	ND	Dibromochloromethane	500	ND
2-Butanone	1000	ND	Ethylbenzene	500	ND
2-Chloroethyl vinyl ether	1000	ND	Methylene chloride	500	1700
2-Hexanone	1000	ND	Styrene	500	ND
4-Methyl-2-pentanone	1000	ND	Tetrachloroethene	500	ND
Acetone	1000	ND	Toluene	500	ND
Benzene	500	ND	Total xylenes	500	ND
Bromodichloromethane	500	ND	Total-1,2-Dichloroethene	500	ND
Bromoform	500	ND	Trans-1,3-Dichloropropene	500	ND
Bromomethane	1000	ND	Trichloroethene	500	15000
Carbon disulfide	500	ND	Vinyl acetate	1000	ND
			Vinylchloride	1000	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	101
Toluene-d8	50	(88-110)	94
Bromofluorobenzene	50	(86-115)	105

Method Blank ID: 2215V.WBLK2 LCS ID: 2215V.WLCS2 MS ID: 2216.01MS MSD ID: 2216.01MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES INC.	Client Sample ID:	LH18&24-MW9-1001	Date Sampled:	04/08/94
Project Name:	LHAAP	PDP Sample ID:	2216.03	Date Received:	04/11/94
Project No.:	2379	Report No.:	B8654	Date Reported:	04/28/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	50.00	GC/MS File ID:	B8654
Sample Volume:	5.0 ml	Date Analyzed:	04/20/94
Dilution:	50.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	250	ND	Carbon tetrachloride	250	ND
1,1,2,2-Tetrachloroethane	250	ND	Chlorobenzene	250	ND
1,1,2-Trichloroethane	250	ND	Chloroethane	500	ND
1,1-Dichloroethane	250	ND	Chloroform	250	ND
1,1-Dichloroethene	250	ND	Chloromethane	500	ND
1,2-Dichloroethane	250	ND	Cis-1,3-Dichloropropene	250	ND
1,2-Dichloropropane	250	ND	Dibromochloromethane	250	ND
?-Butanone	500	ND	Ethylbenzene	250	ND
2-Chloroethyl vinyl ether	500	ND	Methylene chloride	250	950
2-Hexanone	500	ND	Styrene	250	ND
4-Methyl-2-pentanone	500	ND	Tetrachloroethene	250	ND
Acetone	500	ND	Toluene	250	ND
Benzene	250	ND	Total xylenes	250	ND
Bromodichloromethane	250	ND	Total-1,2-Dichloroethene	250	ND
Bromoform	250	ND	Trans-1,3-Dichloropropene	250	ND
Bromomethane	500	ND	Trichloroethene	250	3600
Carbon disulfide	250	ND	Vinyl acetate	500	ND
			Vinylchloride	500	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	99
Toluene-d8	50	(88-110)	95
Bromofluorobenzene	50	(86-115)	105

Method Blank ID: 2215V.WBLK1 LCS ID: 2215V.WLCS1 MS ID: 2216.01MS MSD ID: 2216.01MSD DUP ID: NA

011109

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES INC.	Client Sample ID:	LH18&24-MW8-1001	Date Sampled:	04/08/94
Project Name:	LHAAP	PDP Sample ID:	2216.04	Date Received:	04/11/94
Project No.:	2379	Report No.:	B8655	Date Reported:	04/28/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	50.00	GC/MS File ID:	B8655
Sample Volume:	5.0 ml	Date Analyzed:	04/20/94
Dilution:	50.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	250	ND	Carbon tetrachloride	250	ND
1,1,2,2-Tetrachloroethane	250	ND	Chlorobenzene	250	ND
1,1,2-Trichloroethane	250	ND	Chloroethane	500	ND
1,1-Dichloroethane	250	ND	Chloroform	250	ND
1,1-Dichloroethene	250	ND	Chloromethane	500	ND
1,2-Dichloroethane	250	ND	Cis-1,3-Dichloropropene	250	ND
1,2-Dichloropropane	250	ND	Dibromochloromethane	250	ND
2-Butanone	500	ND	Ethylbenzene	250	ND
2-Chloroethyl vinyl ether	500	ND	Methylene chloride	250	390 B
2-Hexanone	500	ND	Styrene	250	ND
4-Methyl-2-pentanone	500	ND	Tetrachloroethene	250	ND
Acetone	500	ND	Toluene	250	ND
Benzene	250	ND	Total xylenes	250	ND
Bromodichloromethane	250	ND	Total-1,2-Dichloroethene	250	ND
Bromoform	250	ND	Trans-1,3-Dichloropropene	250	ND
Bromomethane	500	ND	Trichloroethene	250	8200
Carbon disulfide	250	ND	Vinyl acetate	500	ND
			Vinylchloride	500	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	97
Toluene-d8	50	(88-110)	93
Bromofluorobenzene	50	(86-115)	102

Method Blank ID: 2215V.WBLK1 LCS ID: 2215V.WLCS1 MS ID: 2216.01MS MSD ID: 2216.01MSD DUP ID: NA

000012

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES INC.	Client Sample ID:	LH18&24-C4A-1001	Date Sampled:	04/08/94
Project Name:	LHAAP	PDP Sample ID:	2216.05	Date Received:	04/11/94
Project No.:	2379	Report No.:	B8656	Date Reported:	04/28/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	50.00	GC/MS File ID:	B8656
Sample Volume:	5.0 ml	Date Analyzed:	04/21/94
Dilution:	50.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	250	ND	Carbon tetrachloride	250	ND
1,1,2,2-Tetrachloroethane	250	ND	Chlorobenzene	250	ND
1,1,2-Trichloroethane	250	ND	Chloroethane	500	ND
1,1-Dichloroethane	250	ND	Chloroform	250	ND
1,1-Dichloroethene	250	ND	Chloromethane	500	ND
1,2-Dichloroethane	250	ND	Cis-1,3-Dichloropropene	250	ND
1,2-Dichloropropane	250	ND	Dibromochloromethane	250	ND
2-Butanone	500	ND	Ethylbenzene	250	ND
2-Chloroethyl vinyl ether	500	ND	Methylene chloride	250	2000 B
2-Hexanone	500	ND	Styrene	250	ND
4-Methyl-2-pentanone	500	ND	Tetrachloroethene	250	ND
Acetone	500	ND	Toluene	250	ND
Benzene	250	ND	Total xylenes	250	ND
Bromodichloromethane	250	ND	Total-1,2-Dichloroethene	250	ND
Bromoform	250	ND	Trans-1,3-Dichloropropene	250	ND
Bromomethane	500	ND	Trichloroethene	250	ND
Carbon disulfide	250	ND	Vinyl acetate	500	ND
			Vinylchloride	500	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	102
Toluene-d8	50	(88-110)	97
Bromofluorobenzene	50	(86-115)	107

Method Blank ID: 2215V.WBLK1 LCS ID: 2215V.WLCS1 MS ID: 2216.01MS MSD ID: 2216.01MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES INC.	Client Sample ID:	LH18&24-C5-1001	Date Sampled:	04/08/94
Project Name:	LHAAP	PDP Sample ID:	2216.06	Date Received:	04/11/94
Project No.:	2379	Report No.:	B8657	Date Reported:	04/28/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	50.00	GC/MS File ID:	B8657
Sample Volume:	5.0 ml	Date Analyzed:	04/21/94
Dilution:	50.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	250	ND	Carbon tetrachloride	250	ND
1,1,2,2-Tetrachloroethane	250	ND	Chlorobenzene	250	ND
1,1,2-Trichloroethane	250	ND	Chloroethane	500	ND
1,1-Dichloroethane	250	ND	Chloroform	250	ND
1,1-Dichloroethene	250	ND	Chloromethane	500	ND
1,2-Dichloroethane	250	ND	Cis-1,3-Dichloropropene	250	ND
1,2-Dichloropropane	250	ND	Dibromochloromethane	250	ND
2-Butanone	500	ND	Ethylbenzene	250	ND
2-Chloroethyl vinyl ether	500	ND	Methylene chloride	250	1800 B
2-Hexanone	500	ND	Styrene	250	ND
4-Methyl-2-pentanone	500	ND	Tetrachloroethene	250	ND
Acetone	500	ND	Toluene	250	ND
Benzene	250	ND	Total xylenes	250	ND
Bromodichloromethane	250	ND	Total-1,2-Dichloroethene	250	ND
Bromoform	250	ND	Trans-1,3-Dichloropropene	250	ND
Bromomethane	500	ND	Trichloroethene	250	130 J
Carbon disulfide	250	ND	Vinyl acetate	500	ND
			Vinylchloride	500	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	99
Toluene-d8	50	(88-110)	96
Bromofluorobenzene	50	(86-115)	104

Method Blank ID: 2215V.WBLK1 LCS ID: 2215V.WLCS1 MS ID: 2216.01MS MSD ID: 2216.01MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TZCHNOLOGIES INC.	Client Sample ID:	LH18&24-MW10-1001	Date Sampled:	04/08/94
Project Name:	LHAAP	PDP Sample ID:	2216.07	Date Received:	04/11/94
Project No.:	2379	Report No.:	B8658	Date Reported:	04/28/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	50.00	GC/MS File ID:	B8658
Sample Volume:	5.0 ml	Date Analyzed:	04/21/94
Dilution:	50.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	250	ND	Carbon tetrachloride	250	ND
1,1,2,2-Tetrachloroethane	250	ND	Chlorobenzene	250	ND
1,1,2-Trichloroethane	250	ND	Chloroethane	500	ND
1,1-Dichloroethane	250	ND	Chloroform	250	ND
1,1-Dichloroethene	250	ND	Chloromethane	500	ND
1,2-Dichloroethane	250	ND	Cis-1,3-Dichloropropene	250	ND
1,2-Dichloropropane	250	ND	Dibromochloromethane	250	ND
2-Butanone	500	ND	Ethylbenzene	250	ND
2-Chloroethyl vinyl ether	500	ND	Methylene chloride	250	2100 B
2-Hexanone	500	ND	Styrene	250	ND
4-Methyl-2-pentanone	500	ND	Tetrachloroethene	250	ND
Acetone	500	ND	Toluene	250	ND
Benzene	250	ND	Total xylenes	250	ND
Bromodichloromethane	250	ND	Total-1,2-Dichloroethene	250	ND
Bromoform	250	ND	Trans-1,3-Dichloropropene	250	ND
Bromomethane	500	ND	Trichloroethene	250	ND
Carbon disulfide	250	ND	Vinyl acetate	500	ND
			Vinylchloride	500	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	100
Toluene-d8	50	(88-110)	93
Bromofluorobenzene	50	(86-115)	105

Method Blank ID: 2215V.WBLK1 LCS ID: 2215V.WLCS1 MS ID: 2216.01MS MSD ID: 2216.01MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES INC.	Client Sample ID:	LH18&24-XXX-TB	Date Sampled:	04/08/94
Project Name:	LHAAP	PDP Sample ID:	2216.08	Date Received:	04/11/94
Project No.:	2379	Report No.:	B8651	Date Reported:	04/28/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8651
Sample Volume:	5.0 ml	Date Analyzed:	04/20/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	7 B
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	ND
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	98
Toluene-d8	50	(88-110)	93
Bromofluorobenzene	50	(86-115)	103

Method Blank ID: 2215V.WBLK1 LCS ID: 2215V.WLCS1 MS ID: 2216.01MS MSD ID: 2216.01MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project Number: 2379

Client Sample ID: LH18&24-C4-1001
PDP Sample ID: 2216.01
Report Number: I21601

Date Sampled: 04-08-94
Date Received: 04-11-94
Date Reported: 05-02-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-15-94	04-20-94	0.1	ND	MBB
Antimony	SW-846 6010	04-15-94	04-20-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-21-94	04-27-94	0.01	ND	MBB
Barium	SW-846 6010	04-15-94	04-20-94	0.01	0.206	MBB
Beryllium	SW-846 6010	04-15-94	04-20-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-15-94	04-20-94	0.005	ND	MBB
Calcium	SW-846 6010	04-15-94	04-20-94	0.2	18.9	MBB
Chromium	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Cobalt	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Copper	SW-846 6010	04-15-94	04-20-94	0.02	ND	MBB
Iron	SW-846 6010	04-15-94	04-20-94	0.1	1.47	MBB
Lead	SW-846 7421	04-21-94	04-28-94	0.005	ND	MBB
Magnesium	SW-846 6010	04-15-94	04-20-94	0.2	4.1	MBB
Manganese	SW-846 6010	04-15-94	04-20-94	0.01	0.211	MBB
Mercury	SW-846 7470	04-18-94	04-20-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-15-94	04-20-94	0.04	ND	MBB
Potassium	SW-846 6010	04-15-94	04-20-94	5	ND	MBB
Selenium	SW-846 7740	04-21-94	04-26-94	0.005	ND	MBB
Silver	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Sodium	SW-846 6010	04-15-94	04-20-94	0.5	19.9	MBB
Thallium	SW-846 7841	04-21-94	04-28-94	0.005	ND	MBB
Vanadium	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Zinc	SW-846 6010	04-15-94	04-20-94	0.02	0.052	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP Method Blank ID: 2216.PBW1
GFAA Method Blank ID: 2216.PBW1
CVAA Method Blank ID: 2209.PBW1

ICP LCS ID: 2216.LCSW1
GFAA LCS ID: 2216.LCSW1
CVAA LCS ID: 2209.LCSW1

ICP LCSD ID: 2216.LCSW2
GFAA LCSD ID: 2216.LCSW2
CVAA LCSD ID: 2209.LCSW2

ICP MS ID: 2219.01MS
GFAA MS ID: 2219.01MS
CVAA MS ID: 2219.01MS

ICP MSD ID: 2219.01MSD
GFAA MSD ID: 2219.01MSD
CVAA MSD ID: 2219.01MSD

PDP ANALYTICAL SERVICES
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LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project Number: 2379

Client Sample ID: LH18&24-MW7-1001
PDP Sample ID: 2216.02
Report Number: I21602

Date Sampled: 04-08-94
Date Received: 04-11-94
Date Reported: 05-02-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-15-94	04-20-94	0.1	ND	MBB
Antimony	SW-846 6010	04-15-94	04-20-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-21-94	04-27-94	0.01	ND	MBB
Barium	SW-846 6010	04-15-94	04-20-94	0.01	0.128	MBB
Beryllium	SW-846 6010	04-15-94	04-20-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-15-94	04-20-94	0.005	ND	MBB
Calcium	SW-846 6010	04-15-94	04-20-94	0.2	20.6	MBB
Chromium	SW-846 6010	04-15-94	04-20-94	0.01	0.291	MBB
Cobalt	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Copper	SW-846 6010	04-15-94	04-20-94	0.02	ND	MBB
Iron	SW-846 6010	04-15-94	04-20-94	0.1	0.95	MBB
Lead	SW-846 7421	04-21-94	04-28-94	0.005	ND	MBB
Magnesium	SW-846 6010	04-15-94	04-20-94	0.2	15.3	MBB
Manganese	SW-846 6010	04-15-94	04-20-94	0.01	0.071	MBB
Mercury	SW-846 7470	04-18-94	04-20-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-15-94	04-20-94	0.04	0.29	MBB
Potassium	SW-846 6010	04-15-94	04-20-94	5	ND	MBB
Selenium	SW-846 7740	04-21-94	04-26-94	0.01	ND	MBB
Silver	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Sodium	SW-846 6010	04-15-94	04-20-94	0.5	332	MBB
Thallium	SW-846 7841	04-21-94	04-28-94	0.01	ND	MBB
Vanadium	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Zinc	SW-846 6010	04-15-94	04-20-94	0.02	ND	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP LCS ID: 2216.LCSW1
GFAA LCS ID: 2216.LCSW1
CVAA LCS ID: 2209.LCSW1

ICP MS ID: 2219.01MS
GFAA MS ID: 2219.01MS
CVAA MS ID: 2219.01MS

ICP Method Blank ID: 2216.PBW1
GFAA Method Blank ID: 2216.PBW1
CVAA Method Blank ID: 2209.PBW1

ICP LCSD ID: 2216.LCSW2
GFAA LCSD ID: 2216.LCSW2
CVAA LCSD ID: 2209.LCSW2

ICP MSD ID: 2219.01MSD
GFAA MSD ID: 2219.01MSD
CVAA MSD ID: 2219.01MSD

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project Number: 2379

Client Sample ID: LH18&24-MW9-1001
PDP Sample ID: 2216.03
Report Number: I21603

Date Sampled: 04-08-94
Date Received: 04-11-94
Date Reported: 05-02-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-15-94	04-20-94	0.1	0.61	MBB
Antimony	SW-846 6010	04-15-94	04-20-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-21-94	04-27-94	0.005	ND	MBB
Barium	SW-846 6010	04-15-94	04-20-94	0.01	0.045	MBB
Beryllium	SW-846 6010	04-15-94	04-20-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-15-94	04-20-94	0.005	ND	MBB
Calcium	SW-846 6010	04-15-94	04-20-94	0.2	2.6	MBB
Chromium	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Cobalt	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Copper	SW-846 6010	04-15-94	04-20-94	0.02	ND	MBB
Iron	SW-846 6010	04-15-94	04-20-94	0.1	0.57	MBB
Lead	SW-846 7421	04-21-94	04-28-94	0.005	ND	MBB
Magnesium	SW-846 6010	04-15-94	04-20-94	0.2	1.3	MBB
Manganese	SW-846 6010	04-15-94	04-20-94	0.01	0.070	MBB
Mercury	SW-846 7470	04-18-94	04-20-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-15-94	04-20-94	0.04	ND	MBB
Potassium	SW-846 6010	04-15-94	04-20-94	5	ND	MBB
Selenium	SW-846 7740	04-21-94	04-26-94	0.01	ND	MBB
Silver	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Sodium	SW-846 6010	04-15-94	04-20-94	0.5	15.0	MBB
Thallium	SW-846 7841	04-21-94	04-28-94	0.005	ND	MBB
Vanadium	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Zinc	SW-846 6010	04-15-94	04-20-94	0.02	ND	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP Method Blank ID: 2216.PBW1
GFAA Method Blank ID: 2216.PBW1
CVAA Method Blank ID: 2209.PBW1

ICP LCS ID: 2216.LCSW1
GFAA LCS ID: 2216.LCSW1
CVAA LCS ID: 2209.LCSW1

ICP LCSD ID: 2216.LCSW2
GFAA LCSD ID: 2216.LCSW2
CVAA LCSD ID: 2209.LCSW2

ICP MS ID: 2219.01MS
GFAA MS ID: 2219.01MS
CVAA MS ID: 2219.01MS

ICP MSD ID: 2219.01MSD
GFAA MSD ID: 2219.01MSD
CVAA MSD ID: 2219.01MSD

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project Number: 2379

Client Sample ID: LH18&24-MW8-1001
PDP Sample ID: 2216.04
Report Number: I21604

Date Sampled: 04-08-94
Date Received: 04-11-94
Date Reported: 05-02-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-15-94	04-20-94	0.1	ND	MBB
Antimony	SW-846 6010	04-15-94	04-20-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-21-94	04-27-94	0.005	ND	MBB
Barium	SW-846 6010	04-15-94	04-20-94	0.01	0.222	MBB
Beryllium	SW-846 6010	04-15-94	04-20-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-15-94	04-20-94	0.005	ND	MBB
Calcium	SW-846 6010	04-15-94	04-20-94	0.2	7.6	MBB
Chromium	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Cobalt	SW-846 6010	04-15-94	04-20-94	0.01	0.010	MBB
Copper	SW-846 6010	04-15-94	04-20-94	0.02	ND	MBB
Iron	SW-846 6010	04-15-94	04-20-94	0.1	ND	MBB
Lead	SW-846 7421	04-21-94	04-28-94	0.005	ND	MBB
Magnesium	SW-846 6010	04-15-94	04-20-94	0.2	6.2	MBB
Manganese	SW-846 6010	04-15-94	04-20-94	0.01	0.107	MBB
Mercury	SW-846 7470	04-18-94	04-20-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-15-94	04-20-94	0.04	ND	MBB
Potassium	SW-846 6010	04-15-94	04-20-94	5	ND	MBB
Selenium	SW-846 7740	04-21-94	04-26-94	0.01	ND	MBB
Silver	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Sodium	SW-846 6010	04-15-94	04-20-94	0.5	97.3	MBB
Thallium	SW-846 7841	04-21-94	04-28-94	0.005	ND	MBB
Vanadium	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Zinc	SW-846 6010	04-15-94	04-20-94	0.02	ND	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP Method Blank ID: 2216.PBW1
GFAA Method Blank ID: 2216.PBW1
CVAA Method Blank ID: 2209.PBW1

ICP LCS ID: 2216.LCSW1
GFAA LCS ID: 2216.LCSW1
CVAA LCS ID: 2209.LCSW1

ICP LCSD ID: 2216.LCSW2
GFAA LCSD ID: 2216.LCSW2
CVAA LCSD ID: 2209.LCSW2

ICP MS ID: 2219.01MS
GFAA MS ID: 2219.01MS
CVAA MS ID: 2219.01MS

ICP MSD ID: 2219.01MSD
GFAA MSD ID: 2219.01MSD
CVAA MSD ID: 2219.01MSD

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project Number: 2379

Client Sample ID: LH18&24-C4A-1001
PDP Sample ID: 2216.05
Report Number: I21605

Date Sampled: 04-08-94
Date Received: 04-11-94
Date Reported: 05-02-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/l

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-15-94	04-20-94	0.1	ND	MBB
Antimony	SW-846 6010	04-15-94	04-20-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-21-94	04-27-94	0.005	ND	MBB
Barium	SW-846 6010	04-15-94	04-20-94	0.01	0.101	MBB
Beryllium	SW-846 6010	04-15-94	04-20-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-15-94	04-20-94	0.005	ND	MBB
Calcium	SW-846 6010	04-15-94	04-20-94	0.2	14.8	MBB
Chromium	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Cobalt	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Copper	SW-846 6010	04-15-94	04-20-94	0.02	ND	MBB
Iron	SW-846 6010	04-15-94	04-20-94	0.1	4.1	MBB
Lead	SW-846 7421	04-21-94	04-28-94	0.005	ND	MBB
Magnesium	SW-846 6010	04-15-94	04-20-94	0.2	2.8	MBB
Manganese	SW-846 6010	04-15-94	04-20-94	0.01	0.173	MBB
Mercury	SW-846 7470	04-18-94	04-20-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-15-94	04-20-94	0.04	ND	MBB
Potassium	SW-846 6010	04-15-94	04-20-94	5	ND	MBB
Selenium	SW-846 7740	04-21-94	04-26-94	0.01	ND	MBB
Silver	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Sodium	SW-846 6010	04-15-94	04-20-94	0.5	86.8	MBB
Thallium	SW-846 7841	04-21-94	04-28-94	0.005	ND	MBB
Vanadium	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Zinc	SW-846 6010	04-15-94	04-20-94	0.02	0.079	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP Method Blank ID: 2216.PBW1
GFAA Method Blank ID: 2216.PBW1
CVAA Method Blank ID: 2209.PBW1

ICP LCS ID: 2216.LCSW1
GFAA LCS ID: 2216.LCSW1
CVAA LCS ID: 2209.LCSW1

ICP LCSD ID: 2216.LCSW2
GFAA LCSD ID: 2216.LCSW2
CVAA LCSD ID: 2209.LCSW2

ICP MS ID: 2219.01MS
GFAA MS ID: 2219.01MS
CVAA MS ID: 2219.01MS

ICP MSD ID: 2219.01MSD
GFAA MSD ID: 2219.01MSD
CVAA MSD ID: 2219.01MSD

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project Number: 2379

Client Sample ID: LH18&24-C5-1001
PDP Sample ID: 2216.06
Report Number: I21606

Date Sampled: 04-08-94
Date Received: 04-11-94
Date Reported: 05-02-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-15-94	04-20-94	0.1	ND	MBB
Antimony	SW-846 6010	04-15-94	04-20-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-21-94	04-27-94	0.005	ND	MBB
Barium	SW-846 6010	04-15-94	04-20-94	0.01	0.078	MBB
Beryllium	SW-846 6010	04-15-94	04-20-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-15-94	04-20-94	0.005	ND	MBB
Calcium	SW-846 6010	04-15-94	04-20-94	0.2	12.2	MBB
Chromium	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Cobalt	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Copper	SW-846 6010	04-15-94	04-20-94	0.02	ND	MBB
Iron	SW-846 6010	04-15-94	04-20-94	0.1	2.4	MBB
Lead	SW-846 7421	04-21-94	04-28-94	0.005	ND	MBB
Magnesium	SW-846 6010	04-15-94	04-20-94	0.2	2.9	MBB
Manganese	SW-846 6010	04-15-94	04-20-94	0.01	0.200	MBB
Mercury	SW-846 7470	04-18-94	04-20-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-15-94	04-20-94	0.04	ND	MBB
Potassium	SW-846 6010	04-15-94	04-20-94	5	ND	MBB
Selenium	SW-846 7740	04-21-94	04-26-94	0.01	ND	MBB
Silver	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Sodium	SW-846 6010	04-15-94	04-20-94	0.5	66.8	MBB
Thallium	SW-846 7841	04-21-94	04-28-94	0.005	ND	MBB
Vanadium	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Zinc	SW-846 6010	04-15-94	04-20-94	0.02	0.032	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP LCS ID: 2216.LCSW1
GFAA LCS ID: 2216.LCSW1
CVAA LCS ID: 2209.LCSW1

ICP MS ID: 2219.01MS
GFAA MS ID: 2219.01MS
CVAA MS ID: 2219.01MS

ICP Method Blank ID: 2216.PBW1
GFAA Method Blank ID: 2216.PBW1
CVAA Method Blank ID: 2209.PBW1

ICP LCSD ID: 2216.LCSW2
GFAA LCSD ID: 2216.LCSW2
CVAA LCSD ID: 2209.LCSW2

ICP MSD ID: 2219.01MSD
GFAA MSD ID: 2219.01MSD
CVAA MSD ID: 2219.01MSD

011120

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project Number: 2379

Client Sample ID: LH18&24-MW10-1001
PDP Sample ID: 2216.07
Report Number: I21607

Date Sampled: 04-08-94
Date Received: 04-11-94
Date Reported: 05-02-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-15-94	04-20-94	0.1	ND	MBB
Antimony	SW-846 6010	04-15-94	04-20-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-21-94	04-27-94	0.005	ND	MBB
Barium	SW-846 6010	04-15-94	04-20-94	0.01	0.658	MBB
Beryllium	SW-846 6010	04-15-94	04-20-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-15-94	04-20-94	0.005	ND	MBB
Calcium	SW-846 6010	04-15-94	04-20-94	0.2	24.7	MBB
Chromium	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Cobalt	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Copper	SW-846 6010	04-15-94	04-20-94	0.02	ND	MBB
Iron	SW-846 6010	04-15-94	04-20-94	0.1	54.8	MBB
'ead	SW-846 7421	04-21-94	04-28-94	0.005	ND	MBB
.agnesium	SW-846 6010	04-15-94	04-20-94	0.2	14.0	MBB
Manganese	SW-846 6010	04-15-94	04-20-94	0.01	1.23	MBB
Mercury	SW-846 7470	04-18-94	04-20-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-15-94	04-20-94	0.04	ND	MBB
Potassium	SW-846 6010	04-15-94	04-20-94	5	ND	MBB
Selenium	SW-846 7740	04-21-94	04-26-94	0.01	ND	MBB
Silver	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Sodium	SW-846 6010	04-15-94	04-20-94	0.5	106	MBB
Thallium	SW-846 7841	04-21-94	04-28-94	0.005	ND	MBB
Vanadium	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Zinc	SW-846 6010	04-15-94	04-20-94	0.02	0.020	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP LCS ID: 2216.LCSW1
GFAA LCS ID: 2216.LCSW1
CVAA LCS ID: 2209.LCSW1

ICP MS ID: 2219.01MS
GFAA MS ID: 2219.01MS
CVAA MS ID: 2219.01MS

ICP Method Blank ID: 2216.PBW1
GFAA Method Blank ID: 2216.PBW1
CVAA Method Blank ID: 2209.PBW1

ICP LCSD ID: 2216.LCSW2
GFAA LCSD ID: 2216.LCSW2
CVAA LCSD ID: 2209.LCSW2

ICP MSD ID: 2219.01MSD
GFAA MSD ID: 2219.01MSD
CVAA MSD ID: 2219.01MSD

000023A

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas; 77386 (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project No.: 2375

Date Reported: 05-03-94
Report No.: I216CL
Analyst: HM

WET CHEMISTRY PARAMETER: Chloride

Method Reference: EPA 325.3

UNITS: mg/L

PDP LABORATORY ID	CLIENT ID	MATRIX	DATE SAMPLED	DATE RECEIVED	DATE ANALYZED	QUANT LIMIT	RESULT	SPIKE ADDED OR TRUE VALUE	RELATIVE PERCENT DIFF(20)	PERCENT RECOVERY (75-125)
2216.01	LH18&24-C4-1001	WATER	04-08-94	04-11-94	04-11-94	2	53			
2216.02	LH18&24-MW7-1001	WATER	04-08-94	04-11-94	04-11-94	2	436			
2216.03	LH18&24-MW9-1001	WATER	04-08-94	04-11-94	04-11-94	2	14			
2216.04	LH18&24-MW8-1001	WATER	04-08-94	04-11-94	04-11-94	2	167			
2216.05	LH18&24-C4A-1001	WATER	04-08-94	04-11-94	04-11-94	2	78			
2216.06	LH18&24-C5-1001	WATER	04-08-94	04-11-94	04-11-94	2	57			
2216.07	LH18&24-MW10-1001	WATER	04-08-94	04-11-94	04-11-94	2	316			
			QUALITY ASSURANCE/QUALITY CONTROL							
2215.PB1	PREPARATION BLANK	NA	NA	NA	04-11-94	2	ND			
2215.LCS1	LAB CONTROL STD	NA	NA	NA	04-11-94	2	142	125		114
2215.LCS2	LAB CONTROL STD	NA	NA	NA	04-11-94	2	142	125	0.0	114
2215.01	SAMPLE	NA	NA	NA	04-11-94	2	128			
2215.01MS	MATRIX SPIKE	NA	NA	NA	04-11-94	2	149	17.7		119
2215.01MSD	MATRIX SPIKE DUP	NA	NA	NA	04-11-94	2	149	17.7	0.0	119

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas; 77386 (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project No.: 2379

Date Reported: 05-03-94
Report No.: I216S04
Analyst: HM

WET CHEMISTRY PARAMETER: Sulfate

Method Reference: EPA 375.4 UNITS: mg/L

PDP LABORATORY ID	CLIENT ID	MATRIX	DATE SAMPLED	DATE RECEIVED	DATE ANALYZED	QUANT LIMIT	RESULT	SPIKE ADDED OR TRUE VALUE	RELATIVE PERCENT DIFF(20)	PERCENT RECOVERY (75-125)
2216.01	LH18&24-C4-1001	WATER	04-08-94	04-11-94	04-20-94	5	ND			
2216.02	LH18&24-MW7-1001	WATER	04-08-94	04-11-94	04-20-94	5	70			
2216.03	LH18&24-MW9-1001	WATER	04-08-94	04-11-94	04-20-94	5	18			
2216.04	LH18&24-MW8-1001	WATER	04-08-94	04-11-94	04-20-94	5	32			
2216.05	LH18&24-C4A-1001	WATER	04-08-94	04-11-94	04-20-94	5	10			
2216.06	LH18&24-C5-1001	WATER	04-08-94	04-11-94	04-20-94	5	16			
2216.07	LH18&24-MW10-1001	WATER	04-08-94	04-11-94	04-20-94	5	28			
			QUALITY ASSURANCE/QUALITY CONTROL							
2210.PB1	PREPARATION BLANK	NA	NA	NA	04-20-94	5	ND			
2210.LCS1	LAB CONTROL STD	NA	NA	NA	04-20-94	5	138	151		91
2210.LCS2	LAB CONTROL STD	NA	NA	NA	04-20-94	5	131	151	5.2	87
2215.01	SAMPLE	NA	NA	NA	04-20-94	5	ND			
2215.01MS	MATRIX SPIKE	NA	NA	NA	04-20-94	5	12	10		120
2215.01MSD	MATRIX SPIKE DUP	NA	NA	NA	04-20-94	5	12	10	0.0	120

APPENDIX B
SUPPORT DOCUMENTATION

011124

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES INC. Client Sample ID:LH18&24-XXX-TB Date Sampled: 04/08/94
Project Name: LHAAP PDP Sample ID: 2216.08 Date Received: 04/11/94
Project No.: 2379 Report No.: B8651 Date Reported: 04/28/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix: WATER Method Ref.: SW846-8240
Multiplying Factor: 1.00 GC/MS File ID: B8651
Sample Volume: 5.0 ml Date Analyzed: 04/20/94
Dilution: 1.0 Analyst: MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	7 B
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	ND
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	98
Toluene-d8	50	(88-110)	93
Bromofluorobenzene	50	(86-115)	103

Method Blank ID: 2215V.WBLK1 LCS ID: 2215V.WLCS1 MS ID: 2216.01MS MSD ID: 2216.01MSD DUP ID: NA

- blank contam.

000016

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	NA	Client Sample ID:	NA	Date Sampled:	NA
Project Name:	NA	PDP Sample ID:	2215V.WBLK1(METHOD BLANK)	Date Received:	NA
Project No.:	NA	Report No.:	B8642	Date Reported:	04/28/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8642
Sample Volume:	5.0 ml	Date Analyzed:	04/20/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	10
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	ND
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	90
Toluene-d8	50	(88-110)	88
Bromofluorobenzene	50	(86-115)	99

Method Blank ID: NA LCS ID: NA MS ID: NA MSD ID: NA DUP ID: NA

— blank contam.

011126

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	NA	Client Sample ID:	NA	Date Sampled:	NA
Project Name:	NA	PDP Sample ID:	2215V.WBLK2(METHOD BLANK)	Date Received:	NA
Project No.:	NA	Report No.:	M8666	Date Reported:	04/26/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	M8666
Sample Volume:	5.0 ml	Date Analyzed:	04/21/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	18
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	ND
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	94
Toluene-d8	50	(88-110)	92
Bromofluorobenzene	50	(86-115)	104

Method Blank ID: NA LCS ID: NA MS ID: NA MSD ID: NA DUP ID: NA

- blank contam.

000029A

011127

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: NA
Project Name: NA
Project Number: NA

PDP MS ID: 2219.01MS
PDP MSD ID: 2219.01MSD
Report Number: I219MS01

Date Sampled: NA
Date Received: NA
Date Reported: 05-02-94

TOTAL METALS (MATRIX SPIKE AND MATRIX SPIKE DUPLICATE)

Sample Matrix: WATER

Units: mg/L

ELEMENT	METHOD	DATE PREPARED	DATE ANALYZED	SAMPLE VALUE	SPIKE ADDED	MATRIX SPIKE VALUE	PERCENT RECOVERY (75-125)	MATRIX SPIKE DUP VALUE	PERCENT RECOVERY (75-125)	RPD (20)
Aluminum	SW-846 6010	04-15-94	04-20-94	ND	2.00	1.86	93	1.84	92	1.1
Antimony	SW-846 6010	04-15-94	04-20-94	ND	0.50	0.52	104	0.51	102	1.9
Arsenic	SW-846 7060	04-21-94	04-27-94	ND	0.040	0.045	113	0.042	105	6.9
Barium	SW-846 6010	04-15-94	04-20-94	3.68	2.00	5.61	96	5.63	98	0.4
Beryllium	SW-846 6010	04-15-94	04-20-94	ND	0.050	0.047	94	0.047	94	0.0
Cadmium	SW-846 6010	04-15-94	04-20-94	ND	0.050	0.048	96	0.049	98	2.1
Calcium	SW-846 6010	04-15-94	04-20-94	96.4	NA	NA	NA	NA	NA	NA
Chromium	SW-846 6010	04-15-94	04-20-94	ND	0.20	0.19	95	0.19	95	0.0
Cobalt	SW-846 6010	04-15-94	04-20-94	0.020	0.50	0.49	94	0.50	96	2.0
Copper	SW-846 6010	04-15-94	04-20-94	ND	0.25	0.24	96	0.24	96	0.0
Iron	SW-846 6010	04-15-94	04-20-94	ND	1.00	0.96	96	0.96	96	0.0
Lead	SW-846 7421	04-21-94	04-28-94	ND	0.020	0.021	105	0.023	115	9.1
Magnesium	SW-846 6010	04-15-94	04-20-94	80.8	NA	NA	NA	NA	NA	NA
Manganese	SW-846 6010	04-15-94	04-20-94	0.966	0.50	1.45	97	1.46	99	0.7
Mercury	SW-846 7470	04-18-94	04-20-94	ND	0.0010	0.0011	110	0.0011	110	0.0
Nickel	SW-846 6010	04-15-94	04-20-94	ND	0.50	0.48	96	0.49	98	2.1
Potassium	SW-846 6010	04-15-94	04-20-94	ND	NA	NA	NA	NA	NA	NA
Selenium	SW-846 7740	04-21-94	04-26-94	ND	0.010	0.003	30*	0.003	30*	0.0
Silver	SW-846 6010	04-15-94	04-20-94	ND	0.050	0.047	94	0.047	94	0.0
Sodium	SW-846 6010	04-15-94	04-20-94	297	NA	NA	NA	NA	NA	NA
Thallium	SW-846 7841	04-21-94	04-28-94	ND	0.050	0.007	14*	0.010	20*	35*
Vanadium	SW-846 6010	04-15-94	04-20-94	ND	0.50	0.47	94	0.48	96	2.1
Zinc	SW-846 6010	04-15-94	04-20-94	ND	0.50	0.49	98	0.50	100	2.0

QUALITY ASSURANCE/QUALITY CONTROL

Method Blank ID: NA

LCS ID: NA

LCSD ID: NA

000040

PDP ANALYTICAL SERVICES

24900 Pitkin Drive, Suite 300 • Spring, Texas 77386 • Phone (713)363-2233

Client: AWD TECHNOLOGIES, INC. Episode No.: 2216	Project Name: LHAAP Project No.: 2379

CASE NARRATIVE

Eight water samples were received for analysis on 04/11/94. Extractions and analyses were performed within holding times.

All batch quality control (QC) results (Duplicates, Matrix Spikes, Matrix Spike Duplicates) are included in this data package. Batch QC may or may not have been performed on your samples. If it was, the QC reports will reference our internal sample identification.

VOLATILES:

Sample "LH18&24-MW7-1001" required a 1:100 dilution to get all compounds within the calibration range. JJS 8/19/94

TOTAL METALS:

Dilutions performed because of low recoveries of post-digest spike additions caused the reporting limit for some metals analyzed by graphite furnace atomic absorption to be elevated.

Low matrix spike recovery in both the matrix spike and matrix spike duplicate was observed for total selenium and thallium.

GENERAL CHEMISTRY:

No problems were encountered.

transcription error

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	NA	Date Received:	NA
Project Name:	NA	Date Reported:	04/29/94
Project No.:	NA	Report No.:	B8674?QC

GC/MS-VOLATILES (MATRIX SPIKE AND MATRIX SPIKE DUPLICATE RECOVERY SUMMARY)

Method Ref.:	SW846-8240	Sample Matrix:	WATER	Analyst:	MA
SAMPLE		**MATRIX SPIKE**		**MATRIX SPIKE DUPLICATE**	
PDP Sample ID:	2216.01	MS Sample ID:	2216.01MS	MSD Sample ID:	2216.01MSD
Date Analyzed:	04/21/94	Date Analyzed:	04/21/94	Date Analyzed:	04/21/94
GC/MS File ID:	B8673	GC/MS File ID:	B8674	GC/MS File ID:	B8675

MATRIX SPIKE

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC.	QC LIMITS REC.
1,1,-Dichloroethene	500	ND	620	124	(61-145)
Benzene	500	ND	570	~~120~~ 114	(76-127)
Chlorobenzene	500	ND	540	108	(75-130)
Toluene	500	ND	560	112	(76-125)
Trichloroethene	500	60	555	99	(71-120)

MATRIX SPIKE DUPLICATE

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC.	RPD	QC LIMITS RPD.	QC LIMITS REC.
1,1,-Dichloroethene	500	ND	630	126	1.6	14	(61-145)
Benzene	500	ND	600	120	~~0.0~~ 5.1	11	(76-127)
Chlorobenzene	500	ND	555	~~110~~ 111	~~1.8~~ 2.7	13	(75-130)
Toluene	500	ND	570	114	1.8	13	(76-125)
Trichloroethene	500	60	565	101	2.0	14	(71-120)

* = Values outside of QC limits

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

all calculation errors corrected by JJS on 8/19/94

011130

FINAL

CHEMICAL DATA QA/QC REPORT
INTERIM REMEDIAL ACTION
BURNING GROUND 3 AND
UNLINED EVAPORATION POND
LHAAP UNITS 18 AND 24
LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

PREPARED FOR

UNITED STATES ARMY CORPS OF ENGINEERS
TULSA DISTRICT

PREPARED BY

AWD TECHNOLOGIES, INC.
ROCKVILLE, MARYLAND

PDP ANALYTICAL SERVICES -- Episode 2219

AUGUST 31, 1994
USACE CONTRACT DACA56-93-D-0016
DELIVERY ORDER 0002
AWD PROJECT 2379

LONGHORN ARMY AMMUNITION PLANT, TEXAS
BURNING GROUND 3 AND UNLINED EVAPORATION POND
INTERIM REMEDIAL ACTION
PDP Analytical Services -- Episode 2219

1.0 Discussion.

This set of samples was collected from the Burning Ground 3 and the Unlined Evaporation Pond areas of the Longhorn Army Ammunition Plant in Karnack, Texas on April 11, 1994 as part of the Interim Remedial Action Investigation. The sampling activity was conducted by AWD Technologies, Inc. (AWD) for the U.S. Army Corps of Engineers (COE), Tulsa District. After collection, the samples were sent to the PDP Analytical Services laboratory in Spring, Texas and were placed under Episode Number 2219. Included in this work order are three (3) groundwater samples, including one (1) field duplicate pair, and one (1) trip blank.

Groundwater Samples

LH18/24-MW2-1001
LH18/24-MW2-1001-QC
LH18/24-MW3-1001

Field Duplicate

LH18/24-MW2-1001-QC is a field duplicate of LH18/24-MW2-1001.

Trip Blank

LH18/24-XXX-TB

All samples, except the trip blank, were analyzed for volatile organic chemicals (VOCs), target analyte list (TAL) metals, chloride, nitrate as nitrogen, and sulfate. The trip blank was only analyzed for VOCs. All VOC and metals analyses were performed by U.S. EPA SW-846 methodologies: 8240 and 6000/7000 series, respectively. The chloride, nitrate, and sulfate analyses were performed according to U.S. EPA Methods 325.3, 352.1, and 375.4, respectively.

Since the laboratory did not supply any of the analytical raw data in the deliverable package, data validation has been performed on the limited basis of examining QA/QC summary reports.

Other than the thallium results that were rejected, "R", all compounds and analytes were successfully analyzed in all samples. The organic analytical data were evaluated by the following quality assurance/quality control (QA/QC) parameters where applicable: technical holding times and preservation, system monitoring compound/surrogate spike recoveries, method blanks, matrix spike/matrix spike duplicates (MS/MSDs), laboratory control samples, field QC, and transcription. The inorganic analytical data were evaluated by the following QA/QC parameters where applicable: technical holding times and preservation, laboratory blanks, matrix spike recoveries, laboratory duplicates, laboratory control samples, field QC, and transcription. Validated sample analysis results are listed on the attached data summary forms. Areas of concern with respect to data quality and usability are discussed below.

2.0 Volatiles.

2.1 Accuracy. All surrogate, laboratory control sample (LCS), and MS/MSD percent recoveries were within acceptable control limits.

The methylene chloride results in all three groundwater samples, as well as the trichloroethene concentrations in both samples of the field duplicate pair, have been qualified as estimated, "J", because they exceeded the calibration range. These results were all reported from the undiluted analyses because they would have been qualified as non-detects in the diluted analyses due to blank contamination. Although these values are high enough in the original analyses that they appear to be "real" or site-related concentrations, the data user should exercise caution when utilizing these results.

2.2 Precision. The relative percent differences (RPDs) reported for the MS/MSD data were all within acceptable quality control limits.

2.3 Representativeness. All samples were properly preserved and were received in good condition by the laboratory.

All samples were analyzed within the appropriate holding time.

There was methylene chloride and trichloroethene contamination found in the method and trip blanks. However, the associated sample results were unaffected, since they are all greater than ten (10) times the highest amount of methylene chloride contamination and greater than five (5) times the amount of trichloroethene contamination in the trip blank, respectively.

All compounds in the field duplicate pair were found to be comparable.

3.0 Anions.

Chloride, nitrate as nitrogen, and sulfate were all analyzed as anions by the aforementioned wet chemistry methods.

3.1 Accuracy. The laboratory control sample and matrix spike percent recoveries were all within acceptable quality control limits for all three parameters.

3.2 Precision. The LCS and sample duplicate RPDs were all within the acceptable control limit of 20 percent.

3.3 Representativeness. All samples were properly preserved and were received in good condition. All blanks were free of target analyte contamination and all samples were analyzed within acceptable holding times.

All three anions in the field duplicate pair were found to be comparable.

4.0 TAL Metals.

4.1 Accuracy. All laboratory control sample and matrix spike percent recoveries were within acceptable quality control limits, except for the selenium and thallium MS/MSD recoveries. The selenium MS/MSD spikes were both recovered at 30 percent. As a result, all sample values reported for this metal have been qualified as estimated, "UJ", and should be considered biased low since they are all non-detects. The thallium MS/MSD recoveries, on the other hand, were both less than 30 percent, so all associated sample data have been rejected, "R", and should be considered unusable, as they are all non-detects.

4.2 Precision. All laboratory control sample/laboratory control sample duplicate (LCS/LCSD) and MS/MSD relative percent differences (RPDs) were within the acceptable quality control range, except for the thallium MS/MSD RPD, which exceeded the 20 percent limit. However, since all associated thallium data have already been rejected due to poor spike recoveries, no further action was necessary.

4.3 Representativeness. All samples were properly preserved and were received in good condition by the laboratory. All samples were prepared and analyzed within appropriate holding times and all blanks were free of target analyte contamination.

The field duplicate pair was found to be comparable for all metals analyzed, except for zinc.

	LH18/24-MW2-1001	LH18/24-MW2-1001-QC	Control Limit
Zinc	Non-detect	0.076 mg/L	±0.04 mg/L

As a result, the positive and non-detect concentrations of zinc in this pair have been qualified as estimated, "J" and "UJ", respectively.

5.0 Notes.

The laboratory reports positive organic results that are below the quantitation limits but above the instrument detection limits (IDLs) as estimated, "J", since there is an unacceptable level of confidence in the detection and accurate reporting of concentrations less than the quantitation limits.

There were no tentatively identified compounds (TICs) reported by the laboratory for the volatile fraction of any sample.

The criteria used to evaluate the field duplicate data was a control of plus or minus two (2) times the reporting limit when one or both compounds or analytes of the duplicate pair were less than five (5) times the reporting limit or an upper bound of 35 percent RPD when both compounds or analytes of the pair were greater than or equal to five (5) times the reporting limit.

Please note that all transcription/calculation errors found have been corrected in the support documentation of this report.

6.0 Conclusion.

These data were reviewed according to the U.S. EPA's National Functional Guidelines for Organic Data Review (June, 1991), the U.S. EPA's Laboratory Data Validation Functional Guidelines for Evaluating Inorganics Analyses (July, 1988), and with reference to method requirements. The results are presented in the data summary of this report and should be accepted as qualified. With the exception of the values that have been rejected, all results and data meet the requirements of the data quality objective (DQO) for this site and are deemed acceptable and valid for the intended use.

7.0 Information Regarding Report Content.

Attachments:

1. Glossary of data qualifier codes.
2. Data Summary. This may include:
   a) All positive results with qualifier codes, if applicable;
   b) All unusable detection limits qualified with "R"; and
   c) All estimated detection limits qualified with "UJ".
3. Appendix A - Results as reported by the laboratory.
4. Appendix B - Support Documentation which includes details to support the statements made in this report.

GLOSSARY OF DATA QUALIFIER CODES

CODES RELATING TO IDENTIFICATION

(confidence concerning presence or absence of compounds)

U = Not detected. The associated number indicates approximate sample concentration necessary to be detected.

(NO CODE) = Confirmed identification.

R = Unreliable result. Analyte may or may not be present in the sample. Supporting data necessary to confirm result. The result is unusable.

CODES RELATED TO QUANTITATION

(can be used for positive results and sample quantitation limits)

J = Analyte present. Reported value may not be accurate or precise.

UJ = Not detected. Quantitation limit may be inaccurate or imprecise.

DATA SUMMARY

011138

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES	Client Sample ID:	LH18&24-MW2-1001	Date Sampled:	04/11/94
Project Name:	LHAAP	PDP Sample ID:	2219.01	Date Received:	04/12/94
Project No.:	2379	Report No.:	B8660	Date Reported:	04/29/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	50.00	GC/MS File ID:	B8660
Sample Volume:	5.0 ml	Date Analyzed:	04/21/94
Dilution:	50.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	250	ND	Carbon tetrachloride	250	ND
1,1,2,2-Tetrachloroethane	250	ND	Chlorobenzene	250	ND
1,1,2-Trichloroethane	250	183 J	Chloroethane	500	ND
1,1-Dichloroethane	250	310	Chloroform	250	1500
1,1-Dichloroethene	250	4700	Chloromethane	500	ND
1,2-Dichloroethane	250	ND	Cis-1,3-Dichloropropene	250	ND
1,2-Dichloropropane	250	ND	Dibromochloromethane	250	ND
-Butanone	500	ND	Ethylbenzene	250	ND
2-Chloroethyl vinyl ether	500	ND	Methylene chloride	250	846000 B J
2-Hexanone	500	ND	Styrene	250	ND
4-Methyl-2-pentanone	500	ND	Tetrachloroethene	250	ND
Acetone	500	3400	Toluene	250	ND
Benzene	250	ND	Total xylenes	250	ND
Bromodichloromethane	250	ND	Total-1,2-Dichloroethene	250	8200
Bromoform	250	ND	Trans-1,3-Dichloropropene	250	ND
Bromomethane	500	ND	Trichloroethene	250	248000 B J
Carbon disulfide	250	ND	Vinyl acetate	500	ND
			Vinylchloride	500	550

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	103
Toluene-d8	50	(88-110)	96
Bromofluorobenzene	50	(86-115)	110

Method Blank ID: 2215V.WBLK1 LCS ID: 2215V.WLCS1 MS ID: 2216.01MS MSD ID: 2216.01MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES	Client Sample ID:	LH18&24-MW2-1001QC	Date Sampled:	04/11/94
Project Name:	LHAAP	PDP Sample ID:	2219.02	Date Received:	04/12/94
Project No.:	2379	Report No.:	B8661	Date Reported:	04/29/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	50.00	GC/MS File ID:	B8661
Sample Volume:	5.0 ml	Date Analyzed:	04/21/94
Dilution:	50.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	250	ND	Carbon tetrachloride	250	ND
1,1,2,2-Tetrachloroethane	250	ND	Chlorobenzene	250	ND
1,1,2-Trichloroethane	250	170 J	Chloroethane	500	ND
1,1-Dichloroethane	250	310	Chloroform	250	1400
1,1-Dichloroethene	250	4700	Chloromethane	500	ND
1,2-Dichloroethane	250	ND	Cis-1,3-Dichloropropene	250	ND
1,2-Dichloropropane	250	ND	Dibromochloromethane	250	ND
2-Butanone	500	ND	Ethylbenzene	250	ND
2-Chloroethyl vinyl ether	500	ND	Methylene chloride	250	840000 ~~BE~~ J
2-Hexanone	500	ND	Styrene	250	ND
4-Methyl-2-pentanone	500	ND	Tetrachloroethene	250	160 J
Acetone	500	3700	Toluene	250	ND
Benzene	250	ND	Total xylenes	250	ND
Bromodichloromethane	250	ND	Total-1,2-Dichloroethene	250	8000
Bromoform	250	ND	Trans-1,3-Dichloropropene	250	ND
Bromomethane	500	ND	Trichloroethene	250	231000 ~~E~~ J
Carbon disulfide	250	ND	Vinyl acetate	500	ND
			Vinylchloride	500	560

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	101
Toluene-d8	50	(88-110)	98
Bromofluorobenzene	50	(86-115)	110

Method Blank ID: 2215V.WBLK1 LCS ID: 2215V.WLCS1 MS ID: 2216.01MS MSD ID: 2216.01MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES	Client Sample ID:	LH18&24-MW3-1001	Date Sampled:	04/11/94
Project Name:	LHAAP	PDP Sample ID:	2219.03	Date Received:	04/12/94
Project No.:	2379	Report No.:	B8662	Date Reported:	04/29/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	50.00	GC/MS File ID:	B8662
Sample Volume:	5.0 ml	Date Analyzed:	04/21/94
Dilution:	50.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	250	ND	Carbon tetrachloride	250	ND
1,1,2,2-Tetrachloroethane	250	ND	Chlorobenzene	250	ND
1,1,2-Trichloroethane	250	ND	Chloroethane	500	ND
1,1-Dichloroethane	250	ND	Chloroform	250	ND
1,1-Dichloroethene	250	ND	Chloromethane	500	ND
1,2-Dichloroethane	250	ND	Cis-1,3-Dichloropropene	250	ND
1,2-Dichloropropane	250	ND	Dibromochloromethane	250	ND
2-Butanone	500	ND	Ethylbenzene	250	ND
2-Chloroethyl vinyl ether	500	ND	Methylene chloride	250	108200 ~~BE~~ J
2-Hexanone	500	ND	Styrene	250	ND
4-Methyl-2-pentanone	500	ND	Tetrachloroethene	250	ND
Acetone	500	ND	Toluene	250	ND
Benzene	250	ND	Total xylenes	250	ND
Bromodichloromethane	250	ND	Total-1,2-Dichloroethene	250	ND
Bromoform	250	ND	Trans-1,3-Dichloropropene	250	ND
Bromomethane	500	ND	Trichloroethene	250	4500
Carbon disulfide	250	ND	Vinyl acetate	500	ND
			Vinylchloride	500	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	101
Toluene-d8	50	(88-110)	98
Bromofluorobenzene	50	(86-115)	110

Method Blank ID: 2215V.WBLK1 LCS ID: 2215V.WLCS1 MS ID: 2216.01MS MSD ID: 2216.01MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES	Client Sample ID:	LH18&24-XXX-TB	Date Sampled:	04/11/94
Project Name:	LHAAP	PDP Sample ID:	2219.04	Date Received:	04/12/94
Project No.:	2379	Report No.:	B8659	Date Reported:	04/29/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8659
Sample Volume:	5.0 ml	Date Analyzed:	04/21/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	57 B
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	5
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	100
Toluene-d8	50	(88-110)	93
Bromofluorobenzene	50	(86-115)	105

Method Blank ID: 2215V.WBLK1 LCS ID: 2215V.WLCS1 MS ID: 2216.01MS MSD ID: 2216.01MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project Number: 2379

Client Sample ID: LH18&24-MW2-1001
PDP Sample ID: 2219.01
Report Number: I21901

Date Sampled: 04-11-94
Date Received: 04-12-94
Date Reported: 05-02-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-15-94	04-20-94	0.1	ND	MBB
Antimony	SW-846 6010	04-15-94	04-20-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-21-94	04-27-94	0.005	ND	MBB
Barium	SW-846 6010	04-15-94	04-20-94	0.01	3.68	MBB
Beryllium	SW-846 6010	04-15-94	04-20-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-15-94	04-20-94	0.005	ND	MBB
Calcium	SW-846 6010	04-15-94	04-20-94	0.2	96.4	MBB
Chromium	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Cobalt	SW-846 6010	04-15-94	04-20-94	0.01	0.020	MBB
Copper	SW-846 6010	04-15-94	04-20-94	0.02	ND	MBB
Iron	SW-846 6010	04-15-94	04-20-94	0.1	ND	MBB
Lead	SW-846 7421	04-21-94	04-28-94	0.005	ND	MBB
Magnesium	SW-846 6010	04-15-94	04-20-94	0.2	80.8	MBB
Manganese	SW-846 6010	04-15-94	04-20-94	0.01	0.966	MBB
Mercury	SW-846 7470	04-18-94	04-20-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-15-94	04-20-94	0.04	ND	MBB
Potassium	SW-846 6010	04-15-94	04-20-94	5	ND	MBB
Selenium	SW-846 7740	04-21-94	04-26-94	0.005	ND UJ	MBB
Silver	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Sodium	SW-846 6010	04-15-94	04-20-94	0.5	297	MBB
Thallium	SW-846 7841	04-21-94	04-28-94	0.01	ND R	MBB
Vanadium	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Zinc	SW-846 6010	04-15-94	04-20-94	0.02	ND UJ	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP Method Blank ID: 2216.PBW1
GFAA Method Blank ID: 2216.PBW1
CVAA Method Blank ID: 2209.PBW1

ICP LCS ID: 2216.LCSW1
GFAA LCS ID: 2216.LCSW1
CVAA LCS ID: 2209.LCSW1

ICP LCSD ID: 2216.LCSW2
GFAA LCSD ID: 2216.LCSW2
CVAA LCSD ID: 2209.LCSW2

ICP MS ID: 2219.01MS
GFAA MS ID: 2219.01MS
CVAA MS ID: 2219.01MS

ICP MSD ID: 2219.01MSD
GFAA MSD ID: 2219.01MSD
CVAA MSD ID: 2219.01MSD

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project Number: 2379

Client Sample ID: LH18&24-MW2-1001-QC
PDP Sample ID: 2219.02
Report Number: I21902

Date Sampled: 04-11-94
Date Received: 04-12-94
Date Reported: 05-02-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-15-94	04-20-94	0.1	ND	MBB
Antimony	SW-846 6010	04-15-94	04-20-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-21-94	04-27-94	0.01	ND	MBB
Barium	SW-846 6010	04-15-94	04-20-94	0.01	3.74	MBB
Beryllium	SW-846 6010	04-15-94	04-20-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-15-94	04-20-94	0.005	ND	MBB
Calcium	SW-846 6010	04-15-94	04-20-94	0.2	98.7	MBB
Chromium	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Cobalt	SW-846 6010	04-15-94	04-20-94	0.01	0.022	MBB
Copper	SW-846 6010	04-15-94	04-20-94	0.02	ND	MBB
Iron	SW-846 6010	04-15-94	04-20-94	0.1	ND	MBB
Lead	SW-846 7421	04-21-94	04-28-94	0.005	ND	MBB
gnesium	SW-846 6010	04-15-94	04-20-94	0.2	82.4	MBB
anganese	SW-846 6010	04-15-94	04-20-94	0.01	0.983	MBB
Mercury	SW-846 7470	04-18-94	04-20-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-15-94	04-20-94	0.04	ND	MBB
Potassium	SW-846 6010	04-15-94	04-20-94	5	ND	MBB
Selenium	SW-846 7740	04-21-94	04-26-94	0.01	ND UJ	MBB
Silver	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Sodium	SW-846 6010	04-15-94	04-20-94	0.5	301	MBB
Thallium	SW-846 7841	04-21-94	04-28-94	0.005	ND R	MBB
Vanadium	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Zinc	SW-846 6010	04-15-94	04-20-94	0.02	0.076 J	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP LCS ID: 2216.LCSW1
GFAA LCS ID: 2216.LCSW1
CVAA LCS ID: 2209.LCSW1

ICP MS ID: 2219.01MS
GFAA MS ID: 2219.01MS
CVAA MS ID: 2219.01MS

ICP Method Blank ID: 2216.PBW1
GFAA Method Blank ID: 2216.PBW1
CVAA Method Blank ID: 2209.PBW1

ICP LCSD ID: 2216.LCSW2
GFAA LCSD ID: 2216.LCSW2
CVAA LCSD ID: 2209.LCSW2

ICP MSD ID: 2219.01MSD
GFAA MSD ID: 2219.01MSD
CVAA MSD ID: 2219.01MSD

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project Number: 2379

Client Sample ID: LH18&24-MW3-1001
PDP Sample ID: 2219.03
Report Number: I21903

Date Sampled: 04-11-94
Date Received: 04-12-94
Date Reported: 05-02-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-15-94	04-20-94	0.1	ND	MBB
Antimony	SW-846 6010	04-15-94	04-20-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-21-94	04-27-94	0.005	ND	MBB
Barium	SW-846 6010	04-15-94	04-20-94	0.01	1.71	MBB
Beryllium	SW-846 6010	04-15-94	04-20-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-15-94	04-20-94	0.005	ND	MBB
Calcium	SW-846 6010	04-15-94	04-20-94	0.2	37.6	MBB
Chromium	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Cobalt	SW-846 6010	04-15-94	04-20-94	0.01	0.018	MBB
Copper	SW-846 6010	04-15-94	04-20-94	0.02	ND	MBB
Iron	SW-846 6010	04-15-94	04-20-94	0.1	ND	MBB
Lead	SW-846 7421	04-21-94	04-28-94	0.005	ND	MBB
Magnesium	SW-846 6010	04-15-94	04-20-94	0.2	35.1	MBB
Manganese	SW-846 6010	04-15-94	04-20-94	0.01	5.14	MBB
Mercury	SW-846 7470	04-20-94	04-21-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-15-94	04-20-94	0.04	ND	MBB
Potassium	SW-846 6010	04-15-94	04-20-94	5	ND	MBB
Selenium	SW-846 7740	04-21-94	04-26-94	0.01	ND UJ	MBB
Silver	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Sodium	SW-846 6010	04-15-94	04-20-94	0.5	280	MBB
Thallium	SW-846 7841	04-21-94	04-28-94	0.01	ND R	MBB
Vanadium	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Zinc	SW-846 6010	04-15-94	04-20-94	0.02	ND	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP LCS ID: 2216.LCSW1
GFAA LCS ID: 2216.LCSW1
CVAA LCS ID: 2211.LCSW1

ICP MS ID: 2219.01MS
GFAA MS ID: 2219.01MS
CVAA MS ID: 2219.01MS

ICP Method Blank ID: 2216.PBW1
GFAA Method Blank ID: 2216.PBW1
CVAA Method Blank ID: 2211.PBW1

ICP LCSD ID: 2216.LCSW2
GFAA LCSD ID: 2216.LCSW2
CVAA LCSD ID: 2211.LCSW2

ICP MSD ID: 2219.01MSD
GFAA MSD ID: 2219.01MSD
CVAA MSD ID: 2219.01MSD

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas; 77386 (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project No.: 2379

Date Reported: 05-03-94
Report No.: I219CL
Analyst: HM

WET CHEMISTRY PARAMETER: Chloride

Method Reference: EPA 325.3

UNITS: mg/L

PDP LABORATORY ID	CLIENT ID	MATRIX	DATE SAMPLED	DATE RECEIVED	DATE ANALYZED	QUANT LIMIT	RESULT	SPIKE ADDED OR TRUE VALUE	RELATIVE PERCENT DIFF(20)	PERCENT RECOVERY (75-125)
2219.01	LH18&24-MW2-1001	WATER	04-11-94	04-12-94	04-21-94	2	790			
2219.02	LH18&24-MW2-1001-QC	WATER	04-11-94	04-12-94	04-21-94	2	744			
2219.03	LH18&24-MW3-1001	WATER	04-11-94	04-12-94	04-21-94	2	505			
			QUALITY ASSURANCE/QUALITY CONTROL							
2219.PB1	PREPARATION BLANK	NA	NA	NA	04-21-94	2	ND			
2219.LCS1	LAB CONTROL STD	NA	NA	NA	04-21-94	2	312	299		104
2219.LCS2	LAB CONTROL STD	NA	NA	NA	04-21-94	2	316	299	1.3	106
2224.01	SAMPLE	NA	NA	NA	04-21-94	2	310			
2224.01MS	MATRIX SPIKE	NA	NA	NA	04-21-94	2	815	443		114
2224.01MSD	MATRIX SPIKE DUP	NA	NA	NA	04-21-94	2	815	443	0.0	114

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas; 77386 (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES, INC
Project Name: LHAAP
Project No.: 2379

Date Reported: 04-20-94
Report No.: I219NC3
Analyst: HM

WET CHEMISTRY PARAMETER: Nitrate as N

Method Reference: EPA 352.1

UNITS: mg/L

PDP LABORATORY ID	CLIENT ID	MATRIX	DATE SAMPLED	DATE RECEIVED	DATE ANALYZED	QUANT LIMIT	RESULT	SPIKE ADDED OR TRUE VALUE	RELATIVE PERCENT DIFF(20)	PERCENT RECOVERY (75-125)
2219.01	LH18&24-MW2-1001	WATER	04-11-94	04-12-94	04-13-94	2.0	16.0			
2219.02	LH18&24-MW2-1001-QC	WATER	04-11-94	04-12-94	04-13-94	2.0	14.6			
2219.03	LH18&24-MW3-1001	WATER	04-11-94	04-12-94	04-13-94	0.1	0.1			
			QUALITY ASSURANCE/QUALITY CONTROL							
2215.PB1	PREPARATION BLANK	NA	NA	NA	04-13-94	0.1	ND			
2215.LCS1	LAB CONTROL STD	NA	NA	NA	04-13-94	0.1	0.41	0.40		102
2215.LCS2	LAB CONTROL STD	NA	NA	NA	04-13-94	0.1	0.40	0.40	2.5	100
2215.01	SAMPLE	NA	NA	NA	04-13-94	5.0	15.6			
2215.01MS	MATRIX SPIKE	NA	NA	NA	04-13-94	5.0	37.9	20.0		112
215.01MSD	MATRIX SPIKE DUP	NA	NA	NA	04-13-94	5.0	37.5	20.0	1.1	110

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PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas; 77386 (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project No.: 2379

Date Reported: 05-03-94
Report No.: I219S04
Analyst: HM

WET CHEMISTRY PARAMETER: Sulfate

Method Reference: EPA 375.4

UNITS: mg/L

PDP LABORATORY ID	CLIENT ID	MATRIX	DATE SAMPLED	DATE RECEIVED	DATE ANALYZED	QUANT LIMIT	RESULT	SPIKE ADDED OR TRUE VALUE	RELATIVE PERCENT DIFF(20)	PERCENT RECOVERY (75-125)
2219.01	LH18&24-MW2-1001	WATER	04-11-94	04-12-94	04-20-94	5	ND			
2219.02	LH18&24-MW2-1001-QC	WATER	04-11-94	04-12-94	04-20-94	5	6			
2219.03	LH18&24-MW3-1001	WATER	04-11-94	04-12-94	04-20-94	5	12			
			QUALITY ASSURANCE/QUALITY CONTROL							
2210.PB1	PREPARATION BLANK	NA	NA	NA	04-20-94	5	ND			
2210.LCS1	LAB CONTROL STD	NA	NA	NA	04-20-94	5	138	151		91
2210.LCS2	LAB CONTROL STD	NA	NA	NA	04-20-94	5	131	151	5.2	87
2215.01	SAMPLE	NA	NA	NA	04-20-94	5	ND			
2215.01MS	MATRIX SPIKE	NA	NA	NA	04-20-94	5	12	10		120
2215.01MSD	MATRIX SPIKE DUP	NA	NA	NA	04-20-94	5	12	10	0.0	120

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APPENDIX A
RESULTS AS REPORTED BY THE LABORATORY

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PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES	Client Sample ID:	LH18&24-MW2-1001	Date Sampled:	04/11/94
Project Name:	LHAAP	PDP Sample ID:	2219.01	Date Received:	04/12/94
Project No.:	2379	Report No.:	B8660	Date Reported:	04/29/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	50.00	GC/MS File ID:	B8660
Sample Volume:	5.0 ml	Date Analyzed:	04/21/94
Dilution:	50.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	250	ND	Carbon tetrachloride	250	ND
1,1,2,2-Tetrachloroethane	250	ND	Chlorobenzene	250	ND
1,1,2-Trichloroethane	250	183 J	Chloroethane	500	ND
1,1-Dichloroethane	250	310	Chloroform	250	1500
1,1-Dichloroethene	250	4700	Chloromethane	500	ND
1,2-Dichloroethane	250	ND	Cis-1,3-Dichloropropene	250	ND
1,2-Dichloropropane	250	ND	Dibromochloromethane	250	ND
-Butanone	500	ND	Ethylbenzene	250	ND
2-Chloroethyl vinyl ether	500	ND	Methylene chloride	250	846000 BE
2-Hexanone	500	ND	Styrene	250	ND
4-Methyl-2-pentanone	500	ND	Tetrachloroethene	250	ND
Acetone	500	3400	Toluene	250	ND
Benzene	250	ND	Total xylenes	250	ND
Bromodichloromethane	250	ND	Total-1,2-Dichloroethene	250	8200
Bromoform	250	ND	Trans-1,3-Dichloropropene	250	ND
Bromomethane	500	ND	Trichloroethene	250	248000 E
Carbon disulfide	250	ND	Vinyl acetate	500	ND
			Vinylchloride	500	550

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	103
Toluene-d8	50	(88-110)	96
Bromofluorobenzene	50	(86-115)	110

Method Blank ID: 2215V.WBLK1 LCS ID: 2215V.WLCS1 MS ID: 2216.01MS MSD ID: 2216.01MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES	Client Sample ID:	LH18&24-MW2-1001(DL)	Date Sampled:	04/11/94
Project Name:	LHAAP	PDP Sample ID:	2219.01(DILUTION)	Date Received:	04/12/94
Project No.:	2379	Report No.:	B8688	Date Reported:	04/29/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	100000.00	GC/MS File ID:	B8688
Sample Volume:	5.0 ml	Date Analyzed:	04/22/94
Dilution:	100000.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
,1,1-Trichloroethane	500000	ND	Carbon tetrachloride	500000	ND
1,1,2,2-Tetrachloroethane	500000	ND	Chlorobenzene	500000	ND
1,1,2-Trichloroethane	500000	ND	Chloroethane	1000000	ND
1,1-Dichloroethane	500000	ND	Chloroform	500000	ND
1,1-Dichloroethene	500000	ND	Chloromethane	1000000	ND
1,2-Dichloroethane	500000	ND	Cis-1,3-Dichloropropene	500000	ND
1,2-Dichloropropane	500000	ND	Dibromochloromethane	500000	ND
2-Butanone	1000000	ND	Ethylbenzene	500000	ND
2-Chloroethyl vinyl ether	1000000	ND	Methylene chloride	500000	10330000 B
2-Hexanone	1000000	ND	Styrene	500000	ND
4-Methyl-2-pentanone	1000000	ND	Tetrachloroethene	500000	ND
Acetone	1000000	ND	Toluene	500000	ND
Benzene	500000	ND	Total xylenes	500000	ND
Bromodichloromethane	500000	ND	Total-1,2-Dichloroethene	500000	ND
Bromoform	500000	ND	Trans-1,3-Dichloropropene	500000	ND
Bromomethane	1000000	ND	Trichloroethene	500000	798000
Carbon disulfide	500000	ND	Vinyl acetate	1000000	ND
			Vinylchloride	1000000	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	105
Toluene-d8	50	(88-110)	97
Bromofluorobenzene	50	(86-115)	108

Method Blank ID: 2219V.WBLK1 LCS ID: 2219V.WLCS1 MS ID:2216.01MS MSD ID: 2216.01MSD DUP ID: NA

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PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES	Client Sample ID:	LH18&24-MW2-1001QC	Date Sampled:	04/11/94
Project Name:	LHAAP	PDP Sample ID:	2219.02	Date Received:	04/12/94
Project No.:	2379	Report No.:	B8661	Date Reported:	04/29/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	50.00	GC/MS File ID:	B8661
Sample Volume:	5.0 ml	Date Analyzed:	04/21/94
Dilution:	50.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	250	ND	Carbon tetrachloride	250	ND
1,1,2,2-Tetrachloroethane	250	ND	Chlorobenzene	250	ND
1,1,2-Trichloroethane	250	170 J	Chloroethane	500	ND
1,1-Dichloroethane	250	310	Chloroform	250	1400
1,1-Dichloroethene	250	4700	Chloromethane	500	ND
1,2-Dichloroethane	250	ND	Cis-1,3-Dichloropropene	250	ND
1,2-Dichloropropane	250	ND	Dibromochloromethane	250	ND
2-Butanone	500	ND	Ethylbenzene	250	ND
2-Chloroethyl vinyl ether	500	ND	Methylene chloride	250	840000 BE
2-Hexanone	500	ND	Styrene	250	ND
4-Methyl-2-pentanone	500	ND	Tetrachloroethene	250	160 J
Acetone	500	3700	Toluene	250	ND
Benzene	250	ND	Total xylenes	250	ND
Bromodichloromethane	250	ND	Total-1,2-Dichloroethene	250	8000
Bromoform	250	ND	Trans-1,3-Dichloropropene	250	ND
Bromomethane	500	ND	Trichloroethene	250	231000 E
Carbon disulfide	250	ND	Vinyl acetate	500	ND
			Vinylchloride	500	560

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	101
Toluene-d8	50	(88-110)	98
Bromofluorobenzene	50	(86-115)	110

Method Blank ID: 2215V.WBLK1 LCS ID: 2215V.WLCS1 MS ID: 2216.01MS MSD ID: 2216.01MSD DUP ID: NA

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PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES	Client Sample ID:	LH18&24-MW2-1001QC(DL)	Date Sampled:	04/11/94
Project Name:	LHAAP	PDP Sample ID:	2219.02(DILUTION)	Date Received:	04/12/94
Project No.:	2379	Report No.:	B8689	Date Reported:	04/29/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	100000.00	GC/MS File ID:	B8689
Sample Volume:	5.0 ml	Date Analyzed:	04/22/94
Dilution:	100000.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1-Trichloroethane	500000	ND	Carbon tetrachloride	500000	ND
1,1,2,2-Tetrachloroethane	500000	ND	Chlorobenzene	500000	ND
1,1,2-Trichloroethane	500000	ND	Chloroethane	1000000	ND
1,1-Dichloroethane	500000	ND	Chloroform	500000	ND
1,1-Dichloroethene	500000	ND	Chloromethane	1000000	ND
1,2-Dichloroethane	500000	ND	Cis-1,3-Dichloropropene	500000	ND
1,2-Dichloropropane	500000	ND	Dibromochloromethane	500000	ND
2-Butanone	1000000	ND	Ethylbenzene	500000	ND
2-Chloroethyl vinyl ether	1000000	ND	Methylene chloride	500000	10550000 B
2-Hexanone	1000000	ND	Styrene	500000	ND
4-Methyl-2-pentanone	1000000	ND	Tetrachloroethene	500000	ND
Acetone	1000000	ND	Toluene	500000	ND
Benzene	500000	ND	Total xylenes	500000	ND
Bromodichloromethane	500000	ND	Total-1,2-Dichloroethene	500000	ND
Bromoform	500000	ND	Trans-1,3-Dichloropropene	500000	ND
Bromomethane	1000000	ND	Trichloroethene	500000	1520000
Carbon disulfide	500000	ND	Vinyl acetate	1000000	ND
			Vinylchloride	1000000	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	110
Toluene-d8	50	(88-110)	98
Bromofluorobenzene	50	(86-115)	113

Method Blank ID: 2219V.WBLK1 LCS ID: 2219V.WLCS1 MS ID: 2216.01MS MSD ID: 2216.01MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES	Client Sample ID:	LH18&24-MW3-1001	Date Sampled:	04/11/94
Project Name:	LHAAP	PDP Sample ID:	2219.03	Date Received:	04/12/94
Project No.:	2379	Report No.:	B8662	Date Reported:	04/29/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	50.00	GC/MS File ID:	B8662
Sample Volume:	5.0 ml	Date Analyzed:	04/21/94
Dilution:	50.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	250	ND	Carbon tetrachloride	250	ND
1,1,2,2-Tetrachloroethane	250	ND	Chlorobenzene	250	ND
1,1,2-Trichloroethane	250	ND	Chloroethane	500	ND
1,1-Dichloroethane	250	ND	Chloroform	250	ND
1,1-Dichloroethene	250	ND	Chloromethane	500	ND
1,2-Dichloroethane	250	ND	Cis-1,3-Dichloropropene	250	ND
1,2-Dichloropropane	250	ND	Dibromochloromethane	250	ND
2-Butanone	500	ND	Ethylbenzene	250	ND
2-Chloroethyl vinyl ether	500	ND	Methylene chloride	250	108200 BE
2-Hexanone	500	ND	Styrene	250	ND
4-Methyl-2-pentanone	500	ND	Tetrachloroethene	250	ND
Acetone	500	ND	Toluene	250	ND
Benzene	250	ND	Total xylenes	250	ND
Bromodichloromethane	250	ND	Total-1,2-Dichloroethene	250	ND
Bromoform	250	ND	Trans-1,3-Dichloropropene	250	ND
Bromomethane	500	ND	Trichloroethene	250	4500
Carbon disulfide	250	ND	Vinyl acetate	500	ND
			Vinylchloride	500	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	101
Toluene-d8	50	(88-110)	98
Bromofluorobenzene	50	(86-115)	110

Method Blank ID: 2215V.WBLK1 LCS ID: 2215V.WLCS1 MS ID: 2216.01MS MSD ID: 2216.01MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES	Client Sample ID:	LH18&24-MW3-1001(DL)	Date Sampled:	04/11/94
Project Name:	LHAAP	PDP Sample ID:	2219.03(DILUTION)	Date Received:	04/12/94
Project No.:	2379	Report No.:	B8670	Date Reported:	04/29/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	10000.00	GC/MS File ID:	B8670
Sample Volume:	5.0 ml	Date Analyzed:	04/21/94
Dilution:	10000.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	50000	ND	Carbon tetrachloride	50000	ND
1,1,2,2-Tetrachloroethane	50000	ND	Chlorobenzene	50000	ND
1,1,2-Trichloroethane	50000	ND	Chloroethane	100000	ND
1,1-Dichloroethane	50000	ND	Chloroform	50000	ND
1,1-Dichloroethene	50000	ND	Chloromethane	100000	ND
1,2-Dichloroethane	50000	ND	Cis-1,3-Dichloropropene	50000	ND
1,2-Dichloropropane	50000	ND	Dibromochloromethane	50000	ND
2-Butanone	100000	ND	Ethylbenzene	50000	ND
2-Chloroethyl vinyl ether	100000	ND	Methylene chloride	50000	243000 B
2-Hexanone	100000	ND	Styrene	50000	ND
4-Methyl-2-pentanone	100000	ND	Tetrachloroethene	50000	ND
Acetone	100000	ND	Toluene	50000	ND
Benzene	50000	ND	Total xylenes	50000	ND
Bromodichloromethane	50000	ND	Total-1,2-Dichloroethene	50000	ND
Bromoform	50000	ND	Trans-1,3-Dichloropropene	50000	ND
Bromomethane	100000	ND	Trichloroethene	50000	ND
Carbon disulfide	50000	ND	Vinyl acetate	100000	ND
			Vinylchloride	100000	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	99
Toluene-d8	50	(88-110)	94
Bromofluorobenzene	50	(86-115)	105

Method Blank ID: 2215V.WBLK2 LCS ID: 2215V.WLCS2 MS ID: 2216.01MS MSD ID: 2216.01MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES	Client Sample ID:	LH18&24-XXX-TB	Date Sampled:	04/11/94
Project Name:	LHAAP	PDP Sample ID:	2219.04	Date Received:	04/12/94
Project No.:	2379	Report No.:	B8659	Date Reported:	04/29/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8659
Sample Volume:	5.0 ml	Date Analyzed:	04/21/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	57 B
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	5
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	100
Toluene-d8	50	(88-110)	93
Bromofluorobenzene	50	(86-115)	105

Method Blank ID: 2215V.WBLK1 LCS ID: 2215V.WLCS1 MS ID: 2216.01MS MSD ID: 2216.01MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

011156

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project Number: 2379

Client Sample ID: LH18&24-MW2-1001
PDP Sample ID: 2219.01
Report Number: I21901

Date Sampled: 04-11-94
Date Received: 04-12-94
Date Reported: 05-02-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-15-94	04-20-94	0.1	ND	MBB
Antimony	SW-846 6010	04-15-94	04-20-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-21-94	04-27-94	0.005	ND	MBB
Barium	SW-846 6010	04-15-94	04-20-94	0.01	3.68	MBB
Beryllium	SW-846 6010	04-15-94	04-20-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-15-94	04-20-94	0.005	ND	MBB
Calcium	SW-846 6010	04-15-94	04-20-94	0.2	96.4	MBB
Chromium	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Cobalt	SW-846 6010	04-15-94	04-20-94	0.01	0.020	MBB
Copper	SW-846 6010	04-15-94	04-20-94	0.02	ND	MBB
Iron	SW-846 6010	04-15-94	04-20-94	0.1	ND	MBB
Lead	SW-846 7421	04-21-94	04-28-94	0.005	ND	MBB
Magnesium	SW-846 6010	04-15-94	04-20-94	0.2	80.8	MBB
Manganese	SW-846 6010	04-15-94	04-20-94	0.01	0.966	MBB
Mercury	SW-846 7470	04-18-94	04-20-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-15-94	04-20-94	0.04	ND	MBB
Potassium	SW-846 6010	04-15-94	04-20-94	5	ND	MBB
Selenium	SW-846 7740	04-21-94	04-26-94	0.005	ND	MBB
Silver	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Sodium	SW-846 6010	04-15-94	04-20-94	0.5	297	MBB
Thallium	SW-846 7841	04-21-94	04-28-94	0.01	ND	MBB
Vanadium	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Zinc	SW-846 6010	04-15-94	04-20-94	0.02	ND	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP LCS ID: 2216.LCSW1
GFAA LCS ID: 2216.LCSW1
CVAA LCS ID: 2209.LCSW1

ICP MS ID: 2219.01MS
GFAA MS ID: 2219.01MS
CVAA MS ID: 2219.01MS

ICP Method Blank ID: 2216.PBW1
GFAA Method Blank ID: 2216.PBW1
CVAA Method Blank ID: 2209.PBW1

ICP LCSD ID: 2216.LCSW2
GFAA LCSD ID: 2216.LCSW2
CVAA LCSD ID: 2209.LCSW2

ICP MSD ID: 2219.01MSD
GFAA MSD ID: 2219.01MSD
CVAA MSD ID: 2219.01MSD

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project Number: 2379

Client Sample ID: LH18&24-MW2-1001-QC
PDP Sample ID: 2219.02
Report Number: I21902

Date Sampled: 04-11-94
Date Received: 04-12-94
Date Reported: 05-02-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-15-94	04-20-94	0.1	ND	MBB
Antimony	SW-846 6010	04-15-94	04-20-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-21-94	04-27-94	0.01	ND	MBB
Barium	SW-846 6010	04-15-94	04-20-94	0.01	3.74	MBB
Beryllium	SW-846 6010	04-15-94	04-20-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-15-94	04-20-94	0.005	ND	MBB
Calcium	SW-846 6010	04-15-94	04-20-94	0.2	98.7	MBB
Chromium	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Cobalt	SW-846 6010	04-15-94	04-20-94	0.01	0.022	MBB
Copper	SW-846 6010	04-15-94	04-20-94	0.02	ND	MBB
Iron	SW-846 6010	04-15-94	04-20-94	0.1	ND	MBB
Lead	SW-846 7421	04-21-94	04-28-94	0.005	ND	MBB
Magnesium	SW-846 6010	04-15-94	04-20-94	0.2	82.4	MBB
Manganese	SW-846 6010	04-15-94	04-20-94	0.01	0.983	MBB
Mercury	SW-846 7470	04-18-94	04-20-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-15-94	04-20-94	0.04	ND	MBB
Potassium	SW-846 6010	04-15-94	04-20-94	5	ND	MBB
Selenium	SW-846 7740	04-21-94	04-26-94	0.01	ND	MBB
Silver	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Sodium	SW-846 6010	04-15-94	04-20-94	0.5	301	MBB
Thallium	SW-846 7841	04-21-94	04-28-94	0.005	ND	MBB
Vanadium	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Zinc	SW-846 6010	04-15-94	04-20-94	0.02	0.076	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP Method Blank ID: 2216.PBW1
GFAA Method Blank ID: 2216.PBW1
CVAA Method Blank ID: 2209.PBW1

ICP LCS ID: 2216.LCSW1
GFAA LCS ID: 2216.LCSW1
CVAA LCS ID: 2209.LCSW1

ICP LCSD ID: 2216.LCSW2
GFAA LCSD ID: 2216.LCSW2
CVAA LCSD ID: 2209.LCSW2

ICP MS ID: 2219.01MS
GFAA MS ID: 2219.01MS
CVAA MS ID: 2219.01MS

ICP MSD ID: 2219.01MSD
GFAA MSD ID: 2219.01MSD
CVAA MSD ID: 2219.01MSD

PDP ANALYTICAL SERVICES
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LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project Number: 2379

Client Sample ID: LH18&24-MW3-1001
PDP Sample ID: 2219.03
Report Number: I21903

Date Sampled: 04-11-94
Date Received: 04-12-94
Date Reported: 05-02-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-15-94	04-20-94	0.1	ND	MBB
Antimony	SW-846 6010	04-15-94	04-20-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-21-94	04-27-94	0.005	ND	MBB
Barium	SW-846 6010	04-15-94	04-20-94	0.01	1.71	MBB
Beryllium	SW-846 6010	04-15-94	04-20-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-15-94	04-20-94	0.005	ND	MBB
Calcium	SW-846 6010	04-15-94	04-20-94	0.2	37.6	MBB
Chromium	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Cobalt	SW-846 6010	04-15-94	04-20-94	0.01	0.018	MBB
Copper	SW-846 6010	04-15-94	04-20-94	0.02	ND	MBB
Iron	SW-846 6010	04-15-94	04-20-94	0.1	ND	MBB
Lead	SW-846 7421	04-21-94	04-28-94	0.005	ND	MBB
Magnesium	SW-846 6010	04-15-94	04-20-94	0.2	35.1	MBB
Manganese	SW-846 6010	04-15-94	04-20-94	0.01	5.14	MBB
Mercury	SW-846 7470	04-20-94	04-21-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-15-94	04-20-94	0.04	ND	MBB
Potassium	SW-846 6010	04-15-94	04-20-94	5	ND	MBB
Selenium	SW-846 7740	04-21-94	04-26-94	0.01	ND	MBB
Silver	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Sodium	SW-846 6010	04-15-94	04-20-94	0.5	280	MBB
Thallium	SW-846 7841	04-21-94	04-28-94	0.01	ND	MBB
Vanadium	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Zinc	SW-846 6010	04-15-94	04-20-94	0.02	ND	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP LCS ID: 2216.LCSW1
GFAA LCS ID: 2216.LCSW1
CVAA LCS ID: 2211.LCSW1

ICP MS ID: 2219.01MS
GFAA MS ID: 2219.01MS
CVAA MS ID: 2219.01MS

ICP Method Blank ID: 2216.PBW1
GFAA Method Blank ID: 2216.PBW1
CVAA Method Blank ID: 2211.PBW1

ICP LCSD ID: 2216.LCSW2
GFAA LCSD ID: 2216.LCSW2
CVAA LCSD ID: 2211.LCSW2

ICP MSD ID: 2219.01MSD
GFAA MSD ID: 2219.01MSD
CVAA MSD ID: 2219.01MSD

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas; 77386 (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project No.: 2379

Date Reported: 05-03-94
Report No.: I219CL
Analyst: HK

WET CHEMISTRY PARAMETER: Chloride

Method Reference: EPA 325.3

UNITS: mg/L

PDP LABORATORY ID	CLIENT ID	MATRIX	DATE SAMPLED	DATE RECEIVED	DATE ANALYZED	QUANT LIMIT	RESULT	SPIKE ADDED OR TRUE VALUE	RELATIVE PERCENT DIFF(20)	PERCENT RECOVERY (75-125)
2219.01	LH18&24-MW2-1001	WATER	04-11-94	04-12-94	04-21-94	2	790			
2219.02	LH18&24-MW2-1001-QC	WATER	04-11-94	04-12-94	04-21-94	2	744			
2219.03	LH18&24-MW3-1001	WATER	04-11-94	04-12-94	04-21-94	2	505			
			QUALITY ASSURANCE/QUALITY CONTROL							
2219.PB1	PREPARATION BLANK	NA	NA	NA	04-21-94	2	ND			
2219.LCS1	LAB CONTROL STD	NA	NA	NA	04-21-94	2	312	299		104
2219.LCS2	LAB CONTROL STD	NA	NA	NA	04-21-94	2	316	299	1.3	106
2224.01	SAMPLE	NA	NA	NA	04-21-94	2	310			
2224.01MS	MATRIX SPIKE	NA	NA	NA	04-21-94	2	815	443		114
2224.01MSD	MATRIX SPIKE DUP	NA	NA	NA	04-21-94	2	815	443	0.0	114

011160

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas; 77386 (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES, INC
Project Name: LHAAP
Project No.: 2379

Date Reported: 04-20-94
Report No.: I219NC3
Analyst: HM

WET CHEMISTRY PARAMETER: Nitrate as N

Method Reference: EPA 352.1

UNITS: mg/L

PDP LABORATORY ID	CLIENT ID	MATRIX	DATE SAMPLED	DATE RECEIVED	DATE ANALYZED	QUANT LIMIT	RESULT	SPIKE ADDED OR TRUE VALUE	RELATIVE PERCENT DIFF(20)	PERCENT RECOVERY (75-125)
2219.01	LH18&24-MW2-1001	WATER	04-11-94	04-12-94	04-13-94	2.0	16.0			
2219.02	LH18&24-MW2-1001-QC	WATER	04-11-94	04-12-94	04-13-94	2.0	14.6			
2219.03	LH18&24-MW3-1001	WATER	04-11-94	04-12-94	04-13-94	0.1	0.1			
			QUALITY ASSURANCE/QUALITY CONTROL							
2215.PB1	PREPARATION BLANK	NA	NA	NA	04-13-94	0.1	ND			
2215.LCS1	LAB CONTROL STD	NA	NA	NA	04-13-94	0.1	0.41	0.40		102
2215.LCS2	LAB CONTROL STD	NA	NA	NA	04-13-94	0.1	0.40	0.40	2.5	100
2215.01	SAMPLE	NA	NA	NA	04-13-94	5.0	15.6			
2215.01MS	MATRIX SPIKE	NA	NA	NA	04-13-94	5.0	37.9	20.0		112
215.01MSD	MATRIX SPIKE DUP	NA	NA	NA	04-13-94	5.0	37.5	20.0	1.1	110

PDP ANALYTICAL SERVICES
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LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project No.: 2379

Date Reported: 05-03-94
Report No.: I219S04
Analyst: HM

WET CHEMISTRY PARAMETER: Sulfate

Method Reference: EPA 375.4

UNITS: mg/L

PDP LABORATORY ID	CLIENT ID	MATRIX	DATE SAMPLED	DATE RECEIVED	DATE ANALYZED	QUANT LIMIT	RESULT	SPIKE ADDED OR TRUE VALUE	RELATIVE PERCENT DIFF(20)	PERCENT RECOVERY (75-125)
2219.01	LH18&24-MW2-1001	WATER	04-11-94	04-12-94	04-20-94	5	ND			
2219.02	LH18&24-MW2-1001-QC	WATER	04-11-94	04-12-94	04-20-94	5	6			
2219.03	LH18&24-MW3-1001	WATER	04-11-94	04-12-94	04-20-94	5	12			
			QUALITY ASSURANCE/QUALITY CONTROL							
2210.PB1	PREPARATION BLANK	NA	NA	NA	04-20-94	5	ND			
2210.LCS1	LAB CONTROL STD	NA	NA	NA	04-20-94	5	138	151		91
2210.LCS2	LAB CONTROL STD	NA	NA	NA	04-20-94	5	131	151	5.2	87
2215.01	SAMPLE	NA	NA	NA	04-20-94	5	ND			
2215.01MS	MATRIX SPIKE	NA	NA	NA	04-20-94	5	12	10		120
2215.01MSD	MATRIX SPIKE DUP	NA	NA	NA	04-20-94	5	12	10	0.0	120

APPENDIX B
SUPPORT DOCUMENTATION

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES	Client Sample ID:	LH18&24-XXX-TB	Date Sampled:	04/11/94
Project Name:	LHAAP	PDP Sample ID:	2219.04	Date Received:	04/12/94
Project No.:	2379	Report No.:	B8659	Date Reported:	04/29/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8659
Sample Volume:	5.0 ml	Date Analyzed:	04/21/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	57 B
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	5
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL — blank contam.

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	100
Toluene-d8	50	(88-110)	93
Bromofluorobenzene	50	(86-115)	105

Method Blank ID: 2215V.WBLK1 LCS ID: 2215V.WLCS1 MS ID: 2216.01MS MSD ID: 2216.01MSD DUP ID: NA

011164

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: NA
Project Name: NA
Project No.: NA

Client Sample ID:NA
PDP Sample ID: 2219V.WBLK1(METHOD BLANK)
Report No.: B8686

Date Sampled: NA
Date Received: NA
Date Reported: 04/29/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix: WATER
Multiplying Factor: 1.00
Sample Volume: 5.0 ml
Dilution: 1.0

Method Ref.: SW846-8240
GC/MS File ID: B8686
Date Analyzed: 04/22/94
Analyst: NA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	6
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	ND
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL — blank contam.

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	103
Toluene-d8	50	(88-110)	98
Bromofluorobenzene	50	(86-115)	110

Method Blank ID: NA LCS ID: NA MS ID: NA MSD ID: NA DUP ID: NA

000025

011165

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: NA
Project Name: NA
Project No.: NA

Client Sample ID:NA
PDP Sample ID: 2215V.WBLK1(METHOD BLANK)
Report No.: B8642

Date Sampled: NA
Date Received: NA
Date Reported: 04/28/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix: WATER
Multiplying Factor: 1.00
Sample Volume: 5.0 ml
Dilution: 1.0

Method Ref.: SW846-8240
GC/MS File ID: B8642
Date Analyzed: 04/20/94
Analyst: MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	10
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	ND
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL — blank contam.

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	90
Toluene-d8	50	(88-110)	88
Bromofluorobenzene	50	(86-115)	99

Method Blank ID: NA LCS ID: NA MS ID: NA MSD ID: NA DUP ID: NA

000026

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	NA	Client Sample ID:	NA	Date Sampled:	NA
Project Name:	NA	PDP Sample ID:	2215V.WBLK2(METHOD BLANK)	Date Received:	NA
Project No.:	NA	Report No.:	M8666	Date Reported:	04/26/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	M8666
Sample Volume:	5.0 ml	Date Analyzed:	04/21/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	18
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	ND
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL — blank contam.

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1.2-Dichloroethane-d4	50	(76-114)	94
Toluene-d8	50	(88-110)	92
Bromofluorobenzene	50	(86-115)	104

Method Blank ID: NA LCS ID: NA MS ID: NA MSD ID: NA DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: NA
Project Name: NA
Project Number: NA

PDP MS ID: 2219.01MS
PDP MSD ID: 2219.01MSD
Report Number: I219MS01

Date Sampled: NA
Date Received: NA
Date Reported: 05-02-94

TOTAL METALS (MATRIX SPIKE AND MATRIX SPIKE DUPLICATE)

Sample Matrix: WATER

Units: mg/L

ELEMENT	METHOD	DATE PREPARED	DATE ANALYZED	SAMPLE VALUE	SPIKE ADDED	MATRIX SPIKE VALUE	PERCENT RECOVERY (75-125)	MATRIX SPIKE DUP VALUE	PERCENT RECOVERY (75-125)	RPD (20)
Aluminum	SW-846 6010	04-15-94	04-20-94	ND	2.00	1.86	93	1.84	92	1.1
Antimony	SW-846 6010	04-15-94	04-20-94	ND	0.50	0.52	104	0.51	102	1.9
Arsenic	SW-846 7060	04-21-94	04-27-94	ND	0.040	0.045	113	0.042	105	6.9
Barium	SW-846 6010	04-15-94	04-20-94	3.68	2.00	5.61	96	5.63	98	0.4
Beryllium	SW-846 6010	04-15-94	04-20-94	ND	0.050	0.047	94	0.047	94	0.0
Cadmium	SW-846 6010	04-15-94	04-20-94	ND	0.050	0.048	96	0.049	98	2.1
Calcium	SW-846 6010	04-15-94	04-20-94	96.4	NA	NA	NA	NA	NA	NA
Chromium	SW-846 6010	04-15-94	04-20-94	ND	0.20	0.19	95	0.19	95	0.0
Cobalt	SW-846 6010	04-15-94	04-20-94	0.020	0.50	0.49	94	0.50	96	2.0
Copper	SW-846 6010	04-15-94	04-20-94	ND	0.25	0.24	96	0.24	96	0.0
Iron	SW-846 6010	04-15-94	04-20-94	ND	1.00	0.96	96	0.96	96	0.0
ead	SW-846 7421	04-21-94	04-28-94	ND	0.020	0.021	105	0.023	115	9.1
Magnesium	SW-846 6010	04-15-94	04-20-94	80.8	NA	NA	NA	NA	NA	NA
Manganese	SW-846 6010	04-15-94	04-20-94	0.966	0.50	1.45	97	1.46	99	0.7
Mercury	SW-846 7470	04-18-94	04-20-94	ND	0.0010	0.0011	110	0.0011	110	0.0
Nickel	SW-846 6010	04-15-94	04-20-94	ND	0.50	0.48	96	0.49	98	2.1
Potassium	SW-846 6010	04-15-94	04-20-94	ND	NA	NA	NA	NA	NA	NA
Selenium	SW-846 7740	04-21-94	04-26-94	ND	0.010	0.003	30*	0.003	30*	0.0
Silver	SW-846 6010	04-15-94	04-20-94	ND	0.050	0.047	94	0.047	94	0.0
Sodium	SW-846 6010	04-15-94	04-20-94	297	NA	NA	NA	NA	NA	NA
Thallium	SW-846 7841	04-21-94	04-28-94	ND	0.050	0.007	14*	0.010	20*	35*
Vanadium	SW-846 6010	04-15-94	04-20-94	ND	0.50	0.47	94	0.48	96	2.1
Zinc	SW-846 6010	04-15-94	04-20-94	ND	0.50	0.49	98	0.50	100	2.0

QUALITY ASSURANCE/QUALITY CONTROL

Method Blank ID: NA

LCS ID: NA

LCSD ID: NA

011168

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: NA
Project Name: NA
Project No.: NA

Date Received: NA
Date Reported: 04/29/94
Report No.: B8674750C

GC/MS-VOLATILES (MATRIX SPIKE AND MATRIX SPIKE DUPLICATE RECOVERY SUMMARY)

Method Ref.: SW846-8240 Sample Matrix: WATER Analyst: MA

SAMPLE	MATRIX SPIKE	MATRIX SPIKE DUPLICATE
PDP Sample ID: 2216.01	MS Sample ID: 2216.01MS	MSD Sample ID: 2216.01MSD
Date Analyzed: 04/21/94	Date Analyzed: 04/21/94	Date Analyzed: 04/21/94
GC/MS File ID: B8673	GC/MS File ID: B8674	GC/MS File ID: B8675

MATRIX SPIKE

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC.	QC LIMITS REC.
1,1,-Dichloroethene	500	ND	620	124	(61-145)
Benzene	500	ND	570	~~120~~ 114	(76-127)
Chlorobenzene	500	ND	540	108	(75-130)
Toluene	500	ND	560	112	(76-125)
Trichloroethene	500	60	555	99	(71-120)

MATRIX SPIKE DUPLICATE

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC.	RPD	QC LIMITS RPD.	QC LIMITS REC.
1,1,-Dichloroethene	500	ND	630	126	1.6	14	(61-145)
Benzene	500	ND	600	120	~~0.0~~ 5.1	11	(76-127)
Chlorobenzene	500	ND	555	~~110~~ 111	~~1.8~~ 2.7	13	(75-130)
Toluene	500	ND	570	114	1.8	13	(76-125)
Trichloroethene	500	60	565	101	2.0	14	(71-120)

* = Values outside of QC limits

all corrections made by JJS 8/19/94

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

011169

FINAL

CHEMICAL DATA QA/QC REPORT
INTERIM REMEDIAL ACTION
BURNING GROUND 3 AND
UNLINED EVAPORATION POND
LHAAP UNITS 18 AND 24
LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

PREPARED FOR

UNITED STATES ARMY CORPS OF ENGINEERS
TULSA DISTRICT

PREPARED BY

AWD TECHNOLOGIES, INC.
ROCKVILLE, MARYLAND

PDP ANALYTICAL SERVICES -- Episode 2221

AUGUST 31, 1994
USACE CONTRACT DACA56-93-D-0016
DELIVERY ORDER 0002
AWD PROJECT 2379

LONGHORN ARMY AMMUNITION PLANT, TEXAS
BURNING GROUND 3 AND UNLINED EVAPORATION POND
INTERIM REMEDIAL ACTION
PDP Analytical Services -- Episode 2221

1.0 Discussion.

This set of samples was collected from the Burning Ground 3 and the Unlined Evaporation Pond areas of the Longhorn Army Ammunition Plant in Karnack, Texas on April 12, 1994 as part of the Interim Remedial Action Investigation. The sampling activity was conducted by AWD Technologies, Inc. (AWD) for the U.S. Army Corps of Engineers (COE), Tulsa District. After collection, the samples were sent to the PDP Analytical Services laboratory in Spring, Texas and were placed under Episode Number 2221. Included in this work order are eight (8) groundwater samples, including one (1) field duplicate pair, one (1) equipment rinsate blank, and one (1) trip blank.

Groundwater Samples

LH18/24-MW4-1001	LH18/24-MW21-1001
LH18/24-101-1001	LH18/24-MW15-1001
LH18/24-MW23-1001	LH18/24-MW5-1001
LH18/24-MW22-1001	LH18/24-MW5-1001-QC

Field Duplicate

LH18/24-MW5-1001-QC is a field duplicate of LH18/24-MW5-1001.

Equipment Rinsate Blank

LH18/24-MW23-EB

Trip Blank

LH18/24-XXX-TB

All samples, except the trip blank, were analyzed for volatile organic chemicals (VOCs), target analyte list (TAL) metals, chloride, nitrate as nitrogen, and sulfate. The trip blank was only analyzed for VOCs. All VOC and metals analyses were performed by U.S. EPA SW-846 methodologies: 8240 and 6000/7000 series, respectively. The chloride, nitrate, and sulfate analyses were performed according to U.S. EPA Methods 325.3, 352.1, and 375.4, respectively. Since the laboratory did not supply any of the analytical raw data in the deliverable package, data validation has been performed on the limited basis of examining QA/QC summary reports.

Other than the thallium results that were rejected, "R", all compounds and analytes were successfully analyzed in all samples. The organic analytical data were evaluated by the following quality assurance/quality control (QA/QC) parameters where applicable: technical holding times and preservation, system monitoring compound/surrogate spike recoveries, method blanks, matrix spike/matrix spike duplicates (MS/MSDs), laboratory control samples, field QC, and transcription. The inorganic analytical data were evaluated by the following QA/QC parameters where applicable: technical holding times and preservation, laboratory blanks, matrix spike recoveries, laboratory duplicates, laboratory control samples, field QC, and transcription. Validated sample analysis results are listed on the attached data summary forms. Areas of concern with respect to data quality and usability are discussed below.

2.0 Volatiles.

2.1 Accuracy. All surrogate, laboratory control sample (LCS), and MS/MSD percent recoveries were within acceptable control limits, except for the low toluene-d8 surrogate recovery in sample LH18/24-101-1001. Therefore, all VOC compounds in this sample have been qualified as estimated, "J" or "UJ".

The methylene chloride result in sample LH18/24-MW21-1001 has been qualified as estimated, "J", because it exceeded the calibration range. This result was reported from the undiluted analysis because it would have been qualified as a non-detect in the diluted analysis due to blank contamination. Although this value is high enough in the original analysis that it appears to be a "real" or site-related concentration, the data user should exercise caution when utilizing the result.

2.2 Precision. The relative percent differences (RPDs) reported for the MS/MSD data were all within acceptable quality control limits.

2.3 **Representativeness.** All samples were properly preserved and received in good condition by the laboratory.

All samples were analyzed within the appropriate holding time.

There was methylene chloride contamination found in the method, equipment rinsate, and trip blanks. Therefore, positive sample concentrations of this compound that are less than ten (10) times the highest amount of contamination have been qualified as non-detect, "U". Note that the rinsate blank was analyzed at a tenfold dilution.

Also note that there is a possibility of acetone contamination being introduced to the samples through the dilution water, as evidenced by the 10,000-fold dilution analysis of sample LH18/24-MW21-1001 compared to the 100-fold analysis. Because acetone contamination is suspected in the higher dilution, the 100-fold acetone result was reported, but was not qualified. Furthermore, note that all other acetone results reported in the other samples of this episode occurred at 10-fold or higher dilutions. Although acetone contamination is implied, there is not enough information to confirm this suspicion. Therefore, all acetone results in this episode should be used with caution, just as the methylene chloride result discussed previously.

All compounds in the field duplicate pair were found to be comparable, except for the following:

	LH18/24-MW5-1001	LH18/24-MW5-1001-QC	Control Limit
1,1-Dichloroethane	3 μg/L	16 μg/L	±10 μg/L
Methylene Chloride	7 μg/L	32 μg/L	±10 μg/L

As a result, these two compounds have been qualified as estimated, "J", in both samples of this pair.

3.0 Anions.

Chloride, nitrate as nitrogen, and sulfate were all analyzed as anions by the aforementioned wet chemistry methods.

3.1 Accuracy. The laboratory control sample and matrix spike percent recoveries were all within acceptable quality control limits for all three parameters.

3.2 Precision. The LCS and sample duplicate RPDs were all within the acceptable control limit of 20 percent.

3.3 Representativeness. All samples were properly preserved and were received in good condition by the laboratory. All samples were also prepared and analyzed within acceptable holding times.

All preparation blanks were free of target analyte contamination. However, the equipment rinsate blank has low levels of each of the anions. Therefore, all associated sample analytes less than five (5) times the amount of contamination found in the rinsate blank have been qualified as non-detect, "U".

All three analytes in the field duplicate pair were found to be comparable.

4.0 TAL Metals.

4.1 Accuracy. All laboratory control sample and matrix spike percent recoveries were within acceptable quality control limits, except for the selenium and thallium MS/MSD recoveries. The selenium MS/MSD spikes were both recovered at 30 percent. As a result, all sample values reported for this metal have been qualified as estimated, "UJ", and should be considered biased low since they are all non-detects. The thallium MS/MSD recoveries, on the other hand, were both less than 30 percent, so all associated sample data have been rejected, "R", and should be considered unusable, as they are all non-detects.

4.2 Precision. All laboratory control sample/laboratory control sample duplicate (LCS/LCSD) and MS/MSD relative percent differences (RPDs) were within the acceptable quality control range, except for the thallium MS/MSD RPD, which exceeded the 20 percent limit. However, since all associated thallium data have already been rejected due to poor spike recoveries, no further action was necessary.

4.3 Representativeness. All samples were properly preserved and were received in good condition by the laboratory. All samples were also prepared and analyzed within appropriate holding times.

All blanks were free of target analyte contamination, except for the low level concentration of chromium (0.01 mg/L) found in the rinsate blank. Therefore, all sample results for chromium that are less than five (5) times the amount found in the rinsate blank have been qualified as non-detect, "U". Consequently, the chromium value reported in sample LH18/24-MW21-1001 was the only concentration affected by this issue.

The field duplicate pair was found to be comparable for all metals analyzed.

5.0 Notes.

The laboratory reports positive organic results that are below the quantitation limits but above the instrument detection limits (IDLs) as estimated, "J", since there is an unacceptable level of confidence in the detection and accurate reporting of concentrations less than the quantitation limits.

There were no tentatively identified compounds (TICs) reported by the laboratory for the volatile fraction of any sample.

The criteria used to evaluate the field duplicate data was a control of plus or minus two (2) times the reporting limit when one or both compounds or analytes of the duplicate pair were less than five (5) times the reporting limit or an upper bound of 35 percent RPD when both compounds or analytes of the pair were greater than or equal to five (5) times the reporting limit.

6.0 Conclusion.

These data were reviewed according to the U.S. EPA's National Functional Guidelines for Organic Data Review (June, 1991), the U.S. EPA's Laboratory Data Validation Functional Guidelines for Evaluating Inorganics Analyses (July, 1988), and with reference to method requirements. The results are presented in the data summary of this report and should be accepted as qualified. With the exception of the values that have been rejected, all results and

data meet the requirements of the data quality objective (DQO) for this site and are deemed acceptable and valid for the intended use.

7.0 Information Regarding Report Content.

Attachments:

1. Glossary of data qualifier codes.
2. Data Summary. This may include:
   a) All positive results with qualifier codes, if applicable;
   b) All unusable detection limits qualified with "R"; and
   c) All estimated detection limits qualified with "UJ".
3. Appendix A - Results as reported by the laboratory.
4. Appendix B - Support Documentation which includes details to support the statements made in this report.

GLOSSARY OF DATA QUALIFIER CODES

CODES RELATING TO IDENTIFICATION

(confidence concerning presence or absence of compounds)

U = Not detected. The associated number indicates approximate sample concentration necessary to be detected.

(NO CODE) = Confirmed identification.

R = Unreliable result. Analyte may or may not be present in the sample. Supporting data necessary to confirm result. The result is unusable.

CODES RELATED TO QUANTITATION

(can be used for positive results and sample quantitation limits)

J = Analyte present. Reported value may not be accurate or precise.

UJ = Not detected. Quantitation limit may be inaccurate or imprecise.

DATA SUMMARY

011178

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES INC.	Client Sample ID:	LH18&24-MW4-1001	Date Sampled:	04/12/94
Project Name:	LHAAP	PDP Sample ID:	2221.01	Date Received:	04/13/94
Project No.:	2379	Report No.:	B8716	Date Reported:	04/29/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	10.00	GC/MS File ID:	B8716
Sample Volume:	5.0 ml	Date Analyzed:	04/25/94
Dilution:	10.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	50	ND	Carbon tetrachloride	50	ND
1,1,2,2-Tetrachloroethane	50	ND	Chlorobenzene	50	ND
1,1,2-Trichloroethane	50	ND	Chloroethane	100	ND
1,1-Dichloroethane	50	ND	Chloroform	50	ND
1,1-Dichloroethene	50	ND	Chloromethane	100	ND
1,2-Dichloroethane	50	ND	Cis-1,3-Dichloropropene	50	ND
',2-Dichloropropane	50	ND	Dibromochloromethane	50	ND
-Butanone	100	ND	Ethylbenzene	50	ND
2-Chloroethyl vinyl ether	100	ND	Methylene chloride	50	80 B U
2-Hexanone	100	ND	Styrene	50	ND
4-Methyl-2-pentanone	100	ND	Tetrachloroethene	50	ND
Acetone	100	ND	Toluene	50	ND
Benzene	50	ND	Total xylenes	50	ND
Bromodichloromethane	50	ND	Total-1,2-Dichloroethene	50	180
Bromoform	50	ND	Trans-1,3-Dichloropropene	50	ND
Bromomethane	100	ND	Trichloroethene	50	1100
Carbon disulfide	50	ND	Vinyl acetate	100	ND
			Vinylchloride	100	140

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	99
Toluene-d8	50	(88-110)	90
Bromofluorobenzene	50	(86-115)	105

Method Blank ID: 2221V.WBLK1 LCS ID: 2221V.WLCS1 MS ID: 2221.02MS MSD ID: 2221.02MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES INC.	Client Sample ID:	LH18&24-101-1001	Date Sampled:	04/12/94
Project Name:	LHAAP	PDP Sample ID:	2221.02	Date Received:	04/13/94
Project No.:	2379	Report No.:	B8713	Date Reported:	04/29/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8713
Sample Volume:	5.0 ml	Date Analyzed:	04/25/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND UJ	Carbon tetrachloride	5	ND UJ
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
',2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
¿-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	30 B UJ
2-Hexanone	10	ND	Styrene	5	ND UJ
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	18 J
Carbon disulfide	5	24 J	Vinyl acetate	10	ND UJ
			Vinylchloride	10	ND UJ

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	93
Toluene-d8	50	(88-110)	86 *
Bromofluorobenzene	50	(86-115)	99

Method Blank ID: 2221V.WBLK1 LCS ID: 2221V.WLCS1 MS ID: 2221.02MS MSD ID: 2221.02MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES INC.	Client Sample ID:	LH18&24-MW23-1001	Date Sampled:	04/12/94
Project Name:	LHAAP	PDP Sample ID:	2221.03	Date Received:	04/13/94
Project No.:	2379	Report No.:	B8717	Date Reported:	04/29/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	10.00	GC/MS File ID:	B8717
Sample Volume:	5.0 ml	Date Analyzed:	04/25/94
Dilution:	10.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	50	ND	Carbon tetrachloride	50	ND
1,1,2,2-Tetrachloroethane	50	ND	Chlorobenzene	50	ND
1,1,2-Trichloroethane	50	ND	Chloroethane	100	ND
1,1-Dichloroethane	50	ND	Chloroform	50	ND
1,1-Dichloroethene	50	ND	Chloromethane	100	ND
1,2-Dichloroethane	50	ND	Cis-1,3-Dichloropropene	50	ND
',2-Dichloropropane	50	ND	Dibromochloromethane	50	ND
2-Butanone	100	ND	Ethylbenzene	50	ND
2-Chloroethyl vinyl ether	100	ND	Methylene chloride	50	820 B U
2-Hexanone	100	ND	Styrene	50	ND
4-Methyl-2-pentanone	100	ND	Tetrachloroethene	50	ND
Acetone	100	190	Toluene	50	ND
Benzene	50	ND	Total xylenes	50	ND
Bromodichloromethane	50	ND	Total-1,2-Dichloroethene	50	50
Bromoform	50	ND	Trans-1,3-Dichloropropene	50	ND
Bromomethane	100	ND	Trichloroethene	50	980
Carbon disulfide	50	ND	Vinyl acetate	100	ND
			Vinylchloride	100	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	102
Toluene-d8	50	(88-110)	93
Bromofluorobenzene	50	(86-115)	103

Method Blank ID: 2221V.WBLK1 LCS ID: 2221V.WLCS1 MS ID: 2221.02MS MSD ID: 2221.02MSD DUP ID: NA

011181

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES INC.
Project Name: LHAAP
Project No.: 2379

Client Sample ID: LH18&24-MW22-1001
PDP Sample ID: 2221.04
Report No.: B8694

Date Sampled: 04/12/94
Date Received: 04/13/94
Date Reported: 04/29/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix: WATER
Multiplying Factor: 100.00
Sample Volume: 5.0 ml
Dilution: 100.0

Method Ref.: SW846-8240
GC/MS File ID: B8694
Date Analyzed: 04/22/94
Analyst: MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	500	ND	Carbon tetrachloride	500	ND
1,1,2,2-Tetrachloroethane	500	ND	Chlorobenzene	500	ND
1,1,2-Trichloroethane	500	ND	Chloroethane	1000	ND
1,1-Dichloroethane	500	ND	Chloroform	500	ND
1,1-Dichloroethene	500	ND	Chloromethane	1000	ND
1,2-Dichloroethane	500	ND	Cis-1,3-Dichloropropene	500	ND
1,2-Dichloropropane	500	ND	Dibromochloromethane	500	ND
2-Butanone	1000	ND	Ethylbenzene	500	ND
2-Chloroethyl vinyl ether	1000	ND	Methylene chloride	500	5900 B U
2-Hexanone	1000	ND	Styrene	500	ND
4-Methyl-2-pentanone	1000	ND	Tetrachloroethene	500	ND
Acetone	1000	6300	Toluene	500	ND
Benzene	500	ND	Total xylenes	500	ND
Bromodichloromethane	500	ND	Total-1,2-Dichloroethene	500	430 J
Bromoform	500	ND	Trans-1,3-Dichloropropene	500	ND
Bromomethane	1000	ND	Trichloroethene	500	1900
Carbon disulfide	500	ND	Vinyl acetate	1000	ND
			Vinylchloride	1000	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	98
Toluene-d8	50	(88-110)	91
Bromofluorobenzene	50	(86-115)	104

Method Blank ID: 2219V.WBLK1 LCS ID: 2219V.WLCS1 MS ID: 2221.02MS MSD ID: 2221.02MSD DUP ID: NA

011182

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES INC.	Client Sample ID:	LH18&24-MW21-1001	Date Sampled:	04/12/94
Project Name:	LHAAP	PDP Sample ID:	2221.05	Date Received:	04/13/94
Project No.:	2379	Report No.:	B8695	Date Reported:	04/29/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	100.00	GC/MS File ID:	B8695
Sample Volume:	5.0 ml	Date Analyzed:	04/22/94
Dilution:	100.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	500	ND	Carbon tetrachloride	500	ND
1,1,2,2-Tetrachloroethane	500	ND	Chlorobenzene	500	ND
1,1,2-Trichloroethane	500	ND	Chloroethane	1000	ND
1,1-Dichloroethane	500	ND	Chloroform	500	ND
1,1-Dichloroethene	500	ND	Chloromethane	1000	ND
1,2-Dichloroethane	500	ND	Cis-1,3-Dichloropropene	500	ND
1,2-Dichloropropane	500	ND	Dibromochloromethane	500	ND
2-Butanone	1000	ND	Ethylbenzene	500	ND
2-Chloroethyl vinyl ether	1000	ND	Methylene chloride	500	450000 ~~E~~ J
2-Hexanone	1000	ND	Styrene	500	ND
4-Methyl-2-pentanone	1000	ND	Tetrachloroethene	500	ND
Acetone	1000	9900	Toluene	500	ND
Benzene	500	ND	Total xylenes	500	ND
Bromodichloromethane	500	ND	Total-1,2-Dichloroethene	500	500
Bromoform	500	ND	Trans-1,3-Dichloropropene	500	ND
Bromomethane	1000	ND	Trichloroethene	500	8400
Carbon disulfide	500	ND	Vinyl acetate	1000	ND
			Vinylchloride	1000	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	96
Toluene-d8	50	(88-110)	90
Bromofluorobenzene	50	(86-115)	103

Method Blank ID: 2219V.WBLK1 LCS ID: 2219V.WLCS1 MS ID: 2221.02MS MSD ID: 2221.02MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES INC.	Client Sample ID:	LH18&24-MW15-1001	Date Sampled:	04/12/94
Project Name:	LHAAP	PDP Sample ID:	2221.06	Date Received:	04/13/94
Project No.:	2379	Report No.:	B8696	Date Reported:	04/29/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	100.00	GC/MS File ID:	B8696
Sample Volume:	5.0 ml	Date Analyzed:	04/22/94
Dilution:	100.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	500	ND	Carbon tetrachloride	500	ND
1,1,2,2-Tetrachloroethane	500	ND	Chlorobenzene	500	ND
1,1,2-Trichloroethane	500	ND	Chloroethane	1000	ND
1,1-Dichloroethane	500	ND	Chloroform	500	ND
1,1-Dichloroethene	500	ND	Chloromethane	1000	ND
1,2-Dichloroethane	500	ND	Cis-1,3-Dichloropropene	500	ND
1,2-Dichloropropane	500	ND	Dibromochloromethane	500	ND
2-Butanone	1000	ND	Ethylbenzene	500	ND
2-Chloroethyl vinyl ether	1000	ND	Methylene chloride	500	645 B U
2-Hexanone	1000	ND	Styrene	500	ND
4-Methyl-2-pentanone	1000	ND	Tetrachloroethene	500	ND
Acetone	1000	7200	Toluene	500	ND
Benzene	500	ND	Total xylenes	500	ND
Bromodichloromethane	500	ND	Total-1,2-Dichloroethene	500	ND
Bromoform	500	ND	Trans-1,3-Dichloropropene	500	ND
Bromomethane	1000	ND	Trichloroethene	500	ND
Carbon disulfide	500	ND	Vinyl acetate	1000	ND
			Vinylchloride	1000	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	94
Toluene-d8	50	(88-110)	88
Bromofluorobenzene	50	(86-115)	99

Method Blank ID: 2219V.WBLK1 LCS ID: 2219V.WLCS1 MS ID: 2221.02MS MSD ID: 2221.02MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES INC.	Client Sample ID:	LH1824-MW23-EB	Date Sampled:	04/12/94
Project Name:	LHAAP	PDP Sample ID:	2221.07	Date Received:	04/13/94
Project No.:	2379	Report No..	B8719	Date Reported:	04/29/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	10.00	GC/MS File ID:	B8719
Sample Volume:	5.0 ml	Date Analyzed:	04/25/94
Dilution:	10.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	50	ND	Carbon tetrachloride	50	ND
1,1,2,2-Tetrachloroethane	50	ND	Chlorobenzene	50	ND
1,1,2-Trichloroethane	50	ND	Chloroethane	100	ND
1,1-Dichloroethane	50	ND	Chloroform	50	ND
1,1-Dichloroethene	50	ND	Chloromethane	100	ND
1,2-Dichloroethane	50	ND	Cis-1,3-Dichloropropene	50	ND
1,2-Dichloropropane	50	ND	Dibromochloromethane	50	ND
2-Butanone	100	ND	Ethylbenzene	50	ND
2-Chloroethyl vinyl ether	100	ND	Methylene chloride	50	180 B
2-Hexanone	100	ND	Styrene	50	ND
4-Methyl-2-pentanone	100	ND	Tetrachloroethene	50	ND
Acetone	100	ND	Toluene	50	ND
Benzene	50	ND	Total xylenes	50	ND
Bromodichloromethane	50	ND	Total-1,2-Dichloroethene	50	ND
Bromoform	50	ND	Trans-1,3-Dichloropropene	50	ND
Bromomethane	100	ND	Trichloroethene	50	ND
Carbon disulfide	50	ND	Vinyl acetate	100	ND
			Vinylchloride	100	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	102
Toluene-d8	50	(88-110)	92
Bromofluorobenzene	50	(86-115)	106

Method Blank ID: 2221V.WBLK1 LCS ID: 2221V.WLCS1 MS ID: 2221.02MS MSD ID: 2221.02MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES INC.
Project Name: LHAAP
Project No.: 2379

Client Sample ID: LH18&24-MW5-1001
PDP Sample ID: 2221.08
Report No.: B8720

Date Sampled: 04/12/94
Date Received: 04/13/94
Date Reported: 04/29/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix: WATER
Multiplying Factor: 1.00
Sample Volume: 5.0 ml
Dilution: 1.0

Method Ref.: SW846-8240
GC/MS File ID: B8720
Date Analyzed: 04/25/94
Analyst: MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	3 J	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
',2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
⁄-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	7 &UJ
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	33
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	120
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	18

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	103
Toluene-d8	50	(88-110)	92
Bromofluorobenzene	50	(86-115)	105

Method Blank ID: 2221V.WBLK1 LCS ID: 2221V.WLCS1 MS ID: 2221.02MS MSD ID: 2221.02MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES INC.	Client Sample ID:	LH18&24-MW5-1001QC	Date Sampled:	04/12/94
Project Name:	LHAAP	PDP Sample ID:	2221.09	Date Received:	04/13/94
Project No.:	2379	Report No.:	B8721	Date Reported:	04/29/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	2.00	GC/MS File ID:	B8721
Sample Volume:	5.0 ml	Date Analyzed:	04/25/94
Dilution:	2.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	10	ND	Carbon tetrachloride	10	ND
1,1,2,2-Tetrachloroethane	10	ND	Chlorobenzene	10	ND
1,1,2-Trichloroethane	10	ND	Chloroethane	20	ND
1,1-Dichloroethane	10	16 J	Chloroform	10	ND
1,1-Dichloroethene	10	ND	Chloromethane	20	ND
1,2-Dichloroethane	10	ND	Cis-1,3-Dichloropropene	10	ND
',2-Dichloropropane	10	ND	Dibromochloromethane	10	ND
-Butanone	20	ND	Ethylbenzene	10	ND
2-Chloroethyl vinyl ether	20	ND	Methylene chloride	10	32 B UJ
2-Hexanone	20	ND	Styrene	10	ND
4-Methyl-2-pentanone	20	ND	Tetrachloroethene	10	ND
Acetone	20	ND	Toluene	10	ND
Benzene	10	ND	Total xylenes	10	ND
Bromodichloromethane	10	ND	Total-1,2-Dichloroethene	10	31
Bromoform	10	ND	Trans-1,3-Dichloropropene	10	ND
Bromomethane	20	ND	Trichloroethene	10	126
Carbon disulfide	10	ND	Vinyl acetate	20	ND
			Vinylchloride	20	16

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	103
Toluene-d8	50	(88-110)	94
Bromofluorobenzene	50	(86-115)	108

Method Blank ID: 2221V.WBLK1 LCS ID: 2221V.WLCS1 MS ID: 2221.02MS MSD ID: 2221.02MSD DUP ID: NA

011187

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES INC.	Client Sample ID:	LH18&24-XXX-TB	Date Sampled:	04/12/94
Project Name:	LHAAP	PDP Sample ID:	2221.10	Date Received:	04/13/94
Project No.:	2379	Report No.:	B8700	Date Reported:	04/29/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8700
Sample Volume:	5.0 ml	Date Analyzed:	04/22/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
.-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	9 B
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	ND
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	100
Toluene-d8	50	(88-110)	94
Bromofluorobenzene	50	(86-115)	106

Method Blank ID: 2219V.WBLK1 LCS ID: 2219V.WLCS1 MS ID: 2221.02MS MSD ID: 2221.02MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project Number: 2379

Client Sample ID: LH18&24-MW4-1001
PDP Sample ID: 2221.01
Report Number: I22101

Date Sampled: 04-12-94
Date Received: 04-13-94
Date Reported: 05-02-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-15-94	04-20-94	0.1	ND	MBB
Antimony	SW-846 6010	04-15-94	04-20-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-21-94	04-27-94	0.005	ND	MBB
Barium	SW-846 6010	04-15-94	04-20-94	0.01	0.152	MBB
Beryllium	SW-846 6010	04-15-94	04-20-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-15-94	04-20-94	0.005	ND	MBB
Calcium	SW-846 6010	04-15-94	04-20-94	0.2	54.8	MBB
Chromium	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Cobalt	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Copper	SW-846 6010	04-15-94	04-20-94	0.02	ND	MBB
Iron	SW-846 6010	04-15-94	04-20-94	0.1	ND	MBB
Lead	SW-846 7421	04-21-94	04-28-94	0.005	ND	MBB
Magnesium	SW-846 6010	04-15-94	04-20-94	0.2	55.0	MBB
Manganese	SW-846 6010	04-15-94	04-20-94	0.01	0.247	MBB
Mercury	SW-846 7470	04-20-94	04-21-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-15-94	04-20-94	0.04	ND	MBB
Potassium	SW-846 6010	04-15-94	04-20-94	5	ND	MBB
Selenium	SW-846 7740	04-21-94	04-26-94	0.01	ND UJ	MBB
Silver	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Sodium	SW-846 6010	04-15-94	04-20-94	0.5	461	MBB
Thallium	SW-846 7841	04-21-94	04-28-94	0.01	ND R	MBB
Vanadium	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Zinc	SW-846 6010	04-15-94	04-20-94	0.02	ND	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP Method Blank ID: 2216.PBW1
GFAA Method Blank ID: 2216.PBW1
CVAA Method Blank ID: 2211.PBW1

ICP LCS ID: 2216.LCSW1
GFAA LCS ID: 2216.LCSW1
CVAA LCS ID: 2211.LCSW1

ICP LCSD ID: 2216.LCSW2
GFAA LCSD ID: 2216.LCSW2
CVAA LCSD ID: 2211.LCSW2

ICP MS ID: 2219.01MS
GFAA MS ID: 2219.01MS
CVAA MS ID: 2219.01MS

ICP MSD ID: 2219.01MSD
GFAA MSD ID: 2219.01MSD
CVAA MSD ID: 2219.01MSD

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project Number: 2379

Client Sample ID: LH18&24-101-1001
PDP Sample ID: 2221.02
Report Number: I22102

Date Sampled: 04-12-94
Date Received: 04-13-94
Date Reported: 05-02-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-15-94	04-20-94	0.1	0.16	MBB
Antimony	SW-846 6010	04-15-94	04-20-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-21-94	04-27-94	0.005	ND	MBB
Barium	SW-846 6010	04-15-94	04-20-94	0.01	0.276	MBB
Beryllium	SW-846 6010	04-15-94	04-20-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-15-94	04-20-94	0.005	ND	MBB
Calcium	SW-846 6010	04-15-94	04-20-94	0.2	4.1	MBB
Chromium	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Cobalt	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Copper	SW-846 6010	04-15-94	04-20-94	0.02	ND	MBB
Iron	SW-846 6010	04-15-94	04-20-94	0.1	0.15	MBB
Lead	SW-846 7421	04-21-94	04-28-94	0.005	ND	MBB
Magnesium	SW-846 6010	04-15-94	04-20-94	0.2	2.5	MBB
Manganese	SW-846 6010	04-15-94	04-20-94	0.01	0.062	MBB
Mercury	SW-846 7470	04-20-94	04-21-94	0.0002	0.0002	DOC
Nickel	SW-846 6010	04-15-94	04-20-94	0.04	ND	MBB
Potassium	SW-846 6010	04-15-94	04-20-94	5	ND	MBB
Selenium	SW-846 7740	04-21-94	04-26-94	0.01	ND UJ	MBB
Silver	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Sodium	SW-846 6010	04-15-94	04-20-94	0.5	18.5	MBB
Thallium	SW-846 7841	04-21-94	04-28-94	0.005	ND R	MBB
Vanadium	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Zinc	SW-846 6010	04-15-94	04-20-94	0.02	0.026	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP Method Blank ID: 2216.PBW1
GFAA Method Blank ID: 2216.PBW1
CVAA Method Blank ID: 2211.PBW1

ICP LCS ID: 2216.LCSW1
GFAA LCS ID: 2216.LCSW1
CVAA LCS ID: 2211.LCSW1

ICP LCSD ID: 2216.LCSW2
GFAA LCSD ID: 2216.LCSW2
CVAA LCSD ID: 2211.LCSW2

ICP MS ID: 2219.01MS
GFAA MS ID: 2219.01MS
CVAA MS ID: 2219.01MS

ICP MSD ID: 2219.01MSD
GFAA MSD ID: 2219.01MSD
CVAA MSD ID: 2219.01MSD

011190

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project Number: 2379

Client Sample ID: LH18&24-MW23-1001
PDP Sample ID: 2221.03
Report Number: I22103

Date Sampled: 04-12-94
Date Received: 04-13-94
Date Reported: 05-02-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-15-94	04-20-94	0.1	ND	MBB
Antimony	SW-846 6010	04-15-94	04-20-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-21-94	04-27-94	0.005	ND	MBB
Barium	SW-846 6010	04-15-94	04-20-94	0.01	1.73	MBB
Beryllium	SW-846 6010	04-15-94	04-20-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-15-94	04-20-94	0.005	ND	MBB
Calcium	SW-846 6010	04-15-94	04-20-94	0.2	52.9	MBB
Chromium	SW-846 6010	04-15-94	04-20-94	0.01	0.067	MBB
Cobalt	SW-846 6010	04-15-94	04-20-94	0.01	0.010	MBB
Copper	SW-846 6010	04-15-94	04-20-94	0.02	ND	MBB
Iron	SW-846 6010	04-15-94	04-20-94	0.1	2.37	MBB
Lead	SW-846 7421	04-21-94	04-28-94	0.005	ND	MBB
Magnesium	SW-846 6010	04-15-94	04-20-94	0.2	41.6	MBB
Manganese	SW-846 6010	04-15-94	04-20-94	0.01	0.194	MBB
Mercury	SW-846 7470	04-20-94	04-21-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-15-94	04-20-94	0.04	0.42	MBB
Potassium	SW-846 6010	04-15-94	04-20-94	5	ND	MBB
Selenium	SW-846 7740	04-21-94	04-26-94	0.01	ND UJ	MBB
Silver	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Sodium	SW-846 6010	04-15-94	04-20-94	0.5	280	MBB
Thallium	SW-846 7841	04-21-94	04-28-94	0.005	ND R	MBB
Vanadium	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Zinc	SW-846 6010	04-15-94	04-20-94	0.02	0.029	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP Method Blank ID: 2216.PBW1
GFAA Method Blank ID: 2216.PBW1
CVAA Method Blank ID: 2211.PBW1

ICP LCS ID: 2216.LCSW1
GFAA LCS ID: 2216.LCSW1
CVAA LCS ID: 2211.LCSW1

ICP LCSD ID: 2216.LCSW2
GFAA LCSD ID: 2216.LCSW2
CVAA LCSD ID: 2211.LCSW2

ICP MS ID: 2219.01MS
GFAA MS ID: 2219.01MS
CVAA MS ID: 2219.01MS

ICP MSD ID: 2219.01MSD
GFAA MSD ID: 2219.01MSD
CVAA MSD ID: 2219.01MSD

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project Number: 2379

Client Sample ID: LH18&24-MW22-1001
PDP Sample ID: 2221.04
Report Number: I22104

Date Sampled: 04-12-94
Date Received: 04-13-94
Date Reported: 05-02-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-15-94	04-20-94	0.1	0.20	MBB
Antimony	SW-846 6010	04-15-94	04-20-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-21-94	04-27-94	0.005	ND	MBB
Barium	SW-846 6010	04-15-94	04-20-94	0.01	1.96	MBB
Beryllium	SW-846 6010	04-15-94	04-20-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-15-94	04-20-94	0.005	ND	MBB
Calcium	SW-846 6010	04-15-94	04-20-94	0.2	99.2	MBB
Chromium	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Cobalt	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Copper	SW-846 6010	04-15-94	04-20-94	0.02	ND	MBB
Iron	SW-846 6010	04-15-94	04-20-94	0.1	0.25	MBB
Lead	SW-846 7421	04-21-94	04-28-94	0.01	ND	MBB
Magnesium	SW-846 6010	04-15-94	04-20-94	0.2	40.1	MBB
Manganese	SW-846 6010	04-15-94	04-20-94	0.01	0.045	MBB
Mercury	SW-846 7470	04-20-94	04-21-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-15-94	04-20-94	0.04	ND	MBB
Potassium	SW-846 6010	04-15-94	04-20-94	5	ND	MBB
Selenium	SW-846 7740	04-21-94	04-26-94	0.01	ND UJ	MBB
Silver	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Sodium	SW-846 6010	04-15-94	04-20-94	0.5	364	MBB
Thallium	SW-846 7841	04-21-94	04-28-94	0.01	ND R	MBB
Vanadium	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Zinc	SW-846 6010	04-15-94	04-20-94	0.02	ND	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP Method Blank ID: 2216.PBW1
GFAA Method Blank ID: 2216.PBW1
CVAA Method Blank ID: 2211.PBW1

ICP LCS ID: 2216.LCSW1
GFAA LCS ID: 2216.LCSW1
CVAA LCS ID: 2211.LCSW1

ICP LCSD ID: 2216.LCSW2
GFAA LCSD ID: 2216.LCSW2
CVAA LCSD ID: 2211.LCSW2

ICP MS ID: 2219.01MS
GFAA MS ID: 2219.01MS
CVAA MS ID: 2219.01MS

ICP MSD ID: 2219.01MSD
GFAA MSD ID: 2219.01MSD
CVAA MSD ID: 2219.01MSD

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project Number: 2379

Client Sample ID: LH18&24-MW21-1001
PDP Sample ID: 2221.05
Report Number: I22105

Date Sampled: 04-12-94
Date Received: 04-13-94
Date Reported: 05-02-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-15-94	04-20-94	0.1	0.30	MBB
Antimony	SW-846 6010	04-15-94	04-20-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-21-94	04-27-94	0.01	ND	MBB
Barium	SW-846 6010	04-15-94	04-20-94	0.01	6.60	MBB
Beryllium	SW-846 6010	04-15-94	04-20-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-15-94	04-20-94	0.005	ND	MBB
Calcium	SW-846 6010	04-15-94	04-20-94	0.2	164	MBB
Chromium	SW-846 6010	04-15-94	04-20-94	0.01	0.018 U	MBB
Cobalt	SW-846 6010	04-15-94	04-20-94	0.01	0.052	MBB
Copper	SW-846 6010	04-15-94	04-20-94	0.02	ND	MBB
Iron	SW-846 6010	04-15-94	04-20-94	0.1	0.59	MBB
Lead	SW-846 7421	04-21-94	04-28-94	0.005	ND	MBB
Magnesium	SW-846 6010	04-15-94	04-20-94	0.2	131	MBB
Manganese	SW-846 6010	04-15-94	04-20-94	0.01	2.96	MBB
Mercury	SW-846 7470	04-20-94	04-21-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-15-94	04-20-94	0.04	0.077	MBB
Potassium	SW-846 6010	04-15-94	04-20-94	5	ND	MBB
Selenium	SW-846 7740	04-21-94	04-26-94	0.01	ND UJ	MBB
Silver	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Sodium	SW-846 6010	04-15-94	04-20-94	0.5	458	MBB
Thallium	SW-846 7841	04-21-94	04-28-94	0.01	ND R	MBB
Vanadium	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Zinc	SW-846 6010	04-15-94	04-20-94	0.02	0.060	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP LCS ID: 2216.LCSW1
GFAA LCS ID: 2216.LCSW1
CVAA LCS ID: 2211.LCSW1

ICP MS ID: 2219.01MS
GFAA MS ID: 2219.01MS
CVAA MS ID: 2219.01MS

ICP Method Blank ID: 2216.PBW1
GFAA Method Blank ID: 2216.PBW1
CVAA Method Blank ID: 2211.PBW1

ICP LCSD ID: 2216.LCSW2
GFAA LCSD ID: 2216.LCSW2
CVAA LCSD ID: 2211.LCSW2

ICP MSD ID: 2219.01MSD
GFAA MSD ID: 2219.01MSD
CVAA MSD ID: 2219.01MSD

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project Number: 2379

Client Sample ID: LH18&24-MW15-1001
PDP Sample ID: 2221.06
Report Number: I22106

Date Sampled: 04-12-94
Date Received: 04-13-94
Date Reported: 05-02-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-15-94	04-20-94	0.1	ND	MBB
Antimony	SW-846 6010	04-15-94	04-20-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-21-94	04-27-94	0.005	ND	MBB
Barium	SW-846 6010	04-15-94	04-20-94	0.01	0.245	MBB
Beryllium	SW-846 6010	04-15-94	04-20-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-15-94	04-20-94	0.005	ND	MBB
Calcium	SW-846 6010	04-15-94	04-20-94	0.2	11.2	MBB
Chromium	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Cobalt	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Copper	SW-846 6010	04-15-94	04-20-94	0.02	ND	MBB
Iron	SW-846 6010	04-15-94	04-20-94	0.1	2.3	MBB
Lead	SW-846 7421	04-21-94	04-28-94	0.005	ND	MBB
Magnesium	SW-846 6010	04-15-94	04-20-94	0.2	6.7	MBB
Manganese	SW-846 6010	04-15-94	04-20-94	0.01	0.345	MBB
Mercury	SW-846 7470	04-20-94	04-21-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-15-94	04-20-94	0.04	ND	MBB
Potassium	SW-846 6010	04-15-94	04-20-94	5	ND	MBB
Selenium	SW-846 7740	04-21-94	04-26-94	0.01	ND UJ	MBB
Silver	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Sodium	SW-846 6010	04-15-94	04-20-94	0.5	70.6	MBB
Thallium	SW-846 7841	04-21-94	04-28-94	0.01	ND R	MBB
Vanadium	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Zinc	SW-846 6010	04-15-94	04-20-94	0.02	0.028	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP Method Blank ID: 2216.PBW1
GFAA Method Blank ID: 2216.PBW1
CVAA Method Blank ID: 2211.PBW1

ICP LCS ID: 2216.LCSW1
GFAA LCS ID: 2216.LCSW1
CVAA LCS ID: 2211.LCSW1

ICP LCSD ID: 2216.LCSW2
GFAA LCSD ID: 2216.LCSW2
CVAA LCSD ID: 2211.LCSW2

ICP MS ID: 2219.01MS
GFAA MS ID: 2219.01MS
CVAA MS ID: 2219.01MS

ICP MSD ID: 2219.01MSD
GFAA MSD ID: 2219.01MSD
CVAA MSD ID: 2219.01MSD

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 390; Spring, Texas 77386; Phone (713)363-2233

011194

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project Number: 2379

Client Sample ID: LH18&24-MW23-EB
PDP Sample ID: 2221.07
Report Number: I22107

Date Sampled: 04-12-94
Date Received: 04-13-94
Date Reported: 05-02-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-15-94	04-20-94	0.1	ND	MBB
Antimony	SW-846 6010	04-15-94	04-20-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-21-94	04-27-94	0.005	ND	MBB
Barium	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Beryllium	SW-846 6010	04-15-94	04-20-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-15-94	04-20-94	0.005	ND	MBB
Calcium	SW-846 6010	04-15-94	04-20-94	0.2	ND	MBB
Chromium	SW-846 6010	04-15-94	04-20-94	0.01	0.010	MBB
Cobalt	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Copper	SW-846 6010	04-15-94	04-20-94	0.02	ND	MBB
Iron	SW-846 6010	04-15-94	04-20-94	0.1	ND	MBB
Lead	SW-846 7421	04-21-94	04-28-94	0.005	ND	MBB
Magnesium	SW-846 6010	04-15-94	04-20-94	0.2	ND	MBB
Manganese	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Mercury	SW-846 7470	04-20-94	04-21-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-15-94	04-20-94	0.04	ND	MBB
Potassium	SW-846 6010	04-15-94	04-20-94	5	ND	MBB
Selenium	SW-846 7740	04-21-94	04-26-94	0.01	ND UJ	MBB
Silver	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Sodium	SW-846 6010	04-15-94	04-20-94	0.5	ND	MBB
Thallium	SW-846 7841	04-21-94	04-28-94	0.01	ND R	MBB
Vanadium	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Zinc	SW-846 6010	04-15-94	04-20-94	0.02	ND	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP LCS ID: 2216.LCSW1
GFAA LCS ID: 2216.LCSW1
CVAA LCS ID: 2211.LCSW1

ICP MS ID: 2219.01MS
GFAA MS ID: 2219.01MS
CVAA MS ID: 2219.01MS

ICP Method Blank ID: 2216.PBW1
GFAA Method Blank ID: 2216.PBW1
CVAA Method Blank ID: 2211.PBW1

ICP LCSD ID: 2216.LCSW2
GFAA LCSD ID: 2216.LCSW2
CVAA LCSD ID: 2211.LCSW2

ICP MSD ID: 2219.01MSD
GFAA MSD ID: 2219.01MSD
CVAA MSD ID: 2219.01MSD

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project Number: 2379

Client Sample ID: LH18&24-MW5-1001
PDP Sample ID: 2221.08
Report Number: I22108

Date Sampled: 04-12-94
Date Received: 04-13-94
Date Reported: 05-02-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-15-94	04-20-94	0.1	ND	MBB
Antimony	SW-846 6010	04-15-94	04-20-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-21-94	04-27-94	0.005	ND	MBB
Barium	SW-846 6010	04-15-94	04-20-94	0.01	1.43	MBB
Beryllium	SW-846 6010	04-15-94	04-20-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-15-94	04-20-94	0.005	ND	MBB
Calcium	SW-846 6010	04-15-94	04-20-94	0.2	35.3	MBB
Chromium	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Cobalt	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Copper	SW-846 6010	04-15-94	04-20-94	0.02	ND	MBB
Iron	SW-846 6010	04-15-94	04-20-94	0.1	ND	MBB
Lead	SW-846 7421	04-21-94	04-28-94	0.005	ND	MBB
Magnesium	SW-846 6010	04-15-94	04-20-94	0.2	37.4	MBB
Manganese	SW-846 6010	04-15-94	04-20-94	0.01	0.075	MBB
Mercury	SW-846 7470	04-20-94	04-21-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-15-94	04-20-94	0.04	ND	MBB
Potassium	SW-846 6010	04-15-94	04-20-94	5	ND	MBB
Selenium	SW-846 7740	04-21-94	04-26-94	0.01	ND UJ	MBB
Silver	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Sodium	SW-846 6010	04-15-94	04-20-94	0.5	128	MBB
Thallium	SW-846 7841	04-21-94	04-28-94	0.01	ND K	MBB
Vanadium	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Zinc	SW-846 6010	04-15-94	04-20-94	0.02	0.030	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP Method Blank ID: 2216.PBW1
GFAA Method Blank ID: 2216.PBW1
CVAA Method Blank ID: 2211.PBW1

ICP LCS ID: 2216.LCSW1
GFAA LCS ID: 2216.LCSW1
CVAA LCS ID: 2211.LCSW1

ICP LCSD ID: 2216.LCSW2
GFAA LCSD ID: 2216.LCSW2
CVAA LCSD ID: 2211.LCSW2

ICP MS ID: 2219.01MS
GFAA MS ID: 2219.01MS
CVAA MS ID: 2219.01MS

ICP MSD ID: 2219.01MSD
GFAA MSD ID: 2219.01MSD
CVAA MSD ID: 2219.01MSD

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project Number: 2379

Client Sample ID: LH18&24-MW5-1001QC
PDP Sample ID: 2221.09
Report Number: I22109

Date Sampled: 04-12-94
Date Received: 04-13-94
Date Reported: 05-02-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-15-94	04-20-94	0.1	ND	MBB
Antimony	SW-846 6010	04-15-94	04-20-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-21-94	04-27-94	0.01	ND	MBB
Barium	SW-846 6010	04-15-94	04-20-94	0.01	1.57	MBB
Beryllium	SW-846 6010	04-15-94	04-20-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-15-94	04-20-94	0.005	ND	MBB
Calcium	SW-846 6010	04-15-94	04-20-94	0.2	39.1	MBB
Chromium	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Cobalt	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Copper	SW-846 6010	04-15-94	04-20-94	0.02	ND	MBB
Iron	SW-846 6010	04-15-94	04-20-94	0.1	ND	MBB
Lead	SW-846 7421	04-21-94	04-28-94	0.005	ND	MBB
Magnesium	SW-846 6010	04-15-94	04-20-94	0.2	41.6	MBB
Manganese	SW-846 6010	04-15-94	04-20-94	0.01	0.077	MBB
Mercury	SW-846 7470	04-20-94	04-21-94	0.0002	0.0002	DOC
Nickel	SW-846 6010	04-15-94	04-20-94	0.04	ND	MBB
Potassium	SW-846 6010	04-15-94	04-20-94	5	ND	MBB
Selenium	SW-846 7740	04-21-94	04-26-94	0.01	ND UJ	MBB
Silver	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Sodium	SW-846 6010	04-15-94	04-20-94	0.5	138	MBB
Thallium	SW-846 7841	04-21-94	04-28-94	0.01	ND R	MBB
Vanadium	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Zinc	SW-846 6010	04-15-94	04-20-94	0.02	0.029	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP LCS ID: 2216.LCSW1
GFAA LCS ID: 2216.LCSW1
CVAA LCS ID: 2211.LCSW1

ICP MS ID: 2219.01MS
GFAA MS ID: 2219.01MS
CVAA MS ID: 2219.01MS

ICP Method Blank ID: 2216.PBW1
GFAA Method Blank ID: 2216.PBW1
CVAA Method Blank ID: 2211.PBW1

ICP LCSD ID: 2216.LCSW2
GFAA LCSD ID: 2216.LCSW2
CVAA LCSD ID: 2211.LCSW2

ICP MSD ID: 2219.01MSD
GFAA MSD ID: 2219.01MSD
CVAA MSD ID: 2219.01MSD

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas; 77386 (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project No.: 2379

Date Reported: 05-03-94
Report No.: I221CL
Analyst: HM

WET CHEMISTRY PARAMETER: Chloride

Method Reference: EPA 325.3

UNITS: mg/L

PDP LABORATORY ID	CLIENT ID	MATRIX	DATE SAMPLED	DATE RECEIVED	DATE ANALYZED	QUANT LIMIT	RESULT	SPIKE ADDED OR TRUE VALUE	RELATIVE PERCENT DIFF(20)	PERCENT RECOVERY (75-125)
2221.01	LH18&24-MW4-1001	WATER	04-12-94	04-13-94	04-21-94	2	753			
2221.02	LH18&24-101-1001	WATER	04-12-94	04-13-94	04-21-94	2	18U			
2221.03	LH18&24-MW23-1001	WATER	04-12-94	04-13-94	04-21-94	2	594			
2221.04	LH18&24-MW22-1001	WATER	04-12-94	04-13-94	04-21-94	2	833			
2221.05	LH18&24-MW21-1001	WATER	04-12-94	04-13-94	04-21-94	2	1420			
2221.06	LH18&24-MW15-1001	WATER	04-12-94	04-13-94	04-21-94	2	160			
2221.07	LH18&24-MW23-EB	WATER	04-12-94	04-13-94	04-21-94	2	9			
2221.08	LH18&24-MW5-1001	WATER	04-12-94	04-13-94	04-21-94	2	363			
2221.09	LH18&24-MW5-1001QC	WATER	04-12-94	04-13-94	04-21-94	2	381			
			QUALITY ASSURANCE/QUALITY CONTROL							
2219.PB1	PREPARATION BLANK	NA	NA	NA	04-21-94	2	ND			
2219.LCS1	LAB CONTROL STD	NA	NA	NA	04-21-94	2	312	299		104
2219.LCS2	LAB CONTROL STD	NA	NA	NA	04-21-94	2	316	299	1.3	106
2224.01	SAMPLE	NA	NA	NA	04-21-94	2	310			
2224.01MS	MATRIX SPIKE	NA	NA	NA	04-21-94	2	815	443		114
2224.01MSD	MATRIX SPIKE DUP	NA	NA	NA	04-21-94	2	815	443	0.0	114

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas; 77386 (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES, INC
Project Name: LHAAP
Project No.: 2379

Date Reported: 05-03-94
Report No.: I221N03
Analyst: HM

WET CHEMISTRY PARAMETER: Nitrate as N

Method Reference: EPA 352.1 UNITS: mg/L

PDP LABORATORY ID	CLIENT ID	MATRIX	DATE SAMPLED	DATE RECEIVED	DATE ANALYZED	QUANT LIMIT	RESULT	SPIKE ADDED OR TRUE VALUE	RELATIVE PERCENT DIFF(20)	PERCENT RECOVERY (75-125)
2221.01	LH18&24-MW4-1001	WATER	04-12-94	04-13-94	04-13-94	0.1	ND			
2221.02	LH18&24-101-1001	WATER	04-12-94	04-13-94	04-13-94	1.0	2.6 U			
2221.03	LH18&24-MW23-1001	WATER	04-12-94	04-13-94	04-13-94	0.5	1.2 U			
2221.04	LH18&24-MW22-1001	WATER	04-12-94	04-13-94	04-13-94	0.1	ND			
2221.05	LH18&24-MW21-1001	WATER	04-12-94	04-13-94	04-13-94	0.1	ND			
2221.06	LH18&24-MW15-1001	WATER	04-12-94	04-13-94	04-13-94	0.1	ND			
2221.07	LH18&24-MW23-EB	WATER	04-12-94	04-13-94	04-13-94	0.1	0.4			
2221.08	LH18&24-MW5-1001	WATER	04-12-94	04-13-94	04-13-94	1.0	4.1 U			
2221.09	LH18&24-MW5-1001QC	WATER	04-12-94	04-13-94	04-13-94	1.0	4.0 U			
			QUALITY ASSURANCE/QUALITY CONTROL							
2215.PB1	PREPARATION BLANK	NA	NA	NA	04-13-94	0.1	ND			
2215.LCS1	LAB CONTROL STD	NA	NA	NA	04-13-94	0.1	0.41	0.40		102
2215.LCS2	LAB CONTROL STD	NA	NA	NA	04-13-94	0.1	0.40	0.40	2.5	100
2215.01	SAMPLE	NA	NA	NA	04-13-94	5.0	15.6			
2215.01MS	MATRIX SPIKE	NA	NA	NA	04-13-94	5.0	37.9	20.0		112
2215.01MSD	MATRIX SPIKE DUP	NA	NA	NA	04-13-94	5.0	37.5	20.0	1.1	110

PDP ANALYTICAL SERVICES
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LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project No.: 2379

Date Reported: 05-03-94
Report No.: I221S04
Analyst: HM

WET CHEMISTRY PARAMETER: Sulfate

Method Reference: EPA 375.4 UNITS: mg/L

PDP LABORATORY ID	CLIENT ID	MATRIX	DATE SAMPLED	DATE RECEIVED	DATE ANALYZED	QUANT LIMIT	RESULT	SPIKE ADDED OR TRUE VALUE	RELATIVE PERCENT DIFF(20)	PERCENT RECOVERY (75-125)
2221.01	LH18&24-MW4-1001	WATER	04-12-94	04-13-94	04-20-94	5	43			
2221.02	LH18&24-101-1001	WATER	04-12-94	04-13-94	04-20-94	5	296			
2221.03	LH18&24-MW23-1001	WATER	04-12-94	04-13-94	04-20-94	5	11U			
2221.04	LH18&24-MW22-1001	WATER	04-12-94	04-13-94	04-20-94	5	11U			
2221.05	LH18&24-MW21-1001	WATER	04-12-94	04-13-94	04-20-94	5	6U			
2221.06	LH18&24-MW15-1001	WATER	04-12-94	04-13-94	04-20-94	5	8U			
2221.07	LH18&24-MW23-EB	WATER	04-12-94	04-13-94	04-20-94	5	5			
2221.08	LH18&24-MW5-1001	WATER	04-12-94	04-13-94	04-20-94	5	5U			
2221.09	LH18&24-MW5-1001QC	WATER	04-12-94	04-13-94	04-20-94	5	6U			
			QUALITY ASSURANCE/QUALITY CONTROL							
2210.PB1	PREPARATION BLANK	NA	NA	NA	04-20-94	5	ND			
2210.LCS1	LAB CONTROL STD	NA	NA	NA	04-20-94	5	138	151		91
2210.LCS2	LAB CONTROL STD	NA	NA	NA	04-20-94	5	131	151	5.2	87
2215.01	SAMPLE	NA	NA	NA	04-20-94	5	ND			
2215.01MS	MATRIX SPIKE	NA	NA	NA	04-20-94	5	12	10		120
2215.01MSD	MATRIX SPIKE DUP	NA	NA	NA	04-20-94	5	12	10	0.0	120

APPENDIX A
RESULTS AS REPORTED BY THE LABORATORY

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES INC.	Client Sample ID:	LH18&24-MW4-1001	Date Sampled:	04/12/94
Project Name:	LHAAP	PDP Sample ID:	2221.01	Date Received:	04/13/94
Project No.:	2379	Report No.:	B8716	Date Reported:	04/29/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	10.00	GC/MS File ID:	B8716
Sample Volume:	5.0 ml	Date Analyzed:	04/25/94
Dilution:	10.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	50	ND	Carbon tetrachloride	50	ND
1,1,2,2-Tetrachloroethane	50	ND	Chlorobenzene	50	ND
1,1,2-Trichloroethane	50	ND	Chloroethane	100	ND
1,1-Dichloroethane	50	ND	Chloroform	50	ND
1,1-Dichloroethene	50	ND	Chloromethane	100	ND
1,2-Dichloroethane	50	ND	Cis-1,3-Dichloropropene	50	ND
1,2-Dichloropropane	50	ND	Dibromochloromethane	50	ND
Butanone	100	ND	Ethylbenzene	50	ND
2-Chloroethyl vinyl ether	100	ND	Methylene chloride	50	80 B
2-Hexanone	100	ND	Styrene	50	ND
4-Methyl-2-pentanone	100	ND	Tetrachloroethene	50	ND
Acetone	100	ND	Toluene	50	ND
Benzene	50	ND	Total xylenes	50	ND
Bromodichloromethane	50	ND	Total-1,2-Dichloroethene	50	180
Bromoform	50	ND	Trans-1,3-Dichloropropene	50	ND
Bromomethane	100	ND	Trichloroethene	50	1100
Carbon disulfide	50	ND	Vinyl acetate	100	ND
			Vinylchloride	100	140

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	99
Toluene-d8	50	(88-110)	90
Bromofluorobenzene	50	(86-115)	105

Method Blank ID: 2221V.WBLK1 LCS ID: 2221V.WLCS1 MS ID: 2221.02MS MSD ID: 2221.02MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES INC.	Client Sample ID:	LH18&24-101-1001	Date Sampled:	04/12/94
Project Name:	LHAAP	PDP Sample ID:	2221.02	Date Received:	04/13/94
Project No.:	2379	Report No.:	B8713	Date Reported:	04/29/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8713
Sample Volume:	5.0 ml	Date Analyzed:	04/25/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	30 B
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	18
Carbon disulfide	5	24	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	93
Toluene-d8	50	(88-110)	86 *
Bromofluorobenzene	50	(86-115)	99

Method Blank ID: 2221V.WBLK1 LCS ID: 2221V.WLCS1 MS ID: 2221.02MS MSD ID: 2221.02MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES INC.	Client Sample ID:	LH18&24-MW23-1001	Date Sampled:	04/12/94
Project Name:	LHAAP	PDP Sample ID:	2221.03	Date Received:	04/13/94
Project No.:	2379	Report No.:	B8717	Date Reported:	04/29/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	10.00	GC/MS File ID:	B8717
Sample Volume:	5.0 ml	Date Analyzed:	04/25/94
Dilution:	10.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	50	ND	Carbon tetrachloride	50	ND
1,1,2,2-Tetrachloroethane	50	ND	Chlorobenzene	50	ND
1,1,2-Trichloroethane	50	ND	Chloroethane	100	ND
1,1-Dichloroethane	50	ND	Chloroform	50	ND
1,1-Dichloroethene	50	ND	Chloromethane	100	ND
1,2-Dichloroethane	50	ND	Cis-1,3-Dichloropropene	50	ND
',2-Dichloropropane	50	ND	Dibromochloromethane	50	ND
2-Butanone	100	ND	Ethylbenzene	50	ND
2-Chloroethyl vinyl ether	100	ND	Methylene chloride	50	820 B
2-Hexanone	100	ND	Styrene	50	ND
4-Methyl-2-pentanone	100	ND	Tetrachloroethene	50	ND
Acetone	100	190	Toluene	50	ND
Benzene	50	ND	Total xylenes	50	ND
Bromodichloromethane	50	ND	Total-1,2-Dichloroethene	50	50
Bromoform	50	ND	Trans-1,3-Dichloropropene	50	ND
Bromomethane	100	ND	Trichloroethene	50	980
Carbon disulfide	50	ND	Vinyl acetate	100	ND
			Vinylchloride	100	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	102
Toluene-d8	50	(88-110)	93
Bromofluorobenzene	50	(86-115)	103

Method Blank ID: 2221V.WBLK1 LCS ID: 2221V.WLCS1 MS ID: 2221.02MS MSD ID: 2221.02MSD DUP ID: NA

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PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES INC.	Client Sample ID:	LH18&24-MW22-1001	Date Sampled:	04/12/94
Project Name:	LHAAP	PDP Sample ID:	2221.04	Date Received:	04/13/94
Project No.:	2379	Report No.:	B8694	Date Reported:	04/29/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	100.00	GC/MS File ID:	B8694
Sample Volume:	5.0 ml	Date Analyzed:	04/22/94
Dilution:	100.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	500	ND	Carbon tetrachloride	500	ND
1,1,2,2-Tetrachloroethane	500	ND	Chlorobenzene	500	ND
1,1,2-Trichloroethane	500	ND	Chloroethane	1000	ND
1,1-Dichloroethane	500	ND	Chloroform	500	ND
1,1-Dichloroethene	500	ND	Chloromethane	1000	ND
1,2-Dichloroethane	500	ND	Cis-1,3-Dichloropropene	500	ND
',2-Dichloropropane	500	ND	Dibromochloromethane	500	ND
-Butanone	1000	ND	Ethylbenzene	500	ND
2-Chloroethyl vinyl ether	1000	ND	Methylene chloride	500	5900 B
2-Hexanone	1000	ND	Styrene	500	ND
4-Methyl-2-pentanone	1000	ND	Tetrachloroethene	500	ND
Acetone	1000	6300	Toluene	500	ND
Benzene	500	ND	Total xylenes	500	ND
Bromodichloromethane	500	ND	Total-1,2-Dichloroethene	500	430 J
Bromoform	500	ND	Trans-1,3-Dichloropropene	500	ND
Bromomethane	1000	ND	Trichloroethene	500	1900
Carbon disulfide	500	ND	Vinyl acetate	1000	ND
			Vinylchloride	1000	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	98
Toluene-d8	50	(88-110)	91
Bromofluorobenzene	50	(86-115)	104

Method Blank ID: 2219V.WBLK1 LCS ID: 2219V.WLCS1 MS ID: 2221.02MS MSD ID: 2221.02MSD DUP ID: NA

PDP ANALYTICAL SERVICES
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LABORATORY REPORT

Client:	AWD TECHNOLOGIES INC.	Client Sample ID:	LH18&24-MW21-1001	Date Sampled:	04/12/94
Project Name:	LHAAP	PDP Sample ID:	2221.05	Date Received:	04/13/94
Project No.:	2379	Report No.:	B8695	Date Reported:	04/29/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	100.00	GC/MS File ID:	B8695
Sample Volume:	5.0 ml	Date Analyzed:	04/22/94
Dilution:	100.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	500	ND	Carbon tetrachloride	500	ND
1,1,2,2-Tetrachloroethane	500	ND	Chlorobenzene	500	ND
1,1,2-Trichloroethane	500	ND	Chloroethane	1000	ND
1,1-Dichloroethane	500	ND	Chloroform	500	ND
1,1-Dichloroethene	500	ND	Chloromethane	1000	ND
1,2-Dichloroethane	500	ND	Cis-1,3-Dichloropropene	500	ND
1,2-Dichloropropane	500	ND	Dibromochloromethane	500	ND
2-Butanone	1000	ND	Ethylbenzene	500	ND
2-Chloroethyl vinyl ether	1000	ND	Methylene chloride	500	450000 EB
2-Hexanone	1000	ND	Styrene	500	ND
4-Methyl-2-pentanone	1000	ND	Tetrachloroethene	500	ND
Acetone	1000	9900	Toluene	500	ND
Benzene	500	ND	Total xylenes	500	ND
Bromodichloromethane	500	ND	Total-1,2-Dichloroethene	500	500
Bromoform	500	ND	Trans-1,3-Dichloropropene	500	ND
Bromomethane	1000	ND	Trichloroethene	500	8400
Carbon disulfide	500	ND	Vinyl acetate	1000	ND
			Vinylchloride	1000	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	96
Toluene-d8	50	(88-110)	90
Bromofluorobenzene	50	(86-115)	103

Method Blank ID: 2219V.WBLK1 LCS ID: 2219V.WLCS1 MS ID: 2221.02MS MSD ID: 2221.02MSD DUP ID: NA

PDP ANALYTICAL SERVICES
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LABORATORY REPORT

Client:	AWD TECHNOLOGIES INC.	Client Sample ID:	LH18&24-MW21-1001(DL)	Date Sampled:	04/12/94
Project Name:	LHAAP	PDP Sample ID:	2221.05(DILUTION)	Date Received:	04/13/94
Project No.:	2379	Report No.:	B8728	Date Reported:	04/29/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	10000.00	GC/MS File ID:	B8728
Sample Volume:	5.0 ml	Date Analyzed:	04/25/94
Dilution:	10000.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	50000	ND	Carbon tetrachloride	50000	ND
1,1,2,2-Tetrachloroethane	50000	ND	Chlorobenzene	50000	ND
1,1,2-Trichloroethane	50000	ND	Chloroethane	100000	ND
1,1-Dichloroethane	50000	ND	Chloroform	50000	ND
1,1-Dichloroethene	50000	ND	Chloromethane	100000	ND
1,2-Dichloroethane	50000	ND	Cis-1,3-Dichloropropene	50000	ND
1,2-Dichloropropane	50000	ND	Dibromochloromethane	50000	ND
2-Butanone	100000	ND	Ethylbenzene	50000	ND
2-Chloroethyl vinyl ether	100000	ND	Methylene chloride	50000	1270000 B
2-Hexanone	100000	ND	Styrene	50000	ND
4-Methyl-2-pentanone	100000	ND	Tetrachloroethene	50000	ND
Acetone	100000	160000	Toluene	50000	ND
Benzene	50000	ND	Total xylenes	50000	ND
Bromodichloromethane	50000	ND	Total-1,2-Dichloroethene	50000	ND
Bromoform	50000	ND	Trans-1,3-Dichloropropene	50000	ND
Bromomethane	100000	ND	Trichloroethene	50000	ND
Carbon disulfide	50000	ND	Vinyl acetate	100000	ND
			Vinylchloride	100000	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	106
Toluene-d8	50	(88-110)	92
Bromofluorobenzene	50	(86-115)	109

Method Blank ID: 2221V.WBLK1 LCS ID: 2221V.WLCS1 MS ID: 2221.02MS MSD ID: 2221.02MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES INC.	Client Sample ID:	LH18&24-MW15-1001	Date Sampled:	04/12/94
Project Name:	LHAAP	PDP Sample ID:	2221.06	Date Received:	04/13/94
Project No.:	2379	Report No.:	B8696	Date Reported:	04/29/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	100.00	GC/MS File ID:	B8696
Sample Volume:	5.0 ml	Date Analyzed:	04/22/94
Dilution:	100.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	500	ND	Carbon tetrachloride	500	ND
1,1,2,2-Tetrachloroethane	500	ND	Chlorobenzene	500	ND
1,1,2-Trichloroethane	500	ND	Chloroethane	1000	ND
1,1-Dichloroethane	500	ND	Chloroform	500	ND
1,1-Dichloroethene	500	ND	Chloromethane	1000	ND
1,2-Dichloroethane	500	ND	Cis-1,3-Dichloropropene	500	ND
1,2-Dichloropropane	500	ND	Dibromochloromethane	500	ND
2-Butanone	1000	ND	Ethylbenzene	500	ND
2-Chloroethyl vinyl ether	1000	ND	Methylene chloride	500	645 B
2-Hexanone	1000	ND	Styrene	500	ND
4-Methyl-2-pentanone	1000	ND	Tetrachloroethene	500	ND
Acetone	1000	7200	Toluene	500	ND
Benzene	500	ND	Total xylenes	500	ND
Bromodichloromethane	500	ND	Total-1,2-Dichloroethene	500	ND
Bromoform	500	ND	Trans-1,3-Dichloropropene	500	ND
Bromomethane	1000	ND	Trichloroethene	500	ND
Carbon disulfide	500	ND	Vinyl acetate	1000	ND
			Vinylchloride	1000	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	94
Toluene-d8	50	(88-110)	88
Bromofluorobenzene	50	(86-115)	99

Method Blank ID: 2219V.WBLK1 LCS ID: 2219V.WLCS1 MS ID: 2221.02MS MSD ID: 2221.02MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive. Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES INC.	Client Sample ID:	LH18&24-MW23-EB	Date Sampled:	04/12/94
Project Name:	LHAAP	PDP Sample ID:	2221.07	Date Received:	04/13/94
Project No.:	2379	Report No..	B8719	Date Reported:	04/29/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	10.00	GC/MS File ID:	B8719
Sample Volume:	5.0 ml	Date Analyzed:	04/25/94
Dilution:	10.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	50	ND	Carbon tetrachloride	50	ND
1,1,2,2-Tetrachloroethane	50	ND	Chlorobenzene	50	ND
1,1,2-Trichloroethane	50	ND	Chloroethane	100	ND
1,1-Dichloroethane	50	ND	Chloroform	50	ND
1,1-Dichloroethene	50	ND	Chloromethane	100	ND
1,2-Dichloroethane	50	ND	Cis-1,3-Dichloropropene	50	ND
1,2-Dichloropropane	50	ND	Dibromochloromethane	50	ND
2-Butanone	100	ND	Ethylbenzene	50	ND
2-Chloroethyl vinyl ether	100	ND	Methylene chloride	50	180 B
2-Hexanone	100	ND	Styrene	50	ND
4-Methyl-2-pentanone	100	ND	Tetrachloroethene	50	ND
Acetone	100	ND	Toluene	50	ND
Benzene	50	ND	Total xylenes	50	ND
Bromodichloromethane	50	ND	Total-1,2-Dichloroethene	50	ND
Bromoform	50	ND	Trans-1,3-Dichloropropene	50	ND
Bromomethane	100	ND	Trichloroethene	50	ND
Carbon disulfide	50	ND	Vinyl acetate	100	ND
			Vinylchloride	100	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	102
Toluene-d8	50	(88-110)	92
Bromofluorobenzene	50	(86-115)	106

Method Blank ID: 2221V.WBLK1 LCS ID: 2221V.WLCS1 MS ID: 2221.02MS MSD ID: 2221.02MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES INC.	Client Sample ID:	LH18&24-MW5-1001	Date Sampled:	04/12/94
Project Name:	LHAAP	PDP Sample ID:	2221.08	Date Received:	04/13/94
Project No.:	2379	Report No.:	B8720	Date Reported:	04/29/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8720
Sample Volume:	5.0 ml	Date Analyzed:	04/25/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	3 J	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	7 B
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	33
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	120
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	18

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	103
Toluene-d8	50	(88-110)	92
Bromofluorobenzene	50	(86-115)	105

Method Blank ID: 2221V.WBLK1 LCS ID: 2221V.WLCS1 MS ID: 2221.02MS MSD ID: 2221.02MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES INC.	Client Sample ID:	LH18&24-MW5-1001QC	Date Sampled:	04/12/94
Project Name:	LHAAP	PDP Sample ID:	2221.09	Date Received:	04/13/94
Project No.:	2379	Report No.:	B8721	Date Reported:	04/29/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	2.00	GC/MS File ID:	B8721
Sample Volume:	5.0 ml	Date Analyzed:	04/25/94
Dilution:	2.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	10	ND	Carbon tetrachloride	10	ND
1,1,2,2-Tetrachloroethane	10	ND	Chlorobenzene	10	ND
1,1,2-Trichloroethane	10	ND	Chloroethane	20	ND
1,1-Dichloroethane	10	16	Chloroform	10	ND
1,1-Dichloroethene	10	ND	Chloromethane	20	ND
1,2-Dichloroethane	10	ND	Cis-1,3-Dichloropropene	10	ND
1,2-Dichloropropane	10	ND	Dibromochloromethane	10	ND
2-Butanone	20	ND	Ethylbenzene	10	ND
2-Chloroethyl vinyl ether	20	ND	Methylene chloride	10	32 B
2-Hexanone	20	ND	Styrene	10	ND
4-Methyl-2-pentanone	20	ND	Tetrachloroethene	10	ND
Acetone	20	ND	Toluene	10	ND
Benzene	10	ND	Total xylenes	10	ND
Bromodichloromethane	10	ND	Total-1,2-Dichloroethene	10	31
Bromoform	10	ND	Trans-1,3-Dichloropropene	10	ND
Bromomethane	20	ND	Trichloroethene	10	126
Carbon disulfide	10	ND	Vinyl acetate	20	ND
			Vinylchloride	20	16

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	103
Toluene-d8	50	(88-110)	94
Bromofluorobenzene	50	(86-115)	108

Method Blank ID: 2221V.WBLK1 LCS ID: 2221V.WLCS1 MS ID: 2221.02MS MSD ID: 2221.02MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES INC.	Client Sample ID:	LH18&24-XXX-TB	Date Sampled:	04/12/94
Project Name:	LHAAP	PDP Sample ID:	2221.10	Date Received:	04/13/94
Project No.:	2379	Report No.:	B8700	Date Reported:	04/29/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8700
Sample Volume:	5.0 ml	Date Analyzed:	04/22/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
',2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	9 B
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	ND
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	100
Toluene-d8	50	(88-110)	94
Bromofluorobenzene	50	(86-115)	106

Method Blank ID: 2219V.WBLK1 LCS ID: 2219V.WLCS1 MS ID: 2221.02MS MSD ID: 2221.02MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project Number: 2379

Client Sample ID: LH18&24-MW4-1001
PDP Sample ID: 2221.01
Report Number: I22101

Date Sampled: 04-12-94
Date Received: 04-13-94
Date Reported: 05-02-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-15-94	04-20-94	0.1	ND	MBB
Antimony	SW-846 6010	04-15-94	04-20-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-21-94	04-27-94	0.005	ND	MBB
Barium	SW-846 6010	04-15-94	04-20-94	0.01	0.152	MBB
Beryllium	SW-846 6010	04-15-94	04-20-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-15-94	04-20-94	0.005	ND	MBB
Calcium	SW-846 6010	04-15-94	04-20-94	0.2	54.8	MBB
Chromium	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Cobalt	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Copper	SW-846 6010	04-15-94	04-20-94	0.02	ND	MBB
Iron	SW-846 6010	04-15-94	04-20-94	0.1	ND	MBB
Lead	SW-846 7421	04-21-94	04-28-94	0.005	ND	MBB
Magnesium	SW-846 6010	04-15-94	04-20-94	0.2	55.0	MBB
Manganese	SW-846 6010	04-15-94	04-20-94	0.01	0.247	MBB
Mercury	SW-846 7470	04-20-94	04-21-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-15-94	04-20-94	0.04	ND	MBB
Potassium	SW-846 6010	04-15-94	04-20-94	5	ND	MBB
Selenium	SW-846 7740	04-21-94	04-26-94	0.01	ND	MBB
Silver	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Sodium	SW-846 6010	04-15-94	04-20-94	0.5	461	MBB
Thallium	SW-846 7841	04-21-94	04-28-94	0.01	ND	MBB
Vanadium	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Zinc	SW-846 6010	04-15-94	04-20-94	0.02	ND	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP LCS ID: 2216.LCSW1
GFAA LCS ID: 2216.LCSW1
CVAA LCS ID: 2211.LCSW1

ICP MS ID: 2219.01MS
GFAA MS ID: 2219.01MS
CVAA MS ID: 2219.01MS

ICP Method Blank ID: 2216.PBW1
GFAA Method Blank ID: 2216.PBW1
CVAA Method Blank ID: 2211.PBW1

ICP LCSD ID: 2216.LCSW2
GFAA LCSD ID: 2216.LCSW2
CVAA LCSD ID: 2211.LCSW2

ICP MSD ID: 2219.01MSD
GFAA MSD ID: 2219.01MSD
CVAA MSD ID: 2219.01MSD

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

011213

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project Number: 2379

Client Sample ID: LH18&24-101-1001
PDP Sample ID: 2221.02
Report Number: I22102

Date Sampled: 04-12-94
Date Received: 04-13-94
Date Reported: 05-02-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-15-94	04-20-94	0.1	0.16	MBB
Antimony	SW-846 6010	04-15-94	04-20-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-21-94	04-27-94	0.005	ND	MBB
Barium	SW-846 6010	04-15-94	04-20-94	0.01	0.276	MBB
Beryllium	SW-846 6010	04-15-94	04-20-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-15-94	04-20-94	0.005	ND	MBB
Calcium	SW-846 6010	04-15-94	04-20-94	0.2	4.1	MBB
Chromium	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Cobalt	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Copper	SW-846 6010	04-15-94	04-20-94	0.02	ND	MBB
Iron	SW-846 6010	04-15-94	04-20-94	0.1	0.15	MBB
Lead	SW-846 7421	04-21-94	04-28-94	0.005	ND	MBB
Magnesium	SW-846 6010	04-15-94	04-20-94	0.2	2.5	MBB
Manganese	SW-846 6010	04-15-94	04-20-94	0.01	0.062	MBB
Mercury	SW-846 7470	04-20-94	04-21-94	0.0002	0.0002	DOC
Nickel	SW-846 6010	04-15-94	04-20-94	0.04	ND	MBB
Potassium	SW-846 6010	04-15-94	04-20-94	5	ND	MBB
Selenium	SW-846 7740	04-21-94	04-26-94	0.01	ND	MBB
Silver	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Sodium	SW-846 6010	04-15-94	04-20-94	0.5	18.5	MBB
Thallium	SW-846 7841	04-21-94	04-28-94	0.005	ND	MBB
Vanadium	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Zinc	SW-846 6010	04-15-94	04-20-94	0.02	0.026	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP LCS ID: 2216.LCSW1
GFAA LCS ID: 2216.LCSW1
CVAA LCS ID: 2211.LCSW1

ICP MS ID: 2219.01MS
GFAA MS ID: 2219.01MS
CVAA MS ID: 2219.01MS

ICP Method Blank ID: 2216.PBW1
GFAA Method Blank ID: 2216.PBW1
CVAA Method Blank ID: 2211.PBW1

ICP LCSD ID: 2216.LCSW2
GFAA LCSD ID: 2216.LCSW2
CVAA LCSD ID: 2211.LCSW2

ICP MSD ID: 2219.01MSD
GFAA MSD ID: 2219.01MSD
CVAA MSD ID: 2219.01MSD

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project Number: 2379

Client Sample ID: LH18&24-MW23-1001
PDP Sample ID: 2221.03
Report Number: I22103

Date Sampled: 04-12-94
Date Received: 04-13-94
Date Reported: 05-02-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-15-94	04-20-94	0.1	ND	MBB
Antimony	SW-846 6010	04-15-94	04-20-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-21-94	04-27-94	0.005	ND	MBB
Barium	SW-846 6010	04-15-94	04-20-94	0.01	1.73	MBB
Beryllium	SW-846 6010	04-15-94	04-20-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-15-94	04-20-94	0.005	ND	MBB
Calcium	SW-846 6010	04-15-94	04-20-94	0.2	52.9	MBB
Chromium	SW-846 6010	04-15-94	04-20-94	0.01	0.067	MBB
Cobalt	SW-846 6010	04-15-94	04-20-94	0.01	0.010	MBB
Copper	SW-846 6010	04-15-94	04-20-94	0.02	ND	MBB
Iron	SW-846 6010	04-15-94	04-20-94	0.1	2.37	MBB
Lead	SW-846 7421	04-21-94	04-28-94	0.005	ND	MBB
Magnesium	SW-846 6010	04-15-94	04-20-94	0.2	41.6	MBB
Manganese	SW-846 6010	04-15-94	04-20-94	0.01	0.194	MBB
Mercury	SW-846 7470	04-20-94	04-21-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-15-94	04-20-94	0.04	0.42	MBB
Potassium	SW-846 6010	04-15-94	04-20-94	5	ND	MBB
Selenium	SW-846 7740	04-21-94	04-26-94	0.01	ND	MBB
Silver	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Sodium	SW-846 6010	04-15-94	04-20-94	0.5	280	MBB
Thallium	SW-846 7841	04-21-94	04-28-94	0.005	ND	MBB
Vanadium	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Zinc	SW-846 6010	04-15-94	04-20-94	0.02	0.029	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP LCS ID: 2216.LCSW1
GFAA LCS ID: 2216.LCSW1
CVAA LCS ID: 2211.LCSW1

ICP MS ID: 2219.01MS
GFAA MS ID: 2219.01MS
CVAA MS ID: 2219.01MS

ICP Method Blank ID: 2216.PBW1
GFAA Method Blank ID: 2216.PBW1
CVAA Method Blank ID: 2211.PBW1

ICP LCSD ID: 2216.LCSW2
GFAA LCSD ID: 2216.LCSW2
CVAA LCSD ID: 2211.LCSW2

ICP MSD ID: 2219.01MSD
GFAA MSD ID: 2219.01MSD
CVAA MSD ID: 2219.01MSD

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

011215

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project Number: 2379

Client Sample ID: LH18&24-MW22-1001
PDP Sample ID: 2221.04
Report Number: I22104

Date Sampled: 04-12-94
Date Received: 04-13-94
Date Reported: 05-02-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-15-94	04-20-94	0.1	0.20	MBB
Antimony	SW-846 6010	04-15-94	04-20-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-21-94	04-27-94	0.005	ND	MBB
Barium	SW-846 6010	04-15-94	04-20-94	0.01	1.96	MBB
Beryllium	SW-846 6010	04-15-94	04-20-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-15-94	04-20-94	0.005	ND	MBB
Calcium	SW-846 6010	04-15-94	04-20-94	0.2	99.2	MBB
Chromium	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Cobalt	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Copper	SW-846 6010	04-15-94	04-20-94	0.02	ND	MBB
Iron	SW-846 6010	04-15-94	04-20-94	0.1	0.25	MBB
Lead	SW-846 7421	04-21-94	04-28-94	0.01	ND	MBB
Magnesium	SW-846 6010	04-15-94	04-20-94	0.2	40.1	MBB
Manganese	SW-846 6010	04-15-94	04-20-94	0.01	0.045	MBB
Mercury	SW-846 7470	04-20-94	04-21-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-15-94	04-20-94	0.04	ND	MBB
Potassium	SW-846 6010	04-15-94	04-20-94	5	ND	MBB
Selenium	SW-846 7740	04-21-94	04-26-94	0.01	ND	MBB
Silver	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Sodium	SW-846 6010	04-15-94	04-20-94	0.5	364	MBB
Thallium	SW-846 7841	04-21-94	04-28-94	0.01	ND	MBB
Vanadium	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Zinc	SW-846 6010	04-15-94	04-20-94	0.02	ND	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP LCS ID: 2216.LCSW1
GFAA LCS ID: 2216.LCSW1
CVAA LCS ID: 2211.LCSW1

ICP MS ID: 2219.01MS
GFAA MS ID: 2219.01MS
CVAA MS ID: 2219.01MS

ICP Method Blank ID: 2216.PBW1
GFAA Method Blank ID: 2216.PBW1
CVAA Method Blank ID: 2211.PBW1

ICP LCSD ID: 2216.LCSW2
GFAA LCSD ID: 2216.LCSW2
CVAA LCSD ID: 2211.LCSW2

ICP MSD ID: 2219.01MSD
GFAA MSD ID: 2219.01MSD
CVAA MSD ID: 2219.01MSD

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

011216

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project Number: 2379

Client Sample ID: LH18&24-MW21-1001
PDP Sample ID: 2221.05
Report Number: I22105

Date Sampled: 04-12-94
Date Received: 04-13-94
Date Reported: 05-02-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-15-94	04-20-94	0.1	0.30	MBB
Antimony	SW-846 6010	04-15-94	04-20-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-21-94	04-27-94	0.01	ND	MBB
Barium	SW-846 6010	04-15-94	04-20-94	0.01	6.60	MBB
Beryllium	SW-846 6010	04-15-94	04-20-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-15-94	04-20-94	0.005	ND	MBB
Calcium	SW-846 6010	04-15-94	04-20-94	0.2	164	MBB
Chromium	SW-846 6010	04-15-94	04-20-94	0.01	0.018	MBB
Cobalt	SW-846 6010	04-15-94	04-20-94	0.01	0.052	MBB
Copper	SW-846 6010	04-15-94	04-20-94	0.02	ND	MBB
Iron	SW-846 6010	04-15-94	04-20-94	0.1	0.59	MBB
Lead	SW-846 7421	04-21-94	04-28-94	0.005	ND	MBB
Magnesium	SW-846 6010	04-15-94	04-20-94	0.2	131	MBB
Manganese	SW-846 6010	04-15-94	04-20-94	0.01	2.96	MBB
Mercury	SW-846 7470	04-20-94	04-21-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-15-94	04-20-94	0.04	0.077	MBB
Potassium	SW-846 6010	04-15-94	04-20-94	5	ND	MBB
Selenium	SW-846 7740	04-21-94	04-26-94	0.01	ND	MBB
Silver	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Sodium	SW-846 6010	04-15-94	04-20-94	0.5	458	MBB
Thallium	SW-846 7841	04-21-94	04-28-94	0.01	ND	MBB
Vanadium	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Zinc	SW-846 6010	04-15-94	04-20-94	0.02	0.060	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP LCS ID: 2216.LCSW1
GFAA LCS ID: 2216.LCSW1
CVAA LCS ID: 2211.LCSW1

ICP MS ID: 2219.01MS
GFAA MS ID: 2219.01MS
CVAA MS ID: 2219.01MS

ICP Method Blank ID: 2216.PBW1
GFAA Method Blank ID: 2216.PBW1
CVAA Method Blank ID: 2211.PBW1

ICP LCSD ID: 2216.LCSW2
GFAA LCSD ID: 2216.LCSW2
CVAA LCSD ID: 2211.LCSW2

ICP MSD ID: 2219.01MSD
GFAA MSD ID: 2219.01MSD
CVAA MSD ID: 2219.01MSD

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project Number: 2379

Client Sample ID: LH18&24-MW15-1001
PDP Sample ID: 2221.06
Report Number: I22106

Date Sampled: 04-12-94
Date Received: 04-13-94
Date Reported: 05-02-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-15-94	04-20-94	0.1	ND	MBB
Antimony	SW-846 6010	04-15-94	04-20-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-21-94	04-27-94	0.005	ND	MBB
Barium	SW-846 6010	04-15-94	04-20-94	0.01	0.245	MBB
Beryllium	SW-846 6010	04-15-94	04-20-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-15-94	04-20-94	0.005	ND	MBB
Calcium	SW-846 6010	04-15-94	04-20-94	0.2	11.2	MBB
Chromium	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Cobalt	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Copper	SW-846 6010	04-15-94	04-20-94	0.02	ND	MBB
Iron	SW-846 6010	04-15-94	04-20-94	0.1	2.3	MBB
Lead	SW-846 7421	04-21-94	04-28-94	0.005	ND	MBB
Magnesium	SW-846 6010	04-15-94	04-20-94	0.2	6.7	MBB
Manganese	SW-846 6010	04-15-94	04-20-94	0.01	0.345	MBB
Mercury	SW-846 7470	04-20-94	04-21-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-15-94	04-20-94	0.04	ND	MBB
Potassium	SW-846 6010	04-15-94	04-20-94	5	ND	MBB
Selenium	SW-846 7740	04-21-94	04-26-94	0.01	ND	MBB
Silver	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Sodium	SW-846 6010	04-15-94	04-20-94	0.5	70.6	MBB
Thallium	SW-846 7841	04-21-94	04-28-94	0.01	ND	MBB
Vanadium	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Zinc	SW-846 6010	04-15-94	04-20-94	0.02	0.028	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP LCS ID: 2216.LCSW1
GFAA LCS ID: 2216.LCSW1
CVAA LCS ID: 2211.LCSW1

ICP MS ID: 2219.01MS
GFAA MS ID: 2219.01MS
CVAA MS ID: 2219.01MS

ICP Method Blank ID: 2216.PBW1
GFAA Method Blank ID: 2216.PBW1
CVAA Method Blank ID: 2211.PBW1

ICP LCSD ID: 2216.LCSW2
GFAA LCSD ID: 2216.LCSW2
CVAA LCSD ID: 2211.LCSW2

ICP MSD ID: 2219.01MSD
GFAA MSD ID: 2219.01MSD
CVAA MSD ID: 2219.01MSD

PDP ANALYTICAL SERVICES
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011218

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project Number: 2379

Client Sample ID: LH18&24-MW23-EB
PDP Sample ID: 2221.07
Report Number: I22107

Date Sampled: 04-12-94
Date Received: 04-13-94
Date Reported: 05-02-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-15-94	04-20-94	0.1	ND	MBB
Antimony	SW-846 6010	04-15-94	04-20-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-21-94	04-27-94	0.005	ND	MBB
Barium	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Beryllium	SW-846 6010	04-15-94	04-20-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-15-94	04-20-94	0.005	ND	MBB
Calcium	SW-846 6010	04-15-94	04-20-94	0.2	ND	MBB
Chromium	SW-846 6010	04-15-94	04-20-94	0.01	0.010	MBB
Cobalt	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Copper	SW-846 6010	04-15-94	04-20-94	0.02	ND	MBB
Iron	SW-846 6010	04-15-94	04-20-94	0.1	ND	MBB
Lead	SW-846 7421	04-21-94	04-28-94	0.005	ND	MBB
Magnesium	SW-846 6010	04-15-94	04-20-94	0.2	ND	MBB
Manganese	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Mercury	SW-846 7470	04-20-94	04-21-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-15-94	04-20-94	0.04	ND	MBB
Potassium	SW-846 6010	04-15-94	04-20-94	5	ND	MBB
Selenium	SW-846 7740	04-21-94	04-26-94	0.01	ND	MBB
Silver	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Sodium	SW-846 6010	04-15-94	04-20-94	0.5	ND	MBB
Thallium	SW-846 7841	04-21-94	04-28-94	0.01	ND	MBB
Vanadium	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Zinc	SW-846 6010	04-15-94	04-20-94	0.02	ND	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP Method Blank ID: 2216.PBW1
GFAA Method Blank ID: 2216.PBW1
CVAA Method Blank ID: 2211.PBW1

ICP LCS ID: 2216.LCSW1
GFAA LCS ID: 2216.LCSW1
CVAA LCS ID: 2211.LCSW1

ICP LCSD ID: 2216.LCSW2
GFAA LCSD ID: 2216.LCSW2
CVAA LCSD ID: 2211.LCSW2

ICP MS ID: 2219.01MS
GFAA MS ID: 2219.01MS
CVAA MS ID: 2219.01MS

ICP MSD ID: 2219.01MSD
GFAA MSD ID: 2219.01MSD
CVAA MSD ID: 2219.01MSD

PDP ANALYTICAL SERVICES
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LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project Number: 2379

Client Sample ID: LH18&24-MW5-1001
PDP Sample ID: 2221.08
Report Number: I22108

Date Sampled: 04-12-94
Date Received: 04-13-94
Date Reported: 05-02-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-15-94	04-20-94	0.1	ND	MBB
Antimony	SW-846 6010	04-15-94	04-20-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-21-94	04-27-94	0.005	ND	MBB
Barium	SW-846 6010	04-15-94	04-20-94	0.01	1.43	MBB
Beryllium	SW-846 6010	04-15-94	04-20-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-15-94	04-20-94	0.005	ND	MBB
Calcium	SW-846 6010	04-15-94	04-20-94	0.2	35.3	MBB
Chromium	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Cobalt	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Copper	SW-846 6010	04-15-94	04-20-94	0.02	ND	MBB
Iron	SW-846 6010	04-15-94	04-20-94	0.1	ND	MBB
Lead	SW-846 7421	04-21-94	04-28-94	0.005	ND	MBB
Magnesium	SW-846 6010	04-15-94	04-20-94	0.2	37.4	MBB
Manganese	SW-846 6010	04-15-94	04-20-94	0.01	0.075	MBB
Mercury	SW-846 7470	04-20-94	04-21-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-15-94	04-20-94	0.04	ND	MBB
Potassium	SW-846 6010	04-15-94	04-20-94	5	ND	MBB
Selenium	SW-846 7740	04-21-94	04-26-94	0.01	ND	MBB
Silver	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Sodium	SW-846 6010	04-15-94	04-20-94	0.5	128	MBB
Thallium	SW-846 7841	04-21-94	04-28-94	0.01	ND	MBB
Vanadium	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Zinc	SW-846 6010	04-15-94	04-20-94	0.02	0.030	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP Method Blank ID: 2216.PBW1
GFAA Method Blank ID: 2216.PBW1
CVAA Method Blank ID: 2211.PBW1

ICP LCS ID: 2216.LCSW1
GFAA LCS ID: 2216.LCSW1
CVAA LCS ID: 2211.LCSW1

ICP LCSD ID: 2216.LCSW2
GFAA LCSD ID: 2216.LCSW2
CVAA LCSD ID: 2211.LCSW2

ICP MS ID: 2219.01MS
GFAA MS ID: 2219.01MS
CVAA MS ID: 2219.01MS

ICP MSD ID: 2219.01MSD
GFAA MSD ID: 2219.01MSD
CVAA MSD ID: 2219.01MSD

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGISS
Project Name: LHAAP
Project Number: 2379

Client Sample ID: LH18&24-MW5-1001QC
PDP Sample ID: 2221.09
Report Number: I22109

Date Sampled: 04-12-94
Date Received: 04-13-94
Date Reported: 05-02-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-15-94	04-20-94	0.1	ND	MBB
Antimony	SW-846 6010	04-15-94	04-20-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-21-94	04-27-94	0.01	ND	MBB
Barium	SW-846 6010	04-15-94	04-20-94	0.01	1.57	MBB
Beryllium	SW-846 6010	04-15-94	04-20-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-15-94	04-20-94	0.005	ND	MBB
Calcium	SW-846 6010	04-15-94	04-20-94	0.2	39.1	MBB
Chromium	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Cobalt	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Copper	SW-846 6010	04-15-94	04-20-94	0.02	ND	MBB
Iron	SW-846 6010	04-15-94	04-20-94	0.1	ND	MBB
Lead	SW-846 7421	04-21-94	04-28-94	0.005	ND	MBB
Magnesium	SW-846 6010	04-15-94	04-20-94	0.2	41.6	MBB
Manganese	SW-846 6010	04-15-94	04-20-94	0.01	0.077	MBB
Mercury	SW-846 7470	04-20-94	04-21-94	0.0002	0.0002	DOC
Nickel	SW-846 6010	04-15-94	04-20-94	0.04	ND	MBB
Potassium	SW-846 6010	04-15-94	04-20-94	5	ND	MBB
Selenium	SW-846 7740	04-21-94	04-26-94	0.01	ND	MBB
Silver	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Sodium	SW-846 6010	04-15-94	04-20-94	0.5	138	MBB
Thallium	SW-846 7841	04-21-94	04-28-94	0.01	ND	MBB
Vanadium	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Zinc	SW-846 6010	04-15-94	04-20-94	0.02	0.029	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP LCS ID: 2216.LCSW1
GFAA LCS ID: 2216.LCSW1
CVAA LCS ID: 2211.LCSW1

ICP MS ID: 2219.01MS
GFAA MS ID: 2219.01MS
CVAA MS ID: 2219.01MS

ICP Method Blank ID: 2216.PBW1
GFAA Method Blank ID: 2216.PBW1
CVAA Method Blank ID: 2211.PBW1

ICP LCSD ID: 2216.LCSW2
GFAA LCSD ID: 2216.LCSW2
CVAA LCSD ID: 2211.LCSW2

ICP MSD ID: 2219.01MSD
GFAA MSD ID: 2219.01MSD
CVAA MSD ID: 2219.01MSD

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas; 77386 (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project No.: 2379

Date Reported: 05-03-94
Report No.: I221CL
Analyst: HM

WET CHEMISTRY PARAMETER: Chloride

Method Reference: EPA 325.3 UNITS: mg/L

PDP LABORATORY ID	CLIENT ID	MATRIX	DATE SAMPLED	DATE RECEIVED	DATE ANALYZED	QUANT LIMIT	RESULT	SPIKE ADDED OR TRUE VALUE	RELATIVE PERCENT DIFF(20)	PERCENT RECOVERY (75-125)
2221.01	LH18&24-MW4-1001	WATER	04-12-94	04-13-94	04-21-94	2	753			
2221.02	LH18&24-101-1001	WATER	04-12-94	04-13-94	04-21-94	2	18			
2221.03	LH18&24-MW23-1001	WATER	04-12-94	04-13-94	04-21-94	2	594			
2221.04	LH18&24-MW22-1001	WATER	04-12-94	04-13-94	04-21-94	2	833			
2221.05	LH18&24-MW21-1001	WATER	04-12-94	04-13-94	04-21-94	2	1420			
2221.06	LH18&24-MW15-1001	WATER	04-12-94	04-13-94	04-21-94	2	160			
2221.07	LH18&24-MW23-EB	WATER	04-12-94	04-13-94	04-21-94	2	9			
2221.08	LH18&24-MW5-1001	WATER	04-12-94	04-13-94	04-21-94	2	363			
2221.09	LH18&24-MW5-1001QC	WATER	04-12-94	04-13-94	04-21-94	2	381			
			QUALITY ASSURANCE/QUALITY CONTROL							
2219.PB1	PREPARATION BLANK	NA	NA	NA	04-21-94	2	ND			
2219.LCS1	LAB CONTROL STD	NA	NA	NA	04-21-94	2	312	299		104
2219.LCS2	LAB CONTROL STD	NA	NA	NA	04-21-94	2	316	299	1.3	106
2224.01	SAMPLE	NA	NA	NA	04-21-94	2	310			
2224.01MS	MATRIX SPIKE	NA	NA	NA	04-21-94	2	815	443		114
2224.01MSD	MATRIX SPIKE DUP	NA	NA	NA	04-21-94	2	815	443	0.0	114

PDP ANALYTICAL SERVICES
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LABORATORY REPORT

Client: AWD TECHNOLOGIES, INC
Project Name: LHAAP
Project No.: 2379

Date Reported: 05-03-94
Report No.: I221N03
Analyst: HM

WET CHEMISTRY PARAMETER: Nitrate as N

Method Reference: EPA 352.1

UNITS: mg/L

PDP LABORATORY ID	CLIENT ID	MATRIX	DATE SAMPLED	DATE RECEIVED	DATE ANALYZED	QUANT LIMIT	RESULT	SPIKE ADDED OR TRUE VALUE	RELATIVE PERCENT DIFF(20)	PERCENT RECOVERY (75-125)
2221.01	LH18&24-MW4-1001	WATER	04-12-94	04-13-94	04-13-94	0.1	ND			
2221.02	LH18&24-101-1001	WATER	04-12-94	04-13-94	04-13-94	1.0	2.6			
2221.03	LH18&24-MW23-1001	WATER	04-12-94	04-13-94	04-13-94	0.5	1.2			
2221.04	LH18&24-MW22-1001	WATER	04-12-94	04-13-94	04-13-94	0.1	ND			
2221.05	LH18&24-MW21-1001	WATER	04-12-94	04-13-94	04-13-94	0.1	ND			
2221.06	LH18&24-MW15-1001	WATER	04-12-94	04-13-94	04-13-94	0.1	ND			
2221.07	LH18&24-MW23-EB	WATER	04-12-94	04-13-94	04-13-94	0.1	0.4			
2221.08	LH18&24-MW5-1001	WATER	04-12-94	04-13-94	04-13-94	1.0	4.1			
2221.09	LH18&24-MW5-1001QC	WATER	04-12-94	04-13-94	04-13-94	1.0	4.0			
				QUALITY ASSURANCE/QUALITY CONTROL						
2215.PB1	PREPARATION BLANK	NA	NA	NA	04-13-94	0.1	ND			
2215.LCS1	LAB CONTROL STD	NA	NA	NA	04-13-94	0.1	0.41	0.40		102
2215.LCS2	LAB CONTROL STD	NA	NA	NA	04-13-94	0.1	0.40	0.40	2.5	100
2215.01	SAMPLE	NA	NA	NA	04-13-94	5.0	15.6			
2215.01MS	MATRIX SPIKE	NA	NA	NA	04-13-94	5.0	37.9	20.0		112
2215.01MSD	MATRIX SPIKE DUP	NA	NA	NA	04-13-94	5.0	37.5	20.0	1.1	110

PDP ANALYTICAL SERVICES
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LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project No.: 2379

Date Reported: 05-03-94
Report No.: I221S04
Analyst: HM

WET CHEMISTRY PARAMETER: Sulfate

Method Reference: EPA 375.4 UNITS: mg/L

PDP LABORATORY ID	CLIENT ID	MATRIX	DATE SAMPLED	DATE RECEIVED	DATE ANALYZED	QUANT LIMIT	RESULT	SPIKE ADDED OR TRUE VALUE	RELATIVE PERCENT DIFF(20)	PERCENT RECOVERY (75-125)
2221.01	LH18&24-MW4-1001	WATER	04-12-94	04-13-94	04-20-94	5	43			
2221.02	LH18&24-101-1001	WATER	04-12-94	04-13-94	04-20-94	5	296			
2221.03	LH18&24-MW23-1001	WATER	04-12-94	04-13-94	04-20-94	5	11			
2221.04	LH18&24-MW22-1001	WATER	04-12-94	04-13-94	04-20-94	5	11			
2221.05	LH18&24-MW21-1001	WATER	04-12-94	04-13-94	04-20-94	5	6			
2221.06	LH18&24-MW15-1001	WATER	04-12-94	04-13-94	04-20-94	5	8			
2221.07	LH18&24-MW23-EB	WATER	04-12-94	04-13-94	04-20-94	5	5			
2221.08	LH18&24-MW5-1001	WATER	04-12-94	04-13-94	04-20-94	5	5			
2221.09	LH18&24-MW5-1001QC	WATER	04-12-94	04-13-94	04-20-94	5	6			
			QUALITY ASSURANCE/QUALITY CONTROL							
2210.PB1	PREPARATION BLANK	NA	NA	NA	04-20-94	5	ND			
2210.LCS1	LAB CONTROL STD	NA	NA	NA	04-20-94	5	138	151		91
2210.LCS2	LAB CONTROL STD	NA	NA	NA	04-20-94	5	131	151	5.2	87
2215.01	SAMPLE	NA	NA	NA	04-20-94	5	ND			
2215.01MS	MATRIX SPIKE	NA	NA	NA	04-20-94	5	12	10		120
2215.01MSD	MATRIX SPIKE DUP	NA	NA	NA	04-20-94	5	12	10	0.0	120

APPENDIX B
SUPPORT DOCUMENTATION

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES INC.	Client Sample ID:	LH18&24-101-1001	Date Sampled:	04/12/94
Project Name:	LHAAP	PDP Sample ID:	2221.02	Date Received:	04/13/94
Project No.:	2379	Report No.:	B8713	Date Reported:	04/29/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8713
Sample Volume:	5.0 ml	Date Analyzed:	04/25/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
',2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
.-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	30 B
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	18
Carbon disulfide	5	24	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1.2-Dichloroethane-d4	50	(76-114)	93
Toluene-d8	50	(88-110)	86 *
Bromofluorobenzene	50	(86-115)	99

Method Blank ID: 2221V.WBLK1 LCS ID: 2221V.WLCS1 MS ID: 2221.02MS MSD ID: 2221.02MSD DUP ID: NA

- low surrogate % recovery
⇒ flag all compounds as estimated

011226

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES INC.	Client Sample ID:	LH18&24-MW23-EB	Date Sampled:	04/12/94
Project Name:	LHAAP	PDP Sample ID:	2221.07	Date Received:	04/13/94
Project No.:	2379	Report No.:	B8719	Date Reported:	04/29/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	10.00	GC/MS File ID:	B8719
Sample Volume:	5.0 ml	Date Analyzed:	04/25/94
Dilution:	10.0 equipment rinsate blank diluted 10X	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	50	ND	Carbon tetrachloride	50	ND
1,1,2,2-Tetrachloroethane	50	ND	Chlorobenzene	50	ND
1,1,2-Trichloroethane	50	ND	Chloroethane	100	ND
1,1-Dichloroethane	50	ND	Chloroform	50	ND
1,1-Dichloroethene	50	ND	Chloromethane	100	ND
1,2-Dichloroethane	50	ND	Cis-1,3-Dichloropropene	50	ND
',2-Dichloropropane	50	ND	Dibromochloromethane	50	ND
.-Butanone	100	ND	Ethylbenzene	50	ND
2-Chloroethyl vinyl ether	100	ND	Methylene chloride	50	180 B
2-Hexanone	100	ND	Styrene	50	ND
4-Methyl-2-pentanone	100	ND	Tetrachloroethene	50	ND
Acetone	100	ND	Toluene	50	ND
Benzene	50	ND	Total xylenes	50	ND
Bromodichloromethane	50	ND	Total-1,2-Dichloroethene	50	ND
Bromoform	50	ND	Trans-1,3-Dichloropropene	50	ND
Bromomethane	100	ND	Trichloroethene	50	ND
Carbon disulfide	50	ND	Vinyl acetate	100	ND
			Vinylchloride	100	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	102
Toluene-d8	50	(88-110)	92
Bromofluorobenzene	50	(86-115)	106

Method Blank ID: 2221V.WBLK1 LCS ID: 2221V.WLCS1 MS ID: 2221.02MS MSD ID: 2221.02MSD DUP ID: NA

- blank contam.

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES INC.	Client Sample ID:	LH18&24-XXX-TB	Date Sampled:	04/12/94
Project Name:	LHAAP	PDP Sample ID:	2221.10	Date Received:	04/13/94
Project No.:	2379	Report No.:	B8700	Date Reported:	04/29/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8700
Sample Volume:	5.0 ml	Date Analyzed:	04/22/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
.-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	9 B
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	ND
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	100
Toluene-d8	50	(88-110)	94
Bromofluorobenzene	50	(86-115)	106

Method Blank ID: 2219V.WBLK1 LCS ID: 2219V.WLCS1 MS ID: 2221.02MS MSD ID: 2221.02MSD DUP ID: NA

- blank contam.

011228

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	NA	Client Sample ID:	NA	Date Sampled:	NA
Project Name:	NA	PDP Sample ID:	2221V.WBLK1(METHOD BLANK)	Date Received:	NA
Project No.:	NA	Report No.:	B8711	Date Reported:	04/29/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8711
Sample Volume:	5.0 ml	Date Analyzed:	04/25/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	8
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	ND
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	91
Toluene-d8	50	(88-110)	88
Bromofluorobenzene	50	(86-115)	102

Method Blank ID: NA LCS ID: NA MS ID: NA MSD ID: NA DUP ID: NA

- blank contam.

011229

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	NA	Client Sample ID:	NA	Date Sampled:	NA
Project Name:	NA	PDP Sample ID:	2219V.WBLK1(METHOD BLANK)	Date Received:	NA
Project No.:	NA	Report No.:	B8686	Date Reported:	04/29/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8686
Sample Volume:	5.0 ml	Date Analyzed:	04/22/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	6
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	ND
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	103
Toluene-d8	50	(88-110)	98
Bromofluorobenzene	50	(86-115)	110

Method Blank ID: NA LCS ID: NA MS ID: NA MSD ID: NA DUP ID: NA

- blank contam.

000037

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

011230

LABORATORY REPORT

Client:	AWD TECHNOLOGIES INC.	Client Sample ID:	LH18&24-MW21-1001	Date Sampled:	04/12/94
Project Name:	LHAAP	PDP Sample ID:	2221.05	Date Received:	04/13/94
Project No.:	2379	Report No.:	88695	Date Reported:	04/29/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	100.00	GC/MS File ID:	B8695
Sample Volume:	5.0 ml	Date Analyzed:	04/22/94
Dilution:	100.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	500	ND	Carbon tetrachloride	500	ND
1,1,2,2-Tetrachloroethane	500	ND	Chlorobenzene	500	ND
1,1,2-Trichloroethane	500	ND	Chloroethane	1000	ND
1,1-Dichloroethane	500	ND	Chloroform	500	ND
1,1-Dichloroethene	500	ND	Chloromethane	1000	ND
1,2-Dichloroethane	500	ND	Cis-1,3-Dichloropropene	500	ND
1,2-Dichloropropane	500	ND	Dibromochloromethane	500	ND
2-Butanone	1000	ND	Ethylbenzene	500	ND
2-Chloroethyl vinyl ether	1000	ND	Methylene chloride	500	450000 EB
2-Hexanone	1000	ND	Styrene	500	ND
4-Methyl-2-pentanone	1000	ND	Tetrachloroethene	500	ND
Acetone	1000	9900	Toluene	500	ND
Benzene	500	ND	Total xylenes	500	ND
Bromodichloromethane	500	ND	Total-1,2-Dichloroethene	500	500
Bromoform	500	ND	Trans-1,3-Dichloropropene	500	ND
Bromomethane	1000	ND	Trichloroethene	500	8400
Carbon disulfide	500	ND	Vinyl acetate	1000	ND
			Vinylchloride	1000	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	96
Toluene-d8	50	(88-110)	90
Bromofluorobenzene	50	(86-115)	103

Method Blank ID: 2219V.WBLK1 LCS ID: 2219V.WLCS1 MS ID: 2221.02MS MSD ID: 2221.02MSD DUP ID: NA

- possible acetone contam. in dilution water
⇒ use the 100-fold dilution result
- no flags applied

060013

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES INC.	Client Sample ID:	LH18&24-MW21-1001(DL)	Date Sampled:	04/12/94
Project Name:	LHAAP	PDP Sample ID:	2221.05(DILUTION)	Date Received:	04/13/94
Project No.:	2379	Report No.:	B8728	Date Reported:	04/29/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	10000.00	GC/MS File ID:	B8728
Sample Volume:	5.0 ml	Date Analyzed:	04/25/94
Dilution:	10000.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	50000	ND	Carbon tetrachloride	50000	ND
1,1,2,2-Tetrachloroethane	50000	ND	Chlorobenzene	50000	ND
1,1,2-Trichloroethane	50000	ND	Chloroethane	100000	ND
1,1-Dichloroethane	50000	ND	Chloroform	50000	ND
1,1-Dichloroethene	50000	ND	Chloromethane	100000	ND
1,2-Dichloroethane	50000	ND	Cis-1,3-Dichloropropene	50000	ND
1,2-Dichloropropane	50000	ND	Dibromochloromethane	50000	ND
2-Butanone	100000	ND	Ethylbenzene	50000	ND
2-Chloroethyl vinyl ether	100000	ND	Methylene chloride	50000	1270000 B
2-Hexanone	100000	ND	Styrene	50000	ND
4-Methyl-2-pentanone	100000	ND	Tetrachloroethene	50000	ND
Acetone	100000	160000	Toluene	50000	ND
Benzene	50000	ND	Total xylenes	50000	ND
Bromodichloromethane	50000	ND	Total-1,2-Dichloroethene	50000	ND
Bromoform	50000	ND	Trans-1,3-Dichloropropene	50000	ND
Bromomethane	100000	ND	Trichloroethene	50000	ND
Carbon disulfide	50000	ND	Vinyl acetate	100000	ND
			Vinylchloride	100000	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	106
Toluene-d8	50	(88-110)	92
Bromofluorobenzene	50	(86-115)	109

Method Blank ID: 2221V.WBLK1 LCS ID: 2221V.WLCS1 MS ID: 2221.02MS MSD ID: 2221.02MSD DUP ID: NA

– possible acetone contam. in dilution water
⇒ use the 100-fold dilution result
– no flags applied

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300: Spring. Texas; 77386 (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project No.: 2379

Date Reported: 05-03-94
Report No.: I2210L
Analyst: RM

WET CHEMISTRY PARAMETER: Chloride

Method Reference: EPA 325.3

UNITS: mg/L

PDP LABORATORY ID	CLIENT ID	MATRIX	DATE SAMPLED	DATE RECEIVED	DATE ANALYZED	QUANT LIMIT	RESULT	SPIKE ADDED OR TRUE VALUE	RELATIVE PERCENT DIFF(20)	PERCENT RECOVERY (75-125)
2221.01	LH18&24-MW4-1001	WATER	04-12-94	04-13-94	04-21-94	2	753			
2221.02	LH18&24-101-1001	WATER	04-12-94	04-13-94	04-21-94	2	18			
2221.03	LH18&24-MW23-1001	WATER	04-12-94	04-13-94	04-21-94	2	594			
2221.04	LH18&24-MW22-1001	WATER	04-12-94	04-13-94	04-21-94	2	833			
2221.05	LH18&24-MW21-1001	WATER	04-12-94	04-13-94	04-21-94	2	1420			
2221.06	LH18&24-MW15-1001	WATER	04-12-94	04-13-94	04-21-94	2	160			
2221.07	LH18&24-MW23-EB	WATER	04-12-94	04-13-94	04-21-94	2	9			
2221.08	LH18&24-MW5-1001	WATER	04-12-94	04-13-94	04-21-94	2	363			
2221.09	LH18&24-MW5-1001QC	WATER	04-12-94	04-13-94	04-21-94	2	381			
			QUALITY ASSURANCE/QUALITY CONTROL							
2219.PB1	PREPARATION BLANK	NA	NA	NA	04-21-94	2	ND			
2219.LCS1	LAB CONTROL STD	NA	NA	NA	04-21-94	2	312	299		104
2219.LCS2	LAB CONTROL STD	NA	NA	NA	04-21-94	2	316	299	1.3	106
2224.01	SAMPLE	NA	NA	NA	04-21-94	2	310			
2224.01MS	MATRIX SPIKE	NA	NA	NA	04-21-94	2	815	443		114
2224.01MSD	MATRIX SPIKE DUP	NA	NA	NA	04-21-94	2	815	443	0.0	114

– blank contam.

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas; 77386 (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES, INC
Project Name: LHAAP
Project No.: 2379

Date Reported: 05-03-94
Report No.: 1221NO3
Analyst: HM

WET CHEMISTRY PARAMETER: Nitrate as N

Method Reference: EPA 352.1

UNITS: mg/L

PDP LABORATORY ID	CLIENT ID	MATRIX	DATE SAMPLED	DATE RECEIVED	DATE ANALYZED	QUANT LIMIT	RESULT	SPIKE ADDED OR TRUE VALUE	RELATIVE PERCENT DIFF(20)	PERCENT RECOVERY (75-125)
2221.01	LH18&24-MW4-1001	WATER	04-12-94	04-13-94	04-13-94	0.1	ND			
2221.02	LH18&24-101-1001	WATER	04-12-94	04-13-94	04-13-94	1.0	2.6			
2221.03	LH18&24-MW23-1001	WATER	04-12-94	04-13-94	04-13-94	0.5	1.2			
2221.04	LH18&24-MW22-1001	WATER	04-12-94	04-13-94	04-13-94	0.1	ND			
2221.05	LH18&24-MW21-1001	WATER	04-12-94	04-13-94	04-13-94	0.1	ND			
2221.06	LH18&24-MW15-1001	WATER	04-12-94	04-13-94	04-13-94	0.1	ND			
2221.07	LH18&24-MW23-EB	WATER	04-12-94	04-13-94	04-13-94	0.1	0.4			
2221.08	LH18&24-MW5-1001	WATER	04-12-94	04-13-94	04-13-94	1.0	4.1			
2221.09	LH18&24-MW5-1001QC	WATER	04-12-94	04-13-94	04-13-94	1.0	4.0			
			QUALITY ASSURANCE/QUALITY CONTROL							
2215.PB1	PREPARATION BLANK	NA	NA	NA	04-13-94	0.1	ND			
2215.LCS1	LAB CONTROL STD	NA	NA	NA	04-13-94	0.1	0.41	0.40		102
2215.LCS2	LAB CONTROL STD	NA	NA	NA	04-13-94	0.1	0.40	0.40	2.5	100
2215.01	SAMPLE	NA	NA	NA	04-13-94	5.0	15.6			
2215.01MS	MATRIX SPIKE	NA	NA	NA	04-13-94	5.0	37.9	20.0		112
2215.01MSD	MATRIX SPIKE DUP	NA	NA	NA	04-13-94	5.0	37.5	20.0	1.1	110

- blank contam.

011234

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas; 77386 (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project No.: 2379

Date Reported: 05-03-94
Report No.: I221S04
Analyst: HM

WET CHEMISTRY PARAMETER: Sulfate

Method Reference: EPA 375.4

UNITS: mg/L

PDP LABORATORY ID	CLIENT ID	MATRIX	DATE SAMPLED	DATE RECEIVED	DATE ANALYZED	QUANT LIMIT	RESULT	SPIKE ADDED OR TRUE VALUE	RELATIVE PERCENT DIFF(20)	PERCENT RECOVERY (75-125)
2221.01	LH18&24-MW4-1001	WATER	04-12-94	04-13-94	04-20-94	5	43			
2221.02	LH18&24-101-1001	WATER	04-12-94	04-13-94	04-20-94	5	296			
2221.03	LH18&24-MW23-1001	WATER	04-12-94	04-13-94	04-20-94	5	11			
2221.04	LH18&24-MW22-1001	WATER	04-12-94	04-13-94	04-20-94	5	11			
2221.05	LH18&24-MW21-1001	WATER	04-12-94	04-13-94	04-20-94	5	6			
2221.06	LH18&24-MW15-1001	WATER	04-12-94	04-13-94	04-20-94	5	8			
2221.07	LH18&24-MW23-EB	WATER	04-12-94	04-13-94	04-20-94	5	5			
2221.08	LH18&24-MW5-1001	WATER	04-12-94	04-13-94	04-20-94	5	5			
2221.09	LH18&24-MW5-1001QC	WATER	04-12-94	04-13-94	04-20-94	5	6			
			QUALITY ASSURANCE/QUALITY CONTROL							
2210.PB1	PREPARATION BLANK	NA	NA	NA	04-20-94	5	ND			
2210.LCS1	LAB CONTROL STD	NA	NA	NA	04-20-94	5	138	151		91
2210.LCS2	LAB CONTROL STD	NA	NA	NA	04-20-94	5	131	151	5.2	87
2215.01	SAMPLE	NA	NA	NA	04-20-94	5	ND			
2215.01MS	MATRIX SPIKE	NA	NA	NA	04-20-94	5	12	10		120
2215.01MSD	MATRIX SPIKE DUP	NA	NA	NA	04-20-94	5	12	10	0.0	120

- blank contam.

000033

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: NA
Project Name: NA
Project Number: NA

PDP MS ID: 2219.01MS
PDP MSD ID: 2219.01MSD
Report Number: I219MS01

Date Sampled: NA
Date Received: NA
Date Reported: 05-02-94

TOTAL METALS (MATRIX SPIKE AND MATRIX SPIKE DUPLICATE)

Sample Matrix: WATER — Units: mg/L

ELEMENT	METHOD	DATE PREPARED	DATE ANALYZED	SAMPLE VALUE	SPIKE ADDED	MATRIX SPIKE VALUE	PERCENT RECOVERY (75-125)	MATRIX SPIKE DUP VALUE	PERCENT RECOVERY (75-125)	RPD (20)
Aluminum	SW-846 6010	04-15-94	04-20-94	ND	2.00	1.86	93	1.84	92	1.1
Antimony	SW-846 6010	04-15-94	04-20-94	ND	0.50	0.52	104	0.51	102	1.9
Arsenic	SW-846 7060	04-21-94	04-27-94	ND	0.040	0.045	113	0.042	105	6.9
Barium	SW-846 6010	04-15-94	04-20-94	3.68	2.00	5.61	96	5.63	98	0.4
Beryllium	SW-846 6010	04-15-94	04-20-94	ND	0.050	0.047	94	0.047	94	0.0
Cadmium	SW-846 6010	04-15-94	04-20-94	ND	0.050	0.048	96	0.049	98	2.1
Calcium	SW-846 6010	04-15-94	04-20-94	96.4	NA	NA	NA	NA	NA	NA
Chromium	SW-846 6010	04-15-94	04-20-94	ND	0.20	0.19	95	0.19	95	0.0
Cobalt	SW-846 6010	04-15-94	04-20-94	0.020	0.50	0.49	94	0.50	96	2.0
Copper	SW-846 6010	04-15-94	04-20-94	ND	0.25	0.24	96	0.24	96	0.0
Iron	SW-846 6010	04-15-94	04-20-94	ND	1.00	0.96	96	0.96	96	0.0
Lead	SW-846 7421	04-21-94	04-28-94	ND	0.020	0.021	105	0.023	115	9.1
Magnesium	SW-846 6010	04-15-94	04-20-94	80.8	NA	NA	NA	NA	NA	NA
Manganese	SW-846 6010	04-15-94	04-20-94	0.966	0.50	1.45	97	1.46	99	0.7
Mercury	SW-846 7470	04-18-94	04-20-94	ND	0.0010	0.0011	110	0.0011	110	0.0
Nickel	SW-846 6010	04-15-94	04-20-94	ND	0.50	0.48	96	0.49	98	2.1
Potassium	SW-846 6010	04-15-94	04-20-94	ND	NA	NA	NA	NA	NA	NA
Selenium	SW-846 7740	04-21-94	04-26-94	ND	0.010	0.003	30*	0.003	30*	0.0
Silver	SW-846 6010	04-15-94	04-20-94	ND	0.050	0.047	94	0.047	94	0.0
Sodium	SW-846 6010	04-15-94	04-20-94	297	NA	NA	NA	NA	NA	NA
Thallium	SW-846 7841	04-21-94	04-28-94	ND	0.050	0.007	14*	0.010	20*	35*
Vanadium	SW-846 6010	04-15-94	04-20-94	ND	0.50	0.47	94	0.48	96	2.1
Zinc	SW-846 6010	04-15-94	04-20-94	ND	0.50	0.49	98	0.50	100	2.0

QUALITY ASSURANCE/QUALITY CONTROL

Method Blank ID: NA — LCS ID: NA — LCSD ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project Number: 2379

Client Sample ID: LH18&24-MW23-EB
PDP Sample ID: 2221.07
Report Number: I22107

Date Sampled: 04-12-94
Date Received: 04-13-94
Date Reported: 05-02-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-15-94	04-20-94	0.1	ND	MBB
Antimony	SW-846 6010	04-15-94	04-20-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-21-94	04-27-94	0.005	ND	MBB
Barium	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Beryllium	SW-846 6010	04-15-94	04-20-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-15-94	04-20-94	0.005	ND	MBB
Calcium	SW-846 6010	04-15-94	04-20-94	0.2	ND	MBB
Chromium	SW-846 6010	04-15-94	04-20-94	0.01	0.010	MBB
Cobalt	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Copper	SW-846 6010	04-15-94	04-20-94	0.02	ND	MBB
Iron	SW-846 6010	04-15-94	04-20-94	0.1	ND	MBB
Lead	SW-846 7421	04-21-94	04-28-94	0.005	ND	MBB
Magnesium	SW-846 6010	04-15-94	04-20-94	0.2	ND	MBB
Manganese	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Mercury	SW-846 7470	04-20-94	04-21-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-15-94	04-20-94	0.04	ND	MBB
Potassium	SW-846 6010	04-15-94	04-20-94	5	ND	MBB
Selenium	SW-846 7740	04-21-94	04-26-94	0.01	ND	MBB
Silver	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Sodium	SW-846 6010	04-15-94	04-20-94	0.5	ND	MBB
Thallium	SW-846 7841	04-21-94	04-28-94	0.01	ND	MBB
Vanadium	SW-846 6010	04-15-94	04-20-94	0.01	ND	MBB
Zinc	SW-846 6010	04-15-94	04-20-94	0.02	ND	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP LCS ID: 2216.LCSW1
GFAA LCS ID: 2216.LCSW1
CVAA LCS ID: 2211.LCSW1

ICP MS ID: 2219.01MS
GFAA MS ID: 2219.01MS
CVAA MS ID: 2219.01MS

ICP Method Blank ID: 2216.PBW1
GFAA Method Blank ID: 2216.PBW1
CVAA Method Blank ID: 2211.PBW1

ICP LCSD ID: 2216.LCSW2
GFAA LCSD ID: 2216.LCSW2
CVAA LCSD ID: 2211.LCSW2

ICP MSD ID: 2219.01MSD
GFAA MSD ID: 2219.01MSD
CVAA MSD ID: 2219.01MSD

-Cr blank contam.

011237

FINAL

CHEMICAL DATA QA/QC REPORT
INTERIM REMEDIAL ACTION
BURNING GROUND 3 AND
UNLINED EVAPORATION POND
LHAAP UNITS 18 AND 24
LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

PREPARED FOR

UNITED STATES ARMY CORPS OF ENGINEERS
TULSA DISTRICT

PREPARED BY

AWD TECHNOLOGIES, INC.
ROCKVILLE, MARYLAND

PDP ANALYTICAL SERVICES -- Episode 2222

AUGUST 31, 1994
USACE CONTRACT DACA56-93-D-0016
DELIVERY ORDER 0002
AWD PROJECT 2379

LONGHORN ARMY AMMUNITION PLANT, TEXAS
BURNING GROUND 3 AND UNLINED EVAPORATION POND
INTERIM REMEDIAL ACTION
PDP Analytical Services -- Episode 2222

1.0 Discussion.

This set of samples was collected from the Burning Ground 3 and the Unlined Evaporation Pond areas of the Longhorn Army Ammunition Plant in Karnack, Texas on April 12, 1994 as part of the Interim Remedial Action Investigation. The sampling activity was conducted by AWD Technologies, Inc. (AWD) for the U.S. Army Corps of Engineers (COE), Tulsa District. After collection, the samples were sent to the PDP Analytical Services laboratory in Spring, Texas and were placed under Episode Number 2222. Included in this work order are seven (7) groundwater samples. There were no field duplicates or field blanks in this set of samples.

Groundwater Samples

LH18/24-C4A-1001
LH18/24-C5-1001
LH18/24-C4-1001
LH18/24-MW7-1001
LH18/24-MW8-1001
LH18/24-MW9-1001
LH18/24-MW10-1001

All samples were analyzed for nitrate as nitrogen according to U.S. EPA Method 352.1. Since the laboratory did not supply any of the analytical raw data in the deliverable package, data validation has been performed on the limited basis of examining the QA/QC summary report.

Nitrate was successfully analyzed in all samples. The analytical data were evaluated by the following quality assurance/quality control (QA/QC) parameters where applicable: technical holding time and preservation, laboratory blanks, matrix spike recoveries, laboratory duplicates, laboratory control samples, and transcription. Validated sample analysis results are listed on the attached data summary form. Areas of concern with respect to data quality and usability are discussed below.

2.0 Nitrate.

Nitrate as nitrogen was analyzed as an anion by the aforementioned wet chemistry method.

2.1 Accuracy. The laboratory control sample and matrix spike percent recoveries were all within acceptable quality control limits.

2.2 Precision. The LCS and sample duplicate RPDs were both within the acceptable control limit of 20 percent.

2.3 Representativeness. All samples were properly preserved and were received in good condition by the laboratory. The blank was free of target analyte contamination and all samples were analyzed within the acceptable holding time.

3.0 Conclusion.

These data were reviewed according to the U.S. EPA's Laboratory Data Validation Functional Guidelines for Evaluating Inorganics Analyses (July, 1988) and with reference to method requirements. The results are presented in the data summary of this report and should be accepted as qualified. All results and data meet the requirements of the data quality objective (DQO) for this site and are deemed acceptable and valid for the intended use.

4.0 Information Regarding Report Content.

Attachments:

1. Glossary of data qualifier codes.
2. Data Summary. This may include:
   a) All positive results with qualifier codes, if applicable;
   b) All unusable detection limits qualified with "R"; and
   c) All estimated detection limits qualified with "UJ".
3. Appendix A - Results as reported by the laboratory.
4. Appendix B - Support Documentation which includes details to support the statements made in this report.

GLOSSARY OF DATA QUALIFIER CODES

CODES RELATING TO IDENTIFICATION

(confidence concerning presence or absence of compounds)

U = Not detected. The associated number indicates approximate sample concentration necessary to be detected.

(NO CODE) = Confirmed identification.

R = Unreliable result. Analyte may or may not be present in the sample. Supporting data necessary to confirm result. The result is unusable.

CODES RELATED TO QUANTITATION

(can be used for positive results and sample quantitation limits)

J = Analyte present. Reported value may not be accurate or precise.

UJ = Not detected. Quantitation limit may be inaccurate or imprecise.

DATA SUMMARY

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas; 77386 (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES, INC
Project Name: LHAAP
Project No.: 2379

Date Reported: 04-26-94
Report No.: I222N03
Analyst: HM

WET CHEMISTRY PARAMETER: Nitrate as N

Method Reference: EPA 352.1

UNITS: mg/L

PDP LABORATORY ID	CLIENT ID	MATRIX	DATE SAMPLED	DATE RECEIVED	DATE ANALYZED	QUANT LIMIT	RESULT	SPIKE ADDED OR TRUE VALUE	RELATIVE PERCENT DIFF(20)	PERCENT RECOVERY (75-125)
2222.01	LH18&24-C4A 1001	WATER	04-12-94	04-13-94	04-13-94	0.1	ND			
2222.02	LH18&24-C5 1001	WATER	04-12-94	04-13-94	04-13-94	0.1	0.14			
2222.03	LH18&24-C4 1001	WATER	04-12-94	04-13-94	04-13-94	0.1	ND			
2222.04	LH18&24-MW7 1001	WATER	04-12-94	04-13-94	04-13-94	2.0	3.7			
2222.05	LH18&24-MW8 1001	WATER	04-12-94	04-13-94	04-13-94	2.0	2.0			
2222.06	LH18&24-MW9 1001	WATER	04-12-94	04-13-94	04-13-94	0.1	0.24			
2222.07	LH18&24-MW10 1001	WATER	04-12-94	04-13-94	04-13-94	0.1	0.10			
			QUALITY ASSURANCE/QUALITY CONTROL							
?209.PB1	PREPARATION BLANK	NA	NA	NA	04-13-94	0.1	ND			
.09.LCS1	LAB CONTROL STD	NA	NA	NA	04-13-94	0.1	0.41	0.40		102
2209.LCS2	LAB CONTROL STD	NA	NA	NA	04-13-94	0.1	0.40	0.40	2.5	100
2211.01	SAMPLE	NA	NA	NA	04-07-94	0.1	ND			
2211.01MS	MATRIX SPIKE	NA	NA	NA	04-07-94	0.1	0.40	0.40		100
2211.01MSD	MATRIX SPIKE DUP	NA	NA	NA	04-07-94	0.1	0.36	0.40	11	90

APPENDIX A
RESULTS AS REPORTED BY THE LABORATORY

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas; 77386 (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES, INC
Project Name: LHAAP
Project No.: 2379

Date Reported: 04-26-94
Report No.: I222NO3
Analyst: HM

WET CHEMISTRY PARAMETER: Nitrate as N

Method Reference: EPA 352.1 UNITS: mg/L

PDP LABORATORY ID	CLIENT ID	MATRIX	DATE SAMPLED	DATE RECEIVED	DATE ANALYZED	QUANT LIMIT	RESULT	SPIKE ADDED OR TRUE VALUE	RELATIVE PERCENT DIFF(20)	PERCENT RECOVERY (75-125)
2222.01	LH18&24-C4A 1001	WATER	04-12-94	04-13-94	04-13-94	0.1	ND			
2222.02	LH18&24-C5 1001	WATER	04-12-94	04-13-94	04-13-94	0.1	0.14			
2222.03	LH18&24-C4 1001	WATER	04-12-94	04-13-94	04-13-94	0.1	ND			
2222.04	LH18&24-MW7 1001	WATER	04-12-94	04-13-94	04-13-94	2.0	3.7			
2222.05	LH18&24-MW8 1001	WATER	04-12-94	04-13-94	04-13-94	2.0	2.0			
2222.06	LH18&24-MW9 1001	WATER	04-12-94	04-13-94	04-13-94	0.1	0.24			
2222.07	LH18&24-MW10 1001	WATER	04-12-94	04-13-94	04-13-94	0.1	0.10			
			QUALITY ASSURANCE/QUALITY CONTROL							
?209.PB1	PREPARATION BLANK	NA	NA	NA	04-13-94	0.1	ND			
J9.LCS1	LAB CONTROL STD	NA	NA	NA	04-13-94	0.1	0.41	0.40		102
2209.LCS2	LAB CONTROL STD	NA	NA	NA	04-13-94	0.1	0.40	0.40	2.5	100
2211.01	SAMPLE	NA	NA	NA	04-07-94	0.1	ND			
2211.01MS	MATRIX SPIKE	NA	NA	NA	04-07-94	0.1	0.40	0.40		100
2211.01MSD	MATRIX SPIKE DUP	NA	NA	NA	04-07-94	0.1	0.36	0.40	11	90

APPENDIX B
SUPPORT DOCUMENTATION

No support documentation is necessary.
There were no problems with the data.

011247

FINAL

CHEMICAL DATA QA/QC REPORT
INTERIM REMEDIAL ACTION
BURNING GROUND 3 AND
UNLINED EVAPORATION POND
LHAAP UNITS 18 AND 24
LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

PREPARED FOR

UNITED STATES ARMY CORPS OF ENGINEERS
TULSA DISTRICT

PREPARED BY

AWD TECHNOLOGIES, INC.
ROCKVILLE, MARYLAND

PDP ANALYTICAL SERVICES -- Episode 2224

AUGUST 31, 1994
USACE CONTRACT DACA56-93-D-0016
DELIVERY ORDER 0002
AWD PROJECT 2379

LONGHORN ARMY AMMUNITION PLANT, TEXAS
BURNING GROUND 3 AND UNLINED EVAPORATION POND
INTERIM REMEDIAL ACTION
PDP Analytical Services -- Episode 2224

1.0 Discussion.

This set of samples was collected from the Burning Ground 3 and the Unlined Evaporation Pond areas of the Longhorn Army Ammunition Plant in Karnack, Texas on April 13, 1994 as part of the Interim Remedial Action Investigation. The sampling activity was conducted by AWD Technologies, Inc. (AWD) for the U.S. Army Corps of Engineers (COE), Tulsa District. After collection, the samples were sent to the PDP Analytical Services laboratory in Spring, Texas and were placed under Episode Number 2224. Included in this work order are six (6) groundwater samples and one (1) trip blank. There were no field duplicates in this set of samples.

Groundwater Samples

LH18/24-MW6-1001	LH18/24-AWD4-1001
LH18/24-MW19-1001	LH18/24-MW13-1001
LH18/24-C2-1001	LH18/24-MW11-1001

Trip Blank

LH18/24-XXX-TB

All samples, except the trip blank, were analyzed for volatile organic chemicals (VOCs), target analyte list (TAL) metals, chloride, nitrate as nitrogen, and sulfate. The trip blank was only analyzed for VOCs. All VOC and metals analyses were performed by U.S. EPA SW-846 methodologies: 8240 and 6000/7000 series, respectively. The chloride, nitrate, and sulfate analyses were performed according to U.S. EPA Methods 325.3, 352.1, and 375.4, respectively. Since the laboratory did not supply any of the analytical raw data in the deliverable package, data validation has been performed on the limited basis of examining QA/QC summary reports.

Other than the selenium results that were rejected, "R", all compounds and analytes were successfully analyzed in all samples. The organic analytical data were evaluated by the following quality assurance/quality control (QA/QC) parameters where applicable: technical holding times and preservation, system monitoring compound/surrogate spike recoveries, method blanks, matrix spike/matrix spike duplicates (MS/MSDs), laboratory control samples, field QC, and transcription. The inorganic analytical data were evaluated by the following QA/QC parameters where applicable: technical holding times and preservation, laboratory blanks, matrix spike recoveries, laboratory duplicates, laboratory control samples, field QC, and transcription. Validated sample analysis results are listed on the attached data summary forms. Areas of concern with respect to data quality and usability are discussed below.

2.0 Volatiles.

2.1 Accuracy. All surrogate, laboratory control sample (LCS), and MS/MSD percent recoveries were within acceptable control limits, except for the low toluene-d8 surrogate recovery in the method blank analyzed on April 26, 1994. However, since all surrogate recoveries in every sample were in control, no action was necessary; this should be considered an isolated incidence.

2.2 Precision. The relative percent differences (RPDs) reported for the MS/MSD data were all within acceptable quality control limits.

2.3 Representativeness. All samples were properly preserved and were received in good condition by the laboratory. All samples were also analyzed within the appropriate holding time.

There was low level methylene chloride contamination in the method and trip blanks. Therefore, positive sample concentrations of this compound that are less than ten (10) times the highest amount of contamination have been qualified as non-detect, "U".

3.0 Anions.

Chloride, nitrate as nitrogen, and sulfate were all analyzed as anions by the aforementioned wet chemistry methods.

3.1 Accuracy. The laboratory control sample and matrix spike percent recoveries were all within acceptable quality control limits for all three parameters, except for the MS/MSD recoveries of nitrate. Both of these spikes were recovered above the 125 percent limit. Thus, all positive sample values for nitrate have been qualified as estimated, "J"; the non-detect value reported for sample LH18/24-MW6-1001 was not impacted.

3.2 Precision. The LCS and sample duplicate RPDs were all within the acceptable control limit of 20 percent.

3.3 Representativeness. All samples were properly preserved and were received in good condition. All blanks were free of target analyte contamination and all samples were analyzed within acceptable holding times.

4.0 TAL Metals.

4.1 Accuracy. All laboratory control sample and matrix spike percent recoveries were within acceptable quality control limits, except for the MS/MSD recoveries of arsenic, lead, and selenium. Additionally, the laboratory control sample/laboratory control sample duplicate (LCS/LCSD) recoveries of lead were both out of control. Although all four lead spike recoveries were high, the data were unaffected since all sample concentrations for lead are non-detect. Furthermore, the arsenic MS/MSD recoveries were both low. Therefore, all sample results for arsenic should be considered biased low and have been qualified as estimated, "UJ", since they are all non-detect. The selenium MS/MSD recoveries, on the other hand, were both less than 30 percent. As a result, all sample values reported for this metal have been rejected, "R", and should be considered unusable since they are all non-detects.

4.2 Precision. All LCS/LCSD and MS/MSD relative percent differences (RPDs) were within the acceptable quality control range.

4.3 Representativeness. All samples were properly preserved and were received in good condition by the laboratory. All samples were prepared and analyzed within appropriate holding times and all blanks were free of target analyte contamination.

5.0 Notes.

The laboratory reports positive organic results that are below the quantitation limits but above the instrument detection limits (IDLs) as estimated, "J", since there is an unacceptable level of confidence in the detection and accurate reporting of concentrations less than the quantitation limits.

There were no tentatively identified compounds (TICs) reported by the laboratory for the volatile fraction of any sample.

Please note that all transcription and calculation errors found have been corrected in the support documentation and in the data summary of this report.

6.0 Conclusion.

These data were reviewed according to the U.S. EPA's National Functional Guidelines for Organic Data Review (June, 1991), the U.S. EPA's Laboratory Data Validation Functional Guidelines for Evaluating Inorganics Analyses (July, 1988), and with reference to method requirements. The results are presented in the data summary of this report and should be accepted as qualified. With the exception of the values that have been rejected, all results and data meet the requirements of the data quality objective (DQO) for this site and are deemed acceptable and valid for the intended use.

7.0 Information Regarding Report Content.

Attachments:

1. Glossary of data qualifier codes.
2. Data Summary. This may include:
   a) All positive results with qualifier codes, if applicable;
   b) All unusable detection limits qualified with "R"; and
   c) All estimated detection limits qualified with "UJ".
3. Appendix A - Results as reported by the laboratory.
4. Appendix B - Support Documentation which includes details to support the statements made in this report.

GLOSSARY OF DATA QUALIFIER CODES

CODES RELATING TO IDENTIFICATION

(confidence concerning presence or absence of compounds)

U = Not detected. The associated number indicates approximate sample concentration necessary to be detected.

(NO CODE) = Confirmed identification.

R = Unreliable result. Analyte may or may not be present in the sample. Supporting data necessary to confirm result. The result is unusable.

CODES RELATED TO QUANTITATION

(can be used for positive results and sample quantitation limits)

J = Analyte present. Reported value may not be accurate or precise.

UJ = Not detected. Quantitation limit may be inaccurate or imprecise.

DATA SUMMARY

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES	Client Sample ID:	LH18&24-MW6-1001	Date Sampled:	04/13/94
Project Name:	LHAAP	PDP Sample ID:	2224.01	Date Received:	04/14/94
Project No.:	2379	Report No.:	B8722	Date Reported:	05/03/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8722
Sample Volume:	5.0 ml	Date Analyzed:	04/25/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	22 ~~J~~ U
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	10
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	40
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	8 J

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	101
Toluene-d8	50	(88-110)	90
Bromofluorobenzene	50	(86-115)	105

Method Blank ID: 2221V.WBLK1 LCS ID: 2221V.WLCS1 MS ID: 2221.02MS MSD ID: 2221.02MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES	Client Sample ID:	LH18&24-MW19-1001	Date Sampled:	04/13/94
Project Name:	LHAAP	PDP Sample ID:	2224.02	Date Received:	04/14/94
Project No.:	2379	Report No.:	B8723	Date Reported:	05/03/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8723
Sample Volume:	5.0 ml	Date Analyzed:	04/25/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	8 B U
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	ND
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	102
Toluene-d8	50	(88-110)	93
Bromofluorobenzene	50	(86-115)	108

Method Blank ID: 2221V.WBLK1 LCS ID: 2221V.WLCS1 MS ID: 2221.02MS MSD ID: 2221.02MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES	Client Sample ID:	LH1824-C2-1001	Date Sampled:	04/13/94
Project Name:	LHAAP	PDP Sample ID:	2224.03	Date Received:	04/14/94
Project No.:	2379	Report No.:	B8724	Date Reported:	05/03/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	10.00	GC/MS File ID:	B8724
Sample Volume:	5.0 ml	Date Analyzed:	04/25/94
Dilution:	10.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	50	ND	Carbon tetrachloride	50	ND
1,1,2,2-Tetrachloroethane	50	ND	Chlorobenzene	50	ND
1,1,2-Trichloroethane	50	ND	Chloroethane	100	ND
1,1-Dichloroethane	50	ND	Chloroform	50	ND
1,1-Dichloroethene	50	ND	Chloromethane	100	ND
1,2-Dichloroethane	50	ND	Cis-1,3-Dichloropropene	50	ND
1,2-Dichloropropane	50	ND	Dibromochloromethane	50	ND
2-Butanone	100	ND	Ethylbenzene	50	ND
2-Chloroethyl vinyl ether	100	ND	Methylene chloride	50	480 B U
2-Hexanone	100	ND	Styrene	50	ND
4-Methyl-2-pentanone	100	ND	Tetrachloroethene	50	ND
Acetone	100	ND	Toluene	50	ND
Benzene	50	ND	Total xylenes	50	ND
Bromodichloromethane	50	ND	Total-1,2-Dichloroethene	50	ND
Bromoform	50	ND	Trans-1,3-Dichloropropene	50	ND
Bromomethane	100	ND	Trichloroethene	50	210
Carbon disulfide	50	ND	Vinyl acetate	100	ND
			Vinylchloride	100	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	104
Toluene-d8	50	(88-110)	93
Bromofluorobenzene	50	(86-115)	108

Method Blank ID: 2221V.WBLK1 LCS ID: 2221V.WLCS1 MS ID: 2221.02MS MSD ID: 2221.02MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES	Client Sample ID:	LH18&24-AWD4-1001	Date Sampled:	04/13/94
Project Name:	LHAAP	PDP Sample ID:	2224.04	Date Received:	04/14/94
Project No.:	2379	Report No.:	B8734	Date Reported:	05/03/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8734
Sample Volume:	5.0 ml	Date Analyzed:	04/26/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	58 B U
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	6
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	25
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	97
Toluene-d8	50	(88-110)	92
Bromofluorobenzene	50	(86-115)	105

Method Blank ID: 2226V.WBLK1 LCS ID: 2226V.WLCS1 MS ID: 2221.02MS MSD ID: 2221.02MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES	Client Sample ID:	LH18&24-MW13-1001	Date Sampled:	04/13/94
Project Name:	LHAAP	PDP Sample ID:	2224.05	Date Received:	04/14/94
Project No.:	2379	Report No.:	B8726	Date Reported:	05/03/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	10.00	GC/MS File ID:	B8726
Sample Volume:	5.0 ml	Date Analyzed:	04/25/94
Dilution:	10.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	50	ND	Carbon tetrachloride	50	ND
1,1,2,2-Tetrachloroethane	50	ND	Chlorobenzene	50	ND
1,1,2-Trichloroethane	50	ND	Chloroethane	100	ND
1,1-Dichloroethane	50	ND	Chloroform	50	ND
1,1-Dichloroethene	50	ND	Chloromethane	100	ND
1,2-Dichloroethane	50	ND	Cis-1,3-Dichloropropene	50	ND
1,2-Dichloropropane	50	ND	Dibromochloromethane	50	ND
2-Butanone	100	ND	Ethylbenzene	50	ND
2-Chloroethyl vinyl ether	100	ND	Methylene chloride	50	590 B U
2-Hexanone	100	ND	Styrene	50	ND
4-Methyl-2-pentanone	100	ND	Tetrachloroethene	50	ND
Acetone	100	ND	Toluene	50	ND
Benzene	50	ND	Total xylenes	50	ND
Bromodichloromethane	50	ND	Total-1,2-Dichloroethene	50	ND
Bromoform	50	ND	Trans-1,3-Dichloropropene	50	ND
Bromomethane	100	ND	Trichloroethene	50	ND
Carbon disulfide	50	ND	Vinyl acetate	100	ND
			Vinylchloride	100	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	106
Toluene-d8	50	(88-110)	92
Bromofluorobenzene	50	(86-115)	108

Method Blank ID: 2221V.WBLK1 LCS ID: 2221V.WLCS1 MS ID: 2221.02MS MSD ID: 2221.02MSD DUP ID: NA

PDP ANALYTICAL SERVICES
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LABORATORY REPORT

Client:	AWD TECHNOLOGIES	Client Sample ID:	LH18&24-MW11-1001	Date Sampled:	04/13/94
Project Name:	LHAAP	PDP Sample ID:	2224.06	Date Received:	04/14/94
Project No.:	2379	Report No.:	B8727	Date Reported:	05/03/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8727
Sample Volume:	5.0 ml	Date Analyzed:	04/25/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	6	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	59 B U
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	5
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	82
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	100
Toluene-d8	50	(88-110)	91
Bromofluorobenzene	50	(86-115)	108

Method Blank ID: 2221V.WBLK1 LCS ID: 2221V.WLCS1 MS ID: 2221.02MS MSD ID: 2221.02MSD DUP ID: NA

PDP ANALYTICAL SERVICES
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LABORATORY REPORT

Client:	AWD TECHNOLOGIES	Client Sample ID:	LH18&24-XXX-TB	Date Sampled:	04/13/94
Project Name:	LHAAP	PDP Sample ID:	2224.07	Date Received:	04/14/94
Project No.:	2379	Report No.:	B8707	Date Reported:	05/03/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8707
Sample Volume:	5.0 ml	Date Analyzed:	04/23/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	7 B
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	ND
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	99
Toluene-d8	50	(88-110)	90
Bromofluorobenzene	50	(86-115)	104

Method Blank ID: 2219V.WBLK1 LCS ID: 2219V.WLCS1 MS ID: 2221.02MS MSD ID: 2221.02MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project Number: 2379

Client Sample ID: LH18&24-MW6-1001
PDP Sample ID: 2224.01
Report Number: I22401

Date Sampled: 04-13-94
Date Received: 04-14-94
Date Reported: 05-01-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-17-94	04-25-94	0.1	ND	MBB
Antimony	SW-846 6010	04-17-94	04-25-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-17-94	04-25-94	0.005	ND UJ	MBB
Barium	SW-846 6010	04-17-94	04-25-94	0.01	0.885	MBB
Beryllium	SW-846 6010	04-17-94	04-25-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-17-94	04-25-94	0.005	ND	MBB
Calcium	SW-846 6010	04-17-94	04-25-94	0.2	33.6	MBB
Chromium	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Cobalt	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Copper	SW-846 6010	04-17-94	04-25-94	0.02	ND	MBB
Iron	SW-846 6010	04-17-94	04-25-94	0.1	6.34	MBB
Lead	SW-846 7421	04-17-94	04-22-94	0.01	ND	MBB
Magnesium	SW-846 6010	04-17-94	04-25-94	0.2	25.3	MBB
Manganese	SW-846 6010	04-17-94	04-25-94	0.01	0.234	MBB
Mercury	SW-846 7470	04-20-94	04-21-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-17-94	04-25-94	0.04	ND	MBB
Potassium	SW-846 6010	04-17-94	04-25-94	5	ND	MBB
Selenium	SW-846 7740	04-17-94	04-26-94	0.005	ND R	MBB
Silver	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Sodium	SW-846 6010	04-17-94	04-25-94	0.5	130	MBB
Thallium	SW-846 7841	04-17-94	04-25-94	0.005	ND	MBB
Vanadium	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Zinc	SW-846 6010	04-17-94	04-25-94	0.02	0.025	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP Method Blank ID: 2224.PBW1
GFAA Method Blank ID: 2224.PBW1
CVAA Method Blank ID: 2211.PBW1

ICP LCS ID: 2224.LCSW1
GFAA LCS ID: 2224.LCSW1
CVAA LCS ID: 2211.LCSW1

ICP LCSD ID: 2224.LCSW2
GFAA LCSD ID: 2224.LCSW2
CVAA LCSD ID: 2211.LCSW2

ICP MS ID: 2226.01MS
GFAA MS ID: 2226.01MS
CVAA MS ID: 2226.01MS

ICP MSD ID: 2226.01MSD
GFAA MSD ID: 2226.01MSD
CVAA MSD ID: 2226.01MSD

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project Number: 2379

Client Sample ID: LH18&24-MW19-1001
PDP Sample ID: 2224.02
Report Number: I22402

Date Sampled: 04-13-94
Date Received: 04-14-94
Date Reported: 05-01-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-17-94	04-25-94	1	ND	MBB
Antimony	SW-846 6010	04-17-94	04-25-94	0.6	ND	MBB
Arsenic	SW-846 7060	04-17-94	04-25-94	0.005	ND UJ	MBB
Barium	SW-846 6010	04-17-94	04-25-94	0.1	ND	MBB
Beryllium	SW-846 6010	04-17-94	04-25-94	0.05	ND	MBB
Cadmium	SW-846 6010	04-17-94	04-25-94	0.05	ND	MBB
Calcium	SW-846 6010	04-17-94	04-25-94	2	142	MBB
Chromium	SW-846 6010	04-17-94	04-25-94	0.1	ND	MBB
Cobalt	SW-846 6010	04-17-94	04-25-94	0.1	ND	MBB
Copper	SW-846 6010	04-17-94	04-25-94	0.2	ND	MBB
Iron	SW-846 6010	04-17-94	04-25-94	1	112	MBB
Lead	SW-846 7421	04-17-94	04-22-94	0.01	ND	MBB
Magnesium	SW-846 6010	04-17-94	04-25-94	2	80.5	MBB
Manganese	SW-846 6010	04-17-94	04-25-94	0.1	2.44	MBB
Mercury	SW-846 7470	04-20-94	04-21-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-17-94	04-25-94	0.4	ND	MBB
Potassium	SW-846 6010	04-17-94	04-25-94	50	ND	MBB
Selenium	SW-846 7740	04-17-94	04-26-94	0.005	ND R	MBB
Silver	SW-846 6010	04-17-94	04-25-94	0.1	ND	MBB
Sodium	SW-846 6010	04-17-94	04-25-94	5	1370	MBB
Thallium	SW-846 7841	04-17-94	04-25-94	0.01	ND	MBB
Vanadium	SW-846 6010	04-17-94	04-25-94	0.1	ND	MBB
Zinc	SW-846 6010	04-17-94	04-25-94	0.2	ND	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP Method Blank ID: 2224.PBW1
GFAA Method Blank ID: 2224.PBW1
CVAA Method Blank ID: 2211.PBW1

ICP LCS ID: 2224.LCSW1
GFAA LCS ID: 2224.LCSW1
CVAA LCS ID: 2211.LCSW1

ICP LCSD ID: 2224.LCSW2
GFAA LCSD ID: 2224.LCSW2
CVAA LCSD ID: 2211.LCSW2

ICP MS ID: 2226.01MS
GFAA MS ID: 2226.01MS
CVAA MS ID: 2226.01MS

ICP MSD ID: 2226.01MSD
GFAA MSD ID: 2226.01MSD
CVAA MSD ID: 2226.01MSD

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project Number: 2379

Client Sample ID: LH18&24-C2-1001
PDP Sample ID: 2224.03
Report Number: I22403

Date Sampled: 04-13-94
Date Received: 04-14-94
Date Reported: 05-01-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-17-94	04-25-94	0.1	ND	MBB
Antimony	SW-846 6010	04-17-94	04-25-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-17-94	04-25-94	0.005	ND UJ	MBB
Barium	SW-846 6010	04-17-94	04-25-94	0.01	0.397	MBB
Beryllium	SW-846 6010	04-17-94	04-25-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-17-94	04-25-94	0.005	ND	MBB
Calcium	SW-846 6010	04-17-94	04-25-94	0.2	19.2	MBB
Chromium	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Cobalt	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Copper	SW-846 6010	04-17-94	04-25-94	0.02	ND	MBB
Iron	SW-846 6010	04-17-94	04-25-94	0.1	48.2	MBB
Lead	SW-846 7421	04-17-94	04-22-94	0.01	ND	MBB
Magnesium	SW-846 6010	04-17-94	04-25-94	0.2	11.8	MBB
Manganese	SW-846 6010	04-17-94	04-25-94	0.01	1.21	MBB
Mercury	SW-846 7470	04-20-94	04-21-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-17-94	04-25-94	0.04	ND	MBB
Potassium	SW-846 6010	04-17-94	04-25-94	5	ND	MBB
Selenium	SW-846 7740	04-17-94	04-26-94	0.005	ND R	MBB
Silver	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Sodium	SW-846 6010	04-17-94	04-25-94	0.5	91.0	MBB
Thallium	SW-846 7841	04-17-94	04-25-94	0.005	ND	MBB
Vanadium	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Zinc	SW-846 6010	04-17-94	04-25-94	0.02	ND	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP Method Blank ID: 2224.PBW1
GFAA Method Blank ID: 2224.PBW1
CVAA Method Blank ID: 2211.PBW1

ICP LCS ID: 2224.LCSW1
GFAA LCS ID: 2224.LCSW1
CVAA LCS ID: 2211.LCSW1

ICP LCSD ID: 2224.LCSW2
GFAA LCSD ID: 2224.LCSW2
CVAA LCSD ID: 2211.LCSW2

ICP MS ID: 2226.01MS
GFAA MS ID: 2226.01MS
CVAA MS ID: 2226.01MS

ICP MSD ID: 2226.01MSD
GFAA MSD ID: 2226.01MSD
CVAA MSD ID: 2226.01MSD

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project Number: 2379

Client Sample ID: LH18&24-AWD4-1001
PDP Sample ID: 2224.04
Report Number: I22404

Date Sampled: 04-13-94
Date Received: 04-14-94
Date Reported: 05-01-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-17-94	04-25-94	0.1	0.53	MBB
Antimony	SW-846 6010	04-17-94	04-25-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-17-94	04-25-94	0.005	ND W	MBB
Barium	SW-846 6010	04-17-94	04-25-94	0.01	0.322	MBB
Beryllium	SW-846 6010	04-17-94	04-25-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-17-94	04-25-94	0.005	ND	MBB
Calcium	SW-846 6010	04-17-94	04-25-94	0.2	9.6	MBB
Chromium	SW-846 6010	04-17-94	04-25-94	0.01	0.046	MBB
Cobalt	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Copper	SW-846 6010	04-17-94	04-25-94	0.02	ND	MBB
Iron	SW-846 6010	04-17-94	04-25-94	0.1	1.12	MBB
Lead	SW-846 7421	04-17-94	04-22-94	0.01	ND	MBB
Magnesium	SW-846 6010	04-17-94	04-25-94	0.2	8.3	MBB
Manganese	SW-846 6010	04-17-94	04-25-94	0.01	0.077	MBB
Mercury	SW-846 7470	04-20-94	04-21-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-17-94	04-25-94	0.04	0.088	MBB
Potassium	SW-846 6010	04-17-94	04-25-94	5	ND	MBB
Selenium	SW-846 7740	04-17-94	04-26-94	0.005	ND R	MBB
Silver	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Sodium	SW-846 6010	04-17-94	04-25-94	0.5	65.1	MBB
Thallium	SW-846 7841	04-17-94	04-25-94	0.01	ND	MBB
Vanadium	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Zinc	SW-846 6010	04-17-94	04-25-94	0.02	0.028	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP Method Blank ID: 2224.PBW1
GFAA Method Blank ID: 2224.PBW1
CVAA Method Blank ID: 2211.PBW1

ICP LCS ID: 2224.LCSW1
GFAA LCS ID: 2224.LCSW1
CVAA LCS ID: 2211.LCSW1

ICP LCSD ID: 2224.LCSW2
GFAA LCSD ID: 2224.LCSW2
CVAA LCSD ID: 2211.LCSW2

ICP MS ID: 2226.01MS
GFAA MS ID: 2226.01MS
CVAA MS ID: 2226.01MS

ICP MSD ID: 2226.01MSD
GFAA MSD ID: 2226.01MSD
CVAA MSD ID: 2226.01MSD

PDP ANALYTICAL SERVICES
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LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project Number: 2379

Client Sample ID: LH18&24-MW13-1001
PDP Sample ID: 2224.05
Report Number: I22405

Date Sampled: 04-13-94
Date Received: 04-14-94
Date Reported: 05-01-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-17-94	04-25-94	0.1	ND	MBB
Antimony	SW-846 6010	04-17-94	04-25-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-17-94	04-25-94	0.005	ND UJ	MBB
Barium	SW-846 6010	04-17-94	04-25-94	0.01	0.340	MBB
Beryllium	SW-846 6010	04-17-94	04-25-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-17-94	04-25-94	0.005	ND	MBB
Calcium	SW-846 6010	04-17-94	04-25-94	0.2	28.7	MBB
Chromium	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Cobalt	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Copper	SW-846 6010	04-17-94	04-25-94	0.02	ND	MBB
Iron	SW-846 6010	04-17-94	04-25-94	0.1	65.0	MBB
Lead	SW-846 7421	04-17-94	04-22-94	0.01	ND	MBB
Magnesium	SW-846 6010	04-17-94	04-25-94	0.2	10.5	MBB
Manganese	SW-846 6010	04-17-94	04-25-94	0.01	1.14	MBB
Mercury	SW-846 7470	04-20-94	04-21-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-17-94	04-25-94	0.04	ND	MBB
Potassium	SW-846 6010	04-17-94	04-25-94	5	ND	MBB
Selenium	SW-846 7740	04-17-94	04-26-94	0.005	ND R	MBB
Silver	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Sodium	SW-846 6010	04-17-94	04-25-94	0.5	81.5	MBB
Thallium	SW-846 7841	04-17-94	04-25-94	0.005	ND	MBB
Vanadium	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Zinc	SW-846 6010	04-17-94	04-25-94	0.02	ND	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP Method Blank ID: 2224.PBW1
GFAA Method Blank ID: 2224.PBW1
CVAA Method Blank ID: 2211.PBW1

ICP LCS ID: 2224.LCSW1
GFAA LCS ID: 2224.LCSW1
CVAA LCS ID: 2211.LCSW1

ICP LCSD ID: 2224.LCSW2
GFAA LCSD ID: 2224.LCSW2
CVAA LCSD ID: 2211.LCSW2

ICP MS ID: 2226.01MS
GFAA MS ID: 2226.01MS
CVAA MS ID: 2226.01MS

ICP MSD ID: 2226.01MSD
GFAA MSD ID: 2226.01MSD
CVAA MSD ID: 2226.01MSD

PDP ANALYTICAL SERVICES
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LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project Number: 2379

Client Sample ID: LH18&24-MW11-1001
PDP Sample ID: 2224.06
Report Number: I22406

Date Sampled: 04-13-94
Date Received: 04-14-94
Date Reported: 05-01-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-17-94	04-25-94	0.1	0.15	MBB
Antimony	SW-846 6010	04-17-94	04-25-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-17-94	04-25-94	0.005	ND UJ	MBB
Barium	SW-846 6010	04-17-94	04-25-94	0.01	0.086	MBB
Beryllium	SW-846 6010	04-17-94	04-25-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-17-94	04-25-94	0.005	ND	MBB
Calcium	SW-846 6010	04-17-94	04-25-94	0.2	4.8	MBB
Chromium	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Cobalt	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Copper	SW-846 6010	04-17-94	04-25-94	0.02	ND	MBB
Iron	SW-846 6010	04-17-94	04-25-94	0.1	0.25	MBB
Lead	SW-846 7421	04-17-94	04-22-94	0.01	ND	MBB
Magnesium	SW-846 6010	04-17-94	04-25-94	0.2	2.4	MBB
Manganese	SW-846 6010	04-17-94	04-25-94	0.01	0.049	MBB
Mercury	SW-846 7470	04-20-94	04-21-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-17-94	04-25-94	0.04	ND	MBB
Potassium	SW-846 6010	04-17-94	04-25-94	5	ND	MBB
Selenium	SW-846 7740	04-17-94	04-26-94	0.005	ND R	MBB
Silver	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Sodium	SW-846 6010	04-17-94	04-25-94	0.5	21.1	MBB
Thallium	SW-846 7841	04-17-94	04-25-94	0.005	ND	MBB
Vanadium	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Zinc	SW-846 6010	04-17-94	04-25-94	0.02	0.030	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP Method Blank ID: 2224.PBW1
GFAA Method Blank ID: 2224.PBW1
CVAA Method Blank ID: 2211.PBW1

ICP LCS ID: 2224.LCSW1
GFAA LCS ID: 2224.LCSW1
CVAA LCS ID: 2211.LCSW1

ICP LCSD ID: 2224.LCSW2
GFAA LCSD ID: 2224.LCSW2
CVAA LCSD ID: 2211.LCSW2

ICP MS ID: 2226.01MS
GFAA MS ID: 2226.01MS
CVAA MS ID: 2226.01MS

ICP MSD ID: 2226.01MSD
GFAA MSD ID: 2226.01MSD
CVAA MSD ID: 2226.01MSD

PDP ANALYTICAL SERVICES
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LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project No.: 2379

Date Reported: 05-01-94
Report No.: I224CL
Analyst: HM

WET CHEMISTRY PARAMETER: Chloride

Method Reference: EPA 325.3 UNITS: mg/L

PDP LABORATORY ID	CLIENT ID	MATRIX	DATE SAMPLED	DATE RECEIVED	DATE ANALYZED	QUANT LIMIT	RESULT	SPIKE ADDED OR TRUE VALUE	RELATIVE PERCENT DIFF(20)	PERCENT RECOVERY (75-125)
2224.01	LH18&24-MW6-1001	WATER	04-13-94	04-14-94	04-21-94	2	310			
2224.02	LH18&24-MW19-1001	WATER	04-13-94	04-14-94	04-21-94	2	2450			
2224.03	LH18&24-C2-1001	WATER	04-13-94	04-14-94	04-21-94	2	195			
2224.04	LH18&24-AWD4-1001	WATER	04-13-94	04-14-94	04-21-94	2	106			
2224.05	LH18&24-MW13-1001	WATER	04-13-94	04-14-94	04-21-94	2	144			
2224.06	LH18&24-MW11-1001	WATER	04-13-94	04-14-94	04-21-94	2	18			
			QUALITY ASSURANCE/QUALITY CONTROL							
2219.PB1	PREPARATION BLANK	NA	NA	NA	04-21-94	2	ND			
2219.LCS1	LAB CONTROL STD	NA	NA	NA	04-21-94	2	312	299		104
2219.LCS2	LAB CONTROL STD	NA	NA	NA	04-21-94	2	316	299	1.3	106
2224.01	SAMPLE	NA	NA	NA	04-21-94	2	310			
2224.01MS	MATRIX SPIKE	NA	NA	NA	04-21-94	2	815	443		114
2224.01MSD	MATRIX SPIKE DUP	NA	NA	NA	04-21-94	2	815	443	0.0	114

PDP ANALYTICAL SERVICES
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LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project No.: 2379

Date Reported: 05-01-94
Report No.: I224N03
Analyst: HM

WET CHEMISTRY PARAMETER: Nitrate

Method Reference: EPA 352.1 UNITS: mg/L

PDP LABORATORY ID	CLIENT ID	MATRIX	DATE SAMPLED	DATE RECEIVED	DATE ANALYZED	QUANT LIMIT	RESULT	SPIKE ADDED OR TRUE VALUE	RELATIVE PERCENT DIFF(20)	PERCENT RECOVERY (75-125)
2224.01	LH18&24-MW6-1001	WATER	04-13-94	04-14-94	04-14-94	0.1	ND			
2224.02	LH18&24-MW19-1001	WATER	04-13-94	04-14-94	04-14-94	0.1	0.18J			
2224.03	LH18&24-C2-1001	WATER	04-13-94	04-14-94	04-14-94	0.1	0.15J			
2224.04	LH18&24-AWD4-1001	WATER	04-13-94	04-14-94	04-14-94	0.1	0.53J			
2224.05	LH18&24-MW13-1001	WATER	04-13-94	04-14-94	04-14-94	0.1	0.18J			
2224.06	LH18&24-MW11-1001	WATER	04-13-94	04-14-94	04-14-94	0.1	0.20J			
			QUALITY ASSURANCE/QUALITY CONTROL							
2224.PB1	PREPARATION BLANK	NA	NA	NA	04-14-94	0.1	ND			
2224.LCS1	LAB CONTROL STD	NA	NA	NA	04-14-94	0.1	0.41	0.40		103
2224.LCS2	LAB CONTROL STD	NA	NA	NA	04-14-94	0.1	0.42	0.40	2.4	105
2224.01	SAMPLE	NA	NA	NA	04-14-94	0.1	ND			
2224.01MS	MATRIX SPIKE	NA	NA	NA	04-14-94	0.1	0.68	0.4		170*
2224.01MSD	MATRIX SPIKE DUP	NA	NA	NA	04-14-94	0.1	0.65	0.4	4.5	162*

PDP ANALYTICAL SERVICES
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LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project No.: 2379

Date Reported: 05-01-94
Report No.: I224S04
Analyst: HM

WET CHEMISTRY PARAMETER: Sulfate

Method Reference: EPA 375.4

UNITS: mg/L

PDP LABORATORY ID	CLIENT ID	MATRIX	DATE SAMPLED	DATE RECEIVED	DATE ANALYZED	QUANT LIMIT	RESULT	SPIKE ADDED OR TRUE VALUE	RELATIVE PERCENT DIFF(20)	PERCENT RECOVERY (75-125)
2224.01	LH18&24-MW6-1001	WATER	04-13-94	04-14-94	04-20-94	5	10			
2224.02	LH18&24-MW19-1001	WATER	04-13-94	04-14-94	04-20-94	50	443			
2224.03	LH18&24-C2-1001	WATER	04-13-94	04-14-94	04-20-94	5	7			
2224.04	LH18&24-AWD4-1001	WATER	04-13-94	04-14-94	04-20-94	5	19			
2224.05	LH18&24-MW13-1001	WATER	04-13-94	04-14-94	04-20-94	5	8			
2224.06	LH18&24-MW11-1001	WATER	04-13-94	04-14-94	04-20-94	5	34			
				QUALITY ASSURANCE/QUALITY CONTROL						
2210.PB1	PREPARATION BLANK	NA	NA	NA	04-20-94	5	ND			
2210.LCS1	LAB CONTROL STD	NA	NA	NA	04-20-94	5	138	151		91
2210.LCS2	LAB CONTROL STD	NA	NA	NA	04-20-94	5	131	151	5.2	87
2224.01	SAMPLE	NA	NA	NA	04-20-94	5	10			
2224.01MS	MATRIX SPIKE	NA	NA	NA	04-20-94	5	19	10		90
2224.01MSD	MATRIX SPIKE DUP	NA	NA	NA	04-20-94	5	19	10	0.0	90

APPENDIX A
RESULTS AS REPORTED BY THE LABORATORY

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES	Client Sample ID:	LH18&24-MW6-1001	Date Sampled:	04/13/94
Project Name:	LHAAP	PDP Sample ID:	2224.01	Date Received:	04/14/94
Project No.:	2379	Report No.:	B8722	Date Reported:	05/03/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8722
Sample Volume:	5.0 ml	Date Analyzed:	04/25/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	22 B
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	10
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	40
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	8 J

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	101
Toluene-d8	50	(88-110)	90
Bromofluorobenzene	50	(86-115)	105

Method Blank ID: 2221V.WBLK1 LCS ID: 2221V.WLCS1 MS ID: 2221.02MS MSD ID: 2221.02MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES	Client Sample ID:	LH18&24-MW19-1001	Date Sampled:	04/13/94
Project Name:	LHAAP	PDP Sample ID:	2224.02	Date Received:	04/14/94
Project No.:	2379	Report No.:	B8723	Date Reported:	05/03/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8723
Sample Volume:	5.0 ml	Date Analyzed:	04/25/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	8 B
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	ND
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	102
Toluene-d8	50	(88-110)	93
Bromofluorobenzene	50	(86-115)	108

Method Blank ID: 2221V.WBLK1 LCS ID: 2221V.WLCS1 MS ID: 2221.02MS MSD ID: 2221.02MSD DUP ID: NA

PDP ANALYTICAL SERVICES
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LABORATORY REPORT

Client:	AWD TECHNOLOGIES	Client Sample ID:	LH18424-C2-1001	Date Sampled:	04/13/94
Project Name:	LHAAP	PDP Sample ID:	2224.03	Date Received:	04/14/94
Project No.:	2379	Report No.:	98724	Date Reported:	05/03/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	10.00	GC/MS File ID:	B8724
Sample Volume:	5.0 ml	Date Analyzed:	04/25/94
Dilution:	10.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	50	ND	Carbon tetrachloride	50	ND
1,1,2,2-Tetrachloroethane	50	ND	Chlorobenzene	50	ND
1,1,2-Trichloroethane	50	ND	Chloroethane	100	ND
1,1-Dichloroethane	50	ND	Chloroform	50	ND
1,1-Dichloroethene	50	ND	Chloromethane	100	ND
1,2-Dichloroethane	50	ND	Cis-1,3-Dichloropropene	50	ND
1,2-Dichloropropane	50	ND	Dibromochloromethane	50	ND
2-Butanone	100	ND	Ethylbenzene	50	ND
2-Chloroethyl vinyl ether	100	ND	Methylene chloride	50	480 B
2-Hexanone	100	ND	Styrene	50	ND
4-Methyl-2-pentanone	100	ND	Tetrachloroethene	50	ND
Acetone	100	ND	Toluene	50	ND
Benzene	50	ND	Total xylenes	50	ND
Bromodichloromethane	50	ND	Total-1,2-Dichloroethene	50	ND
Bromoform	50	ND	Trans-1,3-Dichloropropene	50	ND
Bromomethane	100	ND	Trichloroethene	50	210
Carbon disulfide	50	ND	Vinyl acetate	100	ND
			Vinylchloride	100	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	104
Toluene-d8	50	(88-110)	93
Bromofluorobenzene	50	(86-115)	108

Method Blank ID: 2221V.WBLK1 LCS ID: 2221V.WLCS1 MS ID: 2221.02MS MSD ID: 2221.02MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES	Client Sample ID:	LH18&24-AWD4-1001	Date Sampled:	04/13/94
Project Name:	LHAAP	PDP Sample ID:	2224.04	Date Received:	04/14/94
Project No.:	2379	Report No.:	B8734	Date Reported:	05/03/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8734
Sample Volume:	5.0 ml	Date Analyzed:	04/26/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	58 B
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	6
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	25
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	97
Toluene-d8	50	(88-110)	92
Bromofluorobenzene	50	(86-115)	105

Method Blank ID: 2226V.WBLK1 LCS ID: 2226V.WLCS1 MS ID: 2221.02MS MSD ID: 2221.02MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES	Client Sample ID:	LH18&24-MW13-1001	Date Sampled:	04/13/94
Project Name:	LHAAP	PDP Sample ID:	2224.05	Date Received:	04/14/94
Project No.:	2379	Report No.:	B8726	Date Reported:	05/03/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	10.00	GC/MS File ID:	B8726
Sample Volume:	5.0 ml	Date Analyzed:	04/25/94
Dilution:	10.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	50	ND	Carbon tetrachloride	50	ND
1,1,2,2-Tetrachloroethane	50	ND	Chlorobenzene	50	ND
1,1,2-Trichloroethane	50	ND	Chloroethane	100	ND
1,1-Dichloroethane	50	ND	Chloroform	50	ND
1,1-Dichloroethene	50	ND	Chloromethane	100	ND
1,2-Dichloroethane	50	ND	Cis-1,3-Dichloropropene	50	ND
1,2-Dichloropropane	50	ND	Dibromochloromethane	50	ND
2-Butanone	100	ND	Ethylbenzene	50	ND
2-Chloroethyl vinyl ether	100	ND	Methylene chloride	50	590 B
2-Hexanone	100	ND	Styrene	50	ND
4-Methyl-2-pentanone	100	ND	Tetrachloroethene	50	ND
Acetone	100	ND	Toluene	50	ND
Benzene	50	ND	Total xylenes	50	ND
Bromodichloromethane	50	ND	Total-1,2-Dichloroethene	50	ND
Bromoform	50	ND	Trans-1,3-Dichloropropene	50	ND
Bromomethane	100	ND	Trichloroethene	50	ND
Carbon disulfide	50	ND	Vinyl acetate	100	ND
			Vinylchloride	100	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	106
Toluene-d8	50	(88-110)	92
Bromofluorobenzene	50	(86-115)	108

Method Blank ID: 2221V.WBLK1 LCS ID: 2221V.WLCS1 MS ID: 2221.02MS MSD ID: 2221.02MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES	Client Sample ID:	LH18&24-MW11-1001	Date Sampled:	04/13/94
Project Name:	LHAAP	PDP Sample ID:	2224.06	Date Received:	04/14/94
Project No.:	2379	Report No.:	B8727	Date Reported:	05/03/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8727
Sample Volume:	5.0 ml	Date Analyzed:	04/25/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	6	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	59 B
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	5
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	82
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	100
Toluene-d8	50	(88-110)	91
Bromofluorobenzene	50	(86-115)	108

Method Blank ID: 2221V.WBLK1 LCS ID: 2221V.WLCS1 MS ID: 2221.02MS MSD ID: 2221.02MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES	Client Sample ID:	LH18&24-XXX-TB	Date Sampled:	04/13/94
Project Name:	LHAAP	PDP Sample ID:	2224.07	Date Received:	04/14/94
Project No.:	2379	Report No.:	B8707	Date Reported:	05/03/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8707
Sample Volume:	5.0 ml	Date Analyzed:	04/23/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	7 B
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	ND
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	99
Toluene-d8	50	(88-110)	90
Bromofluorobenzene	50	(86-115)	104

Method Blank ID: 2219V.WBLK1 LCS ID: 2219V.WLCS1 MS ID: 2221.02MS MSD ID: 2221.02MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project Number: 2379

Client Sample ID: LH18&24-MW6-1001
PDP Sample ID: 2224.01
Report Number: I22401

Date Sampled: 04-13-94
Date Received: 04-14-94
Date Reported: 05-01-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-17-94	04-25-94	0.1	ND	MBB
Antimony	SW-846 6010	04-17-94	04-25-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-17-94	04-25-94	0.005	ND	MBB
Barium	SW-846 6010	04-17-94	04-25-94	0.01	0.885	MBB
Beryllium	SW-846 6010	04-17-94	04-25-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-17-94	04-25-94	0.005	ND	MBB
Calcium	SW-846 6010	04-17-94	04-25-94	0.2	33.6	MBB
Chromium	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Cobalt	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Copper	SW-846 6010	04-17-94	04-25-94	0.02	ND	MBB
Iron	SW-846 6010	04-17-94	04-25-94	0.1	6.34	MBB
Lead	SW-846 7421	04-17-94	04-22-94	0.01	ND	MBB
Magnesium	SW-846 6010	04-17-94	04-25-94	0.2	25.3	MBB
Manganese	SW-846 6010	04-17-94	04-25-94	0.01	0.234	MBB
Mercury	SW-846 7470	04-20-94	04-21-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-17-94	04-25-94	0.04	ND	MBB
Potassium	SW-846 6010	04-17-94	04-25-94	5	ND	MBB
Selenium	SW-846 7740	04-17-94	04-26-94	0.005	ND	MBB
Silver	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Sodium	SW-846 6010	04-17-94	04-25-94	0.5	130	MBB
Thallium	SW-846 7841	04-17-94	04-25-94	0.005	ND	MBB
Vanadium	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Zinc	SW-846 6010	04-17-94	04-25-94	0.02	0.025	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP Method Blank ID: 2224.PBW1
GFAA Method Blank ID: 2224.PBW1
CVAA Method Blank ID: 2211.PBW1

ICP LCS ID: 2224.LCSW1
GFAA LCS ID: 2224.LCSW1
CVAA LCS ID: 2211.LCSW1

ICP LCSD ID: 2224.LCSW2
GFAA LCSD ID: 2224.LCSW2
CVAA LCSD ID: 2211.LCSW2

ICP MS ID: 2226.01MS
GFAA MS ID: 2226.01MS
CVAA MS ID: 2226.01MS

ICP MSD ID: 2226.01MSD
GFAA MSD ID: 2226.01MSD
CVAA MSD ID: 2226.01MSD

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project Number: 2379

Client Sample ID: LH18&24-MW19-1001
PDP Sample ID: 2224.02
Report Number: I22402

Date Sampled: 04-13-94
Date Received: 04-14-94
Date Reported: 05-01-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-17-94	04-25-94	1	ND	MBB
Antimony	SW-846 6010	04-17-94	04-25-94	0.6	ND	MBB
Arsenic	SW-846 7060	04-17-94	04-25-94	0.005	ND	MBB
Barium	SW-846 6010	04-17-94	04-25-94	0.1	ND	MBB
Beryllium	SW-846 6010	04-17-94	04-25-94	0.05	ND	MBB
Cadmium	SW-846 6010	04-17-94	04-25-94	0.05	ND	MBB
Calcium	SW-846 6010	04-17-94	04-25-94	2	142	MBB
Chromium	SW-846 6010	04-17-94	04-25-94	0.1	ND	MBB
Cobalt	SW-846 6010	04-17-94	04-25-94	0.1	ND	MBB
Copper	SW-846 6010	04-17-94	04-25-94	0.2	ND	MBB
Iron	SW-846 6010	04-17-94	04-25-94	1	112	MBB
Lead	SW-846 7421	04-17-94	04-22-94	0.01	ND	MBB
Magnesium	SW-846 6010	04-17-94	04-25-94	2	80.5	MBB
Manganese	SW-846 6010	04-17-94	04-25-94	0.1	2.44	MBB
Mercury	SW-846 7470	04-20-94	04-21-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-17-94	04-25-94	0.4	ND	MBB
Potassium	SW-846 6010	04-17-94	04-25-94	50	ND	MBB
Selenium	SW-846 7740	04-17-94	04-26-94	0.005	ND	MBB
Silver	SW-846 6010	04-17-94	04-25-94	0.1	ND	MBB
Sodium	SW-846 6010	04-17-94	04-25-94	5	1370	MBB
Thallium	SW-846 7841	04-17-94	04-25-94	0.01	ND	MBB
Vanadium	SW-846 6010	04-17-94	04-25-94	0.1	ND	MBB
Zinc	SW-846 6010	04-17-94	04-25-94	0.2	ND	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP Method Blank ID: 2224.PBW1
GFAA Method Blank ID: 2224.PBW1
CVAA Method Blank ID: 2211.PBW1

ICP LCS ID: 2224.LCSW1
GFAA LCS ID: 2224.LCSW1
CVAA LCS ID: 2211.LCSW1

ICP LCSD ID: 2224.LCSW2
GFAA LCSD ID: 2224.LCSW2
CVAA LCSD ID: 2211.LCSW2

ICP MS ID: 2226.01MS
GFAA MS ID: 2226.01MS
CVAA MS ID: 2226.01MS

ICP MSD ID: 2226.01MSD
GFAA MSD ID: 2226.01MSD
CVAA MSD ID: 2226.01MSD

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project Number: 2379

Client Sample ID: LH18&24-C2-1001
PDP Sample ID: 2224.03
Report Number: I22403

Date Sampled: 04-13-94
Date Received: 04-14-94
Date Reported: 05-01-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-17-94	04-25-94	0.1	ND	MBB
Antimony	SW-846 6010	04-17-94	04-25-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-17-94	04-25-94	0.005	ND	MBB
Barium	SW-846 6010	04-17-94	04-25-94	0.01	0.397	MBB
Beryllium	SW-846 6010	04-17-94	04-25-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-17-94	04-25-94	0.005	ND	MBB
Calcium	SW-846 6010	04-17-94	04-25-94	0.2	19.2	MBB
Chromium	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Cobalt	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Copper	SW-846 6010	04-17-94	04-25-94	0.02	ND	MBB
Iron	SW-846 6010	04-17-94	04-25-94	0.1	48.2	MBB
Lead	SW-846 7421	04-17-94	04-22-94	0.01	ND	MBB
Magnesium	SW-846 6010	04-17-94	04-25-94	0.2	11.8	MBB
Manganese	SW-846 6010	04-17-94	04-25-94	0.01	1.21	MBB
Mercury	SW-846 7470	04-20-94	04-21-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-17-94	04-25-94	0.04	ND	MBB
Potassium	SW-846 6010	04-17-94	04-25-94	5	ND	MBB
Selenium	SW-846 7740	04-17-94	04-26-94	0.005	ND	MBB
Silver	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Sodium	SW-846 6010	04-17-94	04-25-94	0.5	91.0	MBB
Thallium	SW-846 7841	04-17-94	04-25-94	0.005	ND	MBB
Vanadium	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Zinc	SW-846 6010	04-17-94	04-25-94	0.02	ND	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP Method Blank ID: 2224.PBW1
GFAA Method Blank ID: 2224.PBW1
CVAA Method Blank ID: 2211.PBW1

ICP LCS ID: 2224.LCSW1
GFAA LCS ID: 2224.LCSW1
CVAA LCS ID: 2211.LCSW1

ICP LCSD ID: 2224.LCSW2
GFAA LCSD ID: 2224.LCSW2
CVAA LCSD ID: 2211.LCSW2

ICP MS ID: 2226.01MS
GFAA MS ID: 2226.01MS
CVAA MS ID: 2226.01MS

ICP MSD ID: 2226.01MSD
GFAA MSD ID: 2226.01MSD
CVAA MSD ID: 2226.01MSD

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project Number: 2379

Client Sample ID: LH18&24-AWD4-1001
PDP Sample ID: 2224.04
Report Number: I22404

Date Sampled: 04-13-94
Date Received: 04-14-94
Date Reported: 05-01-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-17-94	04-25-94	0.1	0.53	MBB
Antimony	SW-846 6010	04-17-94	04-25-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-17-94	04-25-94	0.005	ND	MBB
Barium	SW-846 6010	04-17-94	04-25-94	0.01	0.322	MBB
Beryllium	SW-846 6010	04-17-94	04-25-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-17-94	04-25-94	0.005	ND	MBB
Calcium	SW-846 6010	04-17-94	04-25-94	0.2	9.6	MBB
Chromium	SW-846 6010	04-17-94	04-25-94	0.01	0.046	MBB
Cobalt	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Copper	SW-846 6010	04-17-94	04-25-94	0.02	ND	MBB
Iron	SW-846 6010	04-17-94	04-25-94	0.1	1.12	MBB
Lead	SW-846 7421	04-17-94	04-22-94	0.01	ND	MBB
Magnesium	SW-846 6010	04-17-94	04-25-94	0.2	8.3	MBB
Manganese	SW-846 6010	04-17-94	04-25-94	0.01	0.077	MBB
Mercury	SW-846 7470	04-20-94	04-21-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-17-94	04-25-94	0.04	0.088	MBB
Potassium	SW-846 6010	04-17-94	04-25-94	5	ND	MBB
Selenium	SW-846 7740	04-17-94	04-26-94	0.005	ND	MBB
Silver	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Sodium	SW-846 6010	04-17-94	04-25-94	0.5	65.1	MBB
Thallium	SW-846 7841	04-17-94	04-25-94	0.01	ND	MBB
Vanadium	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Zinc	SW-846 6010	04-17-94	04-25-94	0.02	0.028	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP Method Blank ID: 2224.PBW1
GFAA Method Blank ID: 2224.PBW1
CVAA Method Blank ID: 2211.PBW1

ICP LCS ID: 2224.LCSW1
GFAA LCS ID: 2224.LCSW1
CVAA LCS ID: 2211.LCSW1

ICP LCSD ID: 2224.LCSW2
GFAA LCSD ID: 2224.LCSW2
CVAA LCSD ID: 2211.LCSW2

ICP MS ID: 2226.01MS
GFAA MS ID: 2226.01MS
CVAA MS ID: 2226.01MS

ICP MSD ID: 2226.01MSD
GFAA MSD ID: 2226.01MSD
CVAA MSD ID: 2226.01MSD

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project Number: 2379

Client Sample ID: LH18&24-MW13-1001
PDP Sample ID: 2224.05
Report Number: I22405

Date Sampled: 04-13-94
Date Received: 04-14-94
Date Reported: 05-01-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-17-94	04-25-94	0.1	ND	MBB
Antimony	SW-846 6010	04-17-94	04-25-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-17-94	04-25-94	0.005	ND	MBB
Barium	SW-846 6010	04-17-94	04-25-94	0.01	0.340	MBB
Beryllium	SW-846 6010	04-17-94	04-25-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-17-94	04-25-94	0.005	ND	MBB
Calcium	SW-846 6010	04-17-94	04-25-94	0.2	28.7	MBB
Chromium	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Cobalt	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Copper	SW-846 6010	04-17-94	04-25-94	0.02	ND	MBB
Iron	SW-846 6010	04-17-94	04-25-94	0.1	65.0	MBB
Lead	SW-846 7421	04-17-94	04-22-94	0.01	ND	MBB
Magnesium	SW-846 6010	04-17-94	04-25-94	0.2	10.5	MBB
Manganese	SW-846 6010	04-17-94	04-25-94	0.01	1.14	MBB
Mercury	SW-846 7470	04-20-94	04-21-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-17-94	04-25-94	0.04	ND	MBB
Potassium	SW-846 6010	04-17-94	04-25-94	5	ND	MBB
Selenium	SW-846 7740	04-17-94	04-26-94	0.005	ND	MBB
Silver	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Sodium	SW-846 6010	04-17-94	04-25-94	0.5	81.5	MBB
Thallium	SW-846 7841	04-17-94	04-25-94	0.005	ND	MBB
Vanadium	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Zinc	SW-846 6010	04-17-94	04-25-94	0.02	ND	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP Method Blank ID: 2224.PBW1
GFAA Method Blank ID: 2224.PBW1
CVAA Method Blank ID: 2211.PBW1

ICP LCS ID: 2224.LCSW1
GFAA LCS ID: 2224.LCSW1
CVAA LCS ID: 2211.LCSW1

ICP LCSD ID: 2224.LCSW2
GFAA LCSD ID: 2224.LCSW2
CVAA LCSD ID: 2211.LCSW2

ICP MS ID: 2226.01MS
GFAA MS ID: 2226.01MS
CVAA MS ID: 2226.01MS

ICP MSD ID: 2226.01MSD
GFAA MSD ID: 2226.01MSD
CVAA MSD ID: 2226.01MSD

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project Number: 2379

Client Sample ID: LH18&24-MW11-1001
PDP Sample ID: 2224.06
Report Number: I22406

Date Sampled: 04-13-94
Date Received: 04-14-94
Date Reported: 05-01-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-17-94	04-25-94	0.1	0.15	MBB
Antimony	SW-846 6010	04-17-94	04-25-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-17-94	04-25-94	0.005	ND	MBB
Barium	SW-846 6010	04-17-94	04-25-94	0.01	0.086	MBB
Beryllium	SW-846 6010	04-17-94	04-25-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-17-94	04-25-94	0.005	ND	MBB
Calcium	SW-846 6010	04-17-94	04-25-94	0.2	4.8	MBB
Chromium	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Cobalt	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Copper	SW-846 6010	04-17-94	04-25-94	0.02	ND	MBB
Iron	SW-846 6010	04-17-94	04-25-94	0.1	0.25	MBB
Lead	SW-846 7421	04-17-94	04-22-94	0.01	ND	MBB
Magnesium	SW-846 6010	04-17-94	04-25-94	0.2	2.4	MBB
Manganese	SW-846 6010	04-17-94	04-25-94	0.01	0.049	MBB
Mercury	SW-846 7470	04-20-94	04-21-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-17-94	04-25-94	0.04	ND	MBB
Potassium	SW-846 6010	04-17-94	04-25-94	5	ND	MBB
Selenium	SW-846 7740	04-17-94	04-26-94	0.005	ND	MBB
Silver	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Sodium	SW-846 6010	04-17-94	04-25-94	0.5	21.1	MBB
Thallium	SW-846 7841	04-17-94	04-25-94	0.005	ND	MBB
Vanadium	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Zinc	SW-846 6010	04-17-94	04-25-94	0.02	0.030	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP Method Blank ID: 2224.PBW1
GFAA Method Blank ID: 2224.PBW1
CVAA Method Blank ID: 2211.PBW1

ICP LCS ID: 2224.LCSW1
GFAA LCS ID: 2224.LCSW1
CVAA LCS ID: 2211.LCSW1

ICP LCSD ID: 2224.LCSW2
GFAA LCSD ID: 2224.LCSW2
CVAA LCSD ID: 2211.LCSW2

ICP MS ID: 2226.01MS
GFAA MS ID: 2226.01MS
CVAA MS ID: 2226.01MS

ICP MSD ID: 2226.01MSD
GFAA MSD ID: 2226.01MSD
CVAA MSD ID: 2226.01MSD

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas; 77386 (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project No.: 2379

Date Reported: 05-01-94
Report No.: I224CL
Analyst: HM

WET CHEMISTRY PARAMETER: Chloride

Method Reference: EPA 325.3

UNITS: mg/L

PDP LABORATORY ID	CLIENT ID	MATRIX	DATE SAMPLED	DATE RECEIVED	DATE ANALYZED	QUANT LIMIT	RESULT	SPIKE ADDED OR TRUE VALUE	RELATIVE PERCENT DIFF(20)	PERCENT RECOVERY (75-125)
2224.01	LH18&24-MW6-1001	WATER	04-13-94	04-14-94	04-21-94	2	310			
2224.02	LH18&24-MW19-1001	WATER	04-13-94	04-14-94	04-21-94	2	2450			
2224.03	LH18&24-C2-1001	WATER	04-13-94	04-14-94	04-21-94	2	195			
2224.04	LH18&24-AWD4-1001	WATER	04-13-94	04-14-94	04-21-94	2	106			
2224.05	LH18&24-MW13-1001	WATER	04-13-94	04-14-94	04-21-94	2	144			
2224.06	LH18&24-MW11-1001	WATER	04-13-94	04-14-94	04-21-94	2	18			
			QUALITY ASSURANCE/QUALITY CONTROL							
2219.PB1	PREPARATION BLANK	NA	NA	NA	04-21-94	2	ND			
2219.LCS1	LAB CONTROL STD	NA	NA	NA	04-21-94	2	312	299		104
2219.LCS2	LAB CONTROL STD	NA	NA	NA	04-21-94	2	316	299	1.3	106
2224.01	SAMPLE	NA	NA	NA	04-21-94	2	310			
2224.01MS	MATRIX SPIKE	NA	NA	NA	04-21-94	2	815	443		114
2224.01MSD	MATRIX SPIKE DUP	NA	NA	NA	04-21-94	2	815	443	0.0	114

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas; 77386 (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project No.: 2379

Date Reported: 05-01-94
Report No.: I224N03
Analyst: HM

WET CHEMISTRY PARAMETER: Nitrate

Method Reference: EPA 352.1

UNITS: mg/L

PDP LABORATORY ID	CLIENT ID	MATRIX	DATE SAMPLED	DATE RECEIVED	DATE ANALYZED	QUANT LIMIT	RESULT	SPIKE ADDED OR TRUE VALUE	RELATIVE PERCENT DIFF(20)	PERCENT RECOVERY (75-125)
2224.01	LH18&24-MW6-1001	WATER	04-13-94	04-14-94	04-14-94	0.1	ND			
2224.02	LH18&24-MW19-1001	WATER	04-13-94	04-14-94	04-14-94	0.1	0.18			
2224.03	LH18&24-C2-1001	WATER	04-13-94	04-14-94	04-14-94	0.1	0.15			
2224.04	LH18&24-AWD4-1001	WATER	04-13-94	04-14-94	04-14-94	0.1	0.53			
2224.05	LH18&24-MW13-1001	WATER	04-13-94	04-14-94	04-14-94	0.1	0.18			
2224.06	LH18&24-MW11-1001	WATER	04-13-94	04-14-94	04-14-94	0.1	0.20			
			QUALITY ASSURANCE/QUALITY CONTROL							
2224.PB1	PREPARATION BLANK	NA	NA	NA	04-14-94	0.1	ND			
2224.LCS1	LAB CONTROL STD	NA	NA	NA	04-14-94	0.1	0.41	0.40		103
2224.LCS2	LAB CONTROL STD	NA	NA	NA	04-14-94	0.1	0.42	0.40	2.4	105
2224.01	SAMPLE	NA	NA	NA	04-14-94	0.1	ND			
2224.01MS	MATRIX SPIKE	NA	NA	NA	04-14-94	0.1	0.68	0.4		170*
2224.01MSD	MATRIX SPIKE DUP	NA	NA	NA	04-14-94	0.1	0.65	0.4	4.5	162*

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas: 77386 (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project No.: 2379

Date Reported: 05-01-94
Report No.: I224S04
Analyst: HM

WET CHEMISTRY PARAMETER: Sulfate

Method Reference: EPA 375.4

UNITS: mg/L

PDP LABORATORY ID	CLIENT ID	MATRIX	DATE SAMPLED	DATE RECEIVED	DATE ANALYZED	QUANT LIMIT	RESULT	SPIKE ADDED OR TRUE VALUE	RELATIVE PERCENT DIFF(20)	PERCENT RECOVERY (75-125)
2224.01	LH18&24-MW6-1001	WATER	04-13-94	04-14-94	04-20-94	5	10			
2224.02	LH18&24-MW19-1001	WATER	04-13-94	04-14-94	04-20-94	50	443			
2224.03	LH18&24-C2-1001	WATER	04-13-94	04-14-94	04-20-94	5	7			
2224.04	LH18&24-AWD4-1001	WATER	04-13-94	04-14-94	04-20-94	5	19			
2224.05	LH18&24-MW13-1001	WATER	04-13-94	04-14-94	04-20-94	5	8			
2224.06	LH18&24-MW11-1001	WATER	04-13-94	04-14-94	04-20-94	5	34			
			QUALITY ASSURANCE/QUALITY CONTROL							
2210.PB1	PREPARATION BLANK	NA	NA	NA	04-20-94	5	ND			
2210.LCS1	LAB CONTROL STD	NA	NA	NA	04-20-94	5	138	151		91
2210.LCS2	LAB CONTROL STD	NA	NA	NA	04-20-94	5	131	151	5.2	87
2224.01	SAMPLE	NA	NA	NA	04-20-94	5	10			
2224.01MS	MATRIX SPIKE	NA	NA	NA	04-20-94	5	19	10		90
2224.01MSD	MATRIX SPIKE DUP	NA	NA	NA	04-20-94	5	19	10	0.0	90

APPENDIX B
SUPPORT DOCUMENTATION

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES	Client Sample ID:	LH18&24-XXX-TB	Date Sampled:	04/13/94
Project Name:	LHAAP	PDP Sample ID:	2224.07	Date Received:	04/14/94
Project No.:	2379	Report No.:	B8707	Date Reported:	05/03/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8707
Sample Volume:	5.0 ml	Date Analyzed:	04/23/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	7 B
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	ND
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	99
Toluene-d8	50	(88-110)	90
Bromofluorobenzene	50	(86-115)	104

Method Blank ID: 2219V.WBLK1 LCS ID: 2219V.WLCS1 MS ID: 2221.02MS MSD ID: 2221.02MSD DUP ID: NA

- blank contam.

011289

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	NA	Client Sample ID:	NA	Date Sampled:	NA
Project Name:	NA	PDP Sample ID:	2219V.WBLK1(METHOD BLANK)	Date Received:	NA
Project No.:	NA	Report No.:	B8686	Date Reported:	04/29/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8686
Sample Volume:	5.0 ml	Date Analyzed:	04/22/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	6
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	ND
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	103
Toluene-d8	50	(88-110)	98
Bromofluorobenzene	50	(86-115)	110

Method Blank ID: NA LCS ID: NA MS ID: NA MSD ID: NA DUP ID: NA

- blank contam.

00602

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	NA	Client Sample ID:	NA	Date Sampled:	NA
Project Name:	NA	PDP Sample ID:	2221V.WBLK1(METHOD BLANK)	Date Received:	NA
Project No.:	NA	Report No.:	B8711	Date Reported:	04/29/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8711
Sample Volume:	5.0 ml	Date Analyzed:	04/25/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	8
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	ND
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	91
Toluene-d8	50	(88-110)	88
Bromofluorobenzene	50	(86-115)	102

Method Blank ID: NA LCS ID: NA MS ID: NA MSD ID: NA DUP ID: NA

- blank contam.

011291

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: NA
Project Name: NA
Project No.: NA

Client Sample ID:NA
PDP Sample ID: 2226V.WBLK1(METHOD BLANK)
Report No.: B8732

Date Sampled: NA
Date Received: NA
Date Reported: 05/03/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix: WATER
Multiplying Factor: 1.00
Sample Volume: 5.0 ml
Dilution: 1.0

Method Ref.: SW846-8240
GC/MS File ID: B8732
Date Analyzed: 04/26/94
Analyst: MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	5
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	ND
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	94
Toluene-d8	50	(88-110)	87*
Bromofluorobenzene	50	(86-115)	102

JJS 8/26/94

Method Blank ID: NA LCS ID: NA MS ID: NA MSD ID: NA DUP ID: NA

– low surrogate recovery, but no flags since all samples are O.K. => isolated incidence

– blank contam.

OCC031

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas; 77386 (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project No.: 2379

Date Reported: 05-01-94
Report No.: I224M03
Analyst: HM

WET CHEMISTRY PARAMETER: Nitrate

Method Reference: EPA 352.1 UNITS: mg/L

PDP LABORATORY ID	CLIENT ID	MATRIX	DATE SAMPLED	DATE RECEIVED	DATE ANALYZED	QUANT LIMIT	RESULT	SPIKE ADDED OR TRUE VALUE	RELATIVE PERCENT DIFF(20)	PERCENT RECOVERY (75-125)
2224.01	LH18&24-MW6-1001	WATER	04-13-94	04-14-94	04-14-94	0.1	ND			
2224.02	LH18&24-MW19-1001	WATER	04-13-94	04-14-94	04-14-94	0.1	0.18			
2224.03	LH18&24-C2-1001	WATER	04-13-94	04-14-94	04-14-94	0.1	0.15			
2224.04	LH18&24-AWD4-1001	WATER	04-13-94	04-14-94	04-14-94	0.1	0.53			
2224.05	LH18&24-MW13-1001	WATER	04-13-94	04-14-94	04-14-94	0.1	0.18			
2224.06	LH18&24-MW11-1001	WATER	04-13-94	04-14-94	04-14-94	0.1	0.20			
			QUALITY ASSURANCE/QUALITY CONTROL							
2224.PB1	PREPARATION BLANK	NA	NA	NA	04-14-94	0.1	ND			
2224.LCS1	LAB CONTROL STD	NA	NA	NA	04-14-94	0.1	0.41	0.40		103
2224.LCS2	LAB CONTROL STD	NA	NA	NA	04-14-94	0.1	0.42	0.40	2.4	105
2224.01	SAMPLE	NA	NA	NA	04-14-94	0.1	ND			
2224.01MS	MATRIX SPIKE	NA	NA	NA	04-14-94	0.1	0.68	0.4		170*
2224.01MSD	MATRIX SPIKE DUP	NA	NA	NA	04-14-94	0.1	0.65	0.4	4.5	162*

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: NA
Project Name: NA
Project Number: NA

PDP MS ID: 2226.01MS
PDP MSD ID: 2226.01MSD
Report Number: I226MS01

Date Sampled: NA
Date Received: NA
Date Reported: 05-01-94

TOTAL METALS (MATRIX SPIKE AND MATRIX SPIKE DUPLICATE)

Sample Matrix: WATER

Units: mg/L

ELEMENT	METHOD	DATE PREPARED	DATE ANALYZED	SAMPLE VALUE	SPIKE ADDED	MATRIX SPIKE VALUE	PERCENT RECOVERY (75-125)	MATRIX SPIKE DUP VALUE	PERCENT RECOVERY (75-125)	RPD (20)
Aluminum	SW-846 6010	04-17-94	04-25-94	0.28	2.00	2.14	93	2.22	97	3.7
Antimony	SW-846 6010	04-17-94	04-25-94	ND	0.50	0.50	100	0.51	102	2.0
Arsenic	SW-846 7060	04-17-94	04-25-94	0.005	0.040	0.030	62*	0.031	65*	3.3
Barium	SW-846 6010	04-17-94	04-25-94	0.126	2.00	2.07	97	2.10	99	1.4
Beryllium	SW-846 6010	04-17-94	04-25-94	ND	0.050	0.049	98	0.050	100	2.0
Cadmium	SW-846 6010	04-17-94	04-25-94	ND	0.050	0.046	92	0.047	94	2.2
Calcium	SW-846 6010	04-17-94	04-25-94	16.4	NA	NA	NA	NA	NA	NA
Chromium	SW-846 6010	04-17-94	04-25-94	ND	0.20	0.20	100	0.20	100	0.0
Cobalt	SW-846 6010	04-17-94	04-25-94	ND	0.50	0.50	100	0.51	102	2.0
Copper	SW-846 6010	04-17-94	04-25-94	ND	0.25	0.25	100	0.26	104	3.9
Iron	SW-846 6010	04-17-94	04-25-94	0.22	1.00	1.16	94	1.22	100	5.0
Lead	SW-846 7421	04-17-94	04-22-94	ND	0.020	0.026	130*	0.026	130*	0.0
Magnesium	SW-846 6010	04-17-94	04-25-94	9.3	NA	NA	NA	NA	NA	NA
Manganese	SW-846 6010	04-17-94	04-25-94	0.011	0.50	0.50	98	0.50	98	0.0
Mercury	SW-846 7471	04-20-94	04-21-94	ND	0.0010	0.0010	100	0.0010	100	0.0
Nickel	SW-846 6010	04-17-94	04-25-94	ND	0.50	0.50	100	0.51	102	2.0
Potassium	SW-846 6010	04-17-94	04-25-94	ND	NA	NA	NA	NA	NA	NA
Selenium	SW-846 7740	04-17-94	04-26-94	ND	0.010	ND	0*	0.002	20*	NC
Silver	SW-846 6010	04-17-94	04-25-94	ND	0.050	0.048	96	0.048	96	0.0
Sodium	SW-846 6010	04-17-94	04-25-94	112	NA	NA	NA	NA	NA	NA
Thallium	SW-846 7841	04-17-94	04-25-94	ND	0.050	0.044	88	0.047	94	6.6
Vanadium	SW-846 6010	04-17-94	04-25-94	ND	0.50	0.49	98	0.50	100	2.0
Zinc	SW-846 6010	04-17-94	04-25-94	0.022	0.50	0.52	100	0.52	100	0.0

QUALITY ASSURANCE/QUALITY CONTROL

Method Blank ID: NA

LCS ID: NA

LCSD ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: NA
Project Name: NA
Project Number: NA

LCS ID: 2224.LCSW1
LCSD ID: 2224.LCSW2

Date Reported: 05-01-94
Report Number: I224LCSW

METALS (LABORATORY CONTROL SAMPLE AND LABORATORY CONTROL SAMPLE DUPLICATE)

Sample Matrix: AQUEOUS

Units: ug/L

ELEMENT	METHOD	DATE PREPARED	DATE ANALYZED	TRUE VALUE	LCS FOUND VALUE	LCS % RECOVERY (80-120)	LCSD FOUND VALUE	LCSD % RECOVERY (80-120)	RPD (20)	ANALYST
Aluminum	SW-846 6010	04-17-94	04-25-94	10.0	9.58	96	9.58	96	0.0	MBB
Antimony	SW-846 6010	04-17-94	04-25-94	5.00	4.86	97	4.83	97	0.6	MBB
Arsenic	SW-846 7060	04-17-94	04-25-94	0.050	0.044	88	0.042	84	4.7	MBB
Barium	SW-846 6010	04-17-94	04-25-94	10.0	9.55	96	9.46	95	0.9	MBB
Beryllium	SW-846 6010	04-17-94	04-25-94	0.25	0.25	100	0.25	100	0.0	MBB
Cadmium	SW-846 6010	04-17-94	04-25-94	2.50	2.38	95	2.36	94	0.8	MBB
Calcium	SW-846 6010	04-17-94	04-25-94	25.0	23.8	95	23.8	95	0.0	MBB
Chromium	SW-846 6010	04-17-94	04-25-94	1.00	0.98	98	0.97	97	1.0	MBB
Cobalt	SW-846 6010	04-17-94	04-25-94	2.50	2.42	97	2.42	97	0.0	MBB
Copper	SW-846 6010	04-17-94	04-25-94	1.25	1.22	98	1.22	98	0.0	MBB
Iron	SW-846 6010	04-17-94	04-25-94	5.00	4.79	96	4.78	96	0.2	MBB
Lead	SW-846 7421	04-17-94	04-22-94	0.050	0.062	124*	0.061	122*	1.6	MBB
Magnesium	SW-846 6010	04-17-94	04-25-94	25.0	23.8	95	23.8	95	0.0	MBB
Manganese	SW-846 6010	04-17-94	04-25-94	2.50	2.41	96	2.40	96	0.4	MBB
Nickel	SW-846 6010	04-17-94	04-25-94	2.50	2.43	97	2.43	97	0.0	MBB
Potassium	SW-846 6010	04-17-94	04-25-94	25.0	23.9	96	23.3	93	2.5	MBB
Selenium	SW-846 7740	04-17-94	04-26-94	0.050	0.053	106	0.055	110	3.7	MBB
Silver	SW-846 6010	04-17-94	04-25-94	1.25	1.21	97	1.20	96	0.8	MBB
Sodium	SW-846 6010	04-17-94	04-25-94	25.0	24.0	96	23.9	96	0.4	MBB
Thallium	SW-846 7841	04-17-94	04-25-94	0.050	0.046	92	0.045	90	2.2	MBB
Vanadium	SW-846 6010	04-17-94	04-25-94	2.50	2.39	96	2.38	95	0.4	MBB
Zinc	SW-846 6010	04-17-94	04-25-94	2.50	2.40	96	2.40	96	0.0	MBB

QUALITY ASSURANCE/QUALITY CONTROL

Method Blank ID: 2224.PBW1

– flag positive lead results as estimated

011295

FINAL

CHEMICAL DATA QA/QC REPORT
INTERIM REMEDIAL ACTION
BURNING GROUND 3 AND
UNLINED EVAPORATION POND
LHAAP UNITS 18 AND 24
LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

PREPARED FOR

UNITED STATES ARMY CORPS OF ENGINEERS
TULSA DISTRICT

PREPARED BY

AWD TECHNOLOGIES, INC.
ROCKVILLE, MARYLAND

PDP ANALYTICAL SERVICES -- Episode 2226

AUGUST 31, 1994
USACE CONTRACT DACA56-93-D-0016
DELIVERY ORDER 0002
AWD PROJECT 2379

LONGHORN ARMY AMMUNITION PLANT, TEXAS
BURNING GROUND 3 AND UNLINED EVAPORATION POND
INTERIM REMEDIAL ACTION
PDP Analytical Services -- Episode 2226

1.0 Discussion.

This set of samples was collected from the Burning Ground 3 and the Unlined Evaporation Pond areas of the Longhorn Army Ammunition Plant in Karnack, Texas on April 14, 1994 as part of the Interim Remedial Action Investigation. The sampling activity was conducted by AWD Technologies, Inc. (AWD) for the U.S. Army Corps of Engineers (COE),T Tulsa District. After collection, the samples were sent to the PDP Analytical Services laboratory in Spring, Texas and were placed under Episode Number 2226. Included in this work order are six (6) groundwater samples, including two (2) field duplicate pairs, and one (1) trip blank.

Groundwater Samples

LH18/24-C7-1001	LH18/24-C10-1001
LH18/24-C7-1001-QC	LH18/24-C6-1001
LH18/24-MW16-1001	LH18/24-C6-1001-QC

Field Duplicates

LH18/24-C7-1001-QC is a field duplicate of LH18/24-C7-1001.
LH18/24-C6-1001-QC is a field duplicate of LH18/24-C6-1001.

Trip Blank

LH18/24-XXX-TB

All samples, except the trip blank, were analyzed for volatile organic chemicals (VOCs), target analyte list (TAL) metals, chloride, nitrate as nitrogen, and sulfate. The trip blank was only analyzed for VOCs. All VOC and metals analyses were performed by U.S. EPA SW-846 methodologies: 8240 and 6000/7000 series, respectively. The chloride, nitrate, and sulfate

analyses were performed according to U.S. EPA Methods 325.3, 352.1, and 375.4, respectively. Since the laboratory did not supply any of the analytical raw data in the deliverable package, data validation has been performed on the limited basis of examining QA/QC summary reports.

Other than the selenium results that were rejected, "R", all compounds and analytes were successfully analyzed in all samples. The organic analytical data were evaluated by the following quality assurance/quality control (QA/QC) parameters where applicable: technical holding times and preservation, system monitoring compound/surrogate spike recoveries, method blanks, matrix spike/matrix spike duplicates (MS/MSDs), laboratory control samples, field QC, and transcription. The inorganic analytical data were evaluated by the following QA/QC parameters where applicable: technical holding times and preservation, laboratory blanks, matrix spike recoveries, laboratory duplicates, laboratory control samples, field QC, and transcription. Validated sample analysis results are listed on the attached data summary forms. Areas of concern with respect to data quality and usability are discussed below.

2.0 Volatiles.

2.1 Accuracy. All surrogate, laboratory control sample (LCS), and MS/MSD percent recoveries were within acceptable control limits, except for the following:

- The bromofluorobenzene surrogate recovery was high in sample LH18/24-C10-1001 (DL).
- The toluene-d8 surrogate recovery was low in sample LH18/24-C6-1001-QC (DL).
- The benzene percent recovery in the matrix spike duplicate sample was high.
- The toluene-d8 surrogate recovery was low in the method blank analyzed on April 26, 1994.

As a result, the two methylene chloride concentrations reported from the two sample dilutions listed above have been qualified as estimated, "J". Note that these were the only two concentrations reported from these dilutions. No action was taken on any of the sample data because of the high benzene recovery in the MSD, since qualification of data should not be

based solely on MS/MSD criteria. Finally, because most of the sample surrogate recoveries were in control, the low method blank surrogate recovery did not impact any of the data; this should be considered an isolated incidence.

The methylene chloride result reported for sample LH18/24-C6-1001 was also qualified as estimated, "J", because the concentration in this sample exceeded the calibration range and a dilution was not analyzed and reported.

2.2 Precision. The relative percent differences (RPDs) reported for the MS/MSD data were all within acceptable quality control limits.

2.3 Representativeness. All pertinent samples were properly preserved and were received in good condition by the laboratory. All samples were also analyzed within the appropriate holding time.

There was low level methylene chloride contamination in the method and trip blanks. Therefore, positive sample concentrations of this compound that are less than ten (10) times the highest amount of contamination have been qualified as non-detect, "U".

All compounds in both field duplicate pairs were found to be comparable.

3.0 Anions.

Chloride, nitrate as nitrogen, and sulfate were all analyzed as anions by the aforementioned wet chemistry methods.

3.1 Accuracy. The laboratory control sample and matrix spike percent recoveries were all within acceptable quality control limits for all three parameters, except for the MS/MSD recoveries of nitrate. Both of these spikes were recovered above the 125 percent limit. Thus, all positive sample values for nitrate have been qualified as estimated, "J"; the non-detect sample values reported were not impacted.

3.2 Precision. The LCS and sample duplicate RPDs were all within the acceptable control limit of 20 percent.

3.3 **Representativeness.** All pertinent samples were properly preserved and were received in good condition by the laboratory. All blanks were free of target analyte contamination and all samples were analyzed within acceptable holding times.

All three analytes in both field duplicate pairs have been found to be comparable.

4.0 TAL Metals.

4.1 **Accuracy.** All laboratory control sample and matrix spike percent recoveries were within acceptable quality control limits, except for the MS/MSD recoveries of arsenic, lead, and selenium. Additionally, the laboratory control sample/laboratory control sample duplicate (LCS/LCSD) recoveries of lead were both out of control. Although all four lead spike recoveries were high, the data were unaffected since all sample concentrations for lead are non-detect. Furthermore, the arsenic MS/MSD recoveries were both low. Therefore, all sample results for arsenic should be considered biased low and have been qualified as estimated, "J" or "UJ". The selenium MS/MSD recoveries, on the other hand, were both less than 30 percent. As a result, all sample values reported for this metal have been rejected, "R", and should be considered unusable since they are all non-detects.

4.2 **Precision.** All LCS/LCSD and MS/MSD relative percent differences (RPDs) were within the acceptable quality control range.

4.3 **Representativeness.** All pertinent samples were properly preserved and were received in good condition by the laboratory. All samples were prepared and analyzed within appropriate holding times and all blanks were free of target analyte contamination.

All metals in both field duplicate pairs have been found to be comparable.

5.0 Notes.

The laboratory reports positive organic results that are below the quantitation limits but above the instrument detection limits (IDLs) as estimated, "J", since there is an unacceptable level of confidence in the detection and accurate reporting of concentrations less than the quantitation limits.

There were no tentatively identified compounds (TICs) reported by the laboratory for the volatile fraction of any sample.

The criteria used to evaluate the field duplicate data was a control of plus or minus two (2) times the reporting limit when one or both compounds or analytes of the duplicate pair were less than five (5) times the reporting limit or an upper bound of 35 percent RPD when both compounds or analytes of the pair were greater than or equal to five (5) times the reporting limit.

Please note that all transcription errors found have been corrected in the support documentation of this report.

6.0 Conclusion.

These data were reviewed according to the U.S. EPA's National Functional Guidelines for Organic Data Review (June, 1991), the U.S. EPA's Laboratory Data Validation Functional Guidelines for Evaluating Inorganics Analyses (July, 1988), and with reference to method requirements. The results are presented in the data summary of this report and should be accepted as qualified. With the exception of the values that have been rejected, all results and data meet the requirements of the data quality objective (DQO) for this site and are deemed acceptable and valid for the intended use.

7.0 Information Regarding Report Content.

Attachments:

1. Glossary of data qualifier codes.
2. Data Summary. This may include:
   a) All positive results with qualifier codes, if applicable;
   b) All unusable detection limits qualified with "R"; and
   c) All estimated detection limits qualified with "UJ".
3. Appendix A - Results as reported by the laboratory.
4. Appendix B - Support Documentation which includes details to support the statements made in this report.

GLOSSARY OF DATA QUALIFIER CODES

CODES RELATING TO IDENTIFICATION

(confidence concerning presence or absence of compounds)

U = Not detected. The associated number indicates approximate sample concentration necessary to be detected.

(NO CODE) = Confirmed identification.

R = Unreliable result. Analyte may or may not be present in the sample. Supporting data necessary to confirm result. The result is unusable.

CODES RELATED TO QUANTITATION

(can be used for positive results and sample quantitation limits)

J = Analyte present. Reported value may not be accurate or precise.

UJ = Not detected. Quantitation limit may be inaccurate or imprecise.

011302

DATA SUMMARY

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES	Client Sample ID:	LH18&24-C7-1001	Date Sampled:	04/14/94
Project Name:	LHAAP	PDP Sample ID:	2226.01	Date Received:	04/15/94
Project No.:	2379	Report No.:	B8752	Date Reported:	05/03/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8752
Sample Volume:	5.0 ml	Date Analyzed:	04/27/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	7 B U
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	10
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	106
Toluene-d8	50	(88-110)	92
Bromofluorobenzene	50	(86-115)	111

Method Blank ID: 2226V.WBLK2 LCS ID: 2226V.WLCS2 MS ID: 2226.01MS MSD ID: 2226.01MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive. Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES	Client Sample ID:	LH18&24-C7-1001QC	Date Sampled:	04/14/94
Project Name:	LHAAP	PDP Sample ID:	2226.02	Date Received:	04/15/94
Project No.:	2379	Report No.:	B8755	Date Reported:	05/03/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8755
Sample Volume:	5.0 ml	Date Analyzed:	04/27/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	8 B U
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	9
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	112
Toluene-d8	50	(88-110)	95
Bromofluorobenzene	50	(86-115)	115

Method Blank ID: 2226V.WBLK2 LCS ID: 2226V.WLCS2 MS ID: 2226.01MS MSD ID: 2226.01MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES	Client Sample ID:	LH18&24-MW16-1001	Date Sampled:	04/14/94
Project Name:	LHAAP	PDP Sample ID:	2226.03	Date Received:	04/15/94
Project No.:	2379	Report No.:	B8756	Date Reported:	05/03/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8756
Sample Volume:	5.0 ml	Date Analyzed:	04/27/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	5 B U
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	ND
Carbon disulfide	5	9	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	106
Toluene-d8	50	(88-110)	94
Bromofluorobenzene	50	(86-115)	108

Method Blank ID: 2226V.WBLK2 LCS ID: 2226V.WLCS2 MS ID: 2226.01MS MSD ID: 2226.01MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES	Client Sample ID:	LH18&24-C10-1001	Date Sampled:	04/14/94
Project Name:	LHAAP	PDP Sample ID:	2226.04	Date Received:	04/15/94
Project No.:	2379	Report No.:	B8757	Date Reported:	05/03/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8757
Sample Volume:	5.0 ml	Date Analyzed:	04/27/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	~~5~~ 25	~~690 BE~~ 680J
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	3 J
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	122
Carbon disulfide	5	5	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	113
Toluene-d8	50	(88-110)	95
Bromofluorobenzene	50	(86-115)	115

Method Blank ID: 2226V.WBLK2 LCS ID: 2226V.WLCS2 MS ID: 2226.01MS MSD ID: 2226.01MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES	Client Sample ID:	LH18&24-C6-1001	Date Sampled:	04/14/94
Project Name:	LHAAP	PDP Sample ID:	2226.05	Date Received:	04/15/94
Project No.:	2379	Report No.:	B8758	Date Reported:	05/03/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8758
Sample Volume:	5.0 ml	Date Analyzed:	04/27/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	260 ~~BL~~ J
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	65
Carbon disulfide	5	8	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	108
Toluene-d8	50	(88-110)	93
Bromofluorobenzene	50	(86-115)	112

Method Blank ID: 2226V.WBLK2 LCS ID: 2226V.WLCS2 MS ID: 2226.01MS MSD ID: 2226.01MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES	Client Sample ID:	LH18&24-C6-1001QC	Date Sampled:	04/14/94
Project Name:	LHAAP	PDP Sample ID:	2226.06	Date Received:	04/15/94
Project No.:	2379	Report No.:	B8759	Date Reported:	05/03/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8759
Sample Volume:	5.0 ml	Date Analyzed:	04/27/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	~~5~~ 10	~~300 BE~~ 250J
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	90
Carbon disulfide	5	9	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	114
Toluene-d8	50	(88-110)	94
Bromofluorobenzene	50	(86-115)	115

Method Blank ID: 2226V.WBLK2 LCS ID: 2226V.WLCS2 MS ID: 2226.01MS MSD ID: 2226.01MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386: Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES	Client Sample ID:	LH18&24-XXX-TB	Date Sampled:	04/14/94
Project Name:	LHAAP	PDP Sample ID:	2226.07	Date Received:	04/15/94
Project No.:	2379	Report No.:	B8735	Date Reported:	05/03/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8735
Sample Volume:	5.0 ml	Date Analyzed:	04/26/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	8
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	ND
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	104
Toluene-d8	50	(88-110)	93
Bromofluorobenzene	50	(86-115)	110

Method Blank ID: 2226V.WBLK1 LCS ID: 2226V.WLCS1 MS ID: 2226.01MS MSD ID: 2226.01MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project Number: 2379

Client Sample ID: LH18&24 C7-1001
PDP Sample ID: 2226.01
Report Number: I22601

Date Sampled: 04-14-94
Date Received: 04-15-94
Date Reported: 05-01-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-17-94	04-25-94	0.1	0.28	MBB
Antimony	SW-846 6010	04-17-94	04-25-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-17-94	04-25-94	0.005	0.005J	MBB
Barium	SW-846 6010	04-17-94	04-25-94	0.01	0.126	MBB
Beryllium	SW-846 6010	04-17-94	04-25-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-17-94	04-25-94	0.005	ND	MBB
Calcium	SW-846 6010	04-17-94	04-25-94	0.2	16.4	MBB
Chromium	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Cobalt	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Copper	SW-846 6010	04-17-94	04-25-94	0.02	ND	MBB
Iron	SW-846 6010	04-17-94	04-25-94	0.1	0.22	MBB
Lead	SW-846 7421	04-17-94	04-22-94	0.01	ND	MBB
Magnesium	SW-846 6010	04-17-94	04-25-94	0.2	9.3	MBB
Manganese	SW-846 6010	04-17-94	04-25-94	0.01	0.011	MBB
Mercury	SW-846 7470	04-20-94	04-21-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-17-94	04-25-94	0.04	ND	MBB
Potassium	SW-846 6010	04-17-94	04-25-94	5	ND	MBB
Selenium	SW-846 7740	04-17-94	04-26-94	0.005	NDR	MBB
Silver	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Sodium	SW-846 6010	04-17-94	04-25-94	0.5	112	MBB
Thallium	SW-846 7841	04-17-94	04-25-94	0.005	ND	MBB
Vanadium	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Zinc	SW-846 6010	04-17-94	04-25-94	0.02	0.022	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP Method Blank ID: 2224.PBW1
GFAA Method Blank ID: 2224.PBW1
CVAA Method Blank ID: 2211.PBW1

ICP LCS ID: 2224.LCSW1
GFAA LCS ID: 2224.LCSW1
CVAA LCS ID: 2211.LCSW1

ICP LCSD ID: 2224.LCSW2
GFAA LCSD ID: 2224.LCSW2
CVAA LCSD ID: 2211.LCSW2

ICP MS ID: 2226.01MS
GFAA MS ID: 2226.01MS
CVAA MS ID: 2226.01MS

ICP MSD ID: 2226.01MSD
GFAA MSD ID: 2226.01MSD
CVAA MSD ID: 2226.01MSD

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project Number: 2379

Client Sample ID: LH18&24 C7-1001-QC
PDP Sample ID: 2226.02
Report Number: I22602

Date Sampled: 04-14-94
Date Received: 04-15-94
Date Reported: 05-01-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-17-94	04-25-94	0.1	0.18	MBB
Antimony	SW-846 6010	04-17-94	04-25-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-17-94	04-25-94	0.005	0.006 J	MBB
Barium	SW-846 6010	04-17-94	04-25-94	0.01	0.134	MBB
Beryllium	SW-846 6010	04-17-94	04-25-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-17-94	04-25-94	0.005	ND	MBB
Calcium	SW-846 6010	04-17-94	04-25-94	0.2	16.2	MBB
Chromium	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Cobalt	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Copper	SW-846 6010	04-17-94	04-25-94	0.02	ND	MBB
Iron	SW-846 6010	04-17-94	04-25-94	0.1	0.11	MBB
Lead	SW-846 7421	04-17-94	04-22-94	0.01	ND	MBB
Magnesium	SW-846 6010	04-17-94	04-25-94	0.2	9.2	MBB
Manganese	SW-846 6010	04-17-94	04-25-94	0.01	0.012	MBB
Mercury	SW-846 7470	04-20-94	04-21-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-17-94	04-25-94	0.04	ND	MBB
Potassium	SW-846 6010	04-17-94	04-25-94	5	ND	MBB
Selenium	SW-846 7740	04-17-94	04-26-94	0.01	ND R	MBB
Silver	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Sodium	SW-846 6010	04-17-94	04-25-94	0.5	111	MBB
Thallium	SW-846 7841	04-17-94	04-25-94	0.005	ND	MBB
Vanadium	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Zinc	SW-846 6010	04-17-94	04-25-94	0.02	ND	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP Method Blank ID: 2224.PBW1
GFAA Method Blank ID: 2224.PBW1
CVAA Method Blank ID: 2211.PBW1

ICP LCS ID: 2224.LCSW1
GFAA LCS ID: 2224.LCSW1
CVAA LCS ID: 2211.LCSW1

ICP LCSD ID: 2224.LCSW2
GFAA LCSD ID: 2224.LCSW2
CVAA LCSD ID: 2211.LCSW2

ICP MS ID: 2226.01MS
GFAA MS ID: 2226.01MS
CVAA MS ID: 2226.01MS

ICP MSD ID: 2226.01MSD
GFAA MSD ID: 2226.01MSD
CVAA MSD ID: 2226.01MSD

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project Number: 2379

Client Sample ID: LH18&24 MW16-1001
PDP Sample ID: 2226.03
Report Number: I22603

Date Sampled: 04-14-94
Date Received: 04-15-94
Date Reported: 05-01-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-17-94	04-25-94	0.1	ND	MBB
Antimony	SW-846 6010	04-17-94	04-25-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-17-94	04-25-94	0.005	ND UJ	MBB
Barium	SW-846 6010	04-17-94	04-25-94	0.01	0.336	MBB
Beryllium	SW-846 6010	04-17-94	04-25-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-17-94	04-25-94	0.005	ND	MBB
Calcium	SW-846 6010	04-17-94	04-25-94	0.2	15.3	MBB
Chromium	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Cobalt	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Copper	SW-846 6010	04-17-94	04-25-94	0.02	ND	MBB
Iron	SW-846 6010	04-17-94	04-25-94	0.1	31.3	MBB
Lead	SW-846 7421	04-17-94	04-22-94	0.01	ND	MBB
Magnesium	SW-846 6010	04-17-94	04-25-94	0.2	8.8	MBB
Manganese	SW-846 6010	04-17-94	04-25-94	0.01	0.573	MBB
Mercury	SW-846 7470	04-20-94	04-21-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-17-94	04-25-94	0.04	ND	MBB
Potassium	SW-846 6010	04-17-94	04-25-94	5	ND	MBB
Selenium	SW-846 7740	04-17-94	04-26-94	0.01	ND R	MBB
Silver	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Sodium	SW-846 6010	04-17-94	04-25-94	0.5	60.8	MBB
Thallium	SW-846 7841	04-17-94	04-25-94	0.005	ND	MBB
Vanadium	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Zinc	SW-846 6010	04-17-94	04-25-94	0.02	ND	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP Method Blank ID: 2224.PBW1
GFAA Method Blank ID: 2224.PBW1
CVAA Method Blank ID: 2211.PBW1

ICP LCS ID: 2224.LCSW1
GFAA LCS ID: 2224.LCSW1
CVAA LCS ID: 2211.LCSW1

ICP LCSD ID: 2224.LCSW2
GFAA LCSD ID: 2224.LCSW2
CVAA LCSD ID: 2211.LCSW2

ICP MS ID: 2226.01MS
GFAA MS ID: 2226.01MS
CVAA MS ID: 2226.01MS

ICP MSD ID: 2226.01MSD
GFAA MSD ID: 2226.01MSD
CVAA MSD ID: 2226.01MSD

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project Number: 2379

Client Sample ID: LH18424 C10-1001
PDP Sample ID: 2226.04
Report Number: I22604

Date Sampled: 04-14-94
Date Received: 04-15-94
Date Reported: 05-01-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-17-94	04-25-94	0.1	ND	MBB
Antimony	SW-846 6010	04-17-94	04-25-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-17-94	04-25-94	0.005	ND UJ	MBB
Barium	SW-846 6010	04-17-94	04-25-94	0.01	0.592	MBB
Beryllium	SW-846 6010	04-17-94	04-25-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-17-94	04-25-94	0.005	ND	MBB
Calcium	SW-846 6010	04-17-94	04-25-94	0.2	75.0	MBB
Chromium	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Cobalt	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Copper	SW-846 6010	04-17-94	04-25-94	0.02	ND	MBB
Iron	SW-846 6010	04-17-94	04-25-94	0.1	0.381	MBB
Lead	SW-846 7421	04-17-94	04-22-94	0.01	ND	MBB
Magnesium	SW-846 6010	04-17-94	04-25-94	0.2	31.7	MBB
Manganese	SW-846 6010	04-17-94	04-25-94	0.01	0.233	MBB
Mercury	SW-846 7470	04-20-94	04-21-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-17-94	04-25-94	0.04	ND	MBB
Potassium	SW-846 6010	04-17-94	04-25-94	5	ND	MBB
Selenium	SW-846 7740	04-17-94	04-26-94	0.01	ND R	MBB
Silver	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Sodium	SW-846 6010	04-17-94	04-25-94	0.5	250	MBB
Thallium	SW-846 7841	04-17-94	04-25-94	0.005	ND	MBB
Vanadium	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Zinc	SW-846 6010	04-17-94	04-25-94	0.02	0.060	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP Method Blank ID: 2224.PBW1
GFAA Method Blank ID: 2224.PBW1
CVAA Method Blank ID: 2211.PBW1

ICP LCS ID: 2224.LCSW1
GFAA LCS ID: 2224.LCSW1
CVAA LCS ID: 2211.LCSW1

ICP LCSD ID: 2224.LCSW2
GFAA LCSD ID: 2224.LCSW2
CVAA LCSD ID: 2211.LCSW2

ICP MS ID: 2226.01MS
GFAA MS ID: 2226.01MS
CVAA MS ID: 2226.01MS

ICP MSD ID: 2226.01MSD
GFAA MSD ID: 2226.01MSD
CVAA MSD ID: 2226.01MSD

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project Number: 2379

Client Sample ID: LH18&24 C6-1001
PDP Sample ID: 2226.05
Report Number: I22605

Date Sampled: 04-14-94
Date Received: 04-15-94
Date Reported: 05-01-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-17-94	04-25-94	0.1	ND	MBB
Antimony	SW-846 6010	04-17-94	04-25-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-17-94	04-25-94	0.005	ND UJ	MBB
Barium	SW-846 6010	04-17-94	04-25-94	0.01	1.10	MBB
Beryllium	SW-846 6010	04-17-94	04-25-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-17-94	04-25-94	0.005	ND	MBB
Calcium	SW-846 6010	04-17-94	04-25-94	0.2	33.2	MBB
Chromium	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Cobalt	SW-846 6010	04-17-94	04-25-94	0.01	0.016	MBB
Copper	SW-846 6010	04-17-94	04-25-94	0.02	ND	MBB
Iron	SW-846 6010	04-17-94	04-25-94	0.1	32.8	MBB
Lead	SW-846 7421	04-17-94	04-22-94	0.005	ND	MBB
Magnesium	SW-846 6010	04-17-94	04-25-94	0.2	21.4	MBB
Manganese	SW-846 6010	04-17-94	04-25-94	0.01	1.32	MBB
Mercury	SW-846 7470	04-20-94	04-21-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-17-94	04-25-94	0.04	ND	MBB
Potassium	SW-846 6010	04-17-94	04-25-94	5	ND	MBB
Selenium	SW-846 7740	04-17-94	04-26-94	0.005	ND R	MBB
Silver	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Sodium	SW-846 6010	04-17-94	04-25-94	0.5	256	MBB
Thallium	SW-846 7841	04-17-94	04-25-94	0.01	ND	MBB
Vanadium	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Zinc	SW-846 6010	04-17-94	04-25-94	0.02	0.033	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP Method Blank ID: 2224.PBW1
GFAA Method Blank ID: 2224.PBW1
CVAA Method Blank ID: 2211.PBW1

ICP LCS ID: 2224.LCSW1
GFAA LCS ID: 2224.LCSW1
CVAA LCS ID: 2211.LCSW1

ICP LCSD ID: 2224.LCSW2
GFAA LCSD ID: 2224.LCSW2
CVAA LCSD ID: 2211.LCSW2

ICP MS ID: 2226.01MS
GFAA MS ID: 2226.01MS
CVAA MS ID: 2226.01MS

ICP MSD ID: 2226.01MSD
GFAA MSD ID: 2226.01MSD
CVAA MSD ID: 2226.01MSD

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project Number: 2379

Client Sample ID: LH18&24 C6-1001-QC
PDP Sample ID: 2226.06
Report Number: I22606

Date Sampled: 04-14-94
Date Received: 04-15-94
Date Reported: 05-01-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-17-94	04-25-94	0.1	ND	MBB
Antimony	SW-846 6010	04-17-94	04-25-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-17-94	04-25-94	0.005	ND W	MBB
Barium	SW-846 6010	04-17-94	04-25-94	0.01	1.11	MBB
Beryllium	SW-846 6010	04-17-94	04-25-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-17-94	04-25-94	0.005	ND	MBB
Calcium	SW-846 6010	04-17-94	04-25-94	0.2	33.2	MBB
Chromium	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Cobalt	SW-846 6010	04-17-94	04-25-94	0.01	0.021	MBB
Copper	SW-846 6010	04-17-94	04-25-94	0.02	ND	MBB
Iron	SW-846 6010	04-17-94	04-25-94	0.1	34.1	MBB
Lead	SW-846 7421	04-17-94	04-22-94	0.01	ND	MBB
Magnesium	SW-846 6010	04-17-94	04-25-94	0.2	21.4	MBB
Manganese	SW-846 6010	04-17-94	04-25-94	0.01	1.33	MBB
Mercury	SW-846 7470	04-20-94	04-21-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-17-94	04-25-94	0.04	ND	MBB
Potassium	SW-846 6010	04-17-94	04-25-94	5	ND	MBB
Selenium	SW-846 7740	04-17-94	04-26-94	0.01	ND R	MBB
Silver	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Sodium	SW-846 6010	04-17-94	04-25-94	0.5	258	MBB
Thallium	SW-846 7841	04-17-94	04-25-94	0.01	ND	MBB
Vanadium	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Zinc	SW-846 6010	04-17-94	04-25-94	0.02	0.034	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP LCS ID: 2224.LCSW1
GFAA LCS ID: 2224.LCSW1
CVAA LCS ID: 2211.LCSW1

ICP MS ID: 2226.01MS
GFAA MS ID: 2226.01MS
CVAA MS ID: 2226.01MS

ICP Method Blank ID: 2224.PBW1
GFAA Method Blank ID: 2224.PBW1
CVAA Method Blank ID: 2211.PBW1

ICP LCSD ID: 2224.LCSW2
GFAA LCSD ID: 2224.LCSW2
CVAA LCSD ID: 2211.LCSW2

ICP MSD ID: 2226.01MSD
GFAA MSD ID: 2226.01MSD
CVAA MSD ID: 2226.01MSD

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas; 77386 (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project No.: 2379

Date Reported: 05-01-94
Report No.: I226CL
Analyst: HM

WET CHEMISTRY PARAMETER: Chloride

Method Reference: EPA 325.3 UNITS: mg/L

PDP LABORATORY ID	CLIENT ID	MATRIX	DATE SAMPLED	DATE RECEIVED	DATE ANALYZED	QUANT LIMIT	RESULT	SPIKE ADDED OR TRUE VALUE	RELATIVE PERCENT DIFF(20)	PERCENT RECOVERY (75-125)
2226.01	LH18&24 C7-1001	WATER	04-14-94	04-15-94	04-21-94	2	80			
2226.02	LH18&24 C7-1001-QC	WATER	04-14-94	04-15-94	04-21-94	2	89			
2226.03	LH18&24 MW16-1001	WATER	04-14-94	04-15-94	04-21-94	2	186			
2226.04	LH18&24 C10-1001	WATER	04-14-94	04-15-94	04-21-94	2	496			
2226.05	LH18&24 C6-1001	WATER	04-14-94	04-15-94	04-21-94	2	523			
2226.06	LH18&24 C6-1001-QC	WATER	04-14-94	04-15-94	04-21-94	2	505			
			QUALITY ASSURANCE/QUALITY CONTROL							
2219.PB1	PREPARATION BLANK	NA	NA	NA	04-21-94	2	ND			
2219.LCS1	LAB CONTROL STD	NA	NA	NA	04-21-94	2	312	299		104
2219.LCS2	LAB CONTROL STD	NA	NA	NA	04-21-94	2	316	299	1.3	106
2224.01	SAMPLE	NA	NA	NA	04-21-94	2	310			
2224.01MS	MATRIX SPIKE	NA	NA	NA	04-21-94	2	815	443		114
2224.01MSD	MATRIX SPIKE DUP	NA	NA	NA	04-21-94	2	815	443	0.0	114

PDP ANALYTICAL SERVICES
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LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project No.: 2379

Date Reported: 05-01-94
Report No.: I226N03
Analyst: HM

WET CHEMISTRY PARAMETER: Nitrate

Method Reference: EPA 352.1 UNITS: mg/L

PDP LABORATORY ID	CLIENT ID	MATRIX	DATE SAMPLED	DATE RECEIVED	DATE ANALYZED	QUANT LIMIT	RESULT	SPIKE ADDED OR TRUE VALUE	RELATIVE PERCENT DIFF(20)	PERCENT RECOVERY (75-125)
2226.01	LH18&24 C7-1001	WATER	04-14-94	04-15-94	04-16-94	0.1	0.76J			
2226.02	LH18&24 C7-1001-QC	WATER	04-14-94	04-15-94	04-16-94	0.1	0.70J			
2226.03	LH18&24 MW16-1001	WATER	04-14-94	04-15-94	04-16-94	0.1	ND			
2226.04	LH18&24 C10-1001	WATER	04-14-94	04-15-94	04-16-94	0.1	0.54J			
2226.05	LH18&24 C6-1001	WATER	04-14-94	04-15-94	04-16-94	0.1	ND			
2226.06	LH18&24 C6-1001-QC	WATER	04-14-94	04-15-94	04-16-94	0.1	0.12J			
			QUALITY ASSURANCE/QUALITY CONTROL							
2201.PB1	PREPARATION BLANK	NA	NA	NA	04-16-94	0.1	ND			
2201.LCS1	LAB CONTROL STD	NA	NA	NA	04-16-94	0.1	0.39	0.40		98
2201.LCS2	LAB CONTROL STD	NA	NA	NA	04-16-94	0.1	0.38	0.40	2.6	95
2224.01	SAMPLE	NA	NA	NA	04-14-94	0.1	ND			
2224.01MS	MATRIX SPIKE	NA	NA	NA	04-14-94	0.1	0.68	0.4		170*
2224.01MSD	MATRIX SPIKE DUP	NA	NA	NA	04-14-94	0.1	0.65	0.4	4.5	162*

PDP ANALYTICAL SERVICES
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LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project No.: 2379

Date Reported: 05-01-94
Report No.: I226S04
Analyst: HM

WET CHEMISTRY PARAMETER: Sulfate

Method Reference: EPA 375.4 UNITS: mg/L

PDP LABORATORY ID	CLIENT ID	MATRIX	DATE SAMPLED	DATE RECEIVED	DATE ANALYZED	QUANT LIMIT	RESULT	SPIKE ADDED OR TRUE VALUE	RELATIVE PERCENT DIFF(20)	PERCENT RECOVERY (75-125)
2226.01	LH18&24 C7-1001	WATER	04-14-94	04-15-94	04-20-94	5	33			
2226.02	LH18&24 C7-1001-QC	WATER	04-14-94	04-15-94	04-20-94	5	37			
2226.03	LH18&24 MW16-1001	WATER	04-14-94	04-15-94	04-20-94	5	7			
2226.04	LH18&24 C10-1001	WATER	04-14-94	04-15-94	04-20-94	5	8			
2226.05	LH18&24 C6-1001	WATER	04-14-94	04-15-94	04-20-94	5	7			
2226.06	LH18&24 C6-1001-QC	WATER	04-14-94	04-15-94	04-20-94	5	9			
			QUALITY ASSURANCE/QUALITY CONTROL							
2210.PB1	PREPARATION BLANK	NA	NA	NA	04-20-94	5	ND			
2210.LCS1	LAB CONTROL STD	NA	NA	NA	04-20-94	5	138	151		91
2210.LCS2	LAB CONTROL STD	NA	NA	NA	04-20-94	5	131	151	5.2	87
2224.01	SAMPLE	NA	NA	NA	04-20-94	5	10			
2224.01MS	MATRIX SPIKE	NA	NA	NA	04-20-94	5	19	10		90
2224.01MSD	MATRIX SPIKE DUP	NA	NA	NA	04-20-94	5	19	10	0.0	90

APPENDIX A
RESULTS AS REPORTED BY THE LABORATORY

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES	Client Sample ID:	LH18&24-C7-1001	Date Sampled:	04/14/94
Project Name:	LHAAP	PDP Sample ID:	2226.01	Date Received:	04/15/94
Project No.:	2379	Report No.:	B8752	Date Reported:	05/03/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8752
Sample Volume:	5.0 ml	Date Analyzed:	04/27/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	7 B
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	10
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	106
Toluene-d8	50	(88-110)	92
Bromofluorobenzene	50	(86-115)	111

Method Blank ID: 2226V.WBLK2 LCS ID: 2226V.WLCS2 MS ID: 2226.01MS MSD ID: 2226.01MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES	Client Sample ID:	LH1824-C7-1001QC	Date Sampled:	04/14/94
Project Name:	LHAAP	PDP Sample ID:	2226.02	Date Received:	04/15/94
Project No.:	2379	Report No.:	B8755	Date Reported:	05/03/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8755
Sample Volume:	5.0 ml	Date Analyzed:	04/27/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	8 B
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	9
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	112
Toluene-d8	50	(88-110)	95
Bromofluorobenzene	50	(86-115)	115

Method Blank ID: 2226V.WBLK2 LCS ID: 2226V.WLCS2 MS ID: 2226.01MS MSD ID: 2226.01MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES	Client Sample ID:	LH18424-MW16-1001	Date Sampled:	04/14/94
Project Name:	LHAAP	PDP Sample ID:	2226.03	Date Received:	04/15/94
Project No.:	2379	Report No.:	B8756	Date Reported:	05/03/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8756
Sample Volume:	5.0 ml	Date Analyzed:	04/27/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	5 B
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	ND
Carbon disulfide	5	9	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	106
Toluene-d8	50	(88-110)	94
Bromofluorobenzene	50	(86-115)	108

Method Blank ID: 2226V.WBLK2 LCS ID: 2226V.WLCS2 MS ID: 2226.01MS MSD ID: 2226.01MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES	Client Sample ID:	LH18&24-C10-1001	Date Sampled:	04/14/94
Project Name:	LHAAP	PDP Sample ID:	2226.04	Date Received:	04/15/94
Project No.:	2379	Report No.:	B8757	Date Reported:	05/03/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8757
Sample Volume:	5.0 ml	Date Analyzed:	04/27/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	690 BE
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	3 J
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	122
Carbon disulfide	5	5	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	113
Toluene-d8	50	(88-110)	95
Bromofluorobenzene	50	(86-115)	115

Method Blank ID: 2226V.WBLK2 LCS ID: 2226V.WLCS2 MS ID: 2226.01MS MSD ID: 2226.01MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive. Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES	Client Sample ID:	LH18&24-C10-1001(DL)	Date Sampled:	04/14/94
Project Name:	LHAAP	PDP Sample ID:	2226.04(DILUTION)	Date Received:	04/15/94
Project No.:	2379	Report No.:	B8771	Date Reported:	05/03/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	5.00	GC/MS File ID:	B8771
Sample Volume:	5.0 ml	Date Analyzed:	04/28/94
Dilution:	5.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	25	ND	Carbon tetrachloride	25	ND
1,1,2,2-Tetrachloroethane	25	ND	Chlorobenzene	25	ND
1,1,2-Trichloroethane	25	ND	Chloroethane	50	ND
1,1-Dichloroethane	25	ND	Chloroform	25	ND
1,1-Dichloroethene	25	ND	Chloromethane	50	ND
1,2-Dichloroethane	25	ND	Cis-1,3-Dichloropropene	25	ND
1,2-Dichloropropane	25	ND	Dibromochloromethane	25	ND
2-Butanone	50	ND	Ethylbenzene	25	ND
2-Chloroethyl vinyl ether	50	ND	Methylene chloride	25	680 B
2-Hexanone	50	ND	Styrene	25	ND
4-Methyl-2-pentanone	50	ND	Tetrachloroethene	25	ND
Acetone	50	ND	Toluene	25	ND
Benzene	25	ND	Total xylenes	25	ND
Bromodichloromethane	25	ND	Total-1,2-Dichloroethene	25	ND
Bromoform	25	ND	Trans-1,3-Dichloropropene	25	ND
Bromomethane	50	ND	Trichloroethene	25	110
Carbon disulfide	25	ND	Vinyl acetate	50	ND
			Vinylchloride	50	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	110
Toluene-d8	50	(88-110)	93
Bromofluorobenzene	50	(86-115)	116

Method Blank ID: 2227V.WBLK1 LCS ID: 2227V.WLCS1 MS ID: 2226.01MS MSD ID: 2226.01MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES	Client Sample ID:	LH18&24-C6-1001	Date Sampled:	04/14/94
Project Name:	LHAAP	PDP Sample ID:	2226.05	Date Received:	04/15/94
Project No.:	2379	Report No.:	B8758	Date Reported:	05/03/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8758
Sample Volume:	5.0 ml	Date Analyzed:	04/27/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	260 BE
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	65
Carbon disulfide	5	8	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	108
Toluene-d8	50	(88-110)	93
Bromofluorobenzene	50	(86-115)	112

Method Blank ID: 2226V.WBLK2 LCS ID: 2226V.WLCS2 MS ID: 2226.01MS MSD ID: 2226.01MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES	Client Sample ID:	LH18&24-C6-1001QC	Date Sampled:	04/14/94
Project Name:	LHAAP	PDP Sample ID:	2226.06	Date Received:	04/15/94
Project No.:	2379	Report No.:	B8759	Date Reported:	05/03/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8759
Sample Volume:	5.0 ml	Date Analyzed:	04/27/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	300 BE
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	90
Carbon disulfide	5	9	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	114
Toluene-d8	50	(88-110)	94
Bromofluorobenzene	50	(86-115)	115

Method Blank ID: 2226V.WBLK2 LCS ID: 2226V.WLCS2 MS ID: 2226.01MS MSD ID: 2226.01MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES	Client Sample ID:	LH18&24-C6-1001QC(DL)	Date Sampled:	04/14/94
Project Name:	LHAAP	PDP Sample ID:	2226.06(DILUTION)	Date Received:	04/15/94
Project No.:	2379	Report No.:	B8772	Date Reported:	05/03/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	2.00	GC/MS File ID:	B8772
Sample Volume:	5.0 ml	Date Analyzed:	04/28/94
Dilution:	2.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	10	ND	Carbon tetrachloride	10	ND
1,1,2,2-Tetrachloroethane	10	ND	Chlorobenzene	10	ND
1,1,2-Trichloroethane	10	ND	Chloroethane	20	ND
1,1-Dichloroethane	10	ND	Chloroform	10	ND
1,1-Dichloroethene	10	ND	Chloromethane	20	ND
1,2-Dichloroethane	10	ND	Cis-1,3-Dichloropropene	10	ND
1,2-Dichloropropane	10	ND	Dibromochloromethane	10	ND
2-Butanone	20	ND	Ethylbenzene	10	ND
2-Chloroethyl vinyl ether	20	ND	Methylene chloride	10	250 B
2-Hexanone	20	ND	Styrene	10	ND
4-Methyl-2-pentanone	20	ND	Tetrachloroethene	10	ND
Acetone	20	ND	Toluene	10	ND
Benzene	10	ND	Total xylenes	10	ND
Bromodichloromethane	10	ND	Total-1,2-Dichloroethene	10	ND
Bromoform	10	ND	Trans-1,3-Dichloropropene	10	ND
Bromomethane	20	ND	Trichloroethene	10	60
Carbon disulfide	10	8 J	Vinyl acetate	20	ND
			Vinylchloride	20	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	104
Toluene-d8	50	(88-110)	87 *
Bromofluorobenzene	50	(86-115)	109

Method Blank ID: 2227V.WBLK1 LCS ID: 2227V.WLCS1 MS ID: 2226.01MS MSD ID: 2226.01MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive. Suite 300; Spring, Texas 77386: Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES	Client Sample ID:	LH18&24-XXX-TB	Date Sampled:	04/14/94
Project Name:	LHAAP	PDP Sample ID:	2226.07	Date Received:	04/15/94
Project No.:	2379	Report No.:	B8735	Date Reported:	05/03/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8735
Sample Volume:	5.0 ml	Date Analyzed:	04/26/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	8 B
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	ND
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	104
Toluene-d8	50	(88-110)	93
Bromofluorobenzene	50	(86-115)	110

Method Blank ID: 2226V.WBLK1 LCS ID: 2226V.WLCS1 MS ID: 2226.01MS MSD ID: 2226.01MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project Number: 2379

Client Sample ID: LH18&24 C7-1001
PDP Sample ID: 2226.01
Report Number: I22601

Date Sampled: 04-14-94
Date Received: 04-15-94
Date Reported: 05-01-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-17-94	04-25-94	0.1	0.28	MBB
Antimony	SW-846 6010	04-17-94	04-25-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-17-94	04-25-94	0.005	0.005	MBB
Barium	SW-846 6010	04-17-94	04-25-94	0.01	0.126	MBB
Beryllium	SW-846 6010	04-17-94	04-25-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-17-94	04-25-94	0.005	ND	MBB
Calcium	SW-846 6010	04-17-94	04-25-94	0.2	16.4	MBB
Chromium	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Cobalt	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Copper	SW-846 6010	04-17-94	04-25-94	0.02	ND	MBB
Iron	SW-846 6010	04-17-94	04-25-94	0.1	0.22	MBB
Lead	SW-846 7421	04-17-94	04-22-94	0.01	ND	MBB
Magnesium	SW-846 6010	04-17-94	04-25-94	0.2	9.3	MBB
Manganese	SW-846 6010	04-17-94	04-25-94	0.01	0.011	MBB
Mercury	SW-846 7470	04-20-94	04-21-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-17-94	04-25-94	0.04	ND	MBB
Potassium	SW-846 6010	04-17-94	04-25-94	5	ND	MBB
Selenium	SW-846 7740	04-17-94	04-26-94	0.005	ND	MBB
Silver	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Sodium	SW-846 6010	04-17-94	04-25-94	0.5	112	MBB
Thallium	SW-846 7841	04-17-94	04-25-94	0.005	ND	MBB
Vanadium	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Zinc	SW-846 6010	04-17-94	04-25-94	0.02	0.022	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP Method Blank ID: 2224.PBW1
GFAA Method Blank ID: 2224.PBW1
CVAA Method Blank ID: 2211.PBW1

ICP LCS ID: 2224.LCSW1
GFAA LCS ID: 2224.LCSW1
CVAA LCS ID: 2211.LCSW1

ICP LCSD ID: 2224.LCSW2
GFAA LCSD ID: 2224.LCSW2
CVAA LCSD ID: 2211.LCSW2

ICP MS ID: 2226.01MS
GFAA MS ID: 2226.01MS
CVAA MS ID: 2226.01MS

ICP MSD ID: 2226.01MSD
GFAA MSD ID: 2226.01MSD
CVAA MSD ID: 2226.01MSD

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project Number: 2379
Client Sample ID: LH18&24 C7-1001-QC
PDP Sample ID: 2226.02
Report Number: I22602
Date Sampled: 04-14-94
Date Received: 04-15-94
Date Reported: 05-01-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER
Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-17-94	04-25-94	0.1	0.18	MBB
Antimony	SW-846 6010	04-17-94	04-25-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-17-94	04-25-94	0.005	0.006	MBB
Barium	SW-846 6010	04-17-94	04-25-94	0.01	0.134	MBB
Beryllium	SW-846 6010	04-17-94	04-25-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-17-94	04-25-94	0.005	ND	MBB
Calcium	SW-846 6010	04-17-94	04-25-94	0.2	16.2	MBB
Chromium	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Cobalt	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Copper	SW-846 6010	04-17-94	04-25-94	0.02	ND	MBB
Iron	SW-846 6010	04-17-94	04-25-94	0.1	0.11	MBB
Lead	SW-846 7421	04-17-94	04-22-94	0.01	ND	MBB
Magnesium	SW-846 6010	04-17-94	04-25-94	0.2	9.2	MBB
Manganese	SW-846 6010	04-17-94	04-25-94	0.01	0.012	MBB
Mercury	SW-846 7470	04-20-94	04-21-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-17-94	04-25-94	0.04	ND	MBB
Potassium	SW-846 6010	04-17-94	04-25-94	5	ND	MBB
Selenium	SW-846 7740	04-17-94	04-26-94	0.01	ND	MBB
Silver	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Sodium	SW-846 6010	04-17-94	04-25-94	0.5	111	MBB
Thallium	SW-846 7841	04-17-94	04-25-94	0.005	ND	MBB
Vanadium	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Zinc	SW-846 6010	04-17-94	04-25-94	0.02	ND	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP Method Blank ID: 2224.PBW1
GFAA Method Blank ID: 2224.PBW1
CVAA Method Blank ID: 2211.PBW1

ICP LCS ID: 2224.LCSW1
GFAA LCS ID: 2224.LCSW1
CVAA LCS ID: 2211.LCSW1

ICP LCSD ID: 2224.LCSW2
GFAA LCSD ID: 2224.LCSW2
CVAA LCSD ID: 2211.LCSW2

ICP MS ID: 2226.01MS
GFAA MS ID: 2226.01MS
CVAA MS ID: 2226.01MS

ICP MSD ID: 2226.01MSD
GFAA MSD ID: 2226.01MSD
CVAA MSD ID: 2226.01MSD

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project Number: 2379

Client Sample ID: LH18&24 MW16-1001
PDP Sample ID: 2226.03
Report Number: I22603

Date Sampled: 04-14-94
Date Received: 04-15-94
Date Reported: 05-01-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-17-94	04-25-94	0.1	ND	MBB
Antimony	SW-846 6010	04-17-94	04-25-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-17-94	04-25-94	0.005	ND	MBB
Barium	SW-846 6010	04-17-94	04-25-94	0.01	0.336	MBB
Beryllium	SW-846 6010	04-17-94	04-25-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-17-94	04-25-94	0.005	ND	MBB
Calcium	SW-846 6010	04-17-94	04-25-94	0.2	15.3	MBB
Chromium	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Cobalt	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Copper	SW-846 6010	04-17-94	04-25-94	0.02	ND	MBB
Iron	SW-846 6010	04-17-94	04-25-94	0.1	31.3	MBB
Lead	SW-846 7421	04-17-94	04-22-94	0.01	ND	MBB
Magnesium	SW-846 6010	04-17-94	04-25-94	0.2	8.8	MBB
Manganese	SW-846 6010	04-17-94	04-25-94	0.01	0.573	MBB
Mercury	SW-846 7470	04-20-94	04-21-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-17-94	04-25-94	0.04	ND	MBB
Potassium	SW-846 6010	04-17-94	04-25-94	5	ND	MBB
Selenium	SW-846 7740	04-17-94	04-26-94	0.01	ND	MBB
Silver	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Sodium	SW-846 6010	04-17-94	04-25-94	0.5	60.8	MBB
Thallium	SW-846 7841	04-17-94	04-25-94	0.005	ND	MBB
Vanadium	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Zinc	SW-846 6010	04-17-94	04-25-94	0.02	ND	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP Method Blank ID: 2224.PBW1
GFAA Method Blank ID: 2224.PBW1
CVAA Method Blank ID: 2211.PBW1

ICP LCS ID: 2224.LCSW1
GFAA LCS ID: 2224.LCSW1
CVAA LCS ID: 2211.LCSW1

ICP LCSD ID: 2224.LCSW2
GFAA LCSD ID: 2224.LCSW2
CVAA LCSD ID: 2211.LCSW2

ICP MS ID: 2226.01MS
GFAA MS ID: 2226.01MS
CVAA MS ID: 2226.01MS

ICP MSD ID: 2226.01MSD
GFAA MSD ID: 2226.01MSD
CVAA MSD ID: 2226.01MSD

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project Number: 2379

Client Sample ID: LH18&24 C10-1001
PDP Sample ID: 2226.04
Report Number: I22604

Date Sampled: 04-14-94
Date Received: 04-15-94
Date Reported: 05-01-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-17-94	04-25-94	0.1	ND	MBB
Antimony	SW-846 6010	04-17-94	04-25-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-17-94	04-25-94	0.005	ND	MBB
Barium	SW-846 6010	04-17-94	04-25-94	0.01	0.592	MBB
Beryllium	SW-846 6010	04-17-94	04-25-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-17-94	04-25-94	0.005	ND	MBB
Calcium	SW-846 6010	04-17-94	04-25-94	0.2	75.0	MBB
Chromium	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Cobalt	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Copper	SW-846 6010	04-17-94	04-25-94	0.02	ND	MBB
Iron	SW-846 6010	04-17-94	04-25-94	0.1	0.381	MBB
Lead	SW-846 7421	04-17-94	04-22-94	0.01	ND	MBB
Magnesium	SW-846 6010	04-17-94	04-25-94	0.2	31.7	MBB
Manganese	SW-846 6010	04-17-94	04-25-94	0.01	0.233	MBB
Mercury	SW-846 7470	04-20-94	04-21-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-17-94	04-25-94	0.04	ND	MBB
Potassium	SW-846 6010	04-17-94	04-25-94	5	ND	MBB
Selenium	SW-846 7740	04-17-94	04-26-94	0.01	ND	MBB
Silver	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Sodium	SW-846 6010	04-17-94	04-25-94	0.5	250	MBB
Thallium	SW-846 7841	04-17-94	04-25-94	0.005	ND	MBB
Vanadium	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Zinc	SW-846 6010	04-17-94	04-25-94	0.02	0.060	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP Method Blank ID: 2224.PBW1
GFAA Method Blank ID: 2224.PBW1
CVAA Method Blank ID: 2211.PBW1

ICP LCS ID: 2224.LCSW1
GFAA LCS ID: 2224.LCSW1
CVAA LCS ID: 2211.LCSW1

ICP LCSD ID: 2224.LCSW2
GFAA LCSD ID: 2224.LCSW2
CVAA LCSD ID: 2211.LCSW2

ICP MS ID: 2226.01MS
GFAA MS ID: 2226.01MS
CVAA MS ID: 2226.01MS

ICP MSD ID: 2226.01MSD
GFAA MSD ID: 2226.01MSD
CVAA MSD ID: 2226.01MSD

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project Number: 2379

Client Sample ID: LH18&24 C6-1001
PDP Sample ID: 2226.05
Report Number: I22605

Date Sampled: 04-14-94
Date Received: 04-15-94
Date Reported: 05-01-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-17-94	04-25-94	0.1	ND	MBB
Antimony	SW-846 6010	04-17-94	04-25-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-17-94	04-25-94	0.005	ND	MBB
Barium	SW-846 6010	04-17-94	04-25-94	0.01	1.10	MBB
Beryllium	SW-846 6010	04-17-94	04-25-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-17-94	04-25-94	0.005	ND	MBB
Calcium	SW-846 6010	04-17-94	04-25-94	0.2	33.2	MBB
Chromium	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Cobalt	SW-846 6010	04-17-94	04-25-94	0.01	0.016	MBB
Copper	SW-846 6010	04-17-94	04-25-94	0.02	ND	MBB
Iron	SW-846 6010	04-17-94	04-25-94	0.1	32.8	MBB
Lead	SW-846 7421	04-17-94	04-22-94	0.005	ND	MBB
Magnesium	SW-846 6010	04-17-94	04-25-94	0.2	21.4	MBB
Manganese	SW-846 6010	04-17-94	04-25-94	0.01	1.32	MBB
Mercury	SW-846 7470	04-20-94	04-21-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-17-94	04-25-94	0.04	ND	MBB
Potassium	SW-846 6010	04-17-94	04-25-94	5	ND	MBB
Selenium	SW-846 7740	04-17-94	04-26-94	0.005	ND	MBB
Silver	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Sodium	SW-846 6010	04-17-94	04-25-94	0.5	256	MBB
Thallium	SW-846 7841	04-17-94	04-25-94	0.01	ND	MBB
Vanadium	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Zinc	SW-846 6010	04-17-94	04-25-94	0.02	0.033	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP Method Blank ID: 2224.PBW1
GFAA Method Blank ID: 2224.PBW1
CVAA Method Blank ID: 2211.PBW1

ICP LCS ID: 2224.LCSW1
GFAA LCS ID: 2224.LCSW1
CVAA LCS ID: 2211.LCSW1

ICP LCSD ID: 2224.LCSW2
GFAA LCSD ID: 2224.LCSW2
CVAA LCSD ID: 2211.LCSW2

ICP MS ID: 2226.01MS
GFAA MS ID: 2226.01MS
CVAA MS ID: 2226.01MS

ICP MSD ID: 2226.01MSD
GFAA MSD ID: 2226.01MSD
CVAA MSD ID: 2226.01MSD

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project Number: 2379

Client Sample ID: LH18&24 C6-1001-QC
PDP Sample ID: 2226.06
Report Number: I22606

Date Sampled: 04-14-94
Date Received: 04-15-94
Date Reported: 05-01-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-17-94	04-25-94	0.1	ND	MBB
Antimony	SW-846 6010	04-17-94	04-25-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-17-94	04-25-94	0.005	ND	MBB
Barium	SW-846 6010	04-17-94	04-25-94	0.01	1.11	MBB
Beryllium	SW-846 6010	04-17-94	04-25-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-17-94	04-25-94	0.005	ND	MBB
Calcium	SW-846 6010	04-17-94	04-25-94	0.2	33.2	MBB
Chromium	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Cobalt	SW-846 6010	04-17-94	04-25-94	0.01	0.021	MBB
Copper	SW-846 6010	04-17-94	04-25-94	0.02	ND	MBB
Iron	SW-846 6010	04-17-94	04-25-94	0.1	34.1	MBB
Lead	SW-846 7421	04-17-94	04-22-94	0.01	ND	MBB
Magnesium	SW-846 6010	04-17-94	04-25-94	0.2	21.4	MBB
Manganese	SW-846 6010	04-17-94	04-25-94	0.01	1.33	MBB
Mercury	SW-846 7470	04-20-94	04-21-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-17-94	04-25-94	0.04	ND	MBB
Potassium	SW-846 6010	04-17-94	04-25-94	5	ND	MBB
Selenium	SW-846 7740	04-17-94	04-26-94	0.01	ND	MBB
Silver	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Sodium	SW-846 6010	04-17-94	04-25-94	0.5	258	MBB
Thallium	SW-846 7841	04-17-94	04-25-94	0.01	ND	MBB
Vanadium	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Zinc	SW-846 6010	04-17-94	04-25-94	0.02	0.034	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP Method Blank ID: 2224.PBW1
GFAA Method Blank ID: 2224.PBW1
CVAA Method Blank ID: 2211.PBW1

ICP LCS ID: 2224.LCSW1
GFAA LCS ID: 2224.LCSW1
CVAA LCS ID: 2211.LCSW1

ICP LCSD ID: 2224.LCSW2
GFAA LCSD ID: 2224.LCSW2
CVAA LCSD ID: 2211.LCSW2

ICP MS ID: 2226.01MS
GFAA MS ID: 2226.01MS
CVAA MS ID: 2226.01MS

ICP MSD ID: 2226.01MSD
GFAA MSD ID: 2226.01MSD
CVAA MSD ID: 2226.01MSD

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas; 77386 (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project No.: 2379

Date Reported: 05-01-94
Report No.: I226CL
Analyst: HM

WET CHEMISTRY PARAMETER: Chloride

Method Reference: EPA 325.3

UNITS: mg/L

PDP LABORATORY ID	CLIENT ID	MATRIX	DATE SAMPLED	DATE RECEIVED	DATE ANALYZED	QUANT LIMIT	RESULT	SPIKE ADDED OR TRUE VALUE	RELATIVE PERCENT DIFF(20)	PERCENT RECOVERY (75-125)
2226.01	LH18&24 C7-1001	WATER	04-14-94	04-15-94	04-21-94	2	80			
2226.02	LH18&24 C7-1001-QC	WATER	04-14-94	04-15-94	04-21-94	2	89			
2226.03	LH18&24 MW16-1001	WATER	04-14-94	04-15-94	04-21-94	2	186			
2226.04	LH18&24 C10-1001	WATER	04-14-94	04-15-94	04-21-94	2	496			
2226.05	LH18&24 C6-1001	WATER	04-14-94	04-15-94	04-21-94	2	523			
2226.06	LH18&24 C6-1001-QC	WATER	04-14-94	04-15-94	04-21-94	2	505			
			QUALITY ASSURANCE/QUALITY CONTROL							
2219.PB1	PREPARATION BLANK	NA	NA	NA	04-21-94	2	ND			
2219.LCS1	LAB CONTROL STD	NA	NA	NA	04-21-94	2	312	299		104
2219.LCS2	LAB CONTROL STD	NA	NA	NA	04-21-94	2	316	299	1.3	106
2224.01	SAMPLE	NA	NA	NA	04-21-94	2	310			
2224.01MS	MATRIX SPIKE	NA	NA	NA	04-21-94	2	815	443		114
2224.01MSD	MATRIX SPIKE DUP	NA	NA	NA	04-21-94	2	815	443	0.0	114

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas; 77386 (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project No.: 2379

Date Reported: 05-01-94
Report No.: I226N03
Analyst: HM

WET CHEMISTRY PARAMETER: Nitrate

Method Reference: EPA 352.1

UNITS: mg/L

PDP LABORATORY ID	CLIENT ID	MATRIX	DATE SAMPLED	DATE RECEIVED	DATE ANALYZED	QUANT LIMIT	RESULT	SPIKE ADDED OR TRUE VALUE	RELATIVE PERCENT DIFF(20)	PERCENT RECOVERY (75-125)
2226.01	LH18&24 C7-1001	WATER	04-14-94	04-15-94	04-16-94	0.1	0.76			
2226.02	LH18&24 C7-1001-QC	WATER	04-14-94	04-15-94	04-16-94	0.1	0.70			
2226.03	LH18&24 MW16-1001	WATER	04-14-94	04-15-94	04-16-94	0.1	ND			
2226.04	LH18&24 C10-1001	WATER	04-14-94	04-15-94	04-16-94	0.1	0.54			
2226.05	LH18&24 C6-1001	WATER	04-14-94	04-15-94	04-16-94	0.1	ND			
2226.06	LH18&24 C6-1001-QC	WATER	04-14-94	04-15-94	04-16-94	0.1	0.12			
			QUALITY ASSURANCE/QUALITY CONTROL							
2201.PB1	PREPARATION BLANK	NA	NA	NA	04-16-94	0.1	ND			
2201.LCS1	LAB CONTROL STD	NA	NA	NA	04-16-94	0.1	0.39	0.40		98
2201.LCS2	LAB CONTROL STD	NA	NA	NA	04-16-94	0.1	0.38	0.40	2.6	95
2224.01	SAMPLE	NA	NA	NA	04-14-94	0.1	ND			
2224.01MS	MATRIX SPIKE	NA	NA	NA	04-14-94	0.1	0.68	0.4		170*
2224.01MSD	MATRIX SPIKE DUP	NA	NA	NA	04-14-94	0.1	0.65	0.4	4.5	162*

PDP ANALYTICAL SERVICES
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LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project No.: 2379

Date Reported: 05-01-94
Report No.: I226S04
Analyst: HM

WET CHEMISTRY PARAMETER: Sulfate

Method Reference: EPA 375.4

UNITS: mg/L

PDP LABORATORY ID	CLIENT ID	MATRIX	DATE SAMPLED	DATE RECEIVED	DATE ANALYZED	QUANT LIMIT	RESULT	SPIKE ADDED OR TRUE VALUE	RELATIVE PERCENT DIFF(20)	PERCENT RECOVERY (75-125)
2226.01	LH18&24 C7-1001	WATER	04-14-94	04-15-94	04-20-94	5	33			
2226.02	LH18&24 C7-1001-QC	WATER	04-14-94	04-15-94	04-20-94	5	37			
2226.03	LH18&24 MW16-1001	WATER	04-14-94	04-15-94	04-20-94	5	7			
2226.04	LH18&24 C10-1001	WATER	04-14-94	04-15-94	04-20-94	5	8			
2226.05	LH18&24 C6-1001	WATER	04-14-94	04-15-94	04-20-94	5	7			
2226.06	LH18&24 C6-1001-QC	WATER	04-14-94	04-15-94	04-20-94	5	9			
				QUALITY ASSURANCE/QUALITY CONTROL						
2210.PB1	PREPARATION BLANK	NA	NA	NA	04-20-94	5	ND			
2210.LCS1	LAB CONTROL STD	NA	NA	NA	04-20-94	5	138	151		91
2210.LCS2	LAB CONTROL STD	NA	NA	NA	04-20-94	5	131	151	5.2	87
2224.01	SAMPLE	NA	NA	NA	04-20-94	5	10			
2224.01MS	MATRIX SPIKE	NA	NA	NA	04-20-94	5	19	10		90
2224.01MSD	MATRIX SPIKE DUP	NA	NA	NA	04-20-94	5	19	10	0.0	90

APPENDIX B
SUPPORT DOCUMENTATION

011339

PDP ANALYTICAL SERVICES
24900 Pitkin Drive. Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project No.: 2379

Client Sample ID: LH18&24-C10-1001(DL)
PDP Sample ID: 2226.04(DILUTION)
Report No.: B8771

Date Sampled: 04/14/94
Date Received: 04/15/94
Date Reported: 05/03/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix: WATER
Multiplying Factor: 5.00
Sample Volume: 5.0 ml
Dilution: 5.0

Method Ref.: SW846-8240
GC/MS File ID: B8771
Date Analyzed: 04/28/94
Analyst: MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	25	ND	Carbon tetrachloride	25	ND
1,1,2,2-Tetrachloroethane	25	ND	Chlorobenzene	25	ND
1,1,2-Trichloroethane	25	ND	Chloroethane	50	ND
1,1-Dichloroethane	25	ND	Chloroform	25	ND
1,1-Dichloroethene	25	ND	Chloromethane	50	ND
1,2-Dichloroethane	25	ND	Cis-1,3-Dichloropropene	25	ND
1,2-Dichloropropane	25	ND	Dibromochloromethane	25	ND
.-Butanone	50	ND	Ethylbenzene	25	ND
2-Chloroethyl vinyl ether	50	ND	Methylene chloride	25	680 B
2-Hexanone	50	ND	Styrene	25	ND
4-Methyl-2-pentanone	50	ND	Tetrachloroethene	25	ND
Acetone	50	ND	Toluene	25	ND
Benzene	25	ND	Total xylenes	25	ND
Bromodichloromethane	25	ND	Total-1,2-Dichloroethene	25	ND
Bromoform	25	ND	Trans-1,3-Dichloropropene	25	ND
Bromomethane	50	ND	Trichloroethene	25	110
Carbon disulfide	25	ND	Vinyl acetate	50	ND
			Vinylchloride	50	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	110
Toluene-d8	50	(88-110)	93
Bromofluorobenzene	50	(86-115)	116* JJS 8/26/94

Method Blank ID: 2227V.WBLK1 LCS ID: 2227V.WLCS1 MS ID: 2226.01MS MSD ID: 2226.01MSD DUP ID: NA

- flag positive values as estimated

0C601

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES	Client Sample ID:	LH18&24-C6-1001QC(DL)	Date Sampled:	04/14/94
Project Name:	LHAAP	PDP Sample ID:	2226.06(DILUTION)	Date Received:	04/15/94
Project No.:	2379	Report No.:	B8772	Date Reported:	05/03/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	2.00	GC/MS File ID:	B8772
Sample Volume:	5.0 ml	Date Analyzed:	04/28/94
Dilution:	2.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	10	ND	Carbon tetrachloride	10	ND
1,1,2,2-Tetrachloroethane	10	ND	Chlorobenzene	10	ND
1,1,2-Trichloroethane	10	ND	Chloroethane	20	ND
1,1-Dichloroethane	10	ND	Chloroform	10	ND
1,1-Dichloroethene	10	ND	Chloromethane	20	ND
1,2-Dichloroethane	10	ND	Cis-1,3-Dichloropropene	10	ND
1,2-Dichloropropane	10	ND	Dibromochloromethane	10	ND
2-Butanone	20	ND	Ethylbenzene	10	ND
2-Chloroethyl vinyl ether	20	ND	Methylene chloride	10	250 B
2-Hexanone	20	ND	Styrene	10	ND
4-Methyl-2-pentanone	20	ND	Tetrachloroethene	10	ND
Acetone	20	ND	Toluene	10	ND
Benzene	10	ND	Total xylenes	10	ND
Bromodichloromethane	10	ND	Total-1,2-Dichloroethene	10	ND
Bromoform	10	ND	Trans-1,3-Dichloropropene	10	ND
Bromomethane	20	ND	Trichloroethene	10	60
Carbon disulfide	10	8 J	Vinyl acetate	20	ND
			Vinylchloride	20	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	104
Toluene-d8	50	(88-110)	87 *
Bromofluorobenzene	50	(86-115)	109

Method Blank ID: 2227V.WBLK1 LCS ID: 2227V.WLCS1 MS ID: 2226.01MS MSD ID: 2226.01MSD DUP ID: NA

– flag all values as estimated

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: NA
Project Name: NA
Project No.: NA

Date Received: NA
Date Reported: 05/03/94
Report No.: B8753540

GC/MS-VOLATILES (MATRIX SPIKE AND MATRIX SPIKE DUPLICATE RECOVERY SUMMARY)

Method Ref.: SW846-8240
Sample Matrix: WATER
Analyst: NA

SAMPLE	MATRIX SPIKE	MATRIX SPIKE DUPLICATE
PDP Sample ID: 2226.01	MS Sample ID: 2226.01MS	MSD Sample ID: 2226.01MSD
Date Analyzed: 04/27/94	Date Analyzed: 04/27/94	Date Analyzed: 04/27/94
GC/MS File ID: B8752	GC/MS File ID: B8753	GC/MS File ID: B8754

MATRIX SPIKE

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC.	QC LIMITS REC.
1,1,-Dichloroethene	50	ND	61	122	(61-145)
Benzene	50	ND	58	116	(76-127)
Chlorobenzene	50	ND	50	100	(75-130)
Toluene	50	ND	51	102	(76-125)
Trichloroethene	50	10	60	100	(71-120)

MATRIX SPIKE DUPLICATE

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC.	RPD	QC LIMITS RPD.	QC LIMITS REC.
1,1,-Dichloroethene	50	ND	68	136	10.9	14	(61-145)
Benzene	50	ND	64	128 *	9.8	11	(76-127)
Chlorobenzene	50	ND	55	110	9.5	13	(75-130)
Toluene	50	ND	56	112	9.3	13	(76-125)
Trichloroethene	50	10	66	112	11.3	14	(71-120)

* = Values outside of QC limits

– no flags based on MS/MSD criteria alone

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

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: NA
Project Name: NA
Project No.: NA

Client Sample ID: NA
PDP Sample ID: 2226V.WBLK1(METHOD BLANK)
Report No.: B8732

Date Sampled: NA
Date Received: NA
Date Reported: 05/03/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix: WATER
Multiplying Factor: 1.00
Sample Volume: 5.0 ml
Dilution: 1.0

Method Ref.: SW846-8240
GC/MS File ID: B8732
Date Analyzed: 04/26/94
Analyst: NA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	5
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	ND
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	94
Toluene-d8	50	(88-110)	87*
Bromofluorobenzene	50	(86-115)	102

JJS 8/26/94

Method Blank ID: NA LCS ID: NA MS ID: NA MSD ID: NA DUP ID: NA

- low surrogate recovery, but no flags since most sample surrogate recoveries are O.K.
⇒ isolated incidence

- blank contam.

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES	Client Sample ID:	LH18&24-XXX-TB	Date Sampled:	04/14/94
Project Name:	LHAAP	PDP Sample ID:	2226.07	Date Received:	04/15/94
Project No.:	2379	Report No.:	B8735	Date Reported:	05/03/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8735
Sample Volume:	5.0 ml	Date Analyzed:	04/26/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	8 B
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	ND
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	104
Toluene-d8	50	(88-110)	93
Bromofluorobenzene	50	(86-115)	110

Method Blank ID: 2226V.WBLK1 LCS ID: 2226V.WLCS1 MS ID: 2226.01MS MSD ID: 2226.01MSD DUP ID: NA

- blank contam.

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	NA	Client Sample ID:	NA	Date Sampled:	NA
Project Name:	NA	PDP Sample ID:	2226V.WBLK2(METHOD BLANK)	Date Received:	NA
Project No.:	NA	Report No.:	B8750	Date Reported:	05/03/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8750
Sample Volume:	5.0 ml	Date Analyzed:	04/27/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	4 J
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	ND
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	98
Toluene-d8	50	(88-110)	90
Bromofluorobenzene	50	(86-115)	107

Method Blank ID: NA LCS ID: NA MS ID: NA MSD ID: NA DUP ID: NA

– blank contam.

PDP ANALYTICAL SERVICES
24900 Pitkin Drive. Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	NA	Client Sample ID:	NA	Date Sampled:	NA
Project Name:	NA	PDP Sample ID:	2227V.WBLK1(METHOD BLANK)	Date Received:	NA
Project No.:	NA	Report No.:	B8767	Date Reported:	05/03/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8767
Sample Volume:	5.0 ml	Date Analyzed:	04/28/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	6
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	ND
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	103
Toluene-d8	50	(88-110)	89
Bromofluorobenzene	50	(86-115)	109

Method Blank ID: NA LCS ID: NA MS ID: NA MSD ID: NA DUP ID: NA

- blank contam.

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas; 77386 (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project No.: 2379

Date Reported: 05-01-94
Report No.: I226N03
Analyst: HM

WET CHEMISTRY PARAMETER: Nitrate

Method Reference: EPA 352.1 UNITS: mg/L

PDP LABORATORY ID	CLIENT ID	MATRIX	DATE SAMPLED	DATE RECEIVED	DATE ANALYZED	QUANT LIMIT	RESULT	SPIKE ADDED OR TRUE VALUE	RELATIVE PERCENT DIFF(20)	PERCENT RECOVERY (75-125)
2226.01	LH18&24 C7-1001	WATER	04-14-94	04-15-94	04-16-94	0.1	0.76			
2226.02	LH18&24 C7-1001-QC	WATER	04-14-94	04-15-94	04-16-94	0.1	0.70			
2226.03	LH18&24 MW16-1001	WATER	04-14-94	04-15-94	04-16-94	0.1	ND			
2226.04	LH18&24 C10-1001	WATER	04-14-94	04-15-94	04-16-94	0.1	0.54			
2226.05	LH18&24 C6-1001	WATER	04-14-94	04-15-94	04-16-94	0.1	ND			
2226.06	LH18&24 C6-1001-QC	WATER	04-14-94	04-15-94	04-16-94	0.1	0.12			
			QUALITY ASSURANCE/QUALITY CONTROL							
2201.PB1	PREPARATION BLANK	NA	NA	NA	04-16-94	0.1	ND			
2201.LCS1	LAB CONTROL STD	NA	NA	NA	04-16-94	0.1	0.39	0.40		98
2201.LCS2	LAB CONTROL STD	NA	NA	NA	04-16-94	0.1	0.38	0.40	2.6	95
2224.01	SAMPLE	NA	NA	NA	04-14-94	0.1	ND			
2224.01MS	MATRIX SPIKE	NA	NA	NA	04-14-94	0.1	0.68	0.4		170*
2224.01MSD	MATRIX SPIKE DUP	NA	NA	NA	04-14-94	0.1	0.65	0.4	4.5	162*

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: NA
Project Name: NA
Project Number: NA

PDP MS ID: 2226.01MS
PDP MSD ID: 2226.01MSD
Report Number: I226MS01

Date Sampled: NA
Date Received: NA
Date Reported: 05-01-94

TOTAL METALS (MATRIX SPIKE AND MATRIX SPIKE DUPLICATE)

Sample Matrix: WATER

Units: mg/L

ELEMENT	METHOD	DATE PREPARED	DATE ANALYZED	SAMPLE VALUE	SPIKE ADDED	MATRIX SPIKE VALUE	PERCENT RECOVERY (75-125)	MATRIX SPIKE DUP VALUE	PERCENT RECOVERY (75-125)	RPD (20)
Aluminum	SW-846 6010	04-17-94	04-25-94	0.28	2.00	2.14	93	2.22	97	3.7
Antimony	SW-846 6010	04-17-94	04-25-94	ND	0.50	0.50	100	0.51	102	2.0
Arsenic	SW-846 7060	04-17-94	04-25-94	0.005	0.040	0.030	62*	0.031	65*	3.3
Barium	SW-846 6010	04-17-94	04-25-94	0.126	2.00	2.07	97	2.10	99	1.4
Beryllium	SW-846 6010	04-17-94	04-25-94	ND	0.050	0.049	98	0.050	100	2.0
Cadmium	SW-846 6010	04-17-94	04-25-94	ND	0.050	0.046	92	0.047	94	2.2
Calcium	SW-846 6010	04-17-94	04-25-94	16.4	NA	NA	NA	NA	NA	NA
Chromium	SW-846 6010	04-17-94	04-25-94	ND	0.20	0.20	100	0.20	100	0.0
Cobalt	SW-846 6010	04-17-94	04-25-94	ND	0.50	0.50	100	0.51	102	2.0
Copper	SW-846 6010	04-17-94	04-25-94	ND	0.25	0.25	100	0.26	104	3.9
Iron	SW-846 6010	04-17-94	04-25-94	0.22	1.00	1.16	94	1.22	100	5.0
Lead	SW-846 7421	04-17-94	04-22-94	ND	0.020	0.026	130*	0.026	130*	0.0
Magnesium	SW-846 6010	04-17-94	04-25-94	9.3	NA	NA	NA	NA	NA	NA
Manganese	SW-846 6010	04-17-94	04-25-94	0.011	0.50	0.50	98	0.50	98	0.0
Mercury	SW-846 7471	04-20-94	04-21-94	ND	0.0010	0.0010	100	0.0010	100	0.0
Nickel	SW-846 6010	04-17-94	04-25-94	ND	0.50	0.50	100	0.51	102	2.0
Potassium	SW-846 6010	04-17-94	04-25-94	ND	NA	NA	NA	NA	NA	NA
Selenium	SW-846 7740	04-17-94	04-26-94	ND	0.010	ND	0*	0.002	20*	NC
Silver	SW-846 6010	04-17-94	04-25-94	ND	0.050	0.048	96	0.048	96	0.0
Sodium	SW-846 6010	04-17-94	04-25-94	112	NA	NA	NA	NA	NA	NA
Thallium	SW-846 7841	04-17-94	04-25-94	ND	0.050	0.044	88	0.047	94	6.6
Vanadium	SW-846 6010	04-17-94	04-25-94	ND	0.50	0.49	98	0.50	100	2.0
Zinc	SW-846 6010	04-17-94	04-25-94	0.022	0.50	0.52	100	0.52	100	0.0

QUALITY ASSURANCE/QUALITY CONTROL

Method Blank ID: NA
LCS ID: NA
LCSD ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: NA
Project Name: NA
Project Number: NA

LCS ID: 2224.LCSW1
LCSD ID: 2224.LCSW2

Date Reported: 05-01-94
Report Number: I224LCSW

METALS (LABORATORY CONTROL SAMPLE AND LABORATORY CONTROL SAMPLE DUPLICATE)

Sample Matrix: AQUEOUS

Units: ug/L

ELEMENT	METHOD	DATE PREPARED	DATE ANALYZED	TRUE VALUE	LCS FOUND VALUE	LCS % RECOVERY (80-120)	LCSD FOUND VALUE	LCSD % RECOVERY (80-120)	RPD (20)	ANALYST
Aluminum	SW-846 6010	04-17-94	04-25-94	10.0	9.58	96	9.58	96	0.0	MBB
Antimony	SW-846 6010	04-17-94	04-25-94	5.00	4.86	97	4.83	97	0.6	MBB
Arsenic	SW-846 7060	04-17-94	04-25-94	0.050	0.044	88	0.042	84	4.7	MBB
Barium	SW-846 6010	04-17-94	04-25-94	10.0	9.55	96	9.46	95	0.9	MBB
Beryllium	SW-846 6010	04-17-94	04-25-94	0.25	0.25	100	0.25	100	0.0	MBB
Cadmium	SW-846 6010	04-17-94	04-25-94	2.50	2.38	95	2.36	94	0.8	MBB
Calcium	SW-846 6010	04-17-94	04-25-94	25.0	23.8	95	23.8	95	0.0	MBB
Chromium	SW-846 6010	04-17-94	04-25-94	1.00	0.98	98	0.97	97	1.0	MBB
Cobalt	SW-846 6010	04-17-94	04-25-94	2.50	2.42	97	2.42	97	0.0	MBB
Copper	SW-846 6010	04-17-94	04-25-94	1.25	1.22	98	1.22	98	0.0	MBB
Iron	SW-846 6010	04-17-94	04-25-94	5.00	4.79	96	4.78	96	0.2	MBB
Lead	SW-846 7421	04-17-94	04-22-94	0.050	0.062	124*	0.061	122*	1.6	MBB
Magnesium	SW-846 6010	04-17-94	04-25-94	25.0	23.8	95	23.8	95	0.0	MBB
Manganese	SW-846 6010	04-17-94	04-25-94	2.50	2.41	96	2.40	96	0.4	MBB
Nickel	SW-846 6010	04-17-94	04-25-94	2.50	2.43	97	2.43	97	0.0	MBB
Potassium	SW-846 6010	04-17-94	04-25-94	25.0	23.9	96	23.3	93	2.5	MBB
Selenium	SW-846 7740	04-17-94	04-26-94	0.050	0.053	106	0.055	110	3.7	MBB
Silver	SW-846 6010	04-17-94	04-25-94	1.25	1.21	97	1.20	96	0.8	MBB
Sodium	SW-846 6010	04-17-94	04-25-94	25.0	24.0	96	23.9	96	0.4	MBB
Thallium	SW-846 7841	04-17-94	04-25-94	0.050	0.046	92	0.045	90	2.2	MBB
Vanadium	SW-846 6010	04-17-94	04-25-94	2.50	2.39	96	2.38	95	0.4	MBB
Zinc	SW-846 6010	04-17-94	04-25-94	2.50	2.40	96	2.40	96	0.0	MBB

QUALITY ASSURANCE/QUALITY CONTROL

Method Blank ID: 2224.PBW1

– flag positive lead results as estimated.

011349

FINAL

CHEMICAL DATA QA/QC REPORT
INTERIM REMEDIAL ACTION
BURNING GROUND 3 AND
UNLINED EVAPORATION POND
LHAAP UNITS 18 AND 24
LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

PREPARED FOR

UNITED STATES ARMY CORPS OF ENGINEERS
TULSA DISTRICT

PREPARED BY

AWD TECHNOLOGIES, INC.
ROCKVILLE, MARYLAND

PDP ANALYTICAL SERVICES -- Episode 2227

AUGUST 31, 1994
USACE CONTRACT DACA56-93-D-0016
DELIVERY ORDER 0002
AWD PROJECT 2379

LONGHORN ARMY AMMUNITION PLANT, TEXAS
BURNING GROUND 3 AND UNLINED EVAPORATION POND
INTERIM REMEDIAL ACTION
PDP Analytical Services -- Episode 2227

1.0 Discussion.

This set of samples was collected from the Burning Ground 3 and the Unlined Evaporation Pond areas of the Longhorn Army Ammunition Plant in Karnack, Texas on April 15, 1994 as part of the Interim Remedial Action Investigation. The sampling activity was conducted by AWD Technologies, Inc. (AWD) for the U.S. Army Corps of Engineers (COE), Tulsa District. After collection, the samples were sent to the PDP Analytical Services laboratory in Spring, Texas and were placed under Episode Number 2227. Included in this work order are three (3) groundwater samples, one (1) equipment rinsate blank, and one (1) trip blank. There were no field duplicates in this set of samples.

Groundwater Samples

LH18/24-MW18-1001
LH18/24-MW17-1001
LH18/24-C9-1001

Equipment Rinsate Blank

LH18/24-MW18-1001-EB

Trip Blank

LH18/24-XXX-TB

All samples, except the trip blank, were analyzed for volatile organic chemicals (VOCs), target analyte list (TAL) metals, chloride, nitrate as nitrogen, and sulfate. The trip blank was only analyzed for VOCs. All VOC and metals analyses were performed by U.S. EPA SW-846 methodologies: 8240 and 6000/7000 series, respectively. The chloride, nitrate, and sulfate

analyses were performed according to U.S. EPA Methods 325.3, 352.1, and 375.4, respectively. Since the laboratory did not supply any of the analytical raw data in the deliverable package, data validation has been performed on the limited basis of examining QA/QC summary reports.

Other than the selenium results that were rejected, "R", all compounds and analytes were successfully analyzed in all samples. The organic analytical data were evaluated by the following quality assurance/quality control (QA/QC) parameters where applicable: technical holding times and preservation, system monitoring compound/surrogate spike recoveries, method blanks, matrix spike/matrix spike duplicates (MS/MSDs), laboratory control samples, field QC, and transcription. The inorganic analytical data were evaluated by the following QA/QC parameters where applicable: technical holding times and preservation, laboratory blanks, matrix spike recoveries, laboratory duplicates, laboratory control samples, field QC, and transcription. Validated sample analysis results are listed on the attached data summary forms. Areas of concern with respect to data quality and usability are discussed below.

2.0 Volatiles.

2.1 Accuracy. All surrogate, laboratory control sample (LCS), and MS/MSD percent recoveries were within acceptable control limits, except for the low toluene-d8 surrogate recovery in the method blank analyzed on April 26, 1994 and the high benzene matrix spike duplicate recovery. Since all surrogate recoveries in every sample were in control, no action was necessary because of the method blank surrogate recovery; this should be considered an isolated incidence. As for the high MSD recovery of benzene, no action was necessary since qualification of data should not be based solely on MS/MSD criteria.

2.2 Precision. The relative percent differences (RPDs) reported for the MS/MSD data were all within acceptable quality control limits.

2.3 Representativeness. All samples were properly preserved and were received in good condition by the laboratory. All samples were also analyzed within the appropriate holding time.

There was low level methylene chloride and carbon disulfide contamination in the method, equipment rinsate, and trip blanks. Therefore, positive sample concentrations of methylene chloride that are less than ten (10) times the highest amount of contamination have

been qualified as non-detect, "U". Likewise, the positive concentration of carbon disulfide in sample LH18/24-MW17-1001 has been qualified as non-detect, "U", since it is less than five (5) times the amount of contamination in the rinsate blank.

3.0 Anions.

Chloride, nitrate as nitrogen, and sulfate were all analyzed as anions by the aforementioned wet chemistry methods.

3.1 Accuracy. The laboratory control sample and matrix spike percent recoveries were all within acceptable quality control limits for all three parameters, except for the MS/MSD recoveries of nitrate. Both of these spikes were recovered above the 125 percent limit. Thus, the positive sample concentration of nitrate reported for sample LH18/24-C9-1001 has been qualified as estimated, "J"; the non-detect sample values reported were not impacted.

3.2 Precision. The LCS and sample duplicate RPDs were all within the acceptable control limit of 20 percent.

3.3 Representativeness. All samples were properly preserved and were received in good condition by the laboratory. All samples were also analyzed within acceptable holding times.

All blanks were free of target analyte contamination, except for the equipment rinsate blank which had some chloride contamination. As a result, all sample values of chloride less than five (5) times the amount in the rinsate blank have been qualified as non-detect, "U". Consequently, sample LH18/24-MW18-1001 was the only sample affected.

4.0 TAL Metals.

4.1 Accuracy. All laboratory control sample and matrix spike percent recoveries were within acceptable quality control limits, except for the MS/MSD recoveries of arsenic, lead, and selenium. Additionally, the laboratory control sample/laboratory control sample duplicate (LCS/LCSD) recoveries of lead were both out of control. Although all four lead spike recoveries were high, the data were unaffected since all sample concentrations for lead are non-detect. Furthermore, the arsenic MS/MSD recoveries were both low. Therefore, all sample

results for arsenic should be considered biased low and have been qualified as estimated, "J" or "UJ". The selenium MS/MSD recoveries, on the other hand, were both less than 30 percent. As a result, all sample values reported for this metal have been rejected, "R", and should be considered unusable since they are all non-detects.

4.2 Precision. All LCS/LCSD and MS/MSD relative percent differences (RPDs) were within the acceptable quality control range.

4.3 Representativeness. All samples were properly preserved and were received in good condition by the laboratory. All samples were prepared and analyzed within appropriate holding times and all blanks were free of target analyte contamination.

5.0 Notes.

The laboratory reports positive organic results that are below the quantitation limits but above the instrument detection limits (IDLs) as estimated, "J", since there is an unacceptable level of confidence in the detection and accurate reporting of concentrations less than the quantitation limits.

There were no tentatively identified compounds (TICs) reported by the laboratory for the volatile fraction of any sample.

Please note that all transcription errors found have been corrected in the support documentation of this report.

6.0 Conclusion.

These data were reviewed according to the U.S. EPA's National Functional Guidelines for Organic Data Review (June, 1991), the U.S. EPA's Laboratory Data Validation Functional Guidelines for Evaluating Inorganics Analyses (July, 1988), and with reference to method requirements. The results are presented in the data summary of this report and should be accepted as qualified. With the exception of the values that have been rejected, all results and data meet the requirements of the data quality objective (DQO) for this site and are deemed acceptable and valid for the intended use.

7.0 Information Regarding Report Content.

Attachments:

1. Glossary of data qualifier codes.
2. Data Summary. This may include:
   a) All positive results with qualifier codes, if applicable;
   b) All unusable detection limits qualified with "R"; and
   c) All estimated detection limits qualified with "UJ".
3. Appendix A - Results as reported by the laboratory.
4. Appendix B - Support Documentation which includes details to support the statements made in this report.

GLOSSARY OF DATA QUALIFIER CODES

CODES RELATING TO IDENTIFICATION

(confidence concerning presence or absence of compounds)

U = Not detected. The associated number indicates approximate sample concentration necessary to be detected.

(NO CODE) = Confirmed identification.

R = Unreliable result. Analyte may or may not be present in the sample. Supporting data necessary to confirm result. The result is unusable.

CODES RELATED TO QUANTITATION

(can be used for positive results and sample quantitation limits)

J = Analyte present. Reported value may not be accurate or precise.

UJ = Not detected. Quantitation limit may be inaccurate or imprecise.

DATA SUMMARY

011357

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES INC.	Client Sample ID:	LH18&24-MW18-1001	Date Sampled:	04/15/94
Project Name:	LHAAP	PDP Sample ID:	2227.01	Date Received:	04/16/94
Project No.:	2379	Report No.:	B8760	Date Reported:	05/03/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8760
Sample Volume:	5.0 ml	Date Analyzed:	04/27/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	9 B U
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	ND
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	111
Toluene-d8	50	(88-110)	95
Bromofluorobenzene	50	(86-115)	115

Method Blank ID: 2226V.WBLK2 LCS ID: 2226V.WLCS2 MS ID: 2226.01MS MSD ID: 2226.01MSD DUP ID: NA

CC3098

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES INC.	Client Sample ID:	LH18&24-MW18-1001EB	Date Sampled:	04/15/94
Project Name:	LHAAP	PDP Sample ID:	2227.02	Date Received:	04/16/94
Project No.:	2379	Report No.:	B8761	Date Reported:	05/03/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8761
Sample Volume:	5.0 ml	Date Analyzed:	04/27/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	7 B
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	ND
Carbon disulfide	5	15	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	109
Toluene-d8	50	(88-110)	92
Bromofluorobenzene	50	(86-115)	113

Method Blank ID: 2226V.WBLK2 LCS ID: 2226V.WLCS2 MS ID: 2226.01MS MSD ID: 2226.01MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES INC.
Project Name: LHAAP
Project No.: 2379

Client Sample ID: LH18&24-MW17-1001
PDP Sample ID: 2227.03
Report No.: B8773

Date Sampled: 04/15/94
Date Received: 04/16/94
Date Reported: 05/03/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix: WATER
Multiplying Factor: 1.00
Sample Volume: 5.0 ml
Dilution: 1.0

Method Ref.: SW846-8240
GC/MS File ID: B8773
Date Analyzed: 04/28/94
Analyst: MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	10 B U
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	32
Carbon disulfide	5	8 U	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	106
Toluene-d8	50	(88-110)	91
Bromofluorobenzene	50	(86-115)	107

Method Blank ID: 2227V.WBLK1 LCS ID: 2227V.WLCS1 MS ID: 2226.01MS MSD ID: 2226.01MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive. Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES INC.	Client Sample ID:	LH18&24-C9-1001	Date Sampled:	04/15/94
Project Name:	LHAAP	PDP Sample ID:	2227.04	Date Received:	04/16/94
Project No.:	2379	Report No.:	B8763	Date Reported:	05/03/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8763
Sample Volume:	5.0 ml	Date Analyzed:	04/27/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	26 B U
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	6
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	108
Toluene-d8	50	(88-110)	91
Bromofluorobenzene	50	(86-115)	110

Method Blank ID: 2226V.WBLK2 LCS ID: 2226V.WLCS2 MS ID: 2226.01MS MSD ID: 2226.01MSD DUP ID: NA

PDP ANALYTICAL SERVICES
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LABORATORY REPORT

Client:	AWD TECHNOLOGIES INC.	Client Sample ID:	LH18&24-XXX-TB	Date Sampled:	04/15/94
Project Name:	LHAAP	PDP Sample ID:	2227.05	Date Received:	04/16/94
Project No.:	2379	Report No.:	B8736	Date Reported:	05/03/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8736
Sample Volume:	5.0 ml	Date Analyzed:	04/26/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	5
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	ND
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	105
Toluene-d8	50	(88-110)	93
Bromofluorobenzene	50	(86-115)	110

Method Blank ID: 2226V.WBLK1 LCS ID: 2226V.WLCS1 MS ID: 2226.01MS MSD ID: 2226.01MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project Number: 2379

Client Sample ID: LH18&24 MW18-1001
PDP Sample ID: 2227.01
Report Number: I22701

Date Sampled: 04-14-94
Date Received: 04-15-94
Date Reported: 05-01-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-17-94	04-25-94	0.1	ND	MBB
Antimony	SW-846 6010	04-17-94	04-25-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-17-94	04-25-94	0.005	0.005J	MBB
Barium	SW-846 6010	04-17-94	04-25-94	0.01	0.248	MBB
Beryllium	SW-846 6010	04-17-94	04-25-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-17-94	04-25-94	0.005	ND	MBB
Calcium	SW-846 6010	04-17-94	04-25-94	0.2	7.6	MBB
Chromium	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Cobalt	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Copper	SW-846 6010	04-17-94	04-25-94	0.02	ND	MBB
Iron	SW-846 6010	04-17-94	04-25-94	0.1	26.7	MBB
Lead	SW-846 7421	04-17-94	04-22-94	0.01	ND	MBB
Magnesium	SW-846 6010	04-17-94	04-25-94	0.2	4.2	MBB
Manganese	SW-846 6010	04-17-94	04-25-94	0.01	0.494	MBB
Mercury	SW-846 7470	04-20-94	04-21-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-17-94	04-25-94	0.04	ND	MBB
Potassium	SW-846 6010	04-17-94	04-25-94	5	ND	MBB
Selenium	SW-846 7740	04-17-94	04-26-94	0.005	ND R	MBB
Silver	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Sodium	SW-846 6010	04-17-94	04-25-94	0.5	66.6	MBB
Thallium	SW-846 7841	04-17-94	04-25-94	0.01	ND	MBB
Vanadium	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Zinc	SW-846 6010	04-17-94	04-25-94	0.02	0.025	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP Method Blank ID: 2224.PBW1
GFAA Method Blank ID: 2224.PBW1
CVAA Method Blank ID: 2211.PBW1

ICP LCS ID: 2224.LCSW1
GFAA LCS ID: 2224.LCSW1
CVAA LCS ID: 2211.LCSW1

ICP LCSD ID: 2224.LCSW2
GFAA LCSD ID: 2224.LCSW2
CVAA LCSD ID: 2211.LCSW2

ICP MS ID: 2226.01MS
GFAA MS ID: 2226.01MS
CVAA MS ID: 2226.01MS

ICP MSD ID: 2226.01MSD
GFAA MSD ID: 2226.01MSD
CVAA MSD ID: 2226.01MSD

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES	Client Sample ID:	LH18&24 MW18-1001-EB	Date Sampled:	04-14-94
Project Name:	LHAAP	PDP Sample ID:	2227.02	Date Received:	04-15-94
Project Number:	2379	Report Number:	I22702	Date Reported:	05-01-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER — Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-17-94	04-25-94	0.1	ND	MBB
Antimony	SW-846 6010	04-17-94	04-25-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-17-94	04-25-94	0.005	ND UJ	MBB
Barium	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Beryllium	SW-846 6010	04-17-94	04-25-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-17-94	04-25-94	0.005	ND	MBB
Calcium	SW-846 6010	04-17-94	04-25-94	0.2	ND	MBB
Chromium	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Cobalt	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Copper	SW-846 6010	04-17-94	04-25-94	0.02	ND	MBB
Iron	SW-846 6010	04-17-94	04-25-94	0.1	ND	MBB
Lead	SW-846 7421	04-17-94	04-22-94	0.01	ND	MBB
Magnesium	SW-846 6010	04-17-94	04-25-94	0.2	ND	MBB
Manganese	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Mercury	SW-846 7470	04-20-94	04-21-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-17-94	04-25-94	0.04	ND	MBB
Potassium	SW-846 6010	04-17-94	04-25-94	5	ND	MBB
Selenium	SW-846 7740	04-17-94	04-26-94	0.005	ND R	MBB
Silver	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Sodium	SW-846 6010	04-17-94	04-25-94	0.5	ND	MBB
Thallium	SW-846 7841	04-17-94	04-25-94	0.005	ND	MBB
Vanadium	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Zinc	SW-846 6010	04-17-94	04-25-94	0.02	ND	MBB

QUALITY ASSURANCE/QUALITY CONTROL

		ICP LCS ID: 2224.LCSW1	ICP MS ID: 2226.01MS
		GFAA LCS ID: 2224.LCSW1	GFAA MS ID: 2226.01MS
ICP Method Blank ID:	2224.PBW1	CVAA LCS ID: 2211.LCSW1	CVAA MS ID: 2226.01MS
GFAA Method Blank ID:	2224.PBW1		
CVAA Method Blank ID:	2211.PBW1	ICP LCSD ID: 2224.LCSW2	ICP MSD ID: 2226.01MSD
		GFAA LCSD ID: 2224.LCSW2	GFAA MSD ID: 2226.01MSD
		CVAA LCSD ID: 2211.LCSW2	CVAA MSD ID: 2226.01MSD

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project Number: 2379
Client Sample ID: LH18&24 MW17-1001
PDP Sample ID: 2227.03
Report Number: I22703
Date Sampled: 04-14-94
Date Received: 04-15-94
Date Reported: 05-01-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER
Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-17-94	04-25-94	0.1	ND	MBB
Antimony	SW-846 6010	04-17-94	04-25-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-17-94	04-25-94	0.005	ND UJ	MBB
Barium	SW-846 6010	04-17-94	04-25-94	0.01	0.310	MBB
Beryllium	SW-846 6010	04-17-94	04-25-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-17-94	04-25-94	0.005	ND	MBB
Calcium	SW-846 6010	04-17-94	04-25-94	0.2	38.1	MBB
Chromium	SW-846 6010	04-17-94	04-25-94	0.01	0.016	MBB
Cobalt	SW-846 6010	04-17-94	04-25-94	0.01	0.030	MBB
Copper	SW-846 6010	04-17-94	04-25-94	0.02	ND	MBB
Iron	SW-846 6010	04-17-94	04-25-94	0.1	3.97	MBB
Lead	SW-846 7421	04-17-94	04-22-94	0.01	ND	MBB
Magnesium	SW-846 6010	04-17-94	04-25-94	0.2	14.3	MBB
Manganese	SW-846 6010	04-17-94	04-25-94	0.01	0.586	MBB
Mercury	SW-846 7470	04-20-94	04-21-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-17-94	04-25-94	0.04	0.16	MBB
Potassium	SW-846 6010	04-17-94	04-25-94	5	ND	MBB
Selenium	SW-846 7740	04-17-94	04-26-94	0.005	ND R	MBB
Silver	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Sodium	SW-846 6010	04-17-94	04-25-94	0.5	110	MBB
Thallium	SW-846 7841	04-17-94	04-25-94	0.005	ND	MBB
Vanadium	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Zinc	SW-846 6010	04-17-94	04-25-94	0.02	0.044	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP Method Blank ID: 2224.PBW1
GFAA Method Blank ID: 2224.PBW1
CVAA Method Blank ID: 2211.PBW1

ICP LCS ID: 2224.LCSW1
GFAA LCS ID: 2224.LCSW1
CVAA LCS ID: 2211.LCSW1

ICP LCSD ID: 2224.LCSW2
GFAA LCSD ID: 2224.LCSW2
CVAA LCSD ID: 2211.LCSW2

ICP MS ID: 2226.01MS
GFAA MS ID: 2226.01MS
CVAA MS ID: 2226.01MS

ICP MSD ID: 2226.01MSD
GFAA MSD ID: 2226.01MSD
CVAA MSD ID: 2226.01MSD

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project Number: 2379

Client Sample ID: LH18&24 C9-1001
PDP Sample ID: 2227.04
Report Number: I22704

Date Sampled: 04-13-94
Date Received: 04-14-94
Date Reported: 05-01-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-17-94	04-25-94	1	ND	MBB
Antimony	SW-846 6010	04-17-94	04-25-94	0.6	ND	MBB
Arsenic	SW-846 7060	04-17-94	04-25-94	0.005	ND UJ	MBB
Barium	SW-846 6010	04-17-94	04-25-94	0.1	0.32	MBB
Beryllium	SW-846 6010	04-17-94	04-25-94	0.05	ND	MBB
Cadmium	SW-846 6010	04-17-94	04-25-94	0.05	ND	MBB
Calcium	SW-846 6010	04-17-94	04-25-94	2	628	MBB
Chromium	SW-846 6010	04-17-94	04-25-94	0.1	ND	MBB
Cobalt	SW-846 6010	04-17-94	04-25-94	0.1	ND	MBB
Copper	SW-846 6010	04-17-94	04-25-94	0.2	ND	MBB
Iron	SW-846 6010	04-17-94	04-25-94	1	ND	MBB
Lead	SW-846 7421	04-17-94	04-22-94	0.01	ND	MBB
Magnesium	SW-846 6010	04-17-94	04-25-94	2	470	MBB
Manganese	SW-846 6010	04-17-94	04-25-94	0.1	0.56	MBB
Mercury	SW-846 7470	04-20-94	04-21-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-17-94	04-25-94	0.4	ND	MBB
Potassium	SW-846 6010	04-17-94	04-25-94	50	ND	MBB
Selenium	SW-846 7740	04-17-94	04-26-94	0.005	ND R	MBB
Silver	SW-846 6010	04-17-94	04-25-94	0.1	ND	MBB
Sodium	SW-846 6010	04-17-94	04-25-94	5	1590	MBB
Thallium	SW-846 7841	04-17-94	04-25-94	0.005	ND	MBB
Vanadium	SW-846 6010	04-17-94	04-25-94	0.1	ND	MBB
Zinc	SW-846 6010	04-17-94	04-25-94	0.2	ND	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP Method Blank ID: 2224.PBW1
GFAA Method Blank ID: 2224.PBW1
CVAA Method Blank ID: 2211.PBW1

ICP LCS ID: 2224.LCSW1
GFAA LCS ID: 2224.LCSW1
CVAA LCS ID: 2211.LCSW1

ICP LCSD ID: 2224.LCSW2
GFAA LCSD ID: 2224.LCSW2
CVAA LCSD ID: 2211.LCSW2

ICP MS ID: 2226.01MS
GFAA MS ID: 2226.01MS
CVAA MS ID: 2226.01MS

ICP MSD ID: 2226.01MSD
GFAA MSD ID: 2226.01MSD
CVAA MSD ID: 2226.01MSD

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas; 77386 (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project No.: 2379

Date Reported: 05-01-94
Report No.: I227CL
Analyst: HM

WET CHEMISTRY PARAMETER: Chloride

Method Reference: EPA 325.3 UNITS: mg/L

PDP LABORATORY ID	CLIENT ID	MATRIX	DATE SAMPLED	DATE RECEIVED	DATE ANALYZED	QUANT LIMIT	RESULT	SPIKE ADDED OR TRUE VALUE	RELATIVE PERCENT DIFF(20)	PERCENT RECOVERY (75-125)
2227.01	LH18&24 MW18-1001	WATER	04-15-94	04-16-94	04-21-94	2	124U			
2227.02	LH18&24 MW18-1001-EB	WATER	04-15-94	04-16-94	04-21-94	2	35			
2227.03	LH18&24 MW17-1001	WATER	04-15-94	04-16-94	04-21-94	2	239			
2227.04	LH18&24 C9-1001	WATER	04-15-94	04-16-94	04-21-94	2	4010			
			QUALITY ASSURANCE/QUALITY CONTROL							
2219.PB1	PREPARATION BLANK	NA	NA	NA	04-21-94	2	ND			
2219.LCS1	LAB CONTROL STD	NA	NA	NA	04-21-94	2	312	299		104
2219.LCS2	LAB CONTROL STD	NA	NA	NA	04-21-94	2	316	299	1.3	106
2224.01	SAMPLE	NA	NA	NA	04-21-94	2	310			
2224.01MS	MATRIX SPIKE	NA	NA	NA	04-21-94	2	815	443		114
2224.01MSD	MATRIX SPIKE DUP	NA	NA	NA	04-21-94	2	815	443	0.0	114

PDP ANALYTICAL SERVICES
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011367

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project No.: 2379

Date Reported: 05-01-94
Report No.: I227R03
Analyst: KW

WET CHEMISTRY PARAMETER: Nitrate

Method Reference: EPA 352.1 UNITS: mg/L

PDP LABORATORY ID	CLIENT ID	MATRIX	DATE SAMPLED	DATE RECEIVED	DATE ANALYZED	QUANT LIMIT	RESULT	SPIKE ADDED OR TRUE VALUE	RELATIVE PERCENT DIFF(20)	PERCENT RECOVERY (75-125)
2227.01	LH18&24 MW18-1001	WATER	04-15-94	04-16-94	04-16-94	0.1	ND			
2227.02	LH18&24 MW18-1001-EB	WATER	04-15-94	04-16-94	04-16-94	0.1	ND			
2227.03	LH18&24 MW17-1001	WATER	04-15-94	04-16-94	04-16-94	0.1	ND			
2227.04	LH18&24 C9-1001	WATER	04-15-94	04-16-94	04-16-94	0.1	0.1J			
			QUALITY ASSURANCE/QUALITY CONTROL							
2227.PB1	PREPARATION BLANK	NA	NA	NA	04-16-94	0.1	ND			
2227.LCS1	LAB CONTROL STD	NA	NA	NA	04-16-94	0.1	0.33	0.4		83
2227.LCS2	LAB CONTROL STD	NA	NA	NA	04-16-94	0.1	0.34	0.4	3.0	85
2224.01	SAMPLE	NA	NA	NA	04-14-94	0.1	ND			
2224.01MS	MATRIX SPIKE	NA	NA	NA	04-14-94	0.1	0.68	0.4		170*
2224.01MSD	MATRIX SPIKE DUP	NA	NA	NA	04-14-94	0.1	0.65	0.4	4.5	162*

PDP ANALYTICAL SERVICES
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LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project No.: 2379

Date Reported: 05-01-94
Report No.: I226S04
Analyst: HM

WET CHEMISTRY PARAMETER: Sulfate

Method Reference: EPA 375.4 UNITS: mg/L

PDP LABORATORY ID	CLIENT ID	MATRIX	DATE SAMPLED	DATE RECEIVED	DATE ANALYZED	QUANT LIMIT	RESULT	SPIKE ADDED OR TRUE VALUE	RELATIVE PERCENT DIFF(20)	PERCENT RECOVERY (75-125)
2227.01	LH18&24 MW18-1001	WATER	04-15-94	04-16-94	04-20-94	5	10			
2227.02	LH18&24 MW18-1001-EB	WATER	04-15-94	04-16-94	04-20-94	5	ND			
2227.03	LH18&24 MW17-1001	WATER	04-15-94	04-16-94	04-20-94	5	22			
2227.04	LH18&24 C9-1001	WATER	04-15-94	04-16-94	04-20-94	5	176			
			QUALITY ASSURANCE/QUALITY CONTROL							
2210.PB1	PREPARATION BLANK	NA	NA	NA	04-20-94	5	ND			
2210.LCS1	LAB CONTROL STD	NA	NA	NA	04-20-94	5	138	151		91
2210.LCS2	LAB CONTROL STD	NA	NA	NA	04-20-94	5	131	151	5.2	87
2224.01	SAMPLE	NA	NA	NA	04-20-94	5	10			
2224.01MS	MATRIX SPIKE	NA	NA	NA	04-20-94	5	19	10		90
2224.01MSD	MATRIX SPIKE DUP	NA	NA	NA	04-20-94	5	19	10	0.0	90

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APPENDIX A
RESULTS AS REPORTED BY THE LABORATORY

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES INC.	Client Sample ID:	LH18&24-MW18-1001	Date Sampled:	04/15/94
Project Name:	LHAAP	PDP Sample ID:	2227.01	Date Received:	04/16/94
Project No.:	2379	Report No.:	B8760	Date Reported:	05/03/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8760
Sample Volume:	5.0 ml	Date Analyzed:	04/27/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	9 B
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	ND
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	111
Toluene-d8	50	(88-110)	95
Bromofluorobenzene	50	(86-115)	115

Method Blank ID: 2226V.WBLK2 LCS ID: 2226V.WLCS2 MS ID: 2226.01MS MSD ID: 2226.01MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

011371

LABORATORY REPORT

Client: AWD TECHNOLOGIES INC.
Project Name: LHAAP
Project No.: 2379

Client Sample ID: LH18&24-MW18-1001EB
PDP Sample ID: 2227.02
Report No.: B8761

Date Sampled: 04/15/94
Date Received: 04/16/94
Date Reported: 05/03/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix: WATER
Multiplying Factor: 1.00
Sample Volume: 5.0 ml
Dilution: 1.0

Method Ref.: SW846-8240
GC/MS File ID: B8761
Date Analyzed: 04/27/94
Analyst: MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	7 B
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	ND
Carbon disulfide	5	15	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	109
Toluene-d8	50	(88-110)	92
Bromofluorobenzene	50	(86-115)	113

Method Blank ID: 2226V.WBLK2 LCS ID: 2226V.WLCS2 MS ID: 2226.01MS MSD ID: 2226.01MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES INC.
Project Name: LHAAP
Project No.: 2379

Client Sample ID: LH18&24-MW17-1001
PDP Sample ID: 2227.03
Report No.: B8773

Date Sampled: 04/15/94
Date Received: 04/16/94
Date Reported: 05/03/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix: WATER
Multiplying Factor: 1.00
Sample Volume: 5.0 ml
Dilution: 1.0

Method Ref.: SW846-8240
GC/MS File ID: B8773
Date Analyzed: 04/28/94
Analyst: MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	10 B
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	32
Carbon disulfide	5	8	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	106
Toluene-d8	50	(88-110)	91
Bromofluorobenzene	50	(86-115)	107

Method Blank ID: 2227V.WBLK1 LCS ID: 2227V.WLCS1 MS ID: 2226.01MS MSD ID: 2226.01MSD DUP ID: NA

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PDP ANALYTICAL SERVICES
24900 Pitkin Drive. Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES INC.	Client Sample ID:	LH18&24-C9-1001	Date Sampled:	04/15/94
Project Name:	LHAAP	PDP Sample ID:	2227.04	Date Received:	04/16/94
Project No.:	2379	Report No.:	B8763	Date Reported:	05/03/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8763
Sample Volume:	5.0 ml	Date Analyzed:	04/27/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	26 B
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	6
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	108
Toluene-d8	50	(88-110)	91
Bromofluorobenzene	50	(86-115)	110

Method Blank ID: 2226V.WBLK2 LCS ID: 2226V.WLCS2 MS ID: 2226.01MS MSD ID: 2226.01MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	AWD TECHNOLOGIES INC.	Client Sample ID:	LH18&24-XXX-TB	Date Sampled:	04/15/94
Project Name:	LHAAP	PDP Sample ID:	2227.05	Date Received:	04/16/94
Project No.:	2379	Report No.:	B8736	Date Reported:	05/03/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8736
Sample Volume:	5.0 ml	Date Analyzed:	04/26/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	5 B
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	ND
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	105
Toluene-d8	50	(88-110)	93
Bromofluorobenzene	50	(86-115)	110

Method Blank ID: 2226V.WBLK1 LCS ID: 2226V.WLCS1 MS ID: 2226.01MS MSD ID: 2226.01MSD DUP ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project Number: 2379

Client Sample ID: LH18&24 MW18-1001
PDP Sample ID: 2227.01
Report Number: I22701

Date Sampled: 04-14-94
Date Received: 04-15-94
Date Reported: 05-01-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-17-94	04-25-94	0.1	ND	MBB
Antimony	SW-846 6010	04-17-94	04-25-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-17-94	04-25-94	0.005	0.005	MBB
Barium	SW-846 6010	04-17-94	04-25-94	0.01	0.248	MBB
Beryllium	SW-846 6010	04-17-94	04-25-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-17-94	04-25-94	0.005	ND	MBB
Calcium	SW-846 6010	04-17-94	04-25-94	0.2	7.6	MBB
Chromium	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Cobalt	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Copper	SW-846 6010	04-17-94	04-25-94	0.02	ND	MBB
Iron	SW-846 6010	04-17-94	04-25-94	0.1	26.7	MBB
Lead	SW-846 7421	04-17-94	04-22-94	0.01	ND	MBB
Magnesium	SW-846 6010	04-17-94	04-25-94	0.2	4.2	MBB
Manganese	SW-846 6010	04-17-94	04-25-94	0.01	0.494	MBB
Mercury	SW-846 7470	04-20-94	04-21-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-17-94	04-25-94	0.04	ND	MBB
Potassium	SW-846 6010	04-17-94	04-25-94	5	ND	MBB
Selenium	SW-846 7740	04-17-94	04-26-94	0.005	ND	MBB
Silver	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Sodium	SW-846 6010	04-17-94	04-25-94	0.5	66.6	MBB
Thallium	SW-846 7841	04-17-94	04-25-94	0.01	ND	MBB
Vanadium	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Zinc	SW-846 6010	04-17-94	04-25-94	0.02	0.025	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP Method Blank ID: 2224.PBW1
GFAA Method Blank ID: 2224.PBW1
CVAA Method Blank ID: 2211.PBW1

ICP LCS ID: 2224.LCSW1
GFAA LCS ID: 2224.LCSW1
CVAA LCS ID: 2211.LCSW1

ICP LCSD ID: 2224.LCSW2
GFAA LCSD ID: 2224.LCSW2
CVAA LCSD ID: 2211.LCSW2

ICP MS ID: 2226.01MS
GFAA MS ID: 2226.01MS
CVAA MS ID: 2226.01MS

ICP MSD ID: 2226.01MSD
GFAA MSD ID: 2226.01MSD
CVAA MSD ID: 2226.01MSD

PDP ANALYTICAL SERVICES
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LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project Number: 2379

Client Sample ID: LH18&24 MW18-1001-EB
PDP Sample ID: 2227.02
Report Number: I22702

Date Sampled: 04-14-94
Date Received: 04-15-94
Date Reported: 05-01-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-17-94	04-25-94	0.1	ND	MBB
Antimony	SW-846 6010	04-17-94	04-25-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-17-94	04-25-94	0.005	ND	MBB
Barium	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Beryllium	SW-846 6010	04-17-94	04-25-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-17-94	04-25-94	0.005	ND	MBB
Calcium	SW-846 6010	04-17-94	04-25-94	0.2	ND	MBB
Chromium	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Cobalt	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Copper	SW-846 6010	04-17-94	04-25-94	0.02	ND	MBB
Iron	SW-846 6010	04-17-94	04-25-94	0.1	ND	MBB
Lead	SW-846 7421	04-17-94	04-22-94	0.01	ND	MBB
Magnesium	SW-846 6010	04-17-94	04-25-94	0.2	ND	MBB
Manganese	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Mercury	SW-846 7470	04-20-94	04-21-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-17-94	04-25-94	0.04	ND	MBB
Potassium	SW-846 6010	04-17-94	04-25-94	5	ND	MBB
Selenium	SW-846 7740	04-17-94	04-26-94	0.005	ND	MBB
Silver	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Sodium	SW-846 6010	04-17-94	04-25-94	0.5	ND	MBB
Thallium	SW-846 7841	04-17-94	04-25-94	0.005	ND	MBB
Vanadium	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Zinc	SW-846 6010	04-17-94	04-25-94	0.02	ND	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP Method Blank ID: 2224.PBW1
GFAA Method Blank ID: 2224.PBW1
CVAA Method Blank ID: 2211.PBW1

ICP LCS ID: 2224.LCSW1
GFAA LCS ID: 2224.LCSW1
CVAA LCS ID: 2211.LCSW1

ICP LCSD ID: 2224.LCSW2
GFAA LCSD ID: 2224.LCSW2
CVAA LCSD ID: 2211.LCSW2

ICP MS ID: 2226.01MS
GFAA MS ID: 2226.01MS
CVAA MS ID: 2226.01MS

ICP MSD ID: 2226.01MSD
GFAA MSD ID: 2226.01MSD
CVAA MSD ID: 2226.01MSD

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project Number: 2379

Client Sample ID: LH18&24 MW17-1001
PDP Sample ID: 2227.03
Report Number: I22703

Date Sampled: 04-14-94
Date Received: 04-15-94
Date Reported: 05-01-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-17-94	04-25-94	0.1	ND	MBB
Antimony	SW-846 6010	04-17-94	04-25-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-17-94	04-25-94	0.005	ND	MBB
Barium	SW-846 6010	04-17-94	04-25-94	0.01	0.310	MBB
Beryllium	SW-846 6010	04-17-94	04-25-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-17-94	04-25-94	0.005	ND	MBB
Calcium	SW-846 6010	04-17-94	04-25-94	0.2	38.1	MBB
Chromium	SW-846 6010	04-17-94	04-25-94	0.01	0.016	MBB
Cobalt	SW-846 6010	04-17-94	04-25-94	0.01	0.030	MBB
Copper	SW-846 6010	04-17-94	04-25-94	0.02	ND	MBB
Iron	SW-846 6010	04-17-94	04-25-94	0.1	3.97	MBB
Lead	SW-846 7421	04-17-94	04-22-94	0.01	ND	MBB
Magnesium	SW-846 6010	04-17-94	04-25-94	0.2	14.3	MBB
Manganese	SW-846 6010	04-17-94	04-25-94	0.01	0.586	MBB
Mercury	SW-846 7470	04-20-94	04-21-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-17-94	04-25-94	0.04	0.16	MBB
Potassium	SW-846 6010	04-17-94	04-25-94	5	ND	MBB
Selenium	SW-846 7740	04-17-94	04-26-94	0.005	ND	MBB
Silver	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Sodium	SW-846 6010	04-17-94	04-25-94	0.5	110	MBB
Thallium	SW-846 7841	04-17-94	04-25-94	0.005	ND	MBB
Vanadium	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Zinc	SW-846 6010	04-17-94	04-25-94	0.02	0.044	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP Method Blank ID: 2224.PBW1
GFAA Method Blank ID: 2224.PBW1
CVAA Method Blank ID: 2211.PBW1

ICP LCS ID: 2224.LCSW1
GFAA LCS ID: 2224.LCSW1
CVAA LCS ID: 2211.LCSW1

ICP LCSD ID: 2224.LCSW2
GFAA LCSD ID: 2224.LCSW2
CVAA LCSD ID: 2211.LCSW2

ICP MS ID: 2226.01MS
GFAA MS ID: 2226.01MS
CVAA MS ID: 2226.01MS

ICP MSD ID: 2226.01MSD
GFAA MSD ID: 2226.01MSD
CVAA MSD ID: 2226.01MSD

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project Number: 2379

Client Sample ID: LH18&24 C9-1001
PDP Sample ID: 2227.04
Report Number: I22704

Date Sampled: 04-13-94
Date Received: 04-14-94
Date Reported: 05-01-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-17-94	04-25-94	1	ND	MBB
Antimony	SW-846 6010	04-17-94	04-25-94	0.6	ND	MBB
Arsenic	SW-846 7060	04-17-94	04-25-94	0.005	ND	MBB
Barium	SW-846 6010	04-17-94	04-25-94	0.1	0.32	MBB
Beryllium	SW-846 6010	04-17-94	04-25-94	0.05	ND	MBB
Cadmium	SW-846 6010	04-17-94	04-25-94	0.05	ND	MBB
Calcium	SW-846 6010	04-17-94	04-25-94	2	628	MBB
Chromium	SW-846 6010	04-17-94	04-25-94	0.1	ND	MBB
Cobalt	SW-846 6010	04-17-94	04-25-94	0.1	ND	MBB
Copper	SW-846 6010	04-17-94	04-25-94	0.2	ND	MBB
Iron	SW-846 6010	04-17-94	04-25-94	1	ND	MBB
Lead	SW-846 7421	04-17-94	04-22-94	0.01	ND	MBB
Magnesium	SW-846 6010	04-17-94	04-25-94	2	470	MBB
Manganese	SW-846 6010	04-17-94	04-25-94	0.1	0.56	MBB
Mercury	SW-846 7470	04-20-94	04-21-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-17-94	04-25-94	0.4	ND	MBB
Potassium	SW-846 6010	04-17-94	04-25-94	50	ND	MBB
Selenium	SW-846 7740	04-17-94	04-26-94	0.005	ND	MBB
Silver	SW-846 6010	04-17-94	04-25-94	0.1	ND	MBB
Sodium	SW-846 6010	04-17-94	04-25-94	5	1590	MBB
Thallium	SW-846 7841	04-17-94	04-25-94	0.005	ND	MBB
Vanadium	SW-846 6010	04-17-94	04-25-94	0.1	ND	MBB
Zinc	SW-846 6010	04-17-94	04-25-94	0.2	ND	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP Method Blank ID: 2224.PBW1
GFAA Method Blank ID: 2224.PBW1
CVAA Method Blank ID: 2211.PBW1

ICP LCS ID: 2224.LCSW1
GFAA LCS ID: 2224.LCSW1
CVAA LCS ID: 2211.LCSW1

ICP LCSD ID: 2224.LCSW2
GFAA LCSD ID: 2224.LCSW2
CVAA LCSD ID: 2211.LCSW2

ICP MS ID: 2226.01MS
GFAA MS ID: 2226.01MS
CVAA MS ID: 2226.01MS

ICP MSD ID: 2226.01MSD
GFAA MSD ID: 2226.01MSD
CVAA MSD ID: 2226.01MSD

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas; 77386 (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project No.: 2379

Date Reported: 05-01-94
Report No.: I227CL
Analyst: HM

WET CHEMISTRY PARAMETER: Chloride

Method Reference: EPA 325.3

UNITS: mg/L

PDP LABORATORY ID	CLIENT ID	MATRIX	DATE SAMPLED	DATE RECEIVED	DATE ANALYZED	QUANT LIMIT	RESULT	SPIKE ADDED OR TRUE VALUE	RELATIVE PERCENT DIFF(20)	PERCENT RECOVERY (75-125)
2227.01	LH18&24 MW18-1001	WATER	04-15-94	04-16-94	04-21-94	2	124			
2227.02	LH18&24 MW18-1001-EB	WATER	04-15-94	04-16-94	04-21-94	2	35			
2227.03	LH18&24 MW17-1001	WATER	04-15-94	04-16-94	04-21-94	2	239			
2227.04	LH18&24 C9-1001	WATER	04-15-94	04-16-94	04-21-94	2	4010			
			QUALITY ASSURANCE/QUALITY CONTROL							
2219.PB1	PREPARATION BLANK	NA	NA	NA	04-21-94	2	ND			
2219.LCS1	LAB CONTROL STD	NA	NA	NA	04-21-94	2	312	299		104
2219.LCS2	LAB CONTROL STD	NA	NA	NA	04-21-94	2	316	299	1.3	106
2224.01	SAMPLE	NA	NA	NA	04-21-94	2	310			
2224.01MS	MATRIX SPIKE	NA	NA	NA	04-21-94	2	815	443		114
2224.01MSD	MATRIX SPIKE DUP	NA	NA	NA	04-21-94	2	815	443	0.0	114

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas; 77386 (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project No.: 2379

Date Reported: 05-01-94
Report No.: I227N03
Analyst: KW

WET CHEMISTRY PARAMETER: Nitrate

Method Reference: EPA 352.1

UNITS: mg/L

PDP LABORATORY ID	CLIENT ID	MATRIX	DATE SAMPLED	DATE RECEIVED	DATE ANALYZED	QUANT LIMIT	RESULT	SPIKE ADDED OR TRUE VALUE	RELATIVE PERCENT DIFF(20)	PERCENT RECOVERY (75-125)
2227.01	LH18&24 MW18-1001	WATER	04-15-94	04-16-94	04-16-94	0.1	ND			
2227.02	LH18&24 MW18-1001-EB	WATER	04-15-94	04-16-94	04-16-94	0.1	ND			
2227.03	LH18&24 MW17-1001	WATER	04-15-94	04-16-94	04-16-94	0.1	ND			
2227.04	LH18&24 C9-1001	WATER	04-15-94	04-16-94	04-16-94	0.1	0.1			
			QUALITY ASSURANCE/QUALITY CONTROL							
2227.PB1	PREPARATION BLANK	NA	NA	NA	04-16-94	0.1	ND			
2227.LCS1	LAB CONTROL STD	NA	NA	NA	04-16-94	0.1	0.33	0.4		83
2227.LCS2	LAB CONTROL STD	NA	NA	NA	04-16-94	0.1	0.34	0.4	3.0	85
2224.01	SAMPLE	NA	NA	NA	04-14-94	0.1	ND			
2224.01MS	MATRIX SPIKE	NA	NA	NA	04-14-94	0.1	0.68	0.4		170*
2224.01MSD	MATRIX SPIKE DUP	NA	NA	NA	04-14-94	0.1	0.65	0.4	4.5	162*

PDP ANALYTICAL SERVICES
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LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project No.: 2379

Date Reported: 05-01-94
Report No.: I226S04
Analyst: HM

WET CHEMISTRY PARAMETER: Sulfate

Method Reference: EPA 375.4

UNITS: mg/L

PDP LABORATORY ID	CLIENT ID	MATRIX	DATE SAMPLED	DATE RECEIVED	DATE ANALYZED	QUANT LIMIT	RESULT	SPIKE ADDED OR TRUE VALUE	RELATIVE PERCENT DIFF(20)	PERCENT RECOVERY (75-125)
2227.01	LH18&24 MW18-1001	WATER	04-15-94	04-16-94	04-20-94	5	10			
2227.02	LH18&24 MW18-1001-EB	WATER	04-15-94	04-16-94	04-20-94	5	ND			
2227.03	LH18&24 MW17-1001	WATER	04-15-94	04-16-94	04-20-94	5	22			
2227.04	LH18&24 C9-1001	WATER	04-15-94	04-16-94	04-20-94	5	176			
			QUALITY ASSURANCE/QUALITY CONTROL							
2210.PB1	PREPARATION BLANK	NA	NA	NA	04-20-94	5	ND			
2210.LCS1	LAB CONTROL STD	NA	NA	NA	04-20-94	5	138	151		91
2210.LCS2	LAB CONTROL STD	NA	NA	NA	04-20-94	5	131	151	5.2	87
2224.01	SAMPLE	NA	NA	NA	04-20-94	5	10			
2224.01MS	MATRIX SPIKE	NA	NA	NA	04-20-94	5	19	10		90
2224.01MSD	MATRIX SPIKE DUP	NA	NA	NA	04-20-94	5	19	10	0.0	90

APPENDIX B
SUPPORT DOCUMENTATION

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: NA
Project Name: NA
Project No.: NA

Date Received: 04/15/94
Date Reported: 05/03/94
Report No.: B8753540

GC/MS-VOLATILES (MATRIX SPIKE AND MATRIX SPIKE DUPLICATE RECOVERY SUMMARY)

Method Ref.: SW846-8240 Sample Matrix: WATER Analyst: MA

SAMPLE	MATRIX SPIKE	MATRIX SPIKE DUPLICATE
PDP Sample ID: 2226.01	MS Sample ID: 2226.01MS	MSD Sample ID: 2226.01MSD
Date Analyzed: 04/27/94	Date Analyzed: 04/27/94	Date Analyzed: 04/27/94
GC/MS File ID: B8752	GC/MS File ID: B8753	GC/MS File ID: B8754

MATRIX SPIKE

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC.	QC LIMITS REC.
1,1,-Dichloroethene	50	ND	61	122	(61-145)
Benzene	50	ND	58	116	(76-127)
Chlorobenzene	50	ND	50	100	(75-130)
Toluene	50	ND	51	102	(76-125)
Trichloroethene	50	10	60	100	(71-120)

MATRIX SPIKE DUPLICATE

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC.	RPD	QC LIMITS RPD.	QC LIMITS REC.
1,1,-Dichloroethene	50	ND	68	136	10.9	14	(61-145)
Benzene	50	ND	64	128 *	9.8	11	(76-127)
Chlorobenzene	50	ND	55	110	9.5	13	(75-130)
Toluene	50	ND	56	112	9.3	13	(76-125)
Trichloroethene	50	10	66	112	11.3	14	(71-120)

* = Values outside of QC limits

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

– no flags based on MS/MSD criteria alone

011384

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: NA
Project Name: NA
Project No.: NA

Client Sample ID: NA
PDP Sample ID: 2226V.WBLK1(METHOD BLANK)
Report No.: B8732

Date Sampled: NA
Date Received: NA
Date Reported: 05/03/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix: WATER
Multiplying Factor: 1.00
Sample Volume: 5.0 ml
Dilution: 1.0

Method Ref.: SW846-8240
GC/MS File ID: B8732
Date Analyzed: 04/26/94
Analyst: MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	5
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	ND
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	94
Toluene-d8	50	(88-110)	87*
Bromofluorobenzene	50	(86-115)	102

JJS 8/27/94

Method Blank ID: NA LCS ID: NA MS ID: NA MSD ID: NA DUP ID: NA

- low surrogate recovery, but no flags applied since all sample surrogate recoveries are O.K.
⇒ isolated incidence

- blank contam.

000024

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES INC.
Project Name: LHAAP
Project No.: 2379

Client Sample ID: LH18&24-MW18-1001EB
PDP Sample ID: 2227.02
Report No.: B8761

Date Sampled: 04/15/94
Date Received: 04/16/94
Date Reported: 05/03/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix: WATER
Multiplying Factor: 1.00
Sample Volume: 5.0 ml
Dilution: 1.0

Method Ref.: SW846-8240
GC/MS File ID: B8761
Date Analyzed: 04/27/94
Analyst: MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	7 B
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	ND
Carbon disulfide	5	15	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	109
Toluene-d8	50	(88-110)	92
Bromofluorobenzene	50	(86-115)	113

Method Blank ID: 2226V.WBLK2 LCS ID: 2226V.WLCS2 MS ID: 2226.01MS MSD ID: 2226.01MSD DUP ID: NA

— blank contam.

PDP ANALYTICAL SERVICES
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LABORATORY REPORT

Client: AWD TECHNOLOGIES INC.
Project Name: LHAAP
Project No.: 2379

Client Sample ID:LH18&24-XXX-TB
PDP Sample ID: 2227.05
Report No.: B8736

Date Sampled: 04/15/94
Date Received: 04/16/94
Date Reported: 05/03/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix: WATER
Multiplying Factor: 1.00
Sample Volume: 5.0 ml
Dilution: 1.0

Method Ref.: SW846-8240
GC/MS File ID: B8736
Date Analyzed: 04/26/94
Analyst: MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	5 B
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	ND
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	105
Toluene-d8	50	(88-110)	93
Bromofluorobenzene	50	(86-115)	110

Method Blank ID: 2226V.WBLK1 LCS ID: 2226V.WLCS1 MS ID: 2226.01MS MSD ID: 2226.01MSD DUP ID: NA

— blank contam.

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client:	NA	Client Sample ID:	NA	Date Sampled:	NA
Project Name:	NA	PDP Sample ID:	2226V.WBLK2(METHOD BLANK)	Date Received:	NA
Project No.:	NA	Report No.:	B8750	Date Reported:	05/03/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8750
Sample Volume:	5.0 ml	Date Analyzed:	04/27/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	4 J
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	ND
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	98
Toluene-d8	50	(88-110)	90
Bromofluorobenzene	50	(86-115)	107

Method Blank ID: NA LCS ID: NA MS ID: NA MSD ID: NA DUP ID: NA

- blank contam.

PDP ANALYTICAL SERVICES
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LABORATORY REPORT

Client:	NA	Client Sample ID:	NA	Date Sampled:	NA
Project Name:	NA	PDP Sample ID:	2227V.WBLK1(METHOD BLANK)	Date Received:	NA
Project No.:	NA	Report No.:	B8767	Date Reported:	05/03/94

GC/MS-VOLATILE ORGANICS (DATA SHEET)

Sample Matrix:	WATER	Method Ref.:	SW846-8240
Multiplying Factor:	1.00	GC/MS File ID:	B8767
Sample Volume:	5.0 ml	Date Analyzed:	04/28/94
Dilution:	1.0	Analyst:	MA

COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)	COMPOUND	QUANTITATION LIMIT (ug/L)	RESULTS (ug/L)
1,1,1-Trichloroethane	5	ND	Carbon tetrachloride	5	ND
1,1,2,2-Tetrachloroethane	5	ND	Chlorobenzene	5	ND
1,1,2-Trichloroethane	5	ND	Chloroethane	10	ND
1,1-Dichloroethane	5	ND	Chloroform	5	ND
1,1-Dichloroethene	5	ND	Chloromethane	10	ND
1,2-Dichloroethane	5	ND	Cis-1,3-Dichloropropene	5	ND
1,2-Dichloropropane	5	ND	Dibromochloromethane	5	ND
2-Butanone	10	ND	Ethylbenzene	5	ND
2-Chloroethyl vinyl ether	10	ND	Methylene chloride	5	6
2-Hexanone	10	ND	Styrene	5	ND
4-Methyl-2-pentanone	10	ND	Tetrachloroethene	5	ND
Acetone	10	ND	Toluene	5	ND
Benzene	5	ND	Total xylenes	5	ND
Bromodichloromethane	5	ND	Total-1,2-Dichloroethene	5	ND
Bromoform	5	ND	Trans-1,3-Dichloropropene	5	ND
Bromomethane	10	ND	Trichloroethene	5	ND
Carbon disulfide	5	ND	Vinyl acetate	10	ND
			Vinylchloride	10	ND

QUALITY ASSURANCE/QUALITY CONTROL

Surrogate	Spike Added (ug/L)	QC Limits (Recovery)	% Recovery
1,2-Dichloroethane-d4	50	(76-114)	103
Toluene-d8	50	(88-110)	89
Bromofluorobenzene	50	(86-115)	109

Method Blank ID: NA LCS ID: NA MS ID: NA MSD ID: NA DUP ID: NA

— blank contam.

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas; 77386 (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project No.: 2379

Date Reported: 05-01-94
Report No.: I227N03
Analyst: KW

WET CHEMISTRY PARAMETER: Nitrate

Method Reference: EPA 352.1

UNITS: mg/L

PDP LABORATORY ID	CLIENT ID	MATRIX	DATE SAMPLED	DATE RECEIVED	DATE ANALYZED	QUANT LIMIT	RESULT	SPIKE ADDED OR TRUE VALUE	RELATIVE PERCENT DIFF(20)	PERCENT RECOVERY (75-125)
2227.01	LH18&24 MW18-1001	WATER	04-15-94	04-16-94	04-16-94	0.1	ND			
2227.02	LH18&24 MW18-1001-EB	WATER	04-15-94	04-16-94	04-16-94	0.1	ND			
2227.03	LH18&24 MW17-1001	WATER	04-15-94	04-16-94	04-16-94	0.1	ND			
2227.04	LH18&24 C9-1001	WATER	04-15-94	04-16-94	04-16-94	0.1	0.1			
			QUALITY ASSURANCE/QUALITY CONTROL							
2227.PB1	PREPARATION BLANK	NA	NA	NA	04-16-94	0.1	ND			
2227.LCS1	LAB CONTROL STD	NA	NA	NA	04-16-94	0.1	0.33	0.4		83
2227.LCS2	LAB CONTROL STD	NA	NA	NA	04-16-94	0.1	0.34	0.4	3.0	85
2224.01	SAMPLE	NA	NA	NA	04-14-94	0.1	ND			
2224.01MS	MATRIX SPIKE	NA	NA	NA	04-14-94	0.1	0.68	0.4		170*
2224.01MSD	MATRIX SPIKE DUP	NA	NA	NA	04-14-94	0.1	0.65	0.4	4.5	162*

– flag positive nitrate values as estimated

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas; 77386 (713)363-2233

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project No.: 2379

Date Reported: 05-01-94
Report No.: I227CL
Analyst: HM

WET CHEMISTRY PARAMETER: Chloride

Method Reference: EPA 325.3

UNITS: mg/L

PDP LABORATORY ID	CLIENT ID	MATRIX	DATE SAMPLED	DATE RECEIVED	DATE ANALYZED	QUANT LIMIT	RESULT	SPIKE ADDED OR TRUE VALUE	RELATIVE PERCENT DIFF(20)	PERCENT RECOVERY (75-125)
2227.01	LH18&24 MW18-1001	WATER	04-15-94	04-16-94	04-21-94	2	124			
2227.02	LH18&24 MW18-1001-RR	WATER	04-15-94	04-16-94	04-21-94	2	(35)			
2227.03	LH18&24 MW17-1001	WATER	04-15-94	04-16-94	04-21-94	2	239			
2227.04	LH18&24 C9-1001	WATER	04-15-94	04-16-94	04-21-94	2	4010			
			QUALITY ASSURANCE/QUALITY CONTROL							
2219.PB1	PREPARATION BLANK	NA	NA	NA	04-21-94	2	ND			
2219.LCS1	LAB CONTROL STD	NA	NA	NA	04-21-94	2	312	299		104
2219.LCS2	LAB CONTROL STD	NA	NA	NA	04-21-94	2	316	299	1.3	106
2224.01	SAMPLE	NA	NA	NA	04-21-94	2	310			
2224.01MS	MATRIX SPIKE	NA	NA	NA	04-21-94	2	815	443		114
2224.01MSD	MATRIX SPIKE DUP	NA	NA	NA	04-21-94	2	815	443	0.0	114

– blank contam.

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: NA
Project Name: NA
Project Number: NA

PDP MS ID: 2226.01MS
PDP MSD ID: 2226.01MSD
Report Number: I226MS01

Date Sampled: NA
Date Received: NA
Date Reported: 05-01-94

TOTAL METALS (MATRIX SPIKE AND MATRIX SPIKE DUPLICATE)

Sample Matrix: WATER

Units: mg/L

ELEMENT	METHOD	DATE PREPARED	DATE ANALYZED	SAMPLE VALUE	SPIKE ADDED	MATRIX SPIKE VALUE	PERCENT RECOVERY (75-125)	MATRIX SPIKE DUP VALUE	PERCENT RECOVERY (75-125)	RPD (20)
Aluminum	SW-846 6010	04-17-94	04-25-94	0.28	2.00	2.14	93	2.22	97	3.7
Antimony	SW-846 6010	04-17-94	04-25-94	ND	0.50	0.50	100	0.51	102	2.0
Arsenic	SW-846 7060	04-17-94	04-25-94	0.005	0.040	0.030	62*	0.031	65*	3.3
Barium	SW-846 6010	04-17-94	04-25-94	0.126	2.00	2.07	97	2.10	99	1.4
Beryllium	SW-846 6010	04-17-94	04-25-94	ND	0.050	0.049	98	0.050	100	2.0
Cadmium	SW-846 6010	04-17-94	04-25-94	ND	0.050	0.046	92	0.047	94	2.2
Calcium	SW-846 6010	04-17-94	04-25-94	16.4	NA	NA	NA	NA	NA	NA
Chromium	SW-846 6010	04-17-94	04-25-94	ND	0.20	0.20	100	0.20	100	0.0
Cobalt	SW-846 6010	04-17-94	04-25-94	ND	0.50	0.50	100	0.51	102	2.0
Copper	SW-846 6010	04-17-94	04-25-94	ND	0.25	0.25	100	0.26	104	3.9
Iron	SW-846 6010	04-17-94	04-25-94	0.22	1.00	1.16	94	1.22	100	5.0
Lead	SW-846 7421	04-17-94	04-22-94	ND	0.020	0.026	130*	0.026	130*	0.0
Magnesium	SW-846 6010	04-17-94	04-25-94	9.3	NA	NA	NA	NA	NA	NA
Manganese	SW-846 6010	04-17-94	04-25-94	0.011	0.50	0.50	98	0.50	98	0.0
Mercury	SW-846 7471	04-20-94	04-21-94	ND	0.0010	0.0010	100	0.0010	100	0.0
Nickel	SW-846 6010	04-17-94	04-25-94	ND	0.50	0.50	100	0.51	102	2.0
Potassium	SW-846 6010	04-17-94	04-25-94	ND	NA	NA	NA	NA	NA	NA
Selenium	SW-846 7740	04-17-94	04-26-94	ND	0.010	ND	0*	0.002	20*	NC
Silver	SW-846 6010	04-17-94	04-25-94	ND	0.050	0.048	96	0.048	96	0.0
Sodium	SW-846 6010	04-17-94	04-25-94	112	NA	NA	NA	NA	NA	NA
Thallium	SW-846 7841	04-17-94	04-25-94	ND	0.050	0.044	88	0.047	94	6.6
Vanadium	SW-846 6010	04-17-94	04-25-94	ND	0.50	0.49	98	0.50	100	2.0
Zinc	SW-846 6010	04-17-94	04-25-94	0.022	0.50	0.52	100	0.52	100	0.0

QUALITY ASSURANCE/QUALITY CONTROL

Method Blank ID: NA

LCS ID: NA

LCSD ID: NA

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

LABORATORY REPORT

Client: NA
Project Name: NA
Project Number: NA

LCS ID: 2224.LCSW1
LCSD ID: 2224.LCSW2

Date Reported: 05-01-94
Report Number: I224LCSW

METALS (LABORATORY CONTROL SAMPLE AND LABORATORY CONTROL SAMPLE DUPLICATE)

Sample Matrix: AQUEOUS

Units: mg/L

ELEMENT	METHOD	DATE PREPARED	DATE ANALYZED	TRUE VALUE	LCS FOUND VALUE	LCS % RECOVERY (80-120)	LCSD FOUND VALUE	LCSD % RECOVERY (80-120)	RPD (20)	ANALYST
Aluminum	SW-846 6010	04-17-94	04-25-94	10.0	9.58	96	9.58	96	0.0	MBB
Antimony	SW-846 6010	04-17-94	04-25-94	5.00	4.86	97	4.83	97	0.6	MBB
Arsenic	SW-846 7060	04-17-94	04-25-94	0.050	0.044	88	0.042	84	4.7	MBB
Barium	SW-846 6010	04-17-94	04-25-94	10.0	9.55	96	9.46	95	0.9	MBB
Beryllium	SW-846 6010	04-17-94	04-25-94	0.25	0.25	100	0.25	100	0.0	MBB
Cadmium	SW-846 6010	04-17-94	04-25-94	2.50	2.38	95	2.36	94	0.8	MBB
Calcium	SW-846 6010	04-17-94	04-25-94	25.0	23.8	95	23.8	95	0.0	MBB
Chromium	SW-846 6010	04-17-94	04-25-94	1.00	0.98	98	0.97	97	1.0	MBB
Cobalt	SW-846 6010	04-17-94	04-25-94	2.50	2.42	97	2.42	97	0.0	MBB
Copper	SW-846 6010	04-17-94	04-25-94	1.25	1.22	98	1.22	98	0.0	MBB
Iron	SW-846 6010	04-17-94	04-25-94	5.00	4.79	96	4.78	96	0.2	MBB
Lead	SW-846 7421	04-17-94	04-22-94	0.050	0.062	124*	0.061	122*	1.6	MBB
Magnesium	SW-846 6010	04-17-94	04-25-94	25.0	23.8	95	23.8	95	0.0	MBB
Manganese	SW-846 6010	04-17-94	04-25-94	2.50	2.41	96	2.40	96	0.4	MBB
Nickel	SW-846 6010	04-17-94	04-25-94	2.50	2.43	97	2.43	97	0.0	MBB
Potassium	SW-846 6010	04-17-94	04-25-94	25.0	23.9	96	23.3	93	2.5	MBB
Selenium	SW-846 7740	04-17-94	04-26-94	0.050	0.053	106	0.055	110	3.7	MBB
Silver	SW-846 6010	04-17-94	04-25-94	1.25	1.21	97	1.20	96	0.8	MBB
Sodium	SW-846 6010	04-17-94	04-25-94	25.0	24.0	96	23.9	96	0.4	MBB
Thallium	SW-846 7841	04-17-94	04-25-94	0.050	0.046	92	0.045	90	2.2	MBB
Vanadium	SW-846 6010	04-17-94	04-25-94	2.50	2.39	96	2.38	95	0.4	MBB
Zinc	SW-846 6010	04-17-94	04-25-94	2.50	2.40	96	2.40	96	0.0	MBB

QUALITY ASSURANCE/QUALITY CONTROL

Method Blank ID: 2224.PBW1

– flag positive lead results as estimated

011392

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

JJS 8/27/94

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project Number: 2379

Client Sample ID: LH18&24 MW18-1001
PDP Sample ID: 2227.01
Report Number: 122701

Date Sampled: 04-14-94
Date Received: 04-15-94
Date Reported: 05-01-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-17-94	04-25-94	0.1	ND	MBB
Antimony	SW-846 6010	04-17-94	04-25-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-17-94	04-25-94	0.005	0.005	MBB
Barium	SW-846 6010	04-17-94	04-25-94	0.01	0.248	MBB
Beryllium	SW-846 6010	04-17-94	04-25-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-17-94	04-25-94	0.005	ND	MBB
Calcium	SW-846 6010	04-17-94	04-25-94	0.2	7.6	MBB
Chromium	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Cobalt	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Copper	SW-846 6010	04-17-94	04-25-94	0.02	ND	MBB
Iron	SW-846 6010	04-17-94	04-25-94	0.1	26.7	MBB
Lead	SW-846 7421	04-17-94	04-22-94	0.01	ND	MBB
Magnesium	SW-846 6010	04-17-94	04-25-94	0.2	4.2	MBB
Manganese	SW-846 6010	04-17-94	04-25-94	0.01	0.494	MBB
Mercury	SW-846 7470	04-20-94	04-21-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-17-94	04-25-94	0.04	ND	MBB
Potassium	SW-846 6010	04-17-94	04-25-94	5	ND	MBB
Selenium	SW-846 7740	04-17-94	04-26-94	0.005	ND	MBB
Silver	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Sodium	SW-846 6010	04-17-94	04-25-94	0.5	66.6	MBB
Thallium	SW-846 7841	04-17-94	04-25-94	0.01	ND	MBB
Vanadium	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Zinc	SW-846 6010	04-17-94	04-25-94	0.02	0.025	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP Method Blank ID: 2224.PBW1
GFAA Method Blank ID: 2224.PBW1
CVAA Method Blank ID: 2211.PBW1

ICP LCS ID: 2224.LCSW1
GFAA LCS ID: 2224.LCSW1
CVAA LCS ID: 2211.LCSW1

ICP LCSD ID: 2224.LCSW2
GFAA LCSD ID: 2224.LCSW2
CVAA LCSD ID: 2211.LCSW2

ICP MS ID: 2226.01MS
GFAA MS ID: 2226.01MS
CVAA MS ID: 2226.01MS

ICP MSD ID: 2226.01MSD
GFAA MSD ID: 2226.01MSD
CVAA MSD ID: 2226.01MSD

transcription errors

011394

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

JJS 8/27/94

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project Number: 2379

Client Sample ID: LH18&24 MW18-1001-EB
PDP Sample ID: 2227.02
Report Number: I22702

Date Sampled: 04-~~21~~-94 15
Date Received: 04-~~25~~-94 16
Date Reported: 05-01-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-17-94	04-25-94	0.1	ND	MBB
Antimony	SW-846 6010	04-17-94	04-25-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-17-94	04-25-94	0.005	ND	MBB
Barium	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Beryllium	SW-846 6010	04-17-94	04-25-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-17-94	04-25-94	0.005	ND	MBB
Calcium	SW-846 6010	04-17-94	04-25-94	0.2	ND	MBB
Chromium	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Cobalt	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Copper	SW-846 6010	04-17-94	04-25-94	0.02	ND	MBB
Iron	SW-846 6010	04-17-94	04-25-94	0.1	ND	MBB
Lead	SW-846 7421	04-17-94	04-22-94	0.01	ND	MBB
Magnesium	SW-846 6010	04-17-94	04-25-94	0.2	ND	MBB
Manganese	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Mercury	SW-846 7470	04-20-94	04-21-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-17-94	04-25-94	0.04	ND	MBB
Potassium	SW-846 6010	04-17-94	04-25-94	5	ND	MBB
Selenium	SW-846 7740	04-17-94	04-26-94	0.005	ND	MBB
Silver	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Sodium	SW-846 6010	04-17-94	04-25-94	0.5	ND	MBB
Thallium	SW-846 7841	04-17-94	04-25-94	0.005	ND	MBB
Vanadium	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Zinc	SW-846 6010	04-17-94	04-25-94	0.02	ND	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP Method Blank ID: 2224.PBW1
GFAA Method Blank ID: 2224.PBW1
CVAA Method Blank ID: 2211.PBW1

ICP LCS ID: 2224.LCSW1
GFAA LCS ID: 2224.LCSW1
CVAA LCS ID: 2211.LCSW1

ICP LCSD ID: 2224.LCSW2
GFAA LCSD ID: 2224.LCSW2
CVAA LCSD ID: 2211.LCSW2

ICP MS ID: 2226.01MS
GFAA MS ID: 2226.01MS
CVAA MS ID: 2226.01MS

ICP MSD ID: 2226.01MSD
GFAA MSD ID: 2226.01MSD
CVAA MSD ID: 2226.01MSD

- transcription errors

000015

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

JJS
8/27/94

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project Number: 2379

Client Sample ID: LH18&24 MW17-1001
PDP Sample ID: 2227.03
Report Number: I22703

Date Sampled: 04-~~14~~-94 15
Date Received: 04-~~15~~-94 16
Date Reported: 05-01-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-17-94	04-25-94	0.1	ND	MBB
Antimony	SW-846 6010	04-17-94	04-25-94	0.06	ND	MBB
Arsenic	SW-846 7060	04-17-94	04-25-94	0.005	ND	MBB
Barium	SW-846 6010	04-17-94	04-25-94	0.01	0.310	MBB
Beryllium	SW-846 6010	04-17-94	04-25-94	0.005	ND	MBB
Cadmium	SW-846 6010	04-17-94	04-25-94	0.005	ND	MBB
Calcium	SW-846 6010	04-17-94	04-25-94	0.2	38.1	MBB
Chromium	SW-846 6010	04-17-94	04-25-94	0.01	0.016	MBB
Cobalt	SW-846 6010	04-17-94	04-25-94	0.01	0.030	MBB
Copper	SW-846 6010	04-17-94	04-25-94	0.02	ND	MBB
Iron	SW-846 6010	04-17-94	04-25-94	0.1	3.97	MBB
Lead	SW-846 7421	04-17-94	04-22-94	0.01	ND	MBB
Magnesium	SW-846 6010	04-17-94	04-25-94	0.2	14.3	MBB
Manganese	SW-846 6010	04-17-94	04-25-94	0.01	0.586	MBB
Mercury	SW-846 7470	04-20-94	04-21-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-17-94	04-25-94	0.04	0.16	MBB
Potassium	SW-846 6010	04-17-94	04-25-94	5	ND	MBB
Selenium	SW-846 7740	04-17-94	04-26-94	0.005	ND	MBB
Silver	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Sodium	SW-846 6010	04-17-94	04-25-94	0.5	110	MBB
Thallium	SW-846 7841	04-17-94	04-25-94	0.005	ND	MBB
Vanadium	SW-846 6010	04-17-94	04-25-94	0.01	ND	MBB
Zinc	SW-846 6010	04-17-94	04-25-94	0.02	0.044	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP Method Blank ID: 2224.PBW1
GFAA Method Blank ID: 2224.PBW1
CVAA Method Blank ID: 2211.PBW1

ICP LCS ID: 2224.LCSW1
GFAA LCS ID: 2224.LCSW1
CVAA LCS ID: 2211.LCSW1

ICP LCSD ID: 2224.LCSW2
GFAA LCSD ID: 2224.LCSW2
CVAA LCSD ID: 2211.LCSW2

ICP MS ID: 2226.01MS
GFAA MS ID: 2226.01MS
CVAA MS ID: 2226.01MS

ICP MSD ID: 2226.01MSD
GFAA MSD ID: 2226.01MSD
CVAA MSD ID: 2226.01MSD

transcription errors

PDP ANALYTICAL SERVICES
24900 Pitkin Drive, Suite 300; Spring, Texas 77386; Phone (713)363-2233

JJS 8/27/94

LABORATORY REPORT

Client: AWD TECHNOLOGIES
Project Name: LHAAP
Project Number: 2379

Client Sample ID: LH18&24 C9-1001
PDP Sample ID: 2227.04
Report Number: I22704

Date Sampled: 04-15-94
Date Received: 04-16-94
Date Reported: 05-01-94

TOTAL METALS (DATA SHEET)

Sample Matrix: WATER

Units: mg/L

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	QUANTITATION LIMIT	RESULT	ANALYST
Aluminum	SW-846 6010	04-17-94	04-25-94	1	ND	MBB
Antimony	SW-846 6010	04-17-94	04-25-94	0.6	ND	MBB
Arsenic	SW-846 7060	04-17-94	04-25-94	0.005	ND	MBB
Barium	SW-846 6010	04-17-94	04-25-94	0.1	0.32	MBB
Beryllium	SW-846 6010	04-17-94	04-25-94	0.05	ND	MBB
Cadmium	SW-846 6010	04-17-94	04-25-94	0.05	ND	MBB
Calcium	SW-846 6010	04-17-94	04-25-94	2	628	MBB
Chromium	SW-846 6010	04-17-94	04-25-94	0.1	ND	MBB
Cobalt	SW-846 6010	04-17-94	04-25-94	0.1	ND	MBB
Copper	SW-846 6010	04-17-94	04-25-94	0.2	ND	MBB
Iron	SW-846 6010	04-17-94	04-25-94	1	ND	MBB
Lead	SW-846 7421	04-17-94	04-22-94	0.01	ND	MBB
Magnesium	SW-846 6010	04-17-94	04-25-94	2	470	MBB
Manganese	SW-846 6010	04-17-94	04-25-94	0.1	0.56	MBB
Mercury	SW-846 7470	04-20-94	04-21-94	0.0002	ND	DOC
Nickel	SW-846 6010	04-17-94	04-25-94	0.4	ND	MBB
Potassium	SW-846 6010	04-17-94	04-25-94	50	ND	MBB
Selenium	SW-846 7740	04-17-94	04-26-94	0.005	ND	MBB
Silver	SW-846 6010	04-17-94	04-25-94	0.1	ND	MBB
Sodium	SW-846 6010	04-17-94	04-25-94	5	1590	MBB
Thallium	SW-846 7841	04-17-94	04-25-94	0.005	ND	MBB
Vanadium	SW-846 6010	04-17-94	04-25-94	0.1	ND	MBB
Zinc	SW-846 6010	04-17-94	04-25-94	0.2	ND	MBB

QUALITY ASSURANCE/QUALITY CONTROL

ICP Method Blank ID: 2224.PBW1
GFAA Method Blank ID: 2224.PBW1
CVAA Method Blank ID: 2211.PBW1

ICP LCS ID: 2224.LCSW1
GFAA LCS ID: 2224.LCSW1
CVAA LCS ID: 2211.LCSW1

ICP LCSD ID: 2224.LCSW2
GFAA LCSD ID: 2224.LCSW2
CVAA LCSD ID: 2211.LCSW2

ICP MS ID: 2226.01MS
GFAA MS ID: 2226.01MS
CVAA MS ID: 2226.01MS

ICP MSD ID: 2226.01MSD
GFAA MSD ID: 2226.01MSD
CVAA MSD ID: 2226.01MSD

transcription errors

011397

FINAL

CHEMICAL DATA QA/QC REPORT
INTERIM REMEDIAL ACTION
BURNING GROUND 3 AND
UNLINED EVAPORATION POND
LHAAP UNITS 18 AND 24
LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS

PREPARED FOR

UNITED STATES ARMY CORPS OF ENGINEERS
TULSA DISTRICT

PREPARED BY

AWD TECHNOLOGIES, INC.
ROCKVILLE, MARYLAND

INCHCAPE TESTING SERVICES -- Job Number H94-2213, 2232, 2312 2392, 2501, 2541, 2670, and 2680

AUGUST 31, 1994
USACE CONTRACT DACA56-93-D-0016
DELIVERY ORDER 0002
AWD PROJECT 2379

LONGHORN ARMY AMMUNITION PLANT, TEXAS
BURNING GROUND 3 AND UNLINED EVAPORATION POND
INTERIM REMEDIAL ACTION
Inchcape Testing Services -- Job Numbers H94-2213, 2232, 2312, 2392, 2501, 2541, 2670, and 2680

1.0 Discussion.

This set of samples was collected from the Burning Ground 3 and the Unlined Evaporation Pond areas of the Longhorn Army Ammunition Plant in Karnack, Texas on March 29-31, 1994 and April 1, 5-9, 11-15, 1994 as part of the Interim Remedial Action Investigation. The sampling activity was conducted by AWD Technologies, Inc. (AWD) for the U.S. Army Corps of Engineers (COE), Tulsa District. After collection, the samples were sent to PDP Analytical Services in Spring, Texas where the explosive analyses were subcontracted to Inchcape Testing Services in Houston, Texas. The samples were subsequently placed under the above job numbers. Included in this set of data are the results of sixty (60) aqueous samples, including six (6) duplicate pairs and four (4) equipment rinsate blanks.

Groundwater Samples

LH18-C1-1001	LH18/24-MW129-1001	LH18/24-C5-1001	LH18/24-MW19-1001
LH18/24-AWD2-1001	LH18/24-MW20-1001	LH18/24-MW10-1001	LH18/24-C2-1001
LH18/24-AWD2-1001-QC	LH18/24-CB-1001	LH18/24-MW2-1001	LH18/24-AWD4-1001
LH18/24-AWD1-1001	LH18/24-C3-1001	LH18/24-MW2-1001-QC	LH18/24-MW13-1001
LH18/24-AWD3-1001	LH18/24-130-1001	LH18/24-MW3-1001	LH18/24-MW11-1001
LH18/24-124-1001	LH18/24-EW1-1001	LH18/24-MW4-1001	LH18/24-C7-1001
LH18/24-120-1001	LH18/24-109-1001	LH18/24-101-1001	LH18/24-C7-1001-QC
LH18/24-123-1001	LH18/24-MW1-1001	LH18/24-MW23-1001	LH18/24-MW16-1001
LH18/24-MW14-1001	LH18/24-125-1001	LH18/24-MW22-1001	LH18/24-C10-1001
LH18/24-126-1001	LH18/24-C4-1001	LH18/24-MW21-1001	LH18/24-C6-1001
LH18/24-102-1001	LH18/24-MW7-1001	LH18/24-MW15-1001	LH18/24-C6-1001-QC
LH18/24-SBT4-RS01	LH18/24-MW9-1001	LH18/24-MW5-1001	LH18/24-MW18-1001
LH18/24-MW14-1001-QC	LH18/24-MW8-1001	LH18/24-MW5-1001-QC	LH18/24-MW17-1001
LH18/24-MW12-1001	LH18/24-C4A-1001	LH18/24-MW6-1001	LH18/24-C9-1001

Field Duplicates

LH18/24-AWD2-1001-QC is a field duplicate of LH18/24-AWD2-1001.
LH18/24-MW14-1001-QC is a field duplicate of LH18/24-MW14-1001.
LH18/24-MW2-1001-QC is a field duplicate of LH18/24-MW2-1001.
LH18/24-MW5-1001-QC is a field duplicate of LH18/24-MW5-1001.
LH18/24-C7-1001-QC is a field duplicate of LH18/24-C7-1001.
LH18/24-C6-1001-QC is a field duplicate of LH18/24-C6-1001.

Equipment Rinsate Blanks

LH18/24-SBT2-0004-EB	LH18/24-SBT3-0002-EB
LH18/24-MW23-EB	LH18/24-MW18-1001-EB

All samples were analyzed for explosives by U.S. EPA SW-846 Method 8330. Since the laboratory did not supply any of the analytical raw data in the deliverable packages, data validation has been performed on the limited basis of examining QA/QC summary reports.

All compounds were successfully analyzed in all samples. The organic analytical data were evaluated by the following quality assurance/quality control (QA/QC) parameters where applicable: technical holding times and preservation, system monitoring compound/surrogate spike recoveries, method blanks, matrix spike/matrix spike duplicates (MS/MSDs), laboratory control samples, field QC, and transcription. Validated sample analysis results are listed on the attached data summary forms. Areas of concern with respect to data quality and usability are discussed below.

2.0 Explosives.

2.1 Accuracy. All surrogate, laboratory control sample (LCS), blank spike/blank spike duplicate, and MS/MSD percent recoveries were within acceptable quality control limits, except for the surrogate 3,4-dinitrotoluene (3,4-DNT) percent recoveries in samples LH18/24-AWD1-1001, LH18/24-C7-1001, LH18/24-C3-1001, LH18/24-C4-1001, LH18/24-MW10-1001, and LH18/24-MW4-1001 which were all above 114 percent. As a result, all associated positive concentrations have been qualified as estimated, "J"; associated non-detects were not impacted.

Note that MS/MSDs were not reported with Job Numbers H94-2213, H94-2232, H94-2312, and H94-2501, but blank spikes and blank spike duplicates (BS/BSDs) were reported.

2.2 Precision. All MS/MSD relative percent differences (RPDs) were within acceptable quality control limits. Also, the laboratory duplicate of LH18/24-AWD2-1001-QC was in control, as all compounds in both samples are non-detect.

2.3 Representativeness. All samples were properly preserved and were received in good condition by the laboratory.

Many samples were extracted outside of the 7-day holding time. Therefore, associated positive results and non-detects have been qualified as estimated, "J" and "UJ", respectively.

All method and rinsate blanks were free of target compound contamination; however, not all target compounds were reported with the method blank data.

All compounds in all field duplicate pairs were found to be comparable except for the following:

	LH18/24-MW2-1001	LH18/24-MW2-1001-QC	RPD	Control Limit
RDX	1.57 µg/L	29.0 µg/L	179%	NA
1,3,5-TNB	<0.10 µg/L	2.41 µg/L	NA	±0.20 µg/L

	LH18/24-C7-1001	LH18/24-C7-1001-QC	RPD	Control Limit
1,3,5-TNB	0.63 µg/L	<0.10 µg/L	NA	±0.20 µg/L

NA = Not Applicable

These compounds in their respective pairs have been qualified as estimated, "J" or "UJ". The criteria used to evaluate the field duplicate data was a control of plus or minus two (2) times the reporting limit when one or both compounds of a pair were less than five (5) times the reporting limit or an upper bound of 35 percent RPD when both compounds of the pair were greater than or equal to five (5) times the reporting limit.

Note that in order to evaluate the explosive data, the validator had to adapt some of the semivolatile quality control criteria. For example, spike recoveries and RPD values were evaluated by using expanded QC guidelines of chemically similar semivolatile compounds. The semivolatile holding time criteria was also used to validate the explosive data.

3.0 Conclusion.

These data were reviewed according to the U.S. EPA's National Functional Guidelines for Organic Data Review (June, 1991) and with reference to method requirements. The results are presented in the data summary of this report and should be accepted as qualified. All results and data meet the requirements of the data quality objective (DQO) for this site and are deemed acceptable and valid for the intended use.

4.0 Information Regarding Report Content.

Attachments:

1. Glossary of data qualifier codes.
2. Data Summary. This may include:
   a) All positive results with qualifier codes, if applicable;
   b) All unusable detection limits qualified with "R"; and
   c) All estimated detection limits qualified with "UJ".
3. Appendix A - Results as reported by the laboratory.
4. Appendix B - Support Documentation which includes details to support the statements made in this report.

GLOSSARY OF DATA QUALIFIER CODES

CODES RELATING TO IDENTIFICATION

(confidence concerning presence or absence of compounds)

U = Not detected. The associated number indicates approximate sample concentration necessary to be detected.

(NO CODE) = Confirmed identification.

R = Unreliable result. Analyte may or may not be present in the sample. Supporting data necessary to confirm result. The result is unusable.

CODES RELATED TO QUANTITATION

(can be used for positive results and sample quantitation limits)

J = Analyte present. Reported value may not be accurate or precise.

UJ = Not detected. Quantitation limit may be inaccurate or imprecise.

DATA SUMMARY

011404

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NDRC Laboratories

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SUMMARY REPORT

CLIENT : PDP Analytical Services
CONTACT : Mr. Bruce Howbert
PROJECT :

JOB NUMBER : H94-2213
REPORT DATE : 26-APR-1994

SAMPLE NO.	ID MARKS	MATRIX	DATE SAMPLED
1	2189.01 LH19-Ci-1001 PS	Water	29-MAR-1994
2	2188.05 RINSATE PS	Water	29-MAR-1994

EXPLOSIVES, EPA 8330		1	2		
1,3-DNB	µg/L	< 0.10	< 0.10		
2,4-DNT	µg/L	< 0.10	< 0.10		
2,6-DNT	µg/L	< 0.10	< 0.10		
HMX	µg/L	< 0.10	< 0.10		
NB	µg/L	< 0.10	< 0.10		
2-NT	µg/L	< 0.10	< 0.10		
3-NT	µg/L	< 0.10	< 0.10		
4-NT	µg/L	< 0.10	< 0.10		
RDX	µg/L	< 0.10	< 0.10		
Tetryl	µg/L	< 0.10	< 0.10		
1,3,5-TNB	µg/L	< 0.10	< 0.10		
2,4,6-TNT	µg/L	< 0.10	< 0.10		

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SUMMARY REPORT

CLIENT : PDP Analytical Services
CONTACT : Mr. Bruce Howbert
PROJECT :

JOB NUMBER : H94-2232
REPORT DATE : 26-APR-1994

SAMPLE NO.	ID MARKS	MATRIX	DATE SAMPLED
1	2193.01 LH18'24-AWD2-1001 PS	Water	30-MAR-1994
2	2193.02 LH18'24-AWD2-1001 QC PS	Water	30-MAR-1994
3	2193.01/Matrix Spike LH18'24-AWD2-1001 PS	Water	30-MAR-1994
4	2193.01/Matrix Spike Duplicate LH18'24-AWD2-1001 ~~QC~~ PS	Water	30-MAR-1994

EXPLOSIVES, EPA 8330		1	2	3	4
1,3-DNB	µg/L	< 0.10	< 0.10	6.75	6.71
2,4-DNT	µg/L	< 0.10	< 0.10	6.58	6.65
2,6-DNT	µg/L	< 0.10	< 0.10	6.54	6.33
HMX	µg/L	< 0.10	< 0.10	7.01	6.86
NB	µg/L	< 0.10	< 0.10	6.47	6.29
2-NT	µg/L	< 0.10	< 0.10	6.50	6.24
3-NT	µg/L	< 0.10	< 0.10	6.61	6.38
4-NT	µg/L	< 0.10	< 0.10	6.59	6.33
RDX	µg/L	< 0.10	< 0.10	6.92	6.75
Tetryl	µg/L	< 0.10	< 0.10	6.56	6.56
1,3,5-TNB	µg/L	< 0.10	< 0.10	6.90	6.75
2,4,6-TNT	µg/L	< 0.10	< 0.10	6.68	6.65

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SUMMARY REPORT

CLIENT : PDP Analytical Services
CONTACT : Mr. Bruce Howbert
PROJECT :

JOB NUMBER : H94-2232
REPORT DATE : 26-APR-1994

SAMPLE NO.	ID MARKS	MATRIX	DATE SAMPLED
5	2193.02 LH18624-AW02-1001 QC	Water	30-MAR-1994
6	2192.10 RINSATE PC LH18/24-SB13-0002EB	Water	30-MAR-1994

EXPLOSIVES, EPA 8330		5		6			
1,3-DNB	µg/L	<	0.10	<	0.10		
2,4-DNT	µg/L	<	0.10	<	0.10		
2,6-DNT	µg/L	<	0.10	<	0.10		
HMX	µg/L	<	0.10	<	0.10		
NB	µg/L	<	0.10	<	0.10		
2-NT	µg/L	<	0.10	<	0.10		
3-NT	µg/L	<	0.10	<	0.10		
4-NT	µg/L	<	0.10	<	0.10		
RDX	µg/L	<	0.10	<	0.10		
Tetryl	µg/L	<	0.10	<	0.10		
1,3,5-TNB	µg/L	<	0.10	<	0.10		
2,4,6-TNT	µg/L	<	0.10	<	0.10		

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SUMMARY REPORT

CLIENT : PDP Analytical Services
CONTACT : Mr. Bruce Howbert
PROJECT :

JOB NUMBER : H94-2312
REPORT DATE : 26-APR-1994

SAMPLE NO.	ID MARKS	MATRIX	DATE SAMPLED
1	2195.01 LH18524-AWD1-1001 PS	Water	31-MAR-1994
8	2200.01 LH18524-AWD3-1001 PS	Water	1-APR-1994
9	2200.02 LH18524-124-1001 PS	Water	1-APR-1994
10	2200.03 LH18524-120-1001 PS	Water	1-APR-1994

EXPLOSIVES, EPA 8330		1	8	9	10
1,3-DNB	µg/L	< 0.10 UJ	< 0.10 UJ	< 0.10 UJ	< 0.10 UJ
2,4-DNT	µg/L	< 0.10	< 0.10	< 0.10	0.21 J
2,6-DNT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10 UJ
HMX	µg/L	< 0.10	< 0.10	< 0.10	< 0.10 UJ
NB	µg/L	< 0.10	< 0.10	< 0.10	0.42 J
2-NT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10 UJ
3-NT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
4-NT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
RDX	µg/L	13.0 J	< 0.10	< 0.10	16.0 J
Tetryl	µg/L	< 0.10 UJ	< 0.10	< 0.10	< 0.10 UJ
1,3,5-TNB	µg/L	0.49 J	0.43 J	< 0.10	0.52 J
2,4,6-TNT	µg/L	< 0.10 UJ	< 0.10 UJ	< 0.10	4.70 J

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SUMMARY REPORT

CLIENT : PDP Analytical Services
CONTACT : Mr. Bruce Howbert
PROJECT :

JOB NUMBER : H94-2312
REPORT DATE : 26-APR-1994

SAMPLE NO.	ID MARKS	MATRIX	DATE SAMPLED
11	2200.04 LH18'124-123-1061 PS	Water	1-APR-1994

EXPLOSIVES, EPA 8330		11			
1,3-DNB	µg/L	< 0.10 UJ			
2,4-DNT	µg/L	< 0.10			
2,6-DNT	µg/L	< 0.10			
HMX	µg/L	< 0.10			
NB	µg/L	< 0.10			
2-NT	µg/L	< 0.10			
3-NT	µg/L	< 0.10			
4-NT	µg/L	< 0.10			
RDX	µg/L	< 0.10			
Tetryl	µg/L	< 0.10			
1,3,5-TNB	µg/L	< 0.10			
2,4,6-TNT	µg/L	< 0.10			

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SUMMARY REPORT

CLIENT : PDP Analytical Services
CONTACT : Mr. Bruce Howbert
PROJECT :

JOB NUMBER : H94-2392
REPORT DATE : 29-APR-1994

SAMPLE NO.	ID MARKS	MATRIX	DATE SAMPLED
22	2211.01 LH18&24-MW14-1001 PS	Water	6-APR-1994
23	2211.03 LH18&24-126-1001 PS	Water	6-APR-1994
24	2211.05 LH18&24-100-1001 PS	Water	6-APR-1994
25	2210.01 LH18&24-SPBT4-RS01 PS	Water	6-APR-1994

EXPLOSIVES, EPA 8330		22	23	24	25
1,3-DNB	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
2,4-DNT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
2,6-DNT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
HMX	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
NB	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
2-NT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
3-NT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
4-NT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
RDX	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
Tetryl	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
1,3,5-TNB	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
2,4,6-TNT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10

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SUMMARY REPORT

CLIENT : PDP Analytical Services
CONTACT : Mr. Bruce Howbert
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JOB NUMBER : H94-2392
REPORT DATE : 29-APR-1994

SAMPLE NO.	ID MARKS	MATRIX	DATE SAMPLED
26	2211.06 LH18&24-MW14-1001QC PS	Water	6-APR-1994
27	2209.01 LH18&24-MW12-1001 PS	Water	5-APR-1994
28	2209.02 LH18&24-MW129-1001 PS	Water	5-APR-1994
29	2209.03 LH18&24-MW20 1001 PS	Water	5-APR-1994

EXPLOSIVES, EPA 8330		26	27	28	29
1,3-DNB	µg/L	< 0.10	< 0.10 UJ	< 0.10 UJ	< 0.10 UJ
2,4-DNT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
2,6-DNT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
HMX	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
NB	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
2-NT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
3-NT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
4-NT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
RDX	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
Tetryl	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
1,3,5-TNB	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
2,4,6-TNT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10

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SUMMARY REPORT

CLIENT : PDP Analytical Services
CONTACT : Mr. Bruce Howbert
PROJECT :

JOB NUMBER : H94-2501
REPORT DATE : 3-MAY-1994

SAMPLE NO.	ID MARKS	MATRIX	DATE SAMPLED
1	2213.01 LH18F24-CB-1001 PS	Water	7-APR-1994
2	2213.02 LH18F24-C3-1001 PS	Water	7-APR-1994
3	2213.03 LH18F24-130-1001 PS	Water	7-APR-1994
4	2215.01 ~~LH18F24-XXX-TB~~ PS LH18F24-ENI-1001 PS	Water	9-APR-1994

EXPLOSIVES, EPA 8330		1	2	3	4
1,3-DNB	µg/L	< 0.10 UJ	< 0.10 UJ	< 0.10 UJ	< 0.10
2,4-DNT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
2,6-DNT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
HMX	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
NB	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
2-NT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
3-NT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
4-NT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
RDX	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
Tetryl	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
1,3,5-TNB	µg/L	< 0.10	< 0.10	< 0.10	0.72
2,4,6-TNT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10

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SUMMARY REPORT

CLIENT : PDP Analytical Services
CONTACT : Mr. Bruce Howbert
PROJECT :

JOB NUMBER : H94-2501
REPORT DATE : 3-MAY-1994

SAMPLE NO.	ID MARKS	MATRIX	DATE SAMPLED
5	2215.02 LH18'24-109-1001 PS	Water	9-APR-1994
6	2215.03 LH18'24-MW01-1001 PS	Water	9-APR-1994
7	2215.04 LH18'24-R5-1001 PS	Water	9-APR-1994
8	2216.01 LH18'24-CH-1001 PS	Water	8-APR-1994

EXPLOSIVES, EPA 8330		5	6	7	8
1,3-DNB	µg/L	< 0.10	< 0.10	< 0.10	< 0.10 UJ
2,4-DNT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
2,6-DNT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
HMX	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
NB	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
2-NT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
3-NT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
4-NT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
RDX	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
Tetryl	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
1,3,5-TNB	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
2,4,6-TNT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10

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SUMMARY REPORT

CLIENT : PDP Analytical Services
CONTACT : Mr. Bruce Howbert
PROJECT :

JOB NUMBER : H94-2501
REPORT DATE : 3-MAY-1994

SAMPLE NO.	ID MARKS	MATRIX	DATE SAMPLED
9	2216.02 LH18&24-MW7-1001 PS	Water	8-APR-1994
10	2216.03 LH18&24-MW9-1001 PS	Water	8-APR-1994
11	2216.04 LH18&24-MW8-1001 PS	Water	8-APR-1994
12	2216.05 LH18&24-CHA-1001 PS	Water	8-APR-1994

EXPLOSIVES, EPA 8330		9	10	11	12
1,3-DNB	µg/L	< 0.10 UJ	< 0.10 UJ	< 0.10 UJ	< 0.10 UJ
2,4-DNT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
2,6-DNT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
HMX	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
NB	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
2-NT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
3-NT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
4-NT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
RDX	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
Tetryl	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
1,3,5-TNB	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
2,4,6-TNT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10

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SUMMARY REPORT

CLIENT : PDP Analytical Services
CONTACT : Mr. Bruce Howbert
PROJECT :

JOB NUMBER : H94-2501
REPORT DATE : 3-MAY-1994

SAMPLE NO.	ID MARKS	MATRIX	DATE SAMPLED
13	2216.06 LH18624-GS-1001	Water	8-APR-1994
14	2216.07 LH18624-MW10-1001	Water	8-APR-1994

EXPLOSIVES, EPA 8330		13	14		
1,3-DNB	µg/L	< 0.10 UJ	< 0.10 UJ		
2,4-DNT	µg/L	< 0.10	< 0.10		
2,6-DNT	µg/L	< 0.10	< 0.10		
HMX	µg/L	< 0.10	< 0.10		
NB	µg/L	< 0.10	< 0.10		
2-NT	µg/L	< 0.10	< 0.10		
3-NT	µg/L	< 0.10	< 0.10		
4-NT	µg/L	< 0.10	< 0.10		
RDX	µg/L	< 0.10	< 0.10		
Tetryl	µg/L	< 0.10	< 0.10		
1,3,5-TNB	µg/L	< 0.10	< 0.10		
2,4,6-TNT	µg/L	< 0.10	< 0.10		

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SUMMARY REPORT

CLIENT : PDP Analytical Services
CONTACT : Mr. Bruce Howbert
PROJECT :

JOB NUMBER : H94-2541
REPORT DATE : 6-MAY-1994

SAMPLE NO.	ID MARKS	MATRIX	DATE SAMPLED
1	2219.01 LH18/24-MW2-1001 PS	Water	11-APR-1994
2	2219.02 LH18/24-MW2-1001QL PS	Water	11-APR-1994
3	2219.03 LH18/24-MW3-1001 PS	Water	11-APR-1994
4	2221.01 LH18/24-MW4-1001 PS	Water	12-APR-1994

EXPLOSIVES, EPA 8330		1	2	3	4
1,3-DNB	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
2,4-DNT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
2,6-DNT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
HMX	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
NB	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
2-NT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
3-NT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
4-NT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
RDX	µg/L	1.57 J	29.0 J	< 0.10	< 0.10
Tetryl	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
1,3,5-TNB	µg/L	< 0.10 UJ	2.41 J	0.39	< 0.10
2,4,6-TNT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10

WATERS

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SUMMARY REPORT

CLIENT : PDP Analytical Services
CONTACT : Mr. Bruce Howbert
PROJECT :

JOB NUMBER : H94-2541
REPORT DATE : 6-MAY-1994

SAMPLE NO.	ID MARKS	MATRIX	DATE SAMPLED
5	2221.02 LHH8124-[illegible]-1001 PS	Water	12-APR-1994
6	2221.03 LHH8124-MW23-1001 PS	Water	12-APR-1994
7	2221.04 LHH8124-MW22-1001 PS	Water	12-APR-1994
8	2221.05 LHH8124-MW24-1001 PS	Water	12-APR-1994

EXPLOSIVES, EPA 8330		5	6	7	8
1,3-DNB	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
2,4-DNT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
2,6-DNT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
HMX	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
NB	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
2-NT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
3-NT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
4-NT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
RDX	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
Tetryl	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
1,3,5-TNB	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
2,4,6-TNT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10

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SUMMARY REPORT

CLIENT : PDP Analytical Services
CONTACT : Mr. Bruce Howbert
PROJECT :

JOB NUMBER : H94-2541
REPORT DATE : 6-MAY-1994

SAMPLE NO.	ID MARKS	MATRIX	DATE SAMPLED
9	2221.06 L4418/24-MW15-1001 PS	Water	12-APR-1994
10	2221.07 L4418/24-MW23-EB PS	Water	12-APR-1994
11	2221.08 L4418/24-MW5-1001 PS	Water	12-APR-1994
12	2221.09 L4418/24-MW5-1001QC PS	Water	12-APR-1994

EXPLOSIVES, EPA 8330		9	10	11	12
1,3-DNB	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
2,4-DNT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
2,6-DNT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
HMX	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
NB	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
2-NT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
3-NT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
4-NT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
RDX	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
Tetryl	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
1,3,5-TNB	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
2,4,6-TNT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10

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SUMMARY REPORT

CLIENT : PDP Analytical Services
CONTACT : Mr. Bruce Howbert
PROJECT :

JOB NUMBER : H94-2670
REPORT DATE : 9-MAY-1994

SAMPLE NO.	ID MARKS	MATRIX	DATE SAMPLED
1	2224.01 LH18/24-MW16-1001 PS	Water	13-APR-1994
2	2224.02 LH18/24-MW19-1001 PS	Water	13-APR-1994
3	2224.03 LH18/24-C2-1001 PS	Water	13-APR-1994
4	2224.04 LH18/24-AW04-1001 PS	Water	13-APR-1994

EXPLOSIVES, EPA 8330		1	2	3	4
1,3-DNB	µg/L	< 0.10 UJ	< 0.10 UJ	< 0.10 UJ	< 0.10 UJ
2,4-DNT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
2,6-DNT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
HMX	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
NB	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
2-NT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
3-NT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
4-NT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
RDX	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
Tetryl	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
1,3,5-TNB	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
2,4,6-TNT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10

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SUMMARY REPORT

CLIENT : PDP Analytical Services
CONTACT : Mr. Bruce Howbert
PROJECT :

JOB NUMBER : H94-2670
REPORT DATE : 9-MAY-1994

SAMPLE NO.	ID MARKS	MATRIX	DATE SAMPLED
5	2224.05 LH18124-MW03-1001 PS	Water	13-APR-1994
6	2224.06 LH18124-MW11-1001 PS	Water	13-APR-1994

EXPLOSIVES, EPA 8330		5	6		
1,3-DNB	µg/L	< 0.10 UJ	< 0.10 UJ		
2,4-DNT	µg/L	< 0.10	< 0.10		
2,6-DNT	µg/L	< 0.10	< 0.10		
HMX	µg/L	< 0.10	< 0.10		
NB	µg/L	< 0.10	< 0.10		
2-NT	µg/L	< 0.10	< 0.10		
3-NT	µg/L	< 0.10	< 0.10		
4-NT	µg/L	< 0.10	< 0.10		
RDX	µg/L	< 0.10	< 0.10		
Tetryl	µg/L	< 0.10	< 0.10		
1,3,5-TNB	µg/L	< 0.10	< 0.10		
2,4,6-TNT	µg/L	< 0.10	< 0.10		

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SUMMARY REPORT

CLIENT : PDP Analytical Services
CONTACT : Mr. Bruce Howbert
PROJECT :

JOB NUMBER : H94-2680
REPORT DATE : 9-MAY-1994

SAMPLE NO.	ID MARKS	MATRIX	DATE SAMPLED
1	2226.01 LH18/24-C7-1001 PS	Water	14-APR-1994
2	2226.02 LH18/24-C7-1001 QC PS	Water	14-APR-1994
3	2226.03 LH18/24-MW16-1001 PS	Water	14-APR-1994
4	2226.04 LH18/24-C10-1001 PS	Water	14-APR-1994

EXPLOSIVES, EPA 8330		1	2	3	4
1,3-DNB	µg/L	< 0.10	< 0.10	< 0.10	1.39
2,4-DNT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
2,6-DNT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
HMX	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
NB	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
2-NT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
3-NT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
4-NT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
RDX	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
Tetryl	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
1,3,5-TNB	µg/L	0.63 J	< 0.10 UJ	< 0.10	< 0.10
2,4,6-TNT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10

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SUMMARY REPORT

CLIENT : PDP Analytical Services
CONTACT : Mr. Bruce Howbert
PROJECT :

JOB NUMBER : H94-2680
REPORT DATE : 9-MAY-1994

SAMPLE NO.	ID MARKS	MATRIX	DATE SAMPLED
5	2226.05 LH18/24-CL-1001 PS	Water	14-APR-1994
6	2226.06 LH18/24-CL-1001QC PS	Water	14-APR-1994
7	2227.01 LH18/24-MW18-1001 PS	Water	15-APR-1994
8	2227.02 LH18/24-MW18-1001EB PS	Water	15-APR-1994

EXPLOSIVES, EPA 8330		5	6	7	8
1,3-DNB	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
2,4-DNT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
2,6-DNT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
HMX	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
NB	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
2-NT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
3-NT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
4-NT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
RDX	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
Tetryl	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
1,3,5-TNB	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
2,4,6-TNT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10

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SUMMARY REPORT

CLIENT : PDP Analytical Services
CONTACT : Mr. Bruce Howbert
PROJECT :

JOB NUMBER : H94-2680
REPORT DATE : 9-MAY-1994

SAMPLE NO.	ID MARKS	MATRIX	DATE SAMPLED
9	2227.03 LH18124-MW17-1001 PS	Water	15-APR-1994
10	2227.04 LH18124-C9-1001 PS	Water	15-APR-1994

EXPLOSIVES, EPA 8330		9	10		
1,3-DNB	µg/L	< 0.10	< 0.10		
2,4-DNT	µg/L	< 0.10	< 0.10		
2,6-DNT	µg/L	< 0.10	< 0.10		
HMX	µg/L	< 0.10	< 0.10		
NB	µg/L	< 0.10	< 0.10		
2-NT	µg/L	< 0.10	< 0.10		
3-NT	µg/L	< 0.10	< 0.10		
4-NT	µg/L	< 0.10	< 0.10		
RDX	µg/L	< 0.10	< 0.10		
Tetryl	µg/L	< 0.10	< 0.10		
1,3,5-TNB	µg/L	< 0.10	< 0.10		
2,4,6-TNT	µg/L	< 0.10	< 0.10		

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APPENDIX A
RESULTS AS REPORTED BY THE LABORATORY

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SUMMARY REPORT

CLIENT : PDP Analytical Services
CONTACT : Mr. Bruce Howbert
PROJECT :

JOB NUMBER : H94-2213
REPORT DATE : 26-APR-1994

SAMPLE NO.	ID MARKS	MATRIX	DATE SAMPLED
1	2189.01 LH18-C1-1001 PS	Water	29-MAR-1994
2	2188.05 RINSATE PS	Water	29-MAR-1994

EXPLOSIVES, EPA 8330		1	2		
1,3-DNB	µg/L	< 0.10	< 0.10		
2,4-DNT	µg/L	< 0.10	< 0.10		
2,6-DNT	µg/L	< 0.10	< 0.10		
HMX	µg/L	< 0.10	< 0.10		
NB	µg/L	< 0.10	< 0.10		
2-NT	µg/L	< 0.10	< 0.10		
3-NT	µg/L	< 0.10	< 0.10		
4-NT	µg/L	< 0.10	< 0.10		
RDX	µg/L	< 0.10	< 0.10		
Tetryl	µg/L	< 0.10	< 0.10		
1,3,5-TNB	µg/L	< 0.10	< 0.10		
2,4,6-TNT	µg/L	< 0.10	< 0.10		

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SUMMARY REPORT

CLIENT : PDP Analytical Services
CONTACT : Mr. Bruce Howbert
PROJECT :

JOB NUMBER : H94-2232
REPORT DATE : 26-APR-1994

SAMPLE NO.	ID MARKS	MATRIX	DATE SAMPLED
1	2193.01 LH18'24-AWD2-1001 PS	Water	30-MAR-1994
2	2193.02 LH18'24-AWD2-1001 QC PS	Water	30-MAR-1994
3	2193.01/Matrix Spike LH18'24-AWD2-1001 PS	Water	30-MAR-1994
4	2193.01/Matrix Spike Duplicate LH18'24-AWD2-1001 PS QC	Water	30-MAR-1994

EXPLOSIVES, EPA 8330		1	2	3	4
1,3-DNB	µg/L	< 0.10	< 0.10	6.75	6.71
2,4-DNT	µg/L	< 0.10	< 0.10	6.58	6.65
2,6-DNT	µg/L	< 0.10	< 0.10	6.54	6.33
HMX	µg/L	< 0.10	< 0.10	7.01	6.86
NB	µg/L	< 0.10	< 0.10	6.47	6.29
2-NT	µg/L	< 0.10	< 0.10	6.50	6.24
3-NT	µg/L	< 0.10	< 0.10	6.61	6.38
4-NT	µg/L	< 0.10	< 0.10	6.59	6.33
RDX	µg/L	< 0.10	< 0.10	6.92	6.75
Tetryl	µg/L	< 0.10	< 0.10	6.56	6.56
1,3,5-TNB	µg/L	< 0.10	< 0.10	6.90	6.75
2,4,6-TNT	µg/L	< 0.10	< 0.10	6.68	6.65

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SUMMARY REPORT

CLIENT : PDP Analytical Services
CONTACT : Mr. Bruce Howbert
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JOB NUMBER : H94-2232
REPORT DATE : 26-APR-1994

SAMPLE NO.	ID MARKS	MATRIX	DATE SAMPLED
5	2193.02 LH18624-AWD2-1001 QL	Water	30-MAR-1994
6	2192.10 RINSATE PC LH18/24-SBT3-0002EB	Water	30-MAR-1994

EXPLOSIVES, EPA 8330		5		6			
1,3-DNB	µg/L	<	0.10	<	0.10		
2,4-DNT	µg/L	<	0.10	<	0.10		
2,6-DNT	µg/L	<	0.10	<	0.10		
HMX	µg/L	<	0.10	<	0.10		
NB	µg/L	<	0.10	<	0.10		
2-NT	µg/L	<	0.10	<	0.10		
3-NT	µg/L	<	0.10	<	0.10		
4-NT	µg/L	<	0.10	<	0.10		
RDX	µg/L	<	0.10	<	0.10		
Tetryl	µg/L	<	0.10	<	0.10		
1,3,5-TNB	µg/L	<	0.10	<	0.10		
2,4,6-TNT	µg/L	<	0.10	<	0.10		

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SUMMARY REPORT

CLIENT : PDP Analytical Services
CONTACT : Mr. Bruce Howbert
PROJECT :

JOB NUMBER : H94-2312
REPORT DATE : 26-APR-1994

SAMPLE NO.	ID MARKS	MATRIX	DATE SAMPLED
1	2195.01 LH18424-AWD1-1001 PS	Water	31-MAR-1994
8	2200.01 LH18424-AWD3-1001 PS	Water	1-APR-1994
9	2200.02 LH18424-124-1001 PS	Water	1-APR-1994
10	2200.03 LH18424-120-1001 PS	Water	1-APR-1994

EXPLOSIVES, EPA 8330		1	8	9	10
1,3-DNB	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
2,4-DNT	µg/L	< 0.10	< 0.10	< 0.10	0.21
2,6-DNT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
HMX	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
NB	µg/L	< 0.10	< 0.10	< 0.10	0.42
2-NT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
3-NT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
4-NT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
RDX	µg/L	13.0	< 0.10	< 0.10	16.0
Tetryl	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
1,3,5-TNB	µg/L	0.49	0.43	< 0.10	0.52
2,4,6-TNT	µg/L	< 0.10	< 0.10	< 0.10	4.70

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SUMMARY REPORT

CLIENT : PDP Analytical Services
CONTACT : Mr. Bruce Howbert
PROJECT :

JOB NUMBER : H94-2312
REPORT DATE : 26-APR-1994

SAMPLE NO.	ID MARKS	MATRIX	DATE SAMPLED
11	2200.04 LH18'124-123-1001 PS	Water	1-APR-1994

EXPLOSIVES, EPA 8330		11			
1,3-DNB	µg/L	< 0.10			
2,4-DNT	µg/L	< 0.10			
2,6-DNT	µg/L	< 0.10			
HMX	µg/L	< 0.10			
NB	µg/L	< 0.10			
2-NT	µg/L	< 0.10			
3-NT	µg/L	< 0.10			
4-NT	µg/L	< 0.10			
RDX	µg/L	< 0.10			
Tetryl	µg/L	< 0.10			
1,3,5-TNB	µg/L	< 0.10			
2,4,6-TNT	µg/L	< 0.10			

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SUMMARY REPORT

CLIENT : PDP Analytical Services
CONTACT : Mr. Bruce Howbert
PROJECT :

JOB NUMBER : H94-2392
REPORT DATE : 29-APR-1994

SAMPLE NO.	ID MARKS	MATRIX	DATE SAMPLED
22	2211.01 LH18&24-MW14-1001 PS	Water	6-APR-1994
23	2211.03 LH18&24-126-1001 PS	Water	6-APR-1994
24	2211.05 LH18&24-108-1001 PS	Water	6-APR-1994
25	2210.01 LH18&24-SPBT4-RS01 PS	Water	6-APR-1994

EXPLOSIVES, EPA 8330		22	23	24	25
1,3-DNB	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
2,4-DNT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
2,6-DNT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
HMX	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
NB	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
2-NT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
3-NT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
4-NT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
RDX	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
Tetryl	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
1,3,5-TNB	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
2,4,6-TNT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10

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SUMMARY REPORT

CLIENT : PDP Analytical Services
CONTACT : Mr. Bruce Howbert
PROJECT :

JOB NUMBER : H94-2392
REPORT DATE : 29-APR-1994

SAMPLE NO.	ID MARKS	MATRIX	DATE SAMPLED
26	2211.06 LH18&24-MW14-1001QC PS	Water	6-APR-1994
27	2209.01 LH18&24-MW12-1001 PS	Water	5-APR-1994
28	2209.02 LH18&24-MW29-1001 PS	Water	5-APR-1994
29	2209.03 LH18&24-MW20 1001 PS	Water	5-APR-1994

EXPLOSIVES, EPA 8330		26	27	28	29
1,3-DNB	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
2,4-DNT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
2,6-DNT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
HMX	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
NB	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
2-NT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
3-NT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
4-NT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
RDX	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
Tetryl	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
1,3,5-TNB	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
2,4,6-TNT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10

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SUMMARY REPORT

CLIENT : PDP Analytical Services
CONTACT : Mr. Bruce Howbert
PROJECT :

JOB NUMBER : H94-2501
REPORT DATE : 3-MAY-1994

SAMPLE NO.	ID MARKS	MATRIX	DATE SAMPLED
1	2213.01 LH18F24-CB-1001 PS	Water	7-APR-1994
2	2213.02 LH18F24-C3-1001 PS	Water	7-APR-1994
3	2213.03 LH18F24-130-1001 PS	Water	7-APR-1994
4	2215.01 ~~LH18F24-XXX-TB~~ PS LH18F24-ENI-1001 PS	Water	9-APR-1994

EXPLOSIVES, EPA 8330		1	2	3	4
1,3-DNB	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
2,4-DNT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
2,6-DNT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
HMX	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
NB	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
2-NT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
3-NT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
4-NT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
RDX	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
Tetryl	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
1,3,5-TNB	µg/L	< 0.10	< 0.10	< 0.10	0.72
2,4,6-TNT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10

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SUMMARY REPORT

CLIENT : PDP Analytical Services
CONTACT : Mr. Bruce Howbert
PROJECT :

JOB NUMBER : H94-2501
REPORT DATE : 3-MAY-1994

SAMPLE NO.	ID MARKS	MATRIX	DATE SAMPLED
5	2215.02 LH18'24-109-1001 PS	Water	9-APR-1994
6	2215.03 LH18'24-MW01-1001 PS	Water	9-APR-1994
7	2215.04 LH18'24-125-1001 PS	Water	9-APR-1994
8	2216.01 LH18'24-CH-1001 PS	Water	8-APR-1994

EXPLOSIVES, EPA 8330		5	6	7	8
1,3-DNB	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
2,4-DNT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
2,6-DNT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
HMX	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
NB	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
2-NT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
3-NT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
4-NT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
RDX	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
Tetryl	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
1,3,5-TNB	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
2,4,6-TNT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10

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SUMMARY REPORT

CLIENT : PDP Analytical Services
CONTACT : Mr. Bruce Howbert
PROJECT :

JOB NUMBER : H94-2501
REPORT DATE : 3-MAY-1994

SAMPLE NO.	ID MARKS	MATRIX	DATE SAMPLED
9	2216.02 LH18&24-MW7-1001 PS	Water	8-APR-1994
10	2216.03 LH18&24-MW9-1001 PS	Water	8-APR-1994
11	2216.04 LH18&24-MW8-1001 PS	Water	8-APR-1994
12	2216.05 LH18&24-CHA-1001 PS	Water	8-APR-1994

EXPLOSIVES, EPA 8330		9	10	11	12
1,3-DNB	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
2,4-DNT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
2,6-DNT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
HMX	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
NB	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
2-NT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
3-NT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
4-NT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
RDX	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
Tetryl	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
1,3,5-TNB	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
2,4,6-TNT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10

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SUMMARY REPORT

CLIENT : PDP Analytical Services
CONTACT : Mr. Bruce Howbert
PROJECT :

JOB NUMBER : H94-2501
REPORT DATE : 3-MAY-1994

SAMPLE NO.	ID MARKS	MATRIX	DATE SAMPLED
13	2216.06 LH18624-CS-1001	Water	8-APR-1994
14	2216.07 LH18624-MW10-1001	Water	8-APR-1994

EXPLOSIVES, EPA 8330		13	14		
1,3-DNB	µg/L	< 0.10	< 0.10		
2,4-DNT	µg/L	< 0.10	< 0.10		
2,6-DNT	µg/L	< 0.10	< 0.10		
HMX	µg/L	< 0.10	< 0.10		
NB	µg/L	< 0.10	< 0.10		
2-NT	µg/L	< 0.10	< 0.10		
3-NT	µg/L	< 0.10	< 0.10		
4-NT	µg/L	< 0.10	< 0.10		
RDX	µg/L	< 0.10	< 0.10		
Tetryl	µg/L	< 0.10	< 0.10		
1,3,5-TNB	µg/L	< 0.10	< 0.10		
2,4,6-TNT	µg/L	< 0.10	< 0.10		

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SUMMARY REPORT

CLIENT : PDP Analytical Services
CONTACT : Mr. Bruce Howbert
PROJECT :

JOB NUMBER : H94-2541
REPORT DATE : 6-MAY-1994

SAMPLE NO.	ID MARKS	MATRIX	DATE SAMPLED
1	2219.01 LH18/24-MW2-1001 PS	Water	11-APR-1994
2	2219.02 LH18/24-MW2-1001QC PS	Water	11-APR-1994
3	2219.03 LH18/24-MW3-1001 PS	Water	11-APR-1994
4	2221.01 LH18/24-MW4-1001 PS	Water	12-APR-1994

EXPLOSIVES, EPA 8330		1	2	3	4
1,3-DNB	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
2,4-DNT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
2,6-DNT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
HMX	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
NB	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
2-NT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
3-NT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
4-NT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
RDX	µg/L	1.57	29.0	< 0.10	< 0.10
Tetryl	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
1,3,5-TNB	µg/L	< 0.10	2.41	0.39	< 0.10
2,4,6-TNT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10

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SUMMARY REPORT

CLIENT : PDP Analytical Services
CONTACT : Mr. Bruce Howbert
PROJECT :

JOB NUMBER : H94-2541
REPORT DATE : 6-MAY-1994

SAMPLE NO.	ID MARKS	MATRIX	DATE SAMPLED
5	2221.02 LH18/24-[illegible]-1001 PS	Water	12-APR-1994
6	2221.03 LH18/24-mw23-1001 PS	Water	12-APR-1994
7	2221.04 LH18/24-mw22-1001 PS	Water	12-APR-1994
8	2221.05 LH18/24-mw21-1001 PS	Water	12-APR-1994

EXPLOSIVES, EPA 8330		5	6	7	8
1,3-DNB	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
2,4-DNT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
2,6-DNT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
HMX	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
NB	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
2-NT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
3-NT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
4-NT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
RDX	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
Tetryl	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
1,3,5-TNB	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
2,4,6-TNT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10

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SUMMARY REPORT

CLIENT : PDP Analytical Services
CONTACT : Mr. Bruce Howbert
PROJECT :

JOB NUMBER : H94-2541
REPORT DATE : 6-MAY-1994

SAMPLE NO.	ID MARKS	MATRIX	DATE SAMPLED
9	2221.06 L4418/24-MW15-100 PS	Water	12-APR-1994
10	2221.07 L4418/24-MW23-EB PS	Water	12-APR-1994
11	2221.08 L4418/24-MW5-1001 PS	Water	12-APR-1994
12	2221.09 L4418/24-MW5-1001DC PS	Water	12-APR-1994

EXPLOSIVES, EPA 8330		9	10	11	12
1,3-DNB	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
2,4-DNT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
2,6-DNT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
HMX	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
NB	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
2-NT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
3-NT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
4-NT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
RDX	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
Tetryl	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
1,3,5-TNB	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
2,4,6-TNT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10

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SUMMARY REPORT

CLIENT : PDP Analytical Services
CONTACT : Mr. Bruce Howbert
PROJECT :

JOB NUMBER : H94-2670
REPORT DATE : 9-MAY-1994

SAMPLE NO.	ID MARKS	MATRIX	DATE SAMPLED
1	2224.01 LH18/24-MW6-1001 PS	Water	13-APR-1994
2	2224.02 LH18/24-MW19-1001 PS	Water	13-APR-1994
3	2224.03 LH18/24-C2-1001 PS	Water	13-APR-1994
4	2224.04 LH18/24-AW04-1001 PS	Water	13-APR-1994

EXPLOSIVES, EPA 8330		1	2	3	4
1,3-DNB	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
2,4-DNT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
2,6-DNT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
HMX	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
NB	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
2-NT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
3-NT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
4-NT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
RDX	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
Tetryl	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
1,3,5-TNB	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
2,4,6-TNT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10

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SUMMARY REPORT

CLIENT : PDP Analytical Services
CONTACT : Mr. Bruce Howbert
PROJECT :

JOB NUMBER : H94-2670
REPORT DATE : 9-MAY-1994

SAMPLE NO.	ID MARKS	MATRIX	DATE SAMPLED
5	2224.05 LH18124-MW8-1001 PS	Water	13-APR-1994
6	2224.06 LH18124-MW11-1001 PS	Water	13-APR-1994

EXPLOSIVES, EPA 8330		5	6		
1,3-DNB	µg/L	< 0.10	< 0.10		
2,4-DNT	µg/L	< 0.10	< 0.10		
2,6-DNT	µg/L	< 0.10	< 0.10		
HMX	µg/L	< 0.10	< 0.10		
NB	µg/L	< 0.10	< 0.10		
2-NT	µg/L	< 0.10	< 0.10		
3-NT	µg/L	< 0.10	< 0.10		
4-NT	µg/L	< 0.10	< 0.10		
RDX	µg/L	< 0.10	< 0.10		
Tetryl	µg/L	< 0.10	< 0.10		
1,3,5-TNB	µg/L	< 0.10	< 0.10		
2,4,6-TNT	µg/L	< 0.10	< 0.10		

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SUMMARY REPORT

CLIENT : PDP Analytical Services
CONTACT : Mr. Bruce Howbert
PROJECT :

JOB NUMBER : H94-2680
REPORT DATE : 9-MAY-1994

SAMPLE NO.	ID MARKS	MATRIX	DATE SAMPLED
1	2226.01 LH18124-C7-1001 PS	Water	14-APR-1994
2	2226.02 LH18124-C7-1001 QC PS	Water	14-APR-1994
3	2226.03 LH18124-MW16-1001 PS	Water	14-APR-1994
4	2226.04 LH18124-C10-1001 PS	Water	14-APR-1994

EXPLOSIVES, EPA 8330		1	2	3	4
1,3-DNB	µg/L	< 0.10	< 0.10	< 0.10	1.39
2,4-DNT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
2,6-DNT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
HMX	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
NB	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
2-NT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
3-NT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
4-NT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
RDX	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
Tetryl	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
1,3,5-TNB	µg/L	0.63	< 0.10	< 0.10	< 0.10
2,4,6-TNT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10

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SUMMARY REPORT

CLIENT : PDP Analytical Services
CONTACT : Mr. Bruce Howbert
PROJECT :

JOB NUMBER : H94-2680
REPORT DATE : 9-MAY-1994

SAMPLE NO.	ID MARKS	MATRIX	DATE SAMPLED
5	2226.05 LH18/24-CL-1001 PS	Water	14-APR-1994
6	2226.06 LH18/24-CL-1001QC PS	Water	14-APR-1994
7	2227.01 LH18/24-MW18-1001 PS	Water	15-APR-1994
8	2227.02 LH18/24-MW18-1001EB DS	Water	15-APR-1994

EXPLOSIVES, EPA 8330		5	6	7	8
1,3-DNB	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
2,4-DNT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
2,6-DNT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
HMX	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
NB	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
2-NT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
3-NT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
4-NT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
RDX	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
Tetryl	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
1,3,5-TNB	µg/L	< 0.10	< 0.10	< 0.10	< 0.10
2,4,6-TNT	µg/L	< 0.10	< 0.10	< 0.10	< 0.10

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01144

SUMMARY REPORT

CLIENT : PDP Analytical Services
CONTACT : Mr. Bruce Howbert
PROJECT :

JOB NUMBER : H94-2680
REPORT DATE : 9-MAY-1994

SAMPLE NO.	ID MARKS	MATRIX	DATE SAMPLED
9	2227.03 LH18124-MW17-1001 Ps	Water	15-APR-1994
10	2227.04 LH18124-C9-1001 Ps	Water	15-APR-1994

EXPLOSIVES, EPA 8330		9		10			
1,3-DNB	µg/L	<	0.10	<	0.10		
2,4-DNT	µg/L	<	0.10	<	0.10		
2,6-DNT	µg/L	<	0.10	<	0.10		
HMX	µg/L	<	0.10	<	0.10		
NB	µg/L	<	0.10	<	0.10		
2-NT	µg/L	<	0.10	<	0.10		
3-NT	µg/L	<	0.10	<	0.10		
4-NT	µg/L	<	0.10	<	0.10		
RDX	µg/L	<	0.10	<	0.10		
Tetryl	µg/L	<	0.10	<	0.10		
1,3,5-TNB	µg/L	<	0.10	<	0.10		
2,4,6-TNT	µg/L	<	0.10	<	0.10		

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APPENDIX B
SUPPORT DOCUMENTATION

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DATE RECEIVED : 5-APR-1994

REPORT NUMBER : H94-2312-1
REPORT DATE : 26-APR-1994

SAMPLE SUBMITTED BY : PDP Analytical Services
ADDRESS : 24900 Pitkin Dr. Suite 300
: Spring, TX 77386
ATTENTION : Mr. Bruce Howbert

SAMPLE MATRIX : Water
ID MARKS : 2195.01 LH 18-24-AWA1-1001 PS
DATE SAMPLED : 31-MAR-1994
ANALYSIS METHOD : EPA 8330

EXPLOSIVES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,3-DNB	0.10 µg/L	< 0.10 µg/L
2,4-DNT	0.10 µg/L	< 0.10 µg/L
2,6-DNT	0.10 µg/L	< 0.10 µg/L
HMX	0.10 µg/L	< 0.10 µg/L
NB	0.10 µg/L	< 0.10 µg/L
2-NT	0.10 µg/L	< 0.10 µg/L
3-NT	0.10 µg/L	< 0.10 µg/L
4-NT	0.10 µg/L	< 0.10 µg/L
RDX	0.10 µg/L	13.0 µg/L
Tetryl	0.10 µg/L	< 0.10 µg/L
1,3,5-TNB	0.10 µg/L	0.49 µg/L
2,4,6-TNT	0.10 µg/L	< 0.10 µg/L

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
3,4-DNT	7.0 µg/L	140 %

- flag positive hits as estimated

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DATE RECEIVED : 18-APR-1994

REPORT NUMBER : H94-2680-1
REPORT DATE : 9-MAY-1994

SAMPLE SUBMITTED BY : PDP Analytical Services
ADDRESS : 24900 Pitkin Dr. Suite 300
: Spring, TX 77386
ATTENTION : Mr. Bruce Howbert

SAMPLE MATRIX : Water
ID MARKS : 2226.01 LH18124-C7-1001 PS
DATE SAMPLED : 14-APR-1994
ANALYSIS METHOD : EPA 8330

EXPLOSIVES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,3-DNB	0.10 µg/L	< 0.10 µg/L
2,4-DNT	0.10 µg/L	< 0.10 µg/L
2,6-DNT	0.10 µg/L	< 0.10 µg/L
HMX	0.10 µg/L	< 0.10 µg/L
NB	0.10 µg/L	< 0.10 µg/L
2-NT	0.10 µg/L	< 0.10 µg/L
3-NT	0.10 µg/L	< 0.10 µg/L
4-NT	0.10 µg/L	< 0.10 µg/L
RDX	0.10 µg/L	< 0.10 µg/L
Tetryl	0.10 µg/L	< 0.10 µg/L
1,3,5-TNB	0.10 µg/L	0.63 µg/L
2,4,6-TNT	0.10 µg/L	< 0.10 µg/L

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
3,4-DNT	7.0 µg/L	130 %

- flag positive hits as estimated

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DATE RECEIVED : 12-APR-1994

REPORT NUMBER : H94-2501-2
REPORT DATE : 3-MAY-1994

SAMPLE SUBMITTED BY : PDP Analytical Services
ADDRESS : 24900 Pitkin Dr. Suite 300
: Spring, TX 77386
ATTENTION : Mr. Bruce Howbert

SAMPLE MATRIX : Water
ID MARKS : 2213.02 Lighthead C3-1001
DATE SAMPLED : 7-APR-1994
ANALYSIS METHOD : EPA 8330

EXPLOSIVES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,3-DNB	0.10 µg/L	< 0.10 µg/L
2,4-DNT	0.10 µg/L	< 0.10 µg/L
2,6-DNT	0.10 µg/L	< 0.10 µg/L
HMX	0.10 µg/L	< 0.10 µg/L
NB	0.10 µg/L	< 0.10 µg/L
2-NT	0.10 µg/L	< 0.10 µg/L
3-NT	0.10 µg/L	< 0.10 µg/L
4-NT	0.10 µg/L	< 0.10 µg/L
RDX	0.10 µg/L	< 0.10 µg/L
Tetryl	0.10 µg/L	< 0.10 µg/L
1,3,5-TNB	0.10 µg/L	< 0.10 µg/L
2,4,6-TNT	0.10 µg/L	< 0.10 µg/L

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
3,4-DNT	7.0 µg/L	137 %

– all compounds are non detect
⇒ no flags

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DATE RECEIVED : 12-APR-1994

REPORT NUMBER : H94-2501-8
REPORT DATE : 3-MAY-1994

SAMPLE SUBMITTED BY : PDP Analytical Services
ADDRESS : 24900 Pitkin Dr. Suite 300
: Spring, TX 77386
ATTENTION : Mr. Bruce Howbert

SAMPLE MATRIX : Water
ID MARKS : 2216.01 LH19624-CH-1001
DATE SAMPLED : 8-APR-1994
ANALYSIS METHOD : EPA 8330

EXPLOSIVES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,3-DNB	0.10 µg/L	< 0.10 µg/L
2,4-DNT	0.10 µg/L	< 0.10 µg/L
2,6-DNT	0.10 µg/L	< 0.10 µg/L
HMX	0.10 µg/L	< 0.10 µg/L
NB	0.10 µg/L	< 0.10 µg/L
2-NT	0.10 µg/L	< 0.10 µg/L
3-NT	0.10 µg/L	< 0.10 µg/L
4-NT	0.10 µg/L	< 0.10 µg/L
RDX	0.10 µg/L	< 0.10 µg/L
Tetryl	0.10 µg/L	< 0.10 µg/L
1,3,5-TNB	0.10 µg/L	< 0.10 µg/L
2,4,6-TNT	0.10 µg/L	< 0.10 µg/L

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
3,4-DNT	7.0 µg/L	133 %

- all compounds are non-detect
⇒ no flags

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DATE RECEIVED : 12-APR-1994

REPORT NUMBER : H94-2501-14
REPORT DATE : 3-MAY-1994

SAMPLE SUBMITTED BY : PDP Analytical Services
ADDRESS : 24900 Pitkin Dr. Suite 300
: Spring, TX 77386
ATTENTION : Mr. Bruce Howbert

SAMPLE MATRIX : Water
ID MARKS : 2216.07 LH18&24-MW10 1001 PC
DATE SAMPLED : 8-APR-1994
ANALYSIS METHOD : EPA 8330

EXPLOSIVES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,3-DNB	0.10 µg/L	< 0.10 µg/L
2,4-DNT	0.10 µg/L	< 0.10 µg/L
2,6-DNT	0.10 µg/L	< 0.10 µg/L
HMX	0.10 µg/L	< 0.10 µg/L
NB	0.10 µg/L	< 0.10 µg/L
2-NT	0.10 µg/L	< 0.10 µg/L
3-NT	0.10 µg/L	< 0.10 µg/L
4-NT	0.10 µg/L	< 0.10 µg/L
RDX	0.10 µg/L	< 0.10 µg/L
Tetryl	0.10 µg/L	< 0.10 µg/L
1,3,5-TNB	0.10 µg/L	< 0.10 µg/L
2,4,6-TNT	0.10 µg/L	< 0.10 µg/L

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
3,4-DNT	7.0 µg/L	117 %

- all compounds are non-detect
⇒ no flags

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DATE RECEIVED : 13-APR-1994

REPORT NUMBER : H94-2541-4
REPORT DATE : 6-MAY-1994

SAMPLE SUBMITTED BY : PDP Analytical Services
ADDRESS : 24900 Pitkin Dr. Suite 300
: Spring, TX 77386
ATTENTION : Mr. Bruce Howbert

SAMPLE MATRIX : Water
ID MARKS : 2221.01 LHW 12u-mw34-1001 PC
DATE SAMPLED : 12-APR-1994
ANALYSIS METHOD : EPA 8330

EXPLOSIVES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,3-DNB	0.10 µg/L	< 0.10 µg/L
2,4-DNT	0.10 µg/L	< 0.10 µg/L
2,6-DNT	0.10 µg/L	< 0.10 µg/L
HMX	0.10 µg/L	< 0.10 µg/L
NB	0.10 µg/L	< 0.10 µg/L
2-NT	0.10 µg/L	< 0.10 µg/L
3-NT	0.10 µg/L	< 0.10 µg/L
4-NT	0.10 µg/L	< 0.10 µg/L
RDX	0.10 µg/L	< 0.10 µg/L
Tetryl	0.10 µg/L	< 0.10 µg/L
1,3,5-TNB	0.10 µg/L	< 0.10 µg/L
2,4,6-TNT	0.10 µg/L	< 0.10 µg/L

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
3,4-DNT	7.0 µg/L	118 %

- all compounds are non-detect
⇒ no flags

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DATE RECEIVED: 5-APR-1994

REPORT NUMBER: H94-2312.1-25
REPORT DATE: 27-APR-1994

SAMPLE SUBMITTED BY: PDP Analytical Services

ATTENTION: Mr. Bruce Howbert

LABORATORY ANALYSIS
QUALITY CONTROL REPORT

ANALYSIS:	RDX	Analysis Method:	EPA 8330
Technician:	JPS	Extraction Method:	EPA 8330
Sample Extracted:	9-APR-1994	BS/BSD RPD:	0%
QC Extracted:	9-APR-1994	Average Spike Recovery:	98%
Sample Analyzed:	18-APR-1994	Duplicate RPD:	---
QC Analyzed:	18-APR-1994	Method Blank:	< 0.10 µg/L
QC Sample Number:	Blank Spike	LCS Recovery:	---
TCLP Leachate Date:	---	TCLP Spike Recovery:	---

ANALYSIS:	TNT	Analysis Method:	EPA 8330
Technician:	JPS	Extraction Method:	EPA 8330
Sample Extracted:	9-APR-1994	BS/BSD RPD:	1.0%
QC Extracted:	9-APR-1994	Average Spike Recovery:	94%
Sample Analyzed:	18-APR-1994	Duplicate RPD:	---
QC Analyzed:	18-APR-1994	Method Blank:	< 0.10 µg/L
QC Sample Number:	Blank Spike	LCS Recovery:	---
TCLP Leachate Date:	---	TCLP Spike Recovery:	---

ANALYSIS:	2,4-DNT	Analysis Method:	EPA 8330
Technician:	JPS	Extraction Method:	EPA 8330
Sample Extracted:	9-APR-1994	BS/BSD RPD:	1.0%
QC Extracted:	9-APR-1994	Average Spike Recovery:	94%
Sample Analyzed:	18-APR-1994	Duplicate RPD:	---
QC Analyzed:	18-APR-1994	Method Blank:	< 0.10 µg/L
QC Sample Number:	Blank Spike	LCS Recovery:	---
TCLP Leachate Date:	---	TCLP Spike Recovery:	---

ANALYSIS:	Nitrobenzene	Analysis Method:	EPA 8330
Technician:	JPS	Extraction Method:	EPA 8330
Sample Extracted:	9-APR-1994	BS/BSD RPD:	0%
QC Extracted:	9-APR-1994	Average Spike Recovery:	91%
Sample Analyzed:	18-APR-1994	Duplicate RPD:	---
QC Analyzed:	18-APR-1994	Method Blank:	< 0.10 µg/L
QC Sample Number:	Blank Spike	LCS Recovery:	---
TCLP Leachate Date:	---	TCLP Spike Recovery:	---

- extracted after 7-day holding time.

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DATE RECEIVED: 5-APR-1994

REPORT NUMBER: H94-2312:1-25
REPORT DATE: 2-MAY-1994

SAMPLE SUBMITTED BY: PDP Analytical Services

ATTENTION: Mr. Bruce Howbert

LABORATORY ANALYSIS
QUALITY CONTROL REPORT

ANALYSIS:	M-Nitrotoluene	Analysis Method:	EPA 8330
Technician:	JPS	Extraction Method:	EPA 8330
Sample Extracted:	9-APR-1994	BS/BSD RPD:	3.3%
QC Extracted:	9-APR-1994	Average Spike Recovery:	92%
Sample Analyzed:	18-APR-1994	Duplicate RPD:	---
QC Analyzed:	18-APR-1994	Method Blank:	< 0.10 µg/L
QC Sample Number:	Blank Spike	LCS Recovery:	---
TCLP Leachate Date:	---	TCLP Spike Recovery:	---

ANALYSIS:	RDX	Analysis Method:	EPA 8330
Technician:	JPS	Extraction Method:	EPA 8330
Sample Extracted:	13-APR-1994	MS/MSD RPD:	1.0%
QC Extracted:	13-APR-1994	Average Spike Recovery:	98%
Sample Analyzed:	18-APR-1994	Duplicate RPD:	---
QC Analyzed:	18-APR-1994	Method Blank:	< 1.0 mg/Kg
QC Sample Number:	2312-2	LCS Recovery:	99%
TCLP Leachate Date:	---	TCLP Spike Recovery:	---

ANALYSIS:	TNT	Analysis Method:	EPA 8330
Technician:	JPS	Extraction Method:	EPA 8330
Sample Extracted:	13-APR-1994	MS/MSD RPD:	1.1%
QC Extracted:	13-APR-1994	Average Spike Recovery:	94%
Sample Analyzed:	18-APR-1994	Duplicate RPD:	---
QC Analyzed:	18-APR-1994	Method Blank:	< 0.25 mg/Kg
QC Sample Number:	2312-3	LCS Recovery:	95%
TCLP Leachate Date:	---	TCLP Spike Recovery:	---

ANALYSIS:	2,4-DNT	Analysis Method:	EPA 8330
Technician:	JPS	Extraction Method:	EPA 8330
Sample Extracted:	13-APR-1994	MS/MSD RPD:	0%
QC Extracted:	13-APR-1994	Average Spike Recovery:	95%
Sample Analyzed:	18-APR-1994	Duplicate RPD:	---
QC Analyzed:	18-APR-1994	Method Blank:	< 0.25 mg/Kg
QC Sample Number:	2312-3	LCS Recovery:	95%
TCLP Leachate Date:	---	TCLP Spike Recovery:	---

- extracted after 7-day holding time.

- no aqueous MS/MSD

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DATE RECEIVED: 5-APR-1994

REPORT NUMBER: H94-2312:1-25
REPORT DATE: 2-MAY-1994

SAMPLE SUBMITTED BY: PDP Analytical Services

ATTENTION: Mr. Bruce Howbert

LABORATORY ANALYSIS
QUALITY CONTROL REPORT

ANALYSIS:	Nitrobenzene	Analysis Method:	EPA 8330
Technician:	JPS	Extraction Method:	EPA 8330
Sample Extracted:	13-APR-1994	MS/MSD RPD:	1.1%
QC Extracted:	13-APR-1994	Average Spike Recovery:	92%
Sample Analyzed:	18-APR-1994	Duplicate RPD:	---
QC Analyzed:	18-APR-1994	Method Blank:	< 0.26 mg/Kg
QC Sample Number:	2312-2	LCS Recovery:	91%
TCLP Leachate Date:	---	TCLP Spike Recovery:	---

ANALYSIS:	M-Nitrotoluene	Analysis Method:	EPA 8330
Technician:	JPS	Extraction Method:	EPA 8330
Sample Extracted:	13-APR-1994	MS/MSD RPD:	0%
QC Extracted:	13-APR-1994	Average Spike Recovery:	94%
Sample Analyzed:	18-APR-1994	Duplicate RPD:	---
QC Analyzed:	18-APR-1994	Method Blank:	< 0.25 mg/Kg
QC Sample Number:	2312-2	LCS Recovery:	90%
TCLP Leachate Date:	---	TCLP Spike Recovery:	---

- no aqueous MS/MSD

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DATE RECEIVED: 7-APR-1994

REPORT NUMBER: H94-2392:1-29
REPORT DATE: 29-APR-1994

SAMPLE SUBMITTED BY: PDP Analytical Services

ATTENTION: Mr. Bruce Howbert

LABORATORY ANALYSIS
QUALITY CONTROL REPORT

ANALYSIS:	RDX	Analysis Method:	EPA 8330
Technician:	JS	Extraction Method:	EPA 8330
Sample Extracted:	13-APR-1994	MS/MSD RPD:	1.6%
QC Extracted:	13-APR-1994	Average Spike Recovery:	121%
Sample Analyzed:	27-APR-1994	Duplicate RPD:	---
QC Analyzed:	27-APR-1994	Method Blank:	< 0.1 µg/L
QC Sample Number:	2392-22	LCS Recovery:	120%
TCLP Leachate Date:	---	TCLP Spike Recovery:	---

ANALYSIS:	TNT	Analysis Method:	EPA 8330
Technician:	JS	Extraction Method:	EPA 8330
Sample Extracted:	13-APR-1994	MS/MSD RPD:	3.2%
QC Extracted:	13-APR-1994	Average Spike Recovery:	94%
Sample Analyzed:	27-APR-1994	Duplicate RPD:	---
QC Analyzed:	27-APR-1994	Method Blank:	< 0.1 µg/L
QC Sample Number:	2392-22	LCS Recovery:	94%
TCLP Leachate Date:	---	TCLP Spike Recovery:	---

ANALYSIS:	2,4-DNT	Analysis Method:	EPA 8330
Technician:	JS	Extraction Method:	EPA 8330
Sample Extracted:	13-APR-1994	MS/MSD RPD:	1.0%
QC Extracted:	13-APR-1994	Average Spike Recovery:	96%
Sample Analyzed:	27-APR-1994	Duplicate RPD:	---
QC Analyzed:	27-APR-1994	Method Blank:	< 0.1 µg/L
QC Sample Number:	2392-22	LCS Recovery:	97%
TCLP Leachate Date:	---	TCLP Spike Recovery:	---

ANALYSIS:	Nitrobenzene	Analysis Method:	EPA 8330
Technician:	JS	Extraction Method:	EPA 8330
Sample Extracted:	13-APR-1994	MS/MSD RPD:	2.0%
QC Extracted:	13-APR-1994	Average Spike Recovery:	99%
Sample Analyzed:	27-APR-1994	Duplicate RPD:	---
QC Analyzed:	27-APR-1994	Method Blank:	< 0.1 µg/L
QC Sample Number:	2392-22	LCS Recovery:	96%
TCLP Leachate Date:	---	TCLP Spike Recovery:	---

- extracted 1 day after holding time had expired for samples collected on 4/5/94

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DATE RECEIVED: 7-APR-1994

REPORT NUMBER: H94-2392.1-29
REPORT DATE: 29-APR-1994

SAMPLE SUBMITTED BY: PDP Analytical Services

ATTENTION: Mr. Bruce Howbert

LABORATORY ANALYSIS
QUALITY CONTROL REPORT

ANALYSIS:	m-NitroToluene	Analysis Method:	EPA 8330
Technician:	JS	Extraction Method:	EPA 8330
Sample Extracted:	13-APR-1994	MS/MSD RPD:	2.2%
QC Extracted:	13-APR-1994	Average Spike Recovery:	89%
Sample Analyzed:	27-APR-1994	Duplicate RPD:	---
QC Analyzed:	27-APR-1994	Method Blank:	< 0.1 µg/L
QC Sample Number:	2392-22	LCS Recovery:	87%
TCLP Leachate Date:	---	TCLP Spike Recovery:	---

- extracted 1 day after holding time had expired for samples collected on 4/5/94.

Inchcape Testing Services Kuei-Mei Li

Kuei-Mei Li
Technical Director

01145

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DATE RECEIVED: 12-APR-1994

REPORT NUMBER: H94-2501: 1-14
REPORT DATE: 3-MAY-1994

SAMPLE SUBMITTED BY: PDP Analytical Services

ATTENTION: Mr. Bruce Howbert

LABORATORY ANALYSIS
QUALITY CONTROL REPORT

ANALYSIS:	RDX	Analysis Method:	EPA 8330
Technician:	JPS	Extraction Method:	EPA 8330
Sample Extracted:	16-APR-1994	BS/BSD RPD:	1.0%
QC Extracted:	16-APR-1994	Average Spike Recovery:	102%
Sample Analyzed:	27-APR-1994	Duplicate RPD:	---
QC Analyzed:	27-APR-1994	Method Blank:	< 0.10 µg/L
QC Sample Number:	Blank Spike	LCS Recovery:	---
TCLP Leachate Date:	---	TCLP Spike Recovery:	---

ANALYSIS:	TNT	Analysis Method:	EPA 8330
Technician:	JPS	Extraction Method:	EPA 8330
Sample Extracted:	16-APR-1994	BS/BSD RPD:	1.0%
QC Extracted:	16-APR-1994	Average Spike Recovery:	98%
Sample Analyzed:	27-APR-1994	Duplicate RPD:	---
QC Analyzed:	27-APR-1994	Method Blank:	< 0.1 µg/L
QC Sample Number:	Blank Spike	LCS Recovery:	---
TCLP Leachate Date:	---	TCLP Spike Recovery:	---

ANALYSIS:	2,4-DNT	Analysis Method:	EPA 8330
Technician:	JPS	Extraction Method:	EPA 8330
Sample Extracted:	16-APR-1994	BS/BSD RPD:	1.0%
QC Extracted:	16-APR-1994	Average Spike Recovery:	96%
Sample Analyzed:	27-APR-1994	Duplicate RPD:	---
QC Analyzed:	27-APR-1994	Method Blank:	< 0.10 µg/L
QC Sample Number:	Blank Spike	LCS Recovery:	---
TCLP Leachate Date:	---	TCLP Spike Recovery:	---

ANALYSIS:	Nitrobenzene	Analysis Method:	EPA 8330
Technician:	JPS	Extraction Method:	EPA 8330
Sample Extracted:	16-APR-1994	BS/BSD RPD:	2.0%
QC Extracted:	16-APR-1994	Average Spike Recovery:	101%
Sample Analyzed:	27-APR-1994	Duplicate RPD:	---
QC Analyzed:	27-APR-1994	Method Blank:	< 0.10 µg/L
QC Sample Number:	Blank Spike	LCS Recovery:	---
TCLP Leachate Date:	---	TCLP Spike Recovery:	---

- no aqueous MS/MSD

- extracted after holding time had expired for samples collected on 4/7/94 and 4/8/94.

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Technical Director

011456

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DATE RECEIVED: 12-APR-1994

REPORT NUMBER: H94-2501:1-14
REPORT DATE: 3-MAY-1994

SAMPLE SUBMITTED BY: PDP Analytical Services

ATTENTION: Mr. Bruce Howbert

LABORATORY ANALYSIS
QUALITY CONTROL REPORT

ANALYSIS:	m-NiroToluene	Analysis Method:	EPA 8330
Technician:	JPS	Extraction Method:	EPA 8330
Sample Extracted:	16-APR-1994	BS/BSD RPD:	1.0%
QC Extracted:	16-APR-1994	Average Spike Recovery:	102%
Sample Analyzed:	27-APR-1994	Duplicate RPD:	---
QC Analyzed:	27-APR-1994	Method Blank:	< 0.1 µg/L
QC Sample Number:	Blank Spike	LCS Recovery:	---
TCLP Leachate Date:	---	TCLP Spike Recovery:	---

- no aqueous MS/MSD

- extracted after holding time had expired for samples collected on 4/7/94 and 4/8/94.

Inchcape Testing Services Kuei-Mei Li

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REPORT DATE : 9-MAY-1994 REPORT NUMBER : H94-2670

SAMPLE SUBMITTED BY : PDP Analytical Services
ATTENTION : Mr. Bruce Howbert

ANALYTE	RDX	TNT	2,4 DNT	NITROBENZENE	m-NITROTOLUENE
BATCH NO.	8330L_7	8330L_7	8330L_7	8330L_7	8330L_7
LCS LOT NO.	---	---	---	---	---
PREP METHOD	EPA 8330	EPA 8330	EPA 8330	EPA 8330	EPA 8330
DATE PREPARED	21-APR-1994	21-APR-1994	21-APR-1994	21-APR-1994	21-APR-1994
PREPARED BY	VB	VB	VB	VB	VB
ANALYSIS METHOD	EPA 8330	EPA 8330	EPA 8330	EPA 8330	EPA 8330
DATE ANALYZED	4-MAY-1994	4-MAY-1994	4-MAY-1994	4-MAY-1994	4-MAY-1994
ANALYZED BY	JPS	JPS	JPS	JPS	JPS
UNITS	µg/L	µg/L	µg/L	µg/L	µg/L
METHOD BLANK	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
MS RECOVERY %	101	93.7	96.4	99.9	102
MSD RECOVERY %	101	99.6	96.7	101	105
MS/MSD RPD %	0.7	6.1	0.3	1.6	2.1
BS RECOVERY %	NA	NA	NA	NA	NA
BSD RECOVERY %	NA	NA	NA	NA	NA
BS/BSD RPD %	NA	NA	NA	NA	NA
DUPLICATE RPD %	NA	NA	NA	NA	NA
LCS RECOVERY %	101	94.9	94.6	97.9	97.1
SPIKE SAMPLE ID	2680-1	2680-1	2680-1	2680-1	2680-1
DUP SAMPLE ID	NA	NA	NA	NA	NA

NA Not Applicable

- exceeds holding time for extraction by 1 day
⇒ flag all compounds in all samples as estimated.

Kuei-Mei Li

AWD TECHNOLOGIES

RECORD OF CONVERSATION

011458

DATE: 8/15/94 TIME: A.M.

PHONE CALL: TO / FROM Amine Bow Oak at AWD-Rockville, MD / John Imelko

MEETING WITH:

SUBJECT: Longhorn Army Ammunition Plant Data Validation

DISCUSSION: Missing QC summary pages from Inchcape Testing Services Job Numbers H94-2213 and H94-2232.

TASKS TO BE COMPLETED: Missing pages to be sent.

NAME: John Imelko

011459

AWD TECHNOLOGIES

FAX COVER SHEET

EASTERN OPERATIONS
15204 OMEGA DRIVE, SUITE 200
ROCKVILLE, MARYLAND 20850
TEL: 301/948-0040
FAX: 301/948-0242

COMPANY NAME:	AWD Pit.
CONTACT NAME:	John Smelko / Haia Rolfman
FAX NUMBER:	

SENDER:	Amine Bouaouh
DESCRIPTION/MESSAGE:	
Copies of Missing QC Reports	

NUMBER OF PAGES (INCLUDING COVER):	1
DATE SENT:	8/24/94

IF THERE ARE ANY PROBLEMS WITH THIS TRANSMISSION, PLEASE CALL (301) 948-0040 IMMEDIATELY.

011460

Inchcape Testing Services
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DATE RECEIVED: 21-MAR-1994

REPORT NUMBER: H94-3232:1-11
REPORT DATE: 27-APR-1994

SAMPLE SUBMITTED BY: PDP Analytical Services

ATTENTION: Mr. Bruce Rowbert

LABORATORY ANALYSIS QUALITY CONTROL REPORT

ANALYSIS:	M-Nitrotoluene	Analysis Method:	EPA 8330
Technician:	JPS	Extraction Method:	EPA 8330
Sample Extracted:	4-APR-1994	MS/MSD RPD:	1.0%
QC Extracted:	4-APR-1994	Average Spike Recovery:	94%
Sample Analyzed:	18-APR-1994	Duplicate RPD:	---
QC Analyzed:	18-APR-1994	Method Blank:	< 0.10 µg/L
QC Sample Number:	Blank Spike	LCS Recovery:	---
TCLP Leachate Date:	---	TCLP Spike Recovery:	---
ANALYSIS:	RDX	Analysis Method:	EPA 8330
Technician:	JPS	Extraction Method:	EPA 8330
Sample Extracted:	5-APR-1994	MS/MSD RPD:	1.0%
QC Extracted:	5-APR-1994	Average Spike Recovery:	98%
Sample Analyzed:	18-APR-1994	Duplicate RPD:	---
QC Analyzed:	18-APR-1994	Method Blank:	< 1.0 mg/Kg
QC Sample Number:	2232-10	LCS Recovery:	99%
TCLP Leachate Date:	---	TCLP Spike Recovery:	---
ANALYSIS:	TNT	Analysis Method:	EPA 8330
Technician:	JPS	Extraction Method:	EPA 8330
Sample Extracted:	5-APR-1994	MS/MSD RPD:	1.0%
QC Extracted:	5-APR-1994	Average Spike Recovery:	94%
Sample Analyzed:	18-APR-1994	Duplicate RPD:	---
QC Analyzed:	18-APR-1994	Method Blank:	< 0.25 mg/Kg
QC Sample Number:	2232-10	LCS Recovery:	95%
TCLP Leachate Date:	---	TCLP Spike Recovery:	---
ANALYSIS:	2,4-DNT	Analysis Method:	EPA 8330
Technician:	JPS	Extraction Method:	EPA 8330
Sample Extracted:	5-APR-1994	MS/MSD RPD:	0%
QC Extracted:	5-APR-1994	Average Spike Recovery:	95%
Sample Analyzed:	18-APR-1994	Duplicate RPD:	---
QC Analyzed:	18-APR-1994	Method Blank:	< 0.25 mg/Kg
QC Sample Number:	2232-10	LCS Recovery:	95%
TCLP Leachate Date:	---	TCLP Spike Recovery:	---

Inchcape Testing Services Kuei-Mei Li

Kuei-Mei Li
Technical Director

011461

Inchcape Testing Services
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DATE RECEIVED: 31-MAR-1994 REPORT NUMBER: K94-2232:1-11
REPORT DATE: 27-APR-1994

SAMPLE SUBMITTED BY: PDP Analytical Services

ATTENTION: Mr. Bruce Howbert

LABORATORY ANALYSIS
QUALITY CONTROL REPORT

ANALYSIS:	RDX	Analysis Method:	EPA 8330
Technician:	JPS	Extraction Method:	EPA 8330
Sample Extracted:	4-APR-1994	MS/MSD RPD:	1.0%
QC Extracted:	4-APR-1994	Average Spike Recovery:	98%
Sample Analyzed:	18-APR-1994	Duplicate RPD:	---
QC Analyzed:	18-APR-1994	Method Blank:	< 0.10 µg/L
QC Sample Number:	Blank Spike	LCS Recovery:	---
TCLP Leachate Date:	---	TCLP Spike Recovery:	---

ANALYSIS:	TNT	Analysis Method:	EPA 8330
Technician:	JPS	Extraction Method:	EPA 8330
Sample Extracted:	4-APR-1994	MS/MSD RPD:	0%
QC Extracted:	4-APR-1994	Average Spike Recovery:	96%
Sample Analyzed:	18-APR-1994	Duplicate RPD:	---
QC Analyzed:	18-APR-1994	Method Blank:	< 0.10 µg/L
QC Sample Number:	Blank Spike	LCS Recovery:	---
TCLP Leachate Date:	---	TCLP Spike Recovery:	---

ANALYSIS:	2,4-DNT	Analysis Method:	EPA 8330
Technician:	JPS	Extraction Method:	EPA 8330
Sample Extracted:	4-APR-1994	MS/MSD RPD:	1.0%
QC Extracted:	4-APR-1994	Average Spike Recovery:	96%
Sample Analyzed:	18-APR-1994	Duplicate RPD:	---
QC Analyzed:	18-APR-1994	Method Blank:	< 0.10 µg/L
QC Sample Number:	Blank Spike	LCS Recovery:	---
TCLP Leachate Date:	---	TCLP Spike Recovery:	---

ANALYSIS:	Nitrobenzene	Analysis Method:	EPA 8330
Technician:	JPS	Extraction Method:	EPA 8330
Sample Extracted:	4-APR-1994	MS/MSD RPD:	0%
QC Extracted:	4-APR-1994	Average Spike Recovery:	92%
Sample Analyzed:	18-APR-1994	Duplicate RPD:	---
QC Analyzed:	18-APR-1994	Method Blank:	< 0.10 µg/L
QC Sample Number:	Blank Spike	LCS Recovery:	---
TCLP Leachate Date:	---	TCLP Spike Recovery:	---

Inchcape Testing Services Kuei-Mei Li

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011462

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DATE RECEIVED: 31-MAR-1994

REPORT NUMBER: H94-2232;1-11
REPORT DATE: 27-APR-1994

SAMPLE SUBMITTED BY: FDP Analytical Services

ATTENTION: Mr. Bruce Howbert

LABORATORY ANALYSIS
QUALITY CONTROL REPORT

ANALYSIS:	Nitrobenzene	Analysis Method:	EPA 8330
Technician:	JPS	Extraction Method:	EPA 8330
Sample Extracted:	5-APR-1994	MS/MSD RPD:	1.1%
QC Extracted:	5-APR-1994	Average Spike Recovery:	92%
Sample Analyzed:	18-APR-1994	Duplicate RPD:	---
QC Analyzed:	18-APR-1994	Method Blank:	< 0.26 mg/Kg
QC Sample Number:	2232-10	LCS Recovery:	91%
TCLP Leachate Date:	---	TCLP Spike Recovery:	---

ANALYSIS:	M-Nitrotoluene	Analysis Method:	EPA 8330
Technician:	JPS	Extraction Method:	EPA 8330
Sample Extracted:	5-APR-1994	MS/MSD RPD:	0%
QC Extracted:	5-APR-1994	Average Spike Recovery:	94%
Sample Analyzed:	18-APR-1994	Duplicate RPD:	---
QC Analyzed:	18-APR-1994	Method Blank:	< 0.25 mg/Kg
QC Sample Number:	2232-10	LCS Recovery:	90%
TCLP Leachate Date:	---	TCLP Spike Recovery:	---

Inchcape Testing Services Kuei-Mei Li

Kuei-Mei Li
Technical Director

Inchcape Testing Services
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DATE RECEIVED: 30-MAR-1994

REPORT NUMBER: H94-2213:1-6
REPORT DATE: 27-APR-1994

SAMPLE SUBMITTED BY: PDP Analytical Services

ATTENTION: Mr. Bruce Newbert

LABORATORY ANALYSIS
QUALITY CONTROL REPORT

ANALYSIS:	RDX	Analysis Method:	EPA 8330
Technician:	JPS	Extraction Method:	EPA 8330
Sample Extracted:	4-APR-1994	MS/MSD RPD:	1.0%
QC Extracted:	4-APR-1994	Average Spike Recovery:	96%
Sample Analyzed:	18-APR-1994	Duplicate RPD:	---
QC Analyzed:	18-APR-1994	Method Blank:	< 0.10 µg/L
QC Sample Number:	Blank Spike	LCS Recovery:	---
TCLP Leachate Date:	---	TCLP Spike Recovery:	---

ANALYSIS:	TNT	Analysis Method:	EPA 8330
Technician:	JPS	Extraction Method:	EPA 8330
Sample Extracted:	4-APR-1994	MS/MSD RPD:	0%
QC Extracted:	4-APR-1994	Average Spike Recovery:	96%
Sample Analyzed:	18-APR-1994	Duplicate RPD:	---
QC Analyzed:	18-APR-1994	Method Blank:	< 0.10 µg/L
QC Sample Number:	Blank Spike	LCS Recovery:	---
TCLP Leachate Date:	---	TCLP Spike Recovery:	---

ANALYSIS:	2,4-DNT	Analysis Method:	EPA 8330
Technician:	JPS	Extraction Method:	EPA 8330
Sample Extracted:	4-APR-1994	MS/MSD RPD:	1.0%
QC Extracted:	4-APR-1994	Average Spike Recovery:	96%
Sample Analyzed:	18-APR-1994	Duplicate RPD:	---
QC Analyzed:	18-APR-1994	Method Blank:	< 0.10 µg/L
QC Sample Number:	Blank Spike	LCS Recovery:	---
TCLP Leachate Date:	---	TCLP Spike Recovery:	---

ANALYSIS:	Nitrobenzene	Analysis Method:	EPA 8330
Technician:	JPS	Extraction Method:	EPA 8330
Sample Extracted:	4-APR-1994	MS/MSD RPD:	0%
QC Extracted:	4-APR-1994	Average Spike Recovery:	92%
Sample Analyzed:	18-APR-1994	Duplicate RPD:	---
QC Analyzed:	18-APR-1994	Method Blank:	< 0.10 µg/L
QC Sample Number:	Blank Spike	LCS Recovery:	---
TCLP Leachate Date:	---	TCLP Spike Recovery:	---

Inchcape Testing Services Kuei-Mei Li

Kuei-Mei Li
Technical Director

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DATE RECEIVED: 30-MAR-1994

REPORT NUMBER: H94-2213:1-6
REPORT DATE: 27-APR-1994

SAMPLE SUBMITTED BY: PDP Analytical Services

ATTENTION: Mr. Bruce Howbert

LABORATORY ANALYSIS
QUALITY CONTROL REPORT

ANALYSIS:	M-Nitrotoluene	Analysis Method:	EPA 8330
Technician:	JPS	Extraction Method:	EPA 8330
Sample Extracted:	4-APR-1994	MS/MSD RPD:	1.0%
QC Extracted:	4-APR-1994	Average Spike Recovery:	94%
Sample Analyzed:	18-APR-1994	Duplicate RPD:	---
QC Analyzed:	18-APR-1994	Method Blank:	< 0.10 µg/L
QC Sample Number:	Blank Spike	LCS Recovery:	---
TCLP Leachate Date:	---	TCLP Spike Recovery:	---
ANALYSIS:	RDX	Analysis Method:	EPA 8330
Technician:	JPS	Extraction Method:	EPA 8330
Sample Extracted:	5-APR-1994	MS/MSD RPD:	1.0%
QC Extracted:	5-APR-1994	Average Spike Recovery:	98%
Sample Analyzed:	18-APR-1994	Duplicate RPD:	---
QC Analyzed:	18-APR-1994	Method Blank:	< 1.0 mg/Kg
QC Sample Number:	2232-10	LCS Recovery:	99%
TCLP Leachate Date:	---	TCLP Spike Recovery:	---
ANALYSIS:	TNT	Analysis Method:	EPA 8330
Technician:	JPS	Extraction Method:	EPA 8330
Sample Extracted:	5-APR-1994	MS/MSD RPD:	1.0%
QC Extracted:	5-APR-1994	Average Spike Recovery:	94%
Sample Analyzed:	18-APR-1994	Duplicate RPD:	---
QC Analyzed:	18-APR-1994	Method Blank:	< 0.25 mg/Kg
QC Sample Number:	2232-10	LCS Recovery:	95%
TCLP Leachate Date:	---	TCLP Spike Recovery:	---
ANALYSIS:	2,4-DNT	Analysis Method:	EPA 8330
Technician:	JPS	Extraction Method:	EPA 8330
Sample Extracted:	5-APR-1994	MS/MSD RPD:	0%
QC Extracted:	5-APR-1994	Average Spike Recovery:	95%
Sample Analyzed:	18-APR-1994	Duplicate RPD:	---
QC Analyzed:	18-APR-1994	Method Blank:	< 0.25 mg/Kg
QC Sample Number:	2232-10	LCS Recovery:	95%
TCLP Leachate Date:	---	TCLP Spike Recovery:	---

Inchcape Testing Services

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DATE RECEIVED: 30-MAR-1994

REPORT NUMBER: H94-2213:1-6
REPORT DATE: 27-APR-1994

SAMPLE SUBMITTED BY: PDP Analytical Services

ATTENTION: Mr. Bruce Nowbert

LABORATORY ANALYSIS
QUALITY CONTROL REPORT

ANALYSIS:	Nitrobenzene	Analysis Method:	EPA 8330
Technician:	JPS	Extraction Method:	EPA 8330
Sample Extracted:	5-APR-1994	MS/MSD RPD:	1.1%
QC Extracted:	5-APR-1994	Average Spike Recovery:	92%
Sample Analyzed:	18-APR-1994	Duplicate RPD:	---
QC Analyzed:	18-APR-1994	Method Blank:	< 0.26 mg/Kg
QC Sample Number:	2232-10	LCS Recovery:	91%
TCLP Leachate Date:	---	TCLP Spike Recovery:	---

ANALYSIS:	M-Nitrotoluene	Analysis Method:	EPA 8330
Technician:	JPS	Extraction Method:	EPA 8330
Sample Extracted:	5-APR-1994	MS/MSD RPD:	0%
QC Extracted:	5-APR-1994	Average Spike Recovery:	94%
Sample Analyzed:	18-APR-1994	Duplicate RPD:	---
QC Analyzed:	18-APR-1994	Method Blank:	< 0.25 mg/Kg
QC Sample Number:	2232-10	LCS Recovery:	90%
TCLP Leachate Date:	---	TCLP Spike Recovery:	---

Kuei-Mei Li
99%