



2/25/97

**DEPARTMENT OF THE AIR FORCE**

HEADQUARTERS 27th FIGHTER WING (ACC)  
CANNON AIR FORCE BASE, NEW MEXICO

Colonel W. P. Ard  
Commander, 27th Support Group  
110 E Sextant Avenue Suite 1098  
Cannon AFB NM 88103-5323

Mr. Benito J. Garcia, Chief  
Hazardous and Radioactive Materials Bureau  
New Mexico Environment Department  
2044 Galisteo Street  
P O Box 26110  
Santa Fe NM 87502



Dear Mr. Garcia

Attached for your review and files are the groundwater monitoring reports for the fourth quarter 1996 of monitoring at Wells N & O, Landfill 3 Solid Waste Management Unit (SWMU) 105 and Landfill 4 SWMU 104, and the upgradient Well Q at Landfill 5 SWMU 113.

If you have any questions, please contact Mr. Sanford Hutsell at (505) 784-6378.

Sincerely

W. P. ARD, Colonel, USAF  
Commander, 27th Support Group

Attachments:

1. GW Monitoring Report for Landfills 3 & 4
2. GW Monitoring Report for Landfill 5

cc:

NMED (C. Will)  
NMED w/o atch (S. Pullen)  
NMED GW Bureau (J. Jacobs)  
EPA Region VI (D. Neleigh)  
HQ ACC CES/ESVW w/o atch (M. Calvert)

**To:** Mr. Bob Kewer  
Harza Environmental Services  
Sears Tower  
233 South Wacker Drive  
Chicago, Illinois 60606-6392

**From:** S. Michelle Beekman *S. Michelle Beekman*

**Date:** January 10, 1997

**Subject:** Final Fourth Quarterly Sampling and Analysis Report for  
Monitoring Well MW-Q, Cannon Air Monitoring Well Force Base,  
Curry County, New Mexico

**Project Number:** 33364 3.4

On behalf of Harza Environmental Services, Inc., Harding Lawson Associates (HLA) has prepared the Fourth Quarterly Sampling and Analysis Report for Monitoring Well MW-Q at Cannon Air Force Base (AFB), Curry County, New Mexico in accordance with HLA's work plan entitled Final Work Plan: Landfill No. 5 Monitoring Wells, Cannon Air Force Base, Clovis, New Mexico, dated January 25, 1996, and the New Mexico Environmental Department Quarterly Sampling and Analysis Reporting Requirements.

This is the last monitoring round and associated report to be conducted under the current contract. This report has been prepared as a final report. HLA is submitting 12 copies of this report to Harza to be distributed by Harza as follows: 4 copies to Mr. Doug Mellema of the U.S. Army Corps of Engineers, Omaha District; 5 copies to Mr. John Constantine of Cannon AFB (including one copy of the complete analytical data package); 2 copies to Ms. Margaret Calvert of Langley AFB; and 1 copy for Harza.

If you have any questions or require additional information, please call me at (303) 293-6069.

SMB/lz

kewer-7.trn/DLC *RL*

c.c: Donald Campbell - HLA, Denver  
John A. Helfrich - HLA, Denver  
Cannon Air Force Base Project File



**Harding Lawson Associates**

Engineering and Environmental Services  
707 Seventeenth Street, Suite 2400  
Denver, CO 80202 — (303) 292-5365



**LIBRARY COPY**

**FINAL ASSESSMENT MONITORING  
QUARTERLY REPORT  
FOURTH QUARTER 1996**

**FOR**

**LONG-TERM MONITORING  
LANDFILL NOs. 3 AND 4**

**CANNON AIR FORCE BASE  
Clovis, New Mexico**

**Contract Number DACW45-94-D-0031  
Project Number 95-321**

*Prepared for*

*U.S. Army Corps of Engineers  
Omaha District*

*Prepared by*

*Foothill Engineering Consultants, Inc.  
350 Indiana Street, Suite 415  
Golden, Colorado 80401  
(303) 278-0622*

*January 1997*



**Final Assessment Monitoring  
Quarterly Report  
Fourth Quarter 1996  
Monitoring Well Q, Landfill No. 5  
Cannon Air Force Base  
Clovis, New Mexico**

**LIBRARY COPY**

Prepared for

**U.S. Army Corps of Engineers**  
Omaha District

and

**Harza Environmental Services, Inc.**  
Chicago, Illinois

HLA Project No. 33364 3.4  
Contract No. DACW45-94D-0044  
Delivery Order No. 01

January 9, 1997



**Harding Lawson Associates**  
Engineering and Environmental Services  
707 Seventeenth Street, Suite 2400  
Denver, CO 80202 - (303) 292-5365

**FINAL ASSESSMENT MONITORING  
QUARTERLY REPORT  
FOURTH QUARTER 1996**

**FOR**

**LONG-TERM MONITORING  
LANDFILL NOS. 3 AND 4**

**CANNON AIR FORCE BASE  
Clovis, New Mexico**

**Appendix I  
Field Forms**

**Appendix II  
Analytical Results/Quality Control Data**

**Appendix III  
Data Assessment**

## EXECUTIVE SUMMARY

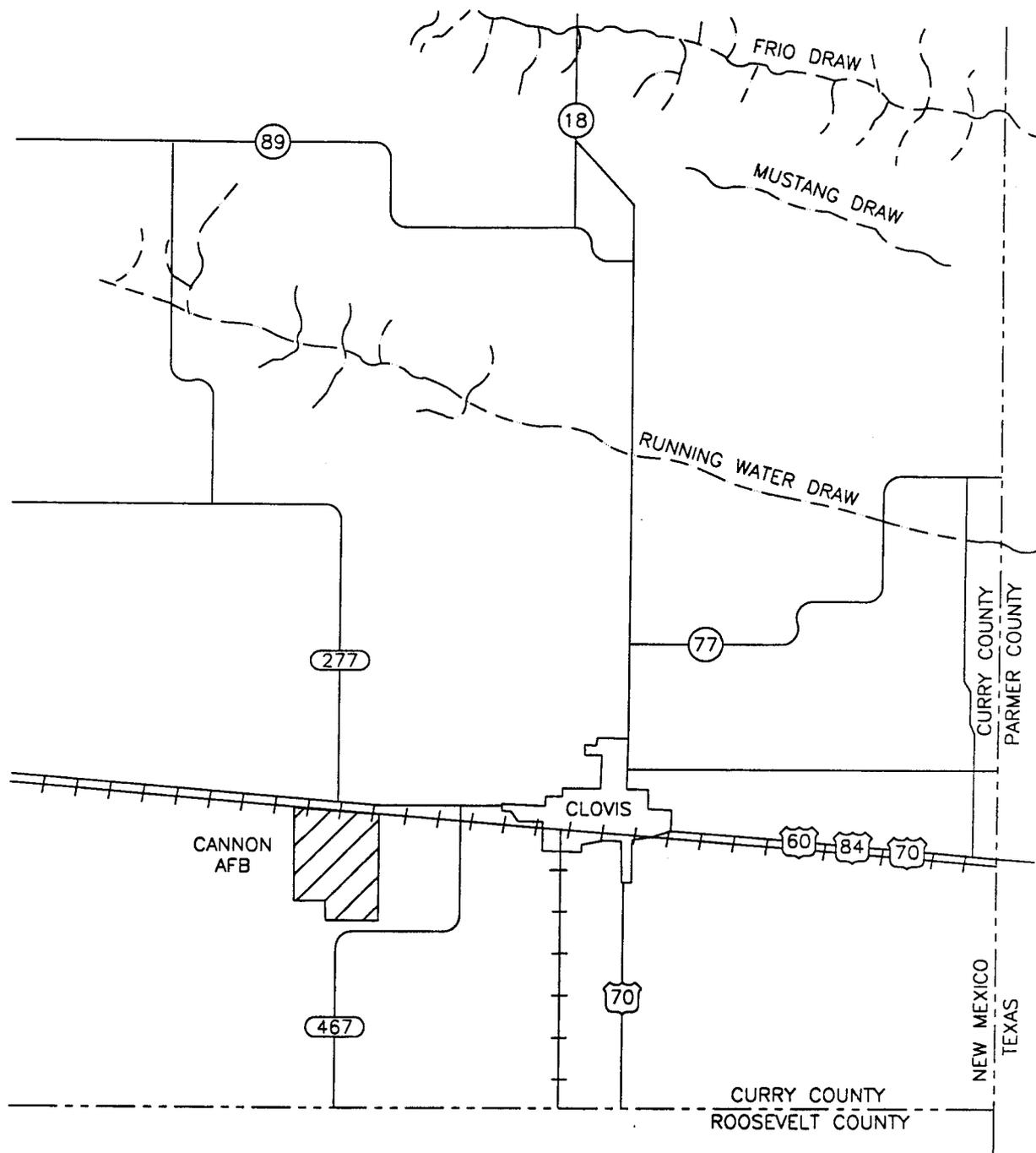
This report presents the data obtained during the fourth quarterly sampling event at Cannon Air Force Base monitoring wells O and N (located at Landfill numbers 3 and 4, respectively). Landfills 3 and 4 are located at the Cannon Air Force Base near Clovis, New Mexico (Figure 1). Monitoring well N is located downgradient of Landfill 4 and monitoring well O is located downgradient of Landfill 3 (Figure 2). The wells were sampled on December 18, 1996, using dedicated pumps previously installed in the wells. Analytical results were obtained for three aqueous samples collected during this sampling event (one MRL split sample was also collected during the sampling event). Samples collected from each well were analyzed for the parameters listed below.

- Appendix - IX VOCs, SW-846 Method 8260,
- Appendix - IX SVOCs, SW-846 Method 8270,
- Dioxin - 2, 3, 7, 8-TCDD, SW-846 Method 8280,
- Appendix - IX Pesticides/PCBs, SW-846 Method 8080,
- Organophosphorous Pesticides, SW-846 Method 8140
- Appendix - IX Herbicides, SW-846 Method 8150,
- Appendix - IX Metals, SW-846 Method 6010 and 7000,
- Cyanide, SW-846 Method 9012,
- Sulfide, SW-846 Method 9030,
- Total Organic Carbon, SW-846 Method 9060,
- Total Organic Halides, SW-846 Method 9020

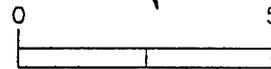
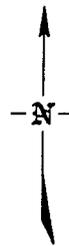
Assessment Monitoring Quarterly Reports for this work effort are presented on the appropriate New Mexico Environmental Department (NMED) data forms. Forms containing field data recorded during sampling activities are contained in Appendix I. Analytical results for samples collected during this sampling event are presented in Appendix II, along with associated quality control (QC) data. An assessment of the data for sample CAFB-MWO-12-18-96-1 is presented in Appendix III.

As part of the quality assurance (QA) and QC protocol for this sampling event, FEC collected one field duplicate sample and one MRL field split sample. These samples provide a measure of precision and accuracy as it pertains to field and laboratory procedures. For the fourth quarterly sampling event, a total of two field samples were collected - one at each well.

Various metal analytes were detected at relatively low concentrations. Barium, vanadium, and zinc were detected in samples from each well. In addition, mercury was detected in sample CAFB-MWO-12-18-96-1, selenium was detected in sample CAFB-MWN-12-18-96-1, and tin was detected in sample CAFB-MWN-12-18-96-2. Table 1 summarizes the compounds/analytes that were detected in samples collected during the fourth quarterly sampling event.



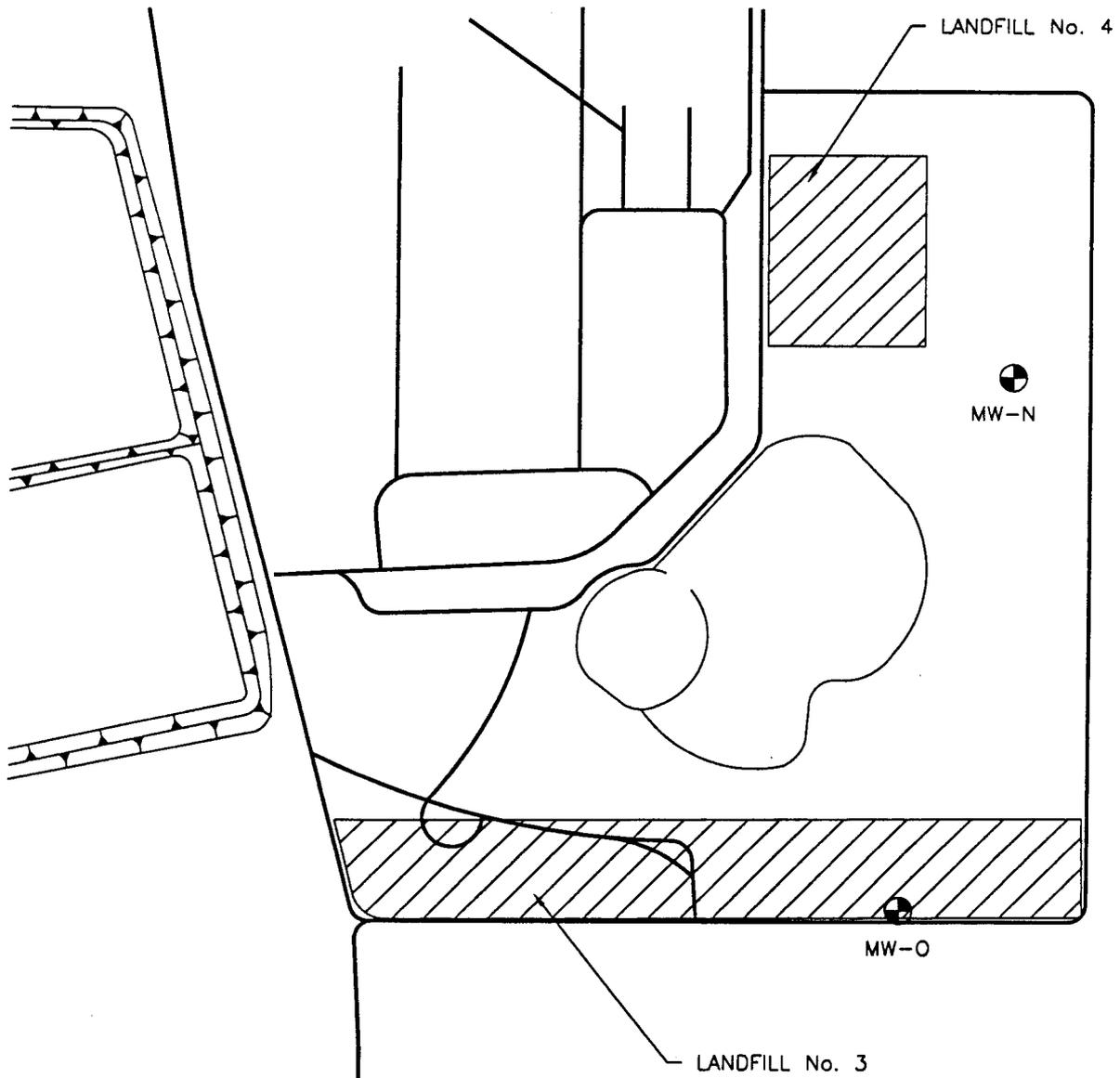
NEW MEXICO



SCALE IN MILES

FIGURE 1  
SITE LOCATION MAP  
CANNON AIR FORCE BASE

DATE:	SCALE:	DRAWN BY:
8/96	SHOWN	SHN



**LEGEND**

☉ MONITORING WELL

**FIGURE 2**  
**MONITORING WELL LOCATION MAP**  
**CANNON AIR FORCE BASE**

DATE:	SCALE:	DRAWN BY:
8/96	1"=500'	SHN

TABLE 1 - Summary of Quarterly Groundwater Sampling for Monitoring Wells N and O

Fourth Quarter 1996, Groundwater Sample Summary Cannon Air Force Base, Clovis, New Mexico					
Well/sample ID:	CAFB-MWN-12-18-96-1	CAFB-MWN-12-18-96-2*	CAFB-MWO-12-18-96-1		
Sample Date:	December 18, 1996	December 18, 1996	December 18, 1996		
Analyte-Method	Concentration	Concentration	Concentration	Reporting Limit	EPA MCL
Barium-SW-846 6010	0.0562 mg/L	0.0551 mg/L	0.048 mg/L	0.02 mg/L	2.0 mg/L
Vanadium-SW-846 6010	0.014 (J) mg/L	0.012 (J) mg/L	0.0059 (J) mg/L	0.05 mg/L	none
Zinc-SW-846 6010	0.0099 mg/L	0.0067 mg/L	0.0079 (J) mg/L	0.02 mg/L	5.0 mg/L
Selenium-SW-846 7740	0.0097 mg/L	0.0101 mg/L	ND	0.005 mg/L	0.05
Mercury-SW-846 7470	ND	ND	0.0006mg/L	0.0002 mg/L	0.002
Tin-SW-846 6010	ND	0.12 mg/L	ND	0.10 mg/L	none
TOC-SW-846 9060	2.3 mg/L	2.2 mg/L	6.1 mg/L	1.0 mg/L	none
TOX-SW-846 9020	0.003 (J) mg/L	0.005 mg/L	ND	0.005 mg/L	none
VOCs-SW-846 8260 (Ap. IX)	ND	ND	ND	Varies	Varies
SVOCs-SW-846 8270 (Ap. IX)	ND	ND	ND	5 µg/L	Varies
Pesticides SW-846 8080 (Ap. IX)	ND	ND	ND	Varies	Varies
PCBs SW-846 8080	ND	ND	ND	Varies	0.0005 mg/L
Sulfide-SW-846 9030	ND	ND	ND	0.48 mg/L	none
Herbicides- SW-846 8150 (Ap. IX)	ND	ND	ND	Varies	Varies
Dioxin-2, 3, 7, 8-TCDD-SW-846 8280	ND	ND	ND	Varies	3E-08 mg/L
Cyanide-SW-846 9012	ND	ND	ND	0.02 mg/L	0.2 mg/L
Organophosphorous Pesticides-SW-846 8140	ND	ND	ND	Varies	Varies

ND = analyte(s) not detected above reporting limit

J = Value is an estimated concentration above the method detection limit but below the reporting limit.

\* - Sample CAFB-MWN-12-18-96-2 is a field duplicate of CAFB-MWN-12-18-96-1

## ASSESSMENT MONITORING QUARTERLY REPORT

NEW MEXICO ENVIRONMENT DEPARTMENT  
 HAZARDOUS & RADIOACTIVE MATERIALS BUREAU  
 525 CAMINO DE LOS MARQUEZ, SUITE 4  
 SANTA FE, NM 87502

This set of data sheets is for use by all facilities in assessment monitoring (20 NMAC 4.1, Subpart VI, Section 265.93(D) (4), (5) and (7) (e) and (f), and Section 265.94 (b).

FACILITY NAME	<u>Cannon Air Force Base</u>	EPA I.D.#	<u>NM 7572124454</u>
WELL NUMBER	<u>MW-O</u>	SAMPLE COLLECTION BY	<u>Ian Broussard</u>
LABORATORY NAME	<u>HydroLogic Laboratories. Inc.</u>	DATE SAMPLED	<u>12/18/96</u>
TIME SAMPLED	<u>1500</u>	DATE RECEIVED BY LAB	<u>12/21/96</u>

PARAMETERS	STORET CODE	UNITS	VALUE	DATE ANALYZED
Elevation of G. Water	71993	ft.	3987.60	12/18/96
Well Depth	N/A	ft.	303.9	12/18/96
Well Casing Volume	N/A	gal.	13.60	12/18/96
Pump Rate	N/A	gal/min	1	12/18/96
Pump Period	72004	min.	40	12/18/96
Volume Evacuated	73675	gal.	41	12/18/96
Sampler Material	N/A	N/A	TEFLN	
Well Sampling Method:			PSPMP	

Assessment Monitoring Quarterly Report cont.

Well Number:     MW-O     Facility Name     Canon Air Force Base    

INDICATOR PARAMETERS

PARAMETERS	STORET CODE	UNITS	VALUE	DETECTION LIMIT	DATE ANALYZED	METHOD USED
pH	00400	S.U.	7.37 (f)	N/A	12/18/96	
	00400	S.U.	7.48 (f)	N/A	12/18/96	Field Probe/Horiba U10
Specific Conductivity	00400	S.U.	7.53 (f)	N/A	12/18/96	
	00400	S.U.	7.50 (f)	N/A	12/18/96	
	00095	umhos/cm	2.00 (f)	N/A	12/18/96	
	00095	umhos/cm	2.07 (f)	N/A	12/18/96	Field Probe/Horiba U10
	00095	umhos/cm	2.05 (f)	N/A	12/18/96	
	00095	umhos/cm	2.06 (f)	N/A	12/18/96	
	T.O.X.	70354	mg/L	ND	0.001	12/27/96
	70354	mg/L	N/A	N/A	N/A	SW846-9020
	70354	mg/L	N/A	N/A	N/A	
	70354	mg/L	N/A	N/A	N/A	
T.O.C.	00680	mg/L	6.1	0.15	12/27/96	
	00680	mg/L	N/A	N/A	N/A	SW846-9060
	00680	mg/L	N/A	N/A	N/A	
	00680	mg/L	N/A	N/A	N/A	

Assessment Monitoring Quarterly Report cont.

Well Number:     MW-O     Facility Name     Cannon Air Force Base    

INDICATOR PARAMETERS

PARAMETERS	STORET CODE	UNITS	VALUE	DETECTION LIMIT	DATE ANALYZED	METHOD USED
Chloride	00940	mg/L	N/A	N/A	N/A	
Iron	01045	mg/L	N/A	N/A	N/A	N/A
Manganese	71883	mg/L	N/A	N/A	N/A	
Phenols	32730	mg/L	N/A	N/A	N/A	
Sodium	00929	mg/L	N/A	N/A	N/A	
Sulfate	00945	mg/L	N/A	N/A	N/A	N/A
Turbidity		NTU	10 *(f)	N/A	12/18/96	Field Probe/Horiba U10

\*Turbidity measurement not used in determining stabilization of field parameters

DATE OF THIS REPORT:     01/17/97    

SIGNATURE: \_\_\_\_\_

NAME (PRINTED):     Ian Broussard



## ASSESSMENT MONITORING QUARTERLY REPORT

NEW MEXICO ENVIRONMENT DEPARTMENT  
 HAZARDOUS & RADIOACTIVE MATERIALS BUREAU  
 525 CAMINO DE LOS MARQUEZ, SUITE 4  
 SANTA FE, NM 87502

This set of data sheets is for use by all facilities in assessment monitoring (20 NMAC 4.1, Subpart VI, Section 265.93(D) (4), (5) and (7) (e) and (f), and Section 265.94 (b)).

FACILITY NAME	Cannon Air Force Base	EPA I.D.#	NM 7572124454
WELL NUMBER	MW-N	SAMPLE COLLECTION BY	Ian Broussard
LABORATORY NAME	HydroLogic Laboratories. Inc.	DATE SAMPLED	12/18/96
TIME SAMPLED	1200	DATE RECEIVED BY LAB	12/21/96

PARAMETERS	STORET CODE	UNITS	VALUE	DATE ANALYZED
Elevation of G. Water	71993	ft.	3992.30	12/18/96
Well Depth	N/A	ft.	297.5	12/18/96
Well Casing Volume	N/A	gal.	14.30	12/18/96
Pump Rate	N/A	gal/min	1	12/18/96
Pump Period	72004	min.	45	12/18/96
Volume Evacuated	73675	gal.	43	12/18/96
Sampler Material	N/A	N/A	TEFLN	
Well Sampling Method:			PSPMP	

Assessment Monitoring Quarterly Report cont.

Well Number:     MW-N     Facility Name     Canon Air Force Base    

INDICATOR PARAMETERS

PARAMETERS	STORET CODE	UNITS	VALUE	DETECTION LIMIT	DATE ANALYZED	METHOD USED
pH	00400	S.U.	8.26 (f)	N/A	12/18/96	
	00400	S.U.	8.24 (f)	N/A	12/18/96	Field Probe/Horiba U10
	00400	S.U.	8.23 (f)	N/A	12/18/96	
Specific Conductivity	00400	S.U.	8.24 (f)	N/A	12/18/96	
	00095	umhos/cm	0.946 (f)	N/A	12/18/96	
	00095	umhos/cm	0.957 (f)	N/A	12/18/96	Field Probe/Horiba U10
	00095	umhos/cm	0.999 (f)	N/A	12/18/96	
	00095	umhos/cm	0.978 (f)	N/A	12/18/96	
	00095	umhos/cm	0.978 (f)	N/A	12/18/96	
T.O.X.	70354	mg/L	0.003	0.001	12/28/96	
	70354	mg/L	0.005	0.001	12/28/96	SW846-9020
	70354	mg/L	N/A	N/A	N/A	
	70354	mg/L	N/A	N/A	N/A	
T.O.C.	00680	mg/L	2.3	0.15	12/27/96	
	00680	mg/L	2.2	0.15	12/27/96	SW846-9060
	00680	mg/L	N/A	N/A	N/A	
	00680	mg/L	N/A	N/A	N/A	

Assessment Monitoring Quarterly Report cont.

Well Number:     MW-N     Facility Name     Cannon Air Force Base    

INDICATOR PARAMETERS

PARAMETERS	STORET CODE	UNITS	VALUE	DETECTION LIMIT	DATE ANALYZED	METHOD USED
Chloride	00940	mg/L	<u>    N/A    </u>	<u>    N/A    </u>	<u>    N/A    </u>	
Iron	01045	mg/L	<u>    N/A    </u>	<u>    N/A    </u>	<u>    N/A    </u>	<u>    N/A    </u>
Manganese	71883	mg/L	<u>    N/A    </u>	<u>    N/A    </u>	<u>    N/A    </u>	
Phenols	32730	mg/L	<u>    N/A    </u>	<u>    N/A    </u>	<u>    N/A    </u>	
Sodium	00929	mg/L	<u>    N/A    </u>	<u>    N/A    </u>	<u>    N/A    </u>	
Sulfate	00945	mg/L	<u>    N/A    </u>	<u>    N/A    </u>	<u>    N/A    </u>	<u>    N/A    </u>
Turbidity		NTU	<u>    10 *(f)    </u>	<u>    N/A    </u>	<u>    12/18/96    </u>	<u>    Field Probe/Horiba-U10    </u>

\*Turbidity measurement not used in determining stabilization of field parameters

DATE OF THIS REPORT:     01/17/97    

SIGNATURE: \_\_\_\_\_

NAME (PRINTED):     Ian Broussard



**APPENDIX I**  
**FIELD FORMS**

Dec. 18, 1996

Well Purge Data Sheet for October 2, 1996 - Clovis, New Mexico

DW = 275.66

Water Column = (21.840) feet X 0.655 = Bore Volume = 14.31

Groundwater Quality Parameters - MWN, 18 Dec, 1996 TD=297.5						
Bore Volumes	pH	Conductivity	Salinity	Dissolved Oxygen	Temperature	Turbidity
1/2 = 7 GAL	8.26	0.946	0.04	9.19 mg/L	16.2	9
1 14	8.24	0.957	0.04	9.01	17.1	12
1 1/2 21	8.23	0.999	0.03	9.27	17.2	10
2 28	8.24	0.978	0.04	9.44	17.1	10
2 1/2 35	8.24	0.997	0.04	9.38	17.2	7
3 42	8.22	0.994	0.04	9.21	17.2	9

Finished Sampling  
@ 1200 12/18/96

Water Column = (20.8) feet X 0.655 = Bore Volume = 13.6

DW = 283.10

Groundwater Quality Parameters - MWO, 18 Dec. 1996 TD= 303.9						
Bore Volumes	pH	Conductivity	Salinity	Dissolved Oxygen	Temperature	Turbidity
1/2 7	7.37	2.00	0.09	9.06	14.9	10
1 14	7.48	2.07	0.09	8.85	15.3	10
1 1/2 21	7.53	2.05	0.09	8.79	15.2	10
2 28	7.50	2.06	0.09	8.56	15.3	10
2 1/2 35	7.51	2.03	0.09	8.62	15.2	10
3 42	7.52	2.04	0.09	8.41	15.3	10

Finished Sampling  
@ 1500 12/18/96

DAILY QUALITY CONTROL REPORT

PROJECT: Cannon AFB wells MWN & MW0

Date: 18 Dec 1996

LOCATION: Clovis, NM

Weather:

Temp: 10°F

Wind: light - NW

Humidity: dry

PERSONNEL

Name	Position	Hours Worked
<u>Jan Broussard</u>	<u>Field Geologist</u>	
<u>John Wong</u>	<u>Project Chemist</u>	

FIELD INSTALLATIONS

ID No(s):		
Drilled:		
from		
to		
Footage		
Casing Set		
Screen		
Riser		

EQUIPMENT

	Serial #	Calibrated to
OVA	<u>A41347</u>	<u>100 ppm</u>
O <sub>2</sub> /LEL	<u>NA</u>	
pH/Conductivity/Temp.		
Other	<u>Horiba G-10 water quality tester</u>	
	<u>pH = 4 Turbidity = 0.0 Conductivity = 459</u>	
	<u>µS/cm using AN AUTOCL SOLUTION</u>	
	<u>provided by Hazco w/expiration 10-23-97</u>	

Hours Drilling	
Hours Installing	
Hours Decon	
Hours Development	
Hours Sampling	
Hours Shut Down	
# of Samples	Type

SAMPLING SUMMARY:

Sample ID	Media	QC	Analytes
<u>CAEB-MWN-12/18/96-1</u>	<u>W</u>	<u>Field</u>	VOC, SVOC, PCB/Pest, METALS, HERBICIDES, CN, SO <sub>4</sub> , TCDD-Dioxin
<u>CAEB-MWN-12/18/96-2</u>	<u>W</u>	<u>dup</u>	VOC, SVOC, PCB/Pest, METALS, HERBICIDES, CN, SO <sub>4</sub> , TCDD-Dioxin
<u>CAEB-MWN-12/18/96-3</u>	<u>W</u>	<u>dup</u>	VOC, SVOC, PCB/Pest, METALS, HERBICIDES, CN, SO <sub>4</sub> , TCDD-Dioxin
<u>CAEB-MWB-12/18/96-1</u>	<u>W</u>	<u>Field</u>	VOC, SVOC, PCB/Pest, METALS, HERBICIDES, CN, SO <sub>4</sub> , TCDD-Dioxin
			VOC, SVOC, PCB/Pest, METALS, HERBICIDES, CN, SO <sub>4</sub> , TCDD-Dioxin
			VOC, SVOC, PCB/Pest, METALS, HERBICIDES, CN, SO <sub>4</sub> , TCDD-Dioxin

Description of work performed: Sampled wells MWN AND MW0. First measured methane at each well AND GOT NO readings. Then gauged, purged and sampled each well. Took a split & a duplicate from MWN.

Health and Safety Levels: D

Summary of Monitoring Activities: Methane levels

measured on both wells prior to beginning any sampling-related activities. No other monitoring needed/required.

Problems encountered/Corrective Actions:

Water quality tester calibrated ok but produced questionable turbidity readings - had to press clear button at each reading to get a number other than 10. Several batteries in each cooler were broken, had to go to bio environmental to get 8, 1 liter ambers to have sufficient quantity for both wells.

Any changes from work plan?

Note: Storage tanks at both wells are filled to near capacity - they are also mostly frozen so dumping will be difficult before the next thaw.

Signature: Jan Broussard

**APPENDIX II**

**ANALYTICAL RESULTS/QUALITY CONTROL DATA**

Jan 16, 1997

Foothill Engineering  
Mr. Scott Koepsell  
350 Indiana Street  
Suite 415  
Golden, CO 80401

Dear Mr. Koepsell,

Please find enclosed the report for 6 samples received at HydroLogic Laboratories, Inc. on 21 Dec 1996 for your project number, 95-321-330. The report reference is L3891.

If you have any questions, please call (303) 659-0497.

Sincerely,



Bob Cathel  
Project Manager

### Sample Cross Reference Table

**Company Name:** Foothill Engineering

**HydroLogic Login Number:** L3891

<b>HydroLogic Sample Number</b>	<b>Client Sample Identification</b>	<b>Sample Date/Time</b>
L3891-1	CAFB-MW0-12/18/96-1	18 Dec 96 15:00
L3891-2	CAFB-MWN-12/18/96-1	18 Dec 96 12:00
L3891-3	CAFB-MWN-12/18/96-2	18 Dec 96 12:00
L3891-4	TRIP BLANK	18 Dec 96 00:00
L3891-5	TRIP BLANK	18 Dec 96 00:00
L3891-6	TRIP BLANK	18 Dec 96 00:00

**DATE AND TIME SUMMARY**

**Company Name:** Foothill Engineering  
**Project:** 95-321-330

**HydroLogic Login Number:** L3891

**METHOD COLLECTED PREPARED ANALYZED**

**SAMPLE NUMBER:** L3891-1      **CLIENT ID:** CAFB-MW0-12/18/96-1      **MATRIX:** Aqueous

SW846, APIX	12/18/96 15:00	12/24/96	01/13/97 21:48
SW846, 9030	12/18/96 15:00	12/24/96	12/24/96 08:00
SW846, 8260	12/18/96 15:00	12/26/96	12/26/96 17:00
SW846, 8150	12/18/96 15:00	12/24/96	01/08/97 04:50
SW846, 8080	12/18/96 15:00	12/24/96	12/31/96 22:05
SW846, 7841	12/18/96 15:00	01/06/97	01/07/97 16:57
SW846, 7740	12/18/96 15:00	01/06/97	01/07/97 11:34
SW846, 7421	12/18/96 15:00	01/06/97	01/07/97 10:04
SW846, 7060	12/18/96 15:00	01/06/97	01/07/97 09:59
SW846, 7041	12/18/96 15:00	01/06/97	01/07/97 14:27
SW846, 6010	12/18/96 15:00	01/06/97	01/07/97 13:09
SW846, 6010	12/18/96 15:00	01/06/97	01/07/97 19:36
SW-846, 9060	12/18/96 15:00	12/27/96	12/27/96 10:10
SW-846, 9020	12/18/96 15:00	12/27/96	12/27/96 09:31
SW-846, 7470	12/18/96 15:00	12/31/96	12/31/96 15:31
SW-846, 9012	12/18/96 15:00	12/31/96	01/08/97 12:25

**SAMPLE NUMBER:** L3891-2      **CLIENT ID:** CAFB-MWN-12/18/96-1      **MATRIX:** Aqueous

SW846, APIX	12/18/96 12:00	12/24/96	01/13/97 22:34
SW846, 9030	12/18/96 12:00	12/24/96	12/24/96 08:00
SW846, 8260	12/18/96 12:00	12/26/96	12/26/96 17:42
SW846, 8150	12/18/96 12:00	12/24/96	01/08/97 05:27
SW846, 8080	12/18/96 12:00	12/24/96	12/31/96 22:46
SW846, 7841	12/18/96 12:00	01/06/97	01/07/97 17:02
SW846, 7740	12/18/96 12:00	01/06/97	01/07/97 11:38
SW846, 7421	12/18/96 12:00	01/06/97	01/07/97 10:09
SW846, 7060	12/18/96 12:00	01/06/97	01/07/97 10:03
SW846, 7041	12/18/96 12:00	01/06/97	01/07/97 15:30
SW846, 6010	12/18/96 12:00	01/06/97	01/07/97 13:12
SW846, 6010	12/18/96 12:00	01/06/97	01/07/97 19:39
SW-846, 9060	12/18/96 12:00	12/27/96	12/27/96 10:10
SW-846, 9020	12/18/96 12:00	12/28/96	12/28/96 07:31
SW-846, 7470	12/18/96 12:00	12/31/96	12/31/96 15:33
SW-846, 9012	12/18/96 12:00	12/31/96	01/08/97 12:25

**SAMPLE NUMBER:** L3891-3      **CLIENT ID:** CAFB-MWN-12/18/96-2      **MATRIX:** Aqueous

SW846, APIX	12/18/96 12:00	12/24/96	01/13/97 23:19
SW846, 9030	12/18/96 12:00	12/24/96	12/24/96 08:00
SW846, 8260	12/18/96 12:00	12/26/96	12/26/96 18:23
SW846, 8150	12/18/96 12:00	12/24/96	01/08/97 04:13
SW846, 8080	12/18/96 12:00	12/24/96	12/31/96 23:26

**DATE AND TIME SUMMARY**

**Company Name:** Foothill Engineering  
**Project:** 95-321-330

**HydroLogic Login Number:** L3891

<b>METHOD</b>	<b>COLLECTED</b>	<b>PREPARED</b>	<b>ANALYZED</b>
SW846, 7841	12/18/96 12:00	01/06/97	01/07/97 17:12
SW846, 7740	12/18/96 12:00	01/06/97	01/07/97 11:46
SW846, 7421	12/18/96 12:00	01/06/97	01/07/97 10:19
SW846, 7060	12/18/96 12:00	01/06/97	01/07/97 10:12
SW846, 7041	12/18/96 12:00	01/06/97	01/07/97 14:39
SW846, 6010	12/18/96 12:00	01/06/97	01/07/97 13:15
SW846, 6010	12/18/96 12:00	01/06/97	01/07/97 19:42
SW-846, 9060	12/18/96 12:00	12/27/96	12/27/96 10:10
SW-846, 9020	12/18/96 12:00	12/28/96	12/28/96 07:31
SW-846, 7470	12/18/96 12:00	12/31/96	12/31/96 15:35
SW-846, 9012	12/18/96 12:00	12/31/96	01/08/97 12:25

**SAMPLE NUMBER:** L3891-4      **CLIENT ID:** TRIP BLANK      **MATRIX:** Aqueous

SW846, 8260      12/18/96 00:00      12/26/96      12/26/96 19:04

**SAMPLE NUMBER:** L3891-5      **CLIENT ID:** TRIP BLANK      **MATRIX:** Aqueous

SW846, 8260      12/18/96 00:00      12/26/96      12/26/96 19:46

**SAMPLE NUMBER:** L3891-6      **CLIENT ID:** TRIP BLANK      **MATRIX:** Aqueous

SW846, 8260      12/18/96 00:00      12/26/96      12/26/96 20:27

Analytical Sample Receipt/Check-in Record

Shipped Via: Fed Exp 988 1033 136, 1792507802,  
(Airbill # if applicable)

Client: FootHills Eng

HydroLogic Project #(s): L 3891

HydroLogic Cooler(s): Y or N

Cooler #	<u>34</u>	<u>6025</u>	<u>6090</u>	<u>1432</u>	<u>6014</u>
Ice Packs	<u>Y</u> N	<u>Y</u> N	<u>Y</u> N	<u>Y</u> N	Y N
Temp. °C	<u>6</u>	<u>4</u>	<u>4</u>	<u>4</u>	

	YES	NO	SEE COMMENTS
1. Custody seal(s) present:	<u>X</u>		
2. Containers checked for radioactivity:	<u>X</u>		
3. Chain of Custody present:	<u>X</u>		
(A) COC agrees with bottles received:			
(B) COC signed with date & time:	<u>X</u>		
4. Containers broken or leaking:		<u>X</u>	
5. Short holding time worksheet completed:		<u>Verbal</u>	
6. VOA samples preserved:	<u>X</u>		
7. pH measured on all preserved bottles:	<u>X</u>		
Check for chlorine & sulfides if requesting CN:	<u>X</u>		
8. Dissolved metals samples present:		<u>X</u>	
9. Multi-phase sample(s) present:		<u>X</u>	

Comments: \_\_\_\_\_

\_\_\_\_\_

Sample Administrators Signature/Date: EPA 12-23-96

# Chain of Custody Record



QUA-4124-1

Client <b>Foothill Engineering Consultants</b>	Project Manager <b>Scott Koepsell</b>	Date <b>12-18-96</b>	Chain Of Custody Number <b>75958</b>
Address <b>350 Indiana ST. STE 415</b>	Telephone Number (Area Code)/Fax Number <b>303 278 0622</b>	Lab Number	Page <b>1</b> of <b>1</b>

City <b>Golden</b>	State <b>CO</b>	Zip Code <b>80401</b>	Site Contact	Lab Contact	Analysis (Attach list if more space is needed)																				
Project Name <b>Cannon AFB LTMP</b>			Carrier/Waybill Number		<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td>VOC, AP IX</td> <td>AP IX METALS</td> <td>SULFIDE</td> <td>CYANIDE</td> <td>AP IX Pest/DB</td> <td>TOX</td> <td>AP IX HERB</td> <td>AP IX SVOC</td> <td>TOC</td> <td>ORGANIC PHOS. PEST</td> </tr> <tr> <td>3</td> <td>1</td> <td>1</td> <td>1</td> <td>2</td> <td>1</td> <td>2</td> <td>2</td> <td>1</td> <td>2</td> </tr> </table>	VOC, AP IX	AP IX METALS	SULFIDE	CYANIDE	AP IX Pest/DB	TOX	AP IX HERB	AP IX SVOC	TOC	ORGANIC PHOS. PEST	3	1	1	1	2	1	2	2	1	2
VOC, AP IX	AP IX METALS	SULFIDE	CYANIDE	AP IX Pest/DB		TOX	AP IX HERB	AP IX SVOC	TOC	ORGANIC PHOS. PEST															
3	1	1	1	2	1	2	2	1	2																

Sample I.D. No. and Description <small>(Containers for each sample may be combined on one line)</small>	Date	Time	Matrix			Containers & Preservatives						Special Instructions/ Conditions of Receipt				
			Aqueous	Sed.	Soil	Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc		NaOH			
<b>CAFB-MWO-12/18/96-1</b>	<b>12/18/96</b>	<b>1500</b>	X						X							
										X						
<b>TRIP BLANK</b>	<b>12/18/96</b>	<b>-</b>														<b>PLEASE NOTE HOLD TIME</b>

Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input checked="" type="checkbox"/> Unknown	Sample Disposal <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months longer than 3 months	<small>(A fee may be assessed if samples are retained longer than 3 months)</small>
---	---	---

Turn Around Time Required <input type="checkbox"/> 24 Hours <input type="checkbox"/> 48 Hours <input type="checkbox"/> 7 Days <input checked="" type="checkbox"/> 14 Days <input type="checkbox"/> 21 Days <input type="checkbox"/> Other _____	QC Requirements (Specify)
--	---------------------------

1. Relinquished By <b>John A. Wong</b>	Date <b>12-19-96</b>	Time <b>0800</b>	1. Received By <b>Jane Dinges</b>	Date <b>12-21-96</b>	Time <b>1230</b>
2. Relinquished By	Date	Time	2. Received By	Date	Time
3. Relinquished By	Date	Time	3. Received By	Date	Time

Comments

# Chain of Custody Record

QUA-4124-1

Client: **FOOTHILL ENGINEERING CONS.** Project Manager: **SCOTT KOERSELL** Date: **12-18-96** Chain Of Custody Number: **75944**

Address: **350 INDIANA ST.** Telephone Number (Area Code)/Fax Number: **303/278-0622** Lab Number: \_\_\_\_\_ Page **1** of **1**

City: **GOLDEN** State: **CO** Zip Code: **80401** Site Contact: \_\_\_\_\_ Lab Contact: \_\_\_\_\_

Project Name: **CANNON AFB LTMP** Carrier/Waybill Number: \_\_\_\_\_

Contract/Purchase Order/Quote No.: **95-321-330**

Sample I.D. No. and Description <small>(Containers for each sample may be combined on one line)</small>	Date	Time	Matrix			Containers & Preservatives						Analysis (Attach list if more space is needed)							Special Instructions/ Conditions of Receipt								
			Aqueous	Sed.	Soil	Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc2	NaOH	AP IX HEALB	TOX	TOC	AP IX VOC	AP IX PEST/PCB	AP IX SVOC		TCDD DIOXIN							
CAFB-MWN-12/18/96-2	12-18-96	12:00					X																				
↓	↓	↓					X																				
TRIP BLANK	—	—							X																		
CAFB-MWN-12/18/96-1	12-18-96	12:00																									
↓	↓	↓																									
																											MEET HOLD TIME

Possible Hazard Identification:  Non-Hazard  Flammable  Skin Irritant  Poison B  Unknown

Sample Disposal:  Return To Client  Disposal By Lab  Archive For \_\_\_\_\_ Months (A fee may be assessed if samples are retained longer than 3 months)

Turn Around Time Required:  24 Hours  48 Hours  7 Days  14 Days  21 Days  Other \_\_\_\_\_

QC Requirements (Specify): \_\_\_\_\_

1. Relinquished By: <b>John A. Wong</b>	Date: <b>12-19-96</b>	Time: <b>0800</b>	1. Received By: <b>James Dinges</b>	Date: <b>12-21-96</b>	Time: <b>1230</b>
2. Relinquished By: _____	Date: _____	Time: _____	2. Received By: _____	Date: _____	Time: _____
3. Relinquished By: _____	Date: _____	Time: _____	3. Received By: _____	Date: _____	Time: _____

Comments: \_\_\_\_\_

# Chain of Custody Record



QUA-4124-1

Client: **Foothill Engineering Consultants**  
 Project Manager: **Scott Koepsell**  
 Date: **12/18/96**  
 Chain Of Custody Number: **75956**  
 Address: **30350 Indiana St - STE 415**  
 Telephone Number (Area Code)/Fax Number: **303 278-0622**  
 Lab Number: \_\_\_\_\_  
 Page **1** of **1**

City: **Golden** State: **CO** Zip Code: **80401**  
 Site Contact: \_\_\_\_\_ Lab Contact: \_\_\_\_\_  
 Project Name: **Cannon AFB - LTMP**  
 Carrier/Waybill Number: \_\_\_\_\_  
 Contract/Purchase Order/Quote No.: **95-321-330**

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix			Containers & Preservatives						Analysis (Attach list if more space is needed)	Special Instructions/ Conditions of Receipt	
			Aqueous	Sed.	Soil	Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NEOH			
<b>CAFB-MWN-12/18/96-2</b>	<b>12-18-96</b>	<b>1200</b>	<b>X</b>				<b>X</b>						<b>AP IX METALS</b>	<b>PLEASE NOTE HOLD TIME</b>  <b>MEET HOLD TIME</b>
								<b>X</b>					<b>CYANIDE</b>	
									<b>X</b>				<b>SULFIDE</b>	
							<b>X</b>						<b>DIOXIN TCDD</b>	
													<b>PEST/POB, AP IX</b>	
													<b>ORGANO PHOS. PEST</b>	
													<b>AP IX SVOC</b>	

Possible Hazard Identification:  Non-Hazard  Flammable  Skin Irritant  Poison B  Unknown

Sample Disposal:  Return To Client  Disposal By Lab  Archive For \_\_\_\_\_ Months (A fee may be assessed if samples are retained longer than 3 months)

Turn Around Time Required:  24 Hours  48 Hours  7 Days  14 Days  21 Days  Other \_\_\_\_\_

QC Requirements (Specify): \_\_\_\_\_

1. Relinquished By: <b>Phua Wong</b>	Date: <b>12-19-96</b>	Time: <b>0800</b>	1. Received By: <b>Jane Dinges</b>	Date: <b>12-21-96</b>	Time: <b>12:30</b>
2. Relinquished By: _____	Date: _____	Time: _____	2. Received By: _____	Date: _____	Time: _____
3. Relinquished By: _____	Date: _____	Time: _____	3. Received By: _____	Date: _____	Time: _____

Comments: \_\_\_\_\_



FINAL  
'  
RESULTS

Form 1 - Data Summary Report  
 Prepared By: HydroLogic Laboratories, Inc.

Client ID: CAFB-MW0-12/18/96-1  
 Project Number: 95-321-330  
 Sample ID: L3891-1  
 Site / Project ID: CANNON AFB LTMP  
 Run ID: R5872  
 Collection Date: 18-DEC-96  
 Received Date: 21-DEC-96  
 Report Date: 08-JAN-97

Analyte	CAS No.	Dil	Sample Conc.	Units	Qual	MDL	RL
SW846 Met. 8260 (APIX)							
Preparation Date: 26-DEC-96							
Analysis Date: 26-DEC-96 17:00							
Workgroup Number: WG9104							
Acetone	67-64-1	1	ND	ug/L	U	1.5	100
Acetonitrile	75-05-8	1	ND	ug/L	U	.5	100
Acrolein	107-02-8	1	ND	ug/L	U	.5	100
Acrylonitrile	107-13-1	1	ND	ug/L	U	.5	100
Allyl chloride	107-05-1	1	ND	ug/L	U	.5	10
Benzene	71-43-2	1	ND	ug/L	U	.39	5
Bromodichloromethane	75-27-4	1	ND	ug/L	U	.64	5
Bromoform	75-25-2	1	ND	ug/L	U	.47	5
Bromomethane	74-83-9	1	ND	ug/L	U	.49	10
2-Butanone	78-93-3	1	ND	ug/L	U	1.1	100
Carbon disulfide	75-15-0	1	ND	ug/L	U	1.1	100
Carbon tetrachloride	56-23-5	1	ND	ug/L	U	1.4	5
Chlorobenzene	108-90-7	1	ND	ug/L	U	.44	5
Chloroethane	75-00-3	1	ND	ug/L	U	.54	10
Chloroform	67-66-3	1	ND	ug/L	U	1.4	5
Chloromethane	74-87-3	1	ND	ug/L	U	2	10
Dibromochloromethane	124-48-1	1	ND	ug/L	U	.5	5
1,2-Dibromo-3-chloropropane	96-12-8	1	ND	ug/L	U	.61	100
1,2-Dibromoethane	106-93-4	1	ND	ug/L	U	.5	5
Dibromomethane	74-95-3	1	ND	ug/L	U	1.4	5
trans-1,4-Dichloro-2-butene	110-57-6	1	ND	ug/L	U	5	5
Dichlorodifluoromethane	75-71-8	1	ND	ug/L	U	.43	10
1,1-Dichloroethane	75-34-3	1	ND	ug/L	U	1.7	5
1,2-Dichloroethane	107-06-2	1	ND	ug/L	U	2.1	5
1,1-Dichloroethene	75-35-4	1	ND	ug/L	U	.48	5
trans-1,2-Dichloroethene	156-60-5	1	ND	ug/L	U	.55	5
cis-1,2-Dichloroethene	156-59-2	1	ND	ug/L	U	.5	5
1,2-Dichloropropane	78-87-5	1	ND	ug/L	U	.51	5
cis-1,3-Dichloropropene	10061-01-5	1	ND	ug/L	U	.78	5
trans-1,3-Dichloropropene	10061-02-6	1	ND	ug/L	U	.55	5
1,4-Dioxane	123-91-1	1	ND	ug/L	U	100	100
Ethylbenzene	100-41-4	1	ND	ug/L	U	.75	5

Review By: Bob Cathel

Report Approved By: Karen Kuoppala

- Qual - U = Analyte Not Detected above the Method Detection Limit  
 - J = Estimated Concentration, B = Analyte Detected in the Blank  
 - E = Analyte Conc. is above the Method Calibration Range
- Dil - Sample Dilution Factor
- ND - Sample Concentration Not Detected above MDL
- MDL - Method Detection Limit
- RL - Method Reporting Limit

Form 1 - Data Summary Report  
 Prepared By: HydroLogic Laboratories, Inc.

Client ID: CAFB-MW0-12/18/96-1  
 Project Number: 95-321-330  
 Sample ID: L3891-1  
 Site / Project ID: CANNON AFB LTMP  
 Run ID: R5872  
 Collection Date: 18-DEC-96  
 Received Date: 21-DEC-96  
 Report Date: 08-JAN-97

Analyte	CAS No.	Dil	Sample Conc.	Units	Qual	MDL	RL
Ethyl methacrylate	97-63-2	1	ND	ug/L	U	.5	5
2-Hexanone	591-78-6	1	ND	ug/L	U	.5	100
Iodomethane	74-88-4	1	ND	ug/L	U	10	10
Methacrylonitrile	126-98-7	1	ND	ug/L	U	.5	100
Methylene chloride	75-09-2	1	ND	ug/L	U	.75	5
Methyl methacrylate	80-62-6	1	ND	ug/L	U	.5	50
4-Methyl-2-pentanone	108-10-1	1	ND	ug/L	U	.56	50
Propionitrile	107-12-0	1	ND	ug/L	U	.5	5
Styrene	100-42-5	1	ND	ug/L	U	.5	5
1,1,1,2-Tetrachloroethane	630-20-6	1	ND	ug/L	U	.45	5
1,1,2,2-Tetrachloroethane	79-34-5	1	ND	ug/L	U	.63	5
Tetrachloroethene	127-18-4	1	ND	ug/L	U	.49	5
Toluene	108-88-3	1	ND	ug/L	U	.85	5
1,1,1-Trichloroethane	71-55-6	1	ND	ug/L	U	1.7	5
1,1,2-Trichloroethane	79-00-5	1	ND	ug/L	U	1.2	5
Trichloroethene	79-01-6	1	ND	ug/L	U	.42	5
Trichlorofluoromethane	75-69-4	1	ND	ug/L	U	.5	5
1,2,3-Trichloropropane	96-18-4	1	ND	ug/L	U	1.1	5
Vinyl acetate	108-05-4	1	ND	ug/L	U	5	5
Vinyl chloride	75-01-4	1	ND	ug/L	U	.47	2
Xylene (Total)	1330-20-7	1	ND	ug/L	U	1	5
Dibromofluoromethane	SURROGATE	1	100	%			
Toluene-d8	SURROGATE	1	97	%			
4-Bromofluorobenzene	SURROGATE	1	98	%			

Review By: Bob Cathel

Report Approved By: Karen Kuoppala

- Qual - U = Analyte Not Detected above the Method Detection Limit  
 - J = Estimated Concentration, B = Analyte Detected in the Blank  
 - E = Analyte Conc. is above the Method Calibration Range
- Dil - Sample Dilution Factor
- ND - Sample Concentration Not Detected above MDL
- MDL - Method Detection Limit
- RL - Method Reporting Limit

Form 1 - Data Summary Report  
 Prepared By: HydroLogic Laboratories, Inc.

Client ID: CAFB-MW0-12/18/96-1  
 Project Number: 95-321-330  
 Sample ID: L3891-1  
 Site / Project ID: CANNON AFB LTMP  
 Run ID: R5872  
 Collection Date: 18-DEC-96  
 Received Date: 21-DEC-96  
 Report Date: 08-JAN-97

Analyte	CAS No.	Dil	Sample Conc.	Units	Qual	MDL	RL
SW846 Met. 8270 (APIX)							
Preparation Date: 24-DEC-96							
Analysis Date: 13-JAN-97 21:48							
Workgroup Number: WG9105							
Acenaphthene	83-32-9	1	ND	ug/L	U	4.2	5
Acenaphthylene	208-96-8	1	ND	ug/L	U	3.5	5
Acetophenone	98-86-2	1	ND	ug/L	U	2.9	5
2-Acetylaminofluorene	53-96-3	1	ND	ug/L	U	100	100
4-Aminobiphenyl	92-67-1	1	ND	ug/L	U	3.3	10
Aniline	62-53-3	1	ND	ug/L	U	2.4	5
Anthracene	120-12-7	1	ND	ug/L	U	2.6	5
Aramite	140-57-8	1	ND	ug/L	U	10	10
Benz(a)anthracene	56-55-3	1	ND	ug/L	U	2.8	5
Benzo(b)fluoranthene	205-99-2	1	ND	ug/L	U	2.6	5
Benzo(k)fluoranthene	207-08-9	1	ND	ug/L	U	3.9	5
Benzo(g,h,i)perylene	191-24-2	1	ND	ug/L	U	3.1	5
Benzo(a)pyrene	50-32-8	1	ND	ug/L	U	3.5	5
Benzyl alcohol	100-51-6	1	ND	ug/L	U	2.4	5
4-Bromophenyl phenyl ether	101-55-3	1	ND	ug/L	U	2.6	5
Butyl benzyl phthalate	85-68-7	1	ND	ug/L	U	2.7	5
2-sec-Butyl-4,6-dinitrophenol	88-85-7	1	ND	ug/L	U	10	10
4-Chloroaniline	106-47-8	1	ND	ug/L	U	3.8	5
Bis(2-chloroethoxy)methane	111-91-1	1	ND	ug/L	U	2.9	5
Bis(2-chloroethyl) ether	111-44-4	1	ND	ug/L	U	2.1	5
Bis(2-chloroisopropyl) ether	108-60-1	1	ND	ug/L	U	1.9	5
4-Chloro-3-methylphenol	59-50-7	1	ND	ug/L	U	3.2	5
2-Chloronaphthalene	91-58-7	1	ND	ug/L	U	4.2	5
2-Chlorophenol	95-57-8	1	ND	ug/L	U	2.9	5
4-Chlorophenyl phenyl ether	7005-72-3	1	ND	ug/L	U	3.9	5
Chrysene	218-01-9	1	ND	ug/L	U	4.2	5
Dibenz(a,h)anthracene	53-70-3	1	ND	ug/L	U	3.4	5
Dibenzofuran	132-64-9	1	ND	ug/L	U	4	5
1,3-Dichlorobenzene	541-73-1	1	ND	ug/L	U	3	5
1,4-Dichlorobenzene	106-46-7	1	ND	ug/L	U	2.9	5
1,2-Dichlorobenzene	95-50-1	1	ND	ug/L	U	2.6	5
Di-n-butyl phthalate	84-74-2	1	ND	ug/L	U	5.2	20

Review By: Bob Cathel

Report Approved By: Karen Kuoppala

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- ND - Sample Concentration Not Detected above MDL
- MDL - Method Detection Limit
- RL - Method Reporting Limit

Form 1 - Data Summary Report  
 Prepared By: HydroLogic Laboratories, Inc.

Client ID: CAFB-MW0-12/18/96-1  
 Project Number: 95-321-330  
 Sample ID: L3891-1  
 Site / Project ID: CANNON AFB LTMP  
 Run ID: R5872  
 Collection Date: 18-DEC-96  
 Received Date: 21-DEC-96  
 Report Date: 08-JAN-97

Analyte	CAS No.	Dil	Sample Conc.	Units	Qual	MDL	RL
3,3'-Dichlorobenzidine	91-94-1	1	ND	ug/L	U	3.6	10
2,4-Dichlorophenol	120-83-2	1	ND	ug/L	U	4.4	5
2,6-Dichlorophenol	87-65-0	1	ND	ug/L	U	4.4	5
Diethyl phthalate	84-66-2	1	ND	ug/L	U	5.1	10
Dimethoate	60-51-5	1	ND	ug/L	U	5.1	10
p-Dimethylaminoazobenzene	60-11-7	1	ND	ug/L	U	2.5	5
7,12-Dimethylbenz(a)anthracene	57-97-6	1	ND	ug/L	U	3.4	5
3,3'-Dimethylbenzidine	119-93-7	1	ND	ug/L	U	5	10
a,a-Dimethylphenethylamine	122-09-8	1	ND	ug/L	U	4.5	100
2,4-Dimethylphenol	105-67-9	1	ND	ug/L	U	3.2	5
Dimethyl phthalate	131-11-3	1	ND	ug/L	U	4.8	5
1,3-Dinitrobenzene	99-65-0	1	ND	ug/L	U	5	10
4,6-Dinitro-2-methylphenol	534-52-1	1	ND	ug/L	U	4.3	25
2,4-Dinitrophenol	51-28-5	1	ND	ug/L	U	6.9	25
2,4-Dinitrotoluene	121-14-2	1	ND	ug/L	U	2.9	5
2,6-Dinitrotoluene	606-20-2	1	ND	ug/L	U	3.8	5
Di-n-octyl phthalate	117-84-0	1	ND	ug/L	U	2.7	5
Diphenylamine	122-39-4	1	ND	ug/L	U	4.2	10
Disulfoton	298-04-4	1	ND	ug/L	U	5.1	10
bis(2-ethylhexyl) phthalate	117-81-7	1	ND	ug/L	U	3.6	10
Ethyl methanesulfonate	62-50-0	1	ND	ug/L	U	2.6	10
Famphur	52-85-7	1	ND	ug/L	U	5.1	10
Fluoranthene	206-44-0	1	ND	ug/L	U	4	5
Fluorene	86-73-7	1	ND	ug/L	U	3.3	5
Hexachlorobenzene	118-74-1	1	ND	ug/L	U	2.5	5
Hexachlorobutadiene	87-68-3	1	ND	ug/L	U	3	5
Hexachlorocyclopentadiene	77-47-4	1	ND	ug/L	U	2.2	5
Hexachloroethane	67-72-1	1	ND	ug/L	U	4.7	5
Hexachloropropene	1888-71-7	1	ND	ug/L	U	5	5
Hexachlorophene	70-30-4	1	ND	ug/L	U	100	100
Indeno(1,2,3-cd)pyrene	193-39-5	1	ND	ug/L	U	3.1	5
Isophorone	78-59-1	1	ND	ug/L	U	3	5
Isosafrole	120-58-1	1	ND	ug/L	U	20	20
Methapyrilene	91-80-5	1	ND	ug/L	U	10	10
3-Methylcholanthrene	56-49-5	1	ND	ug/L	U	2.7	5
Methyl methanesulfonate	66-27-3	1	ND	ug/L	U	2.9	5

Review By: Bob Cathel

Report Approved By: Karen Kuoppala

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Form 1 - Data Summary Report  
 Prepared By: HydroLogic Laboratories, Inc.

Client ID: CAFB-MW0-12/18/96-1  
 Project Number: 95-321-330  
 Sample ID: L3891-1  
 Site / Project ID: CANNON AFB LTMP  
 Run ID: R5872  
 Collection Date: 18-DEC-96  
 Received Date: 21-DEC-96  
 Report Date: 08-JAN-97

Analyte	CAS No.	Dil	Sample Conc.	Units	Qual	MDL	RL
2-Methylnaphthalene	91-57-6	1	ND	ug/L	U	2.8	5
Methyl parathion	298-00-0	1	ND	ug/L	U	5.1	10
2-Methylphenol	95-48-7	1	ND	ug/L	U	1.9	5
3&4-Methylphenol	NA	1	ND	ug/L	U	2	5
Naphthalene	91-20-3	1	ND	ug/L	U	2.4	5
1,4-Napthoquinone	130-15-4	1	ND	ug/L	U	10	10
1-Naphthylamine	134-32-7	1	ND	ug/L	U	3.8	5
2-Naphthylamine	91-59-8	1	ND	ug/L	U	3.9	5
2-Nitroaniline	88-74-4	1	ND	ug/L	U	3.7	25
3-Nitroaniline	99-09-2	1	ND	ug/L	U	3.4	25
4-Nitroaniline	100-01-6	1	ND	ug/L	U	6.4	25
Nitrobenzene	98-95-3	1	ND	ug/L	U	4.7	5
2-Nitrophenol	88-75-5	1	ND	ug/L	U	4.3	5
4-Nitrophenol	100-02-7	1	ND	ug/L	U	8.4	25
N-Nitroso-di-n-butylamine	924-16-3	1	ND	ug/L	U	3	5
N-Nitrosodiethylamine	55-18-5	1	ND	ug/L	U	10	10
N-Nitrosodimethylamine	62-75-9	1	ND	ug/L	U	2	10
N-Nitrosodiphenylamine	86-30-6	1	ND	ug/L	U	5.2	25
N-Nitrosodipropylamine	621-64-7	1	ND	ug/L	U	3.1	5
N-Nitrosomethylethylamine	10595-95-6	1	ND	ug/L	U	10	10
N-Nitrosomorpholine	59-89-2	1	ND	ug/L	U	10	10
N-Nitrosopiperidine	100-75-4	1	ND	ug/L	U	3.4	10
N-Nitrosopyrrolidine	930-55-2	1	ND	ug/L	U	10	10
5-Nitro-o-toluidine	99-55-8	1	ND	ug/L	U	10	10
4-Nitroquinoline-n-oxide	56-57-5	1	ND	ug/L	U	100	100
Parathion	56-38-2	1	ND	ug/L	U	5.1	10
Pentachlorobenzene	608-93-5	1	ND	ug/L	U	3.9	5
Pentachloroethane	76-01-7	1	ND	ug/L	U	10	10
Pentachloronitrobenzene	82-68-8	1	ND	ug/L	U	4.7	10
Pentachlorophenol	87-86-5	1	ND	ug/L	U	5.7	25
Phenacetin	62-44-2	1	ND	ug/L	U	5.9	25
Phenanthrene	85-01-8	1	ND	ug/L	U	2.5	5
Phenol	108-95-2	1	ND	ug/L	U	3.4	5
p-Phenylenediamine	106-50-3	1	ND	ug/L	U	100	100
Phorate	298-02-2	1	ND	ug/L	U	5.1	10
2-Picoline	109-06-8	1	ND	ug/L	U	3.6	5

Review By: Bob Cathel

Report Approved By: Karen Kuoppala

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Form 1 - Data Summary Report  
 Prepared By: HydroLogic Laboratories, Inc.

Client ID: CAFB-MWO-12/18/96-1  
 Project Number: 95-321-330  
 Sample ID: L3891-1  
 Site / Project ID: CANNON AFB LTMP  
 Run ID: R5872  
 Collection Date: 18-DEC-96  
 Received Date: 21-DEC-96  
 Report Date: 08-JAN-97

Analyte	CAS No.	Dil	Sample Conc.	Units	Qual	MDL	RL
Pronamide	23950-58-5	1	ND	ug/L	U	3.8	5
Pyrene	129-00-0	1	ND	ug/L	U	3.5	5
Pyridine	110-86-1	1	ND	ug/L	U	10	10
Safrole	94-59-7	1	ND	ug/L	U	10	10
1,2,4,5-Tetrachlorobenzene	95-94-3	1	ND	ug/L	U	5.1	10
2,3,4,6-Tetrachlorophenol	58-90-2	1	ND	ug/L	U	4.5	5
o-Toluidine	95-53-4	1	ND	ug/L	U	10	10
1,2,4-Trichlorobenzene	120-82-1	1	ND	ug/L	U	3.2	5
2,4,5-Trichlorophenol	95-95-4	1	ND	ug/L	U	5.6	25
2,4,6-Trichlorophenol	88-06-2	1	ND	ug/L	U	4.4	5
1,3,5-Trinitrobenzene	99-35-4	1	ND	ug/L	U	10	10
Nitrobenzene-d5	SURROGATE	1	88	%			
2-Fluorobiphenyl	SURROGATE	1	92	%			
p-Terphenyl-d14	SURROGATE	1	100	%			
Phenol-d6	SURROGATE	1	52	%			
2-Fluorophenol	SURROGATE	1	64	%			
2,4,6-Tribromophenol	SURROGATE	1	100	%			

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Form 1 - Data Summary Report  
 Prepared By: HydroLogic Laboratories, Inc.

Client ID: CAFB-MWO-12/18/96-1  
 Project Number: 95-321-330  
 Sample ID: L3891-1  
 Site / Project ID: CANNON AFB LTMP  
 Run ID: R5872  
 Collection Date: 18-DEC-96  
 Received Date: 21-DEC-96  
 Report Date: 08-JAN-97

Analyte	CAS No.	Dil	Sample Conc.	Units	Qual	MDL	RL
SW846 Methods 3520/8080							
Preparation Date: 24-DEC-96							
Analysis Date: 31-DEC-96 22:05							
Workgroup Number: WG9106							
Aldrin	309-00-2	1	ND	ug/L	U	.05	.05
alpha-BHC	319-84-6	1	ND	ug/L	U	.018	.05
beta-BHC	319-85-7	1	ND	ug/L	U	.015	.05
delta-BHC	319-86-8	1	ND	ug/L	U	.011	.05
gamma-BHC (Lindane)	58-89-9	1	ND	ug/L	U	.013	.05
alpha-Chlordane	5103-71-9	1	ND	ug/L	J	.01	.05
gamma-Chlordane	5103-74-2	1	ND	ug/L	J	.01	.05
Chlorobenzilate	510-15-6	1	ND	ug/L	U	.05	.1
4,4'-DDD	72-54-8	1	ND	ug/L	U	.078	.1
4,4'-DDE	72-55-9	1	ND	ug/L	U	.017	.1
4,4'-DDT	50-29-3	1	ND	ug/L	U	.031	.1
Diallate	60-57-1	1	ND	ug/L	U	.5	.1
Dieldrin	60-57-1	1	ND	ug/L	U	.012	.1
Endosulfan I	959-98-8	1	ND	ug/L	U	.015	.05
Endosulfan II	33213-65-9	1	ND	ug/L	U	.013	.1
Endosulfan sulfate	1031-07-8	1	ND	ug/L	U	.018	.1
Endrin	72-20-8	1	ND	ug/L	U	.013	.1
Endrin aldehyde	7421-93-4	1	ND	ug/L	U	.081	.1
Heptachlor	76-44-8	1	ND	ug/L	U	.036	.05
Heptachlor epoxide	1024-57-3	1	ND	ug/L	U	.014	.05
Isodrin	465-73-6	1	ND	ug/L	U	.05	.1
Kepone	143-50-0	1	ND	ug/L	U	.5	.1
Methoxychlor	72-43-5	1	ND	ug/L	U	.049	.5
Toxaphene	8001-35-2	1	ND	ug/L	U	.24	2.4
Aroclor-1016	12674-11-2	1	ND	ug/L	U	.18	.5
Aroclor-1221	11104-28-2	1	ND	ug/L	U	.11	.5
Aroclor-1232	11141-16-5	1	ND	ug/L	U	.11	.5
Aroclor-1242	53469-21-9	1	ND	ug/L	U	.11	.5
Aroclor-1248	12672-29-6	1	ND	ug/L	U	.11	.5
Aroclor-1254	11097-69-1	1	ND	ug/L	U	.11	.1
Aroclor-1260	11096-82-5	1	ND	ug/L	U	.11	.1
Tetrachloro-m-xylene	SURROGATE	1	78	%			

Review By: Bob Cathel

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Form 1 - Data Summary Report  
Prepared By: HydroLogic Laboratories, Inc.

Client ID: CAFB-MW0-12/18/96-1  
Project Number: 95-321-330  
Sample ID: L3891-1  
Site / Project ID: CANNON AFB LTMP  
Run ID: R5872  
Collection Date: 18-DEC-96  
Received Date: 21-DEC-96  
Report Date: 08-JAN-97

Analyte	CAS No.	Dil	Sample Conc.	Units	Qual	MDL	RL
Decachlorobiphenyl	SURROGATE	1	104	%			

Review By: Bob Cathel

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Form 1 - Data Summary Report  
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Client ID: CAFB-MWO-12/18/96-1  
 Project Number: 95-321-330  
 Sample ID: L3891-1  
 Site / Project ID: CANNON AFB LTMP  
 Run ID: R5872  
 Collection Date: 18-DEC-96  
 Received Date: 21-DEC-96  
 Report Date: 08-JAN-97

Analyte	CAS No.	Dil	Sample Conc.	Units	Qual	MDL	RL
SW846 Met. 8150 (APIX)							
Preparation Date: 24-DEC-96							
Analysis Date: 08-JAN-97 04:50							
Workgroup Number: WG9107							
2,4-D	94-75-7	1	ND	ug/L	U	1	1
2,4,5-T	93-76-5	1	ND	ug/L	U	.1	.1
2,4,5-TP (Silvex)	93-72-1	1	ND	ug/L	U	.1	.1
Dinoseb	88-85-7	1	ND	ug/L	U	.5	.5
DCAA	SURROGATE	1	70	%			

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Form 1 - Data Summary Report  
 Prepared By: HydroLogic Laboratories, Inc.

Client ID: CAFB-MW0-12/18/96-1  
 Project Number: 95-321-330  
 Sample ID: L3891-1  
 Site / Project ID: CANNON AFB LTMP  
 Run ID: R5872  
 Collection Date: 18-DEC-96  
 Received Date: 21-DEC-96  
 Report Date: 08-JAN-97

Analyte	CAS No.	Dil	Sample Conc.	Units	Qual	MDL	RL
SW846 Met. 6010 (APIX)							
Preparation Date: 06-JAN-97							
Analysis Date: 07-JAN-97 19:36							
Workgroup Number: WG9293							
Barium	7440-39-3	1	.048	mg/L		.00026	.02
Beryllium	7440-41-7	1	ND	mg/L	U	.00016	.004
Cadmium	7440-43-9	1	ND	mg/L	U	.0019	.005
Chromium	7440-47-3	1	ND	mg/L	U	.0045	.01
Cobalt	7440-48-4	1	ND	mg/L	U	.0053	.05
Copper	7440-50-8	1	ND	mg/L	U	.0073	.01
Nickel	7440-02-0	1	ND	mg/L	U	.0056	.02
Silver	7440-22-4	1	ND	mg/L	U	.0019	.01
Tin	7440-31-5	1	ND	mg/L	U	.054	.1
Vanadium	7440-62-2	1	.0059	mg/L	J	.0017	.05
Zinc	7440-66-6	1	.0079	mg/L	JB	.0052	.02

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Form 1 - Data Summary Report  
 Prepared By: HydroLogic Laboratories, Inc.

Client ID: CAFB-MWO-12/18/96-1  
 Project Number: 95-321-330  
 Sample ID: L3891-1  
 Site / Project ID: CANNON AFB LTMP  
 Run ID: R5872  
 Collection Date: 18-DEC-96  
 Received Date: 21-DEC-96  
 Report Date: 08-JAN-97

Analyte	CAS No.	Dil	Sample Conc.	Units	Qual	MDL	RL
SW846 Method 7060 Analysis Date: 07-JAN-97 09:59 Workgroup Number: WG9295							
Arsenic	7440-38-2	1	ND	mg/L	U	.00073	.005
SW846 Method 7470 Analysis Date: 31-DEC-96 15:31 Workgroup Number: WG9215							
Mercury	7439-97-6	1	.0006	mg/L		.00005	.0002
SW846 Method 7421 Analysis Date: 07-JAN-97 10:04 Workgroup Number: WG9294							
Lead	7439-92-1	1	ND	mg/L	U	.00089	.003
SW846 Method 7041 Analysis Date: 07-JAN-97 14:27 Workgroup Number: WG9317							
Antimony	7440-36-0	1	ND	mg/L	U	.00068	.006
SW846 Method 7740 Analysis Date: 07-JAN-97 11:34 Workgroup Number: WG9296							
Selenium	7782-49-2	1	ND	mg/L	U	.00074	.005
SW846 Method 7841 Analysis Date: 07-JAN-97 16:57 Workgroup Number: WG9297							
Thallium	7440-26-0	1	ND	mg/L	U	.00079	.005

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Form 1 - Data Summary Report  
 Prepared By: HydroLogic Laboratories, Inc.

Client ID: CAFB-MW0-12/18/96-1  
 Project Number: 95-321-330  
 Sample ID: L3891-1  
 Site / Project ID: CANNON AFB LTMP  
 Run ID: R5872  
 Collection Date: 18-DEC-96  
 Received Date: 21-DEC-96  
 Report Date: 08-JAN-97

Analyte	CAS No.	Dil	Sample Conc.	Units	Qual	MDL	RL
SW846 Method 9012							
Analysis Date: 08-JAN-97 12:25							
Workgroup Number: WG9352							
Cyanide (tot.)	N/A	1	ND	mg/L	U	.003	.02
Cyanide (amen.)	N/A	1	ND	mg/L	U	.005	.02
SW-846, Method 9030							
Preparation Date: 24-DEC-96							
Analysis Date: 24-DEC-96 08:00							
Workgroup Number: WG9086							
Sulfide	N/A	1	ND	mg/L	U	.48	1
SW-846, Method 9060							
Analysis Date: 27-DEC-96 10:10							
Workgroup Number: WG9138							
Total Organic Carbon	N/A	1	6.1	mg/L		.15	1
SW-846, Method 9020							
Analysis Date: 27-DEC-96 09:31							
Workgroup Number: WG9144							
Total Organic Halides	N/A	1	ND	mg/L	J	.001	.005

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Form 1 - Data Summary Report  
 Prepared By: HydroLogic Laboratories, Inc.

Client ID: CAFB-MWN-12/18/96-1  
 Project Number: 95-321-330  
 Sample ID: L3891-2  
 Site / Project ID: CANNON AFB LTMP  
 Run ID: R5872  
 Collection Date: 18-DEC-96  
 Received Date: 21-DEC-96  
 Report Date: 08-JAN-97

Analyte	CAS No.	Dil	Sample Conc.	Units	Qual	MDL	RL
SW846 Met. 8260 (APIX)							
Preparation Date: 26-DEC-96							
Analysis Date: 26-DEC-96 17:42							
Workgroup Number: WG9104							
Acetone	67-64-1	1	ND	ug/L	U	1.5	100
Acetonitrile	75-05-8	1	ND	ug/L	U	.5	100
Acrolein	107-02-8	1	ND	ug/L	U	.5	100
Acrylonitrile	107-13-1	1	ND	ug/L	U	.5	100
Allyl chloride	107-05-1	1	ND	ug/L	U	.5	10
Benzene	71-43-2	1	ND	ug/L	U	.39	5
Bromodichloromethane	75-27-4	1	ND	ug/L	U	.64	5
Bromoform	75-25-2	1	ND	ug/L	U	.47	5
Bromomethane	74-83-9	1	ND	ug/L	U	.49	10
2-Butanone	78-93-3	1	ND	ug/L	U	1.1	100
Carbon disulfide	75-15-0	1	ND	ug/L	U	1.1	100
Carbon tetrachloride	56-23-5	1	ND	ug/L	U	1.4	5
Chlorobenzene	108-90-7	1	ND	ug/L	U	.44	5
Chloroethane	75-00-3	1	ND	ug/L	U	.54	10
Chloroform	67-66-3	1	ND	ug/L	U	1.4	5
Chloromethane	74-87-3	1	ND	ug/L	U	2	10
Dibromochloromethane	124-48-1	1	ND	ug/L	U	.5	5
1,2-Dibromo-3-chloropropane	96-12-8	1	ND	ug/L	U	.61	100
1,2-Dibromoethane	106-93-4	1	ND	ug/L	U	.5	5
Dibromomethane	74-95-3	1	ND	ug/L	U	1.4	5
trans-1,4-Dichloro-2-butene	110-57-6	1	ND	ug/L	U	5	5
Dichlorodifluoromethane	75-71-8	1	ND	ug/L	U	.43	10
1,1-Dichloroethane	75-34-3	1	ND	ug/L	U	1.7	5
1,2-Dichloroethane	107-06-2	1	ND	ug/L	U	2.1	5
1,1-Dichloroethene	75-35-4	1	ND	ug/L	U	.48	5
trans-1,2-Dichloroethene	156-60-5	1	ND	ug/L	U	.55	5
cis-1,2-Dichloroethene	156-59-2	1	ND	ug/L	U	.5	5
1,2-Dichloropropane	78-87-5	1	ND	ug/L	U	.51	5
cis-1,3-Dichloropropene	10061-01-5	1	ND	ug/L	U	.78	5
trans-1,3-Dichloropropene	10061-02-6	1	ND	ug/L	U	.55	5
1,4-Dioxane	123-91-1	1	ND	ug/L	U	100	100
Ethylbenzene	100-41-4	1	ND	ug/L	U	.75	5

Review By: Bob Cathel

Report Approved By: Karen Kuoppala

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 - E = Analyte Conc. is above the Method Calibration Range
- Dil - Sample Dilution Factor
- ND - Sample Concentration Not Detected above MDL
- MDL - Method Detection Limit
- RL - Method Reporting Limit

Form 1 - Data Summary Report  
 Prepared By: HydroLogic Laboratories, Inc.

Client ID: CAFB-MWN-12/18/96-1  
 Project Number: 95-321-330  
 Sample ID: L3891-2  
 Site / Project ID: CANNON AFB LTMP  
 Run ID: R5872  
 Collection Date: 18-DEC-96  
 Received Date: 21-DEC-96  
 Report Date: 08-JAN-97

Analyte	CAS No.	Dil	Sample Conc.	Units	Qual	MDL	RL
Ethyl methacrylate	97-63-2	1	ND	ug/L	U	.5	5
2-Hexanone	591-78-6	1	ND	ug/L	U	.5	100
Iodomethane	74-88-4	1	ND	ug/L	U	10	10
Methacrylonitrile	126-98-7	1	ND	ug/L	U	.5	100
Methylene chloride	75-09-2	1	ND	ug/L	U	.75	5
Methyl methacrylate	80-62-6	1	ND	ug/L	U	.5	50
4-Methyl-2-pentanone	108-10-1	1	ND	ug/L	U	.56	50
Propionitrile	107-12-0	1	ND	ug/L	U	.5	5
Styrene	100-42-5	1	ND	ug/L	U	.5	5
1,1,1,2-Tetrachloroethane	630-20-6	1	ND	ug/L	U	.45	5
1,1,2,2-Tetrachloroethane	79-34-5	1	ND	ug/L	U	.63	5
Tetrachloroethene	127-18-4	1	ND	ug/L	U	.49	5
Toluene	108-88-3	1	ND	ug/L	U	.85	5
1,1,1-Trichloroethane	71-55-6	1	ND	ug/L	U	1.7	5
1,1,2-Trichloroethane	79-00-5	1	ND	ug/L	U	1.2	5
Trichloroethene	79-01-6	1	ND	ug/L	U	.42	5
Trichlorofluoromethane	75-69-4	1	ND	ug/L	U	.5	5
1,2,3-Trichloropropane	96-18-4	1	ND	ug/L	U	1.1	5
Vinyl acetate	108-05-4	-1	ND	ug/L	U	5	10
Vinyl chloride	75-01-4	1	ND	ug/L	U	.47	2
Xylene (Total)	1330-20-7	1	ND	ug/L	U	1	5
Dibromofluoromethane	SURROGATE	1	102	%			
Toluene-d8	SURROGATE	1	97	%			
4-Bromofluorobenzene	SURROGATE	1	94	%			

Review By: Bob Cathel

Report Approved By: Karen Kuoppala

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Form 1 - Data Summary Report  
 Prepared By: HydroLogic Laboratories, Inc.

Client ID: CAFB-MWN-12/18/96-1  
 Project Number: 95-321-330  
 Sample ID: L3891-2  
 Site / Project ID: CANNON AFB LTMP  
 Run ID: R5872  
 Collection Date: 18-DEC-96  
 Received Date: 21-DEC-96  
 Report Date: 08-JAN-97

Analyte	CAS No.	Dil	Sample Conc.	Units	Qual	MDL	RL
SW846 Met. 8270 (APIX)							
Preparation Date: 24-DEC-96							
Analysis Date: 13-JAN-97 22:34							
Workgroup Number: WG9105							
Acenaphthene	83-32-9	1	ND	ug/L	U	4.2	5
Acenaphthylene	208-96-8	1	ND	ug/L	U	3.5	5
Acetophenone	98-86-2	1	ND	ug/L	U	2.9	5
2-Acetylaminofluorene	53-96-3	1	ND	ug/L	U	100	100
4-Aminobiphenyl	92-67-1	1	ND	ug/L	U	3.3	10
Aniline	62-53-3	1	ND	ug/L	U	2.4	5
Anthracene	120-12-7	1	ND	ug/L	U	2.6	5
Aramite	140-57-8	1	ND	ug/L	U	10	10
Benz(a)anthracene	56-55-3	1	ND	ug/L	U	2.8	5
Benzo(b)fluoranthene	205-99-2	1	ND	ug/L	U	2.6	5
Benzo(k)fluoranthene	207-08-9	1	ND	ug/L	U	3.9	5
Benzo(g,h,i)perylene	191-24-2	1	ND	ug/L	U	3.1	5
Benzo(a)pyrene	50-32-8	1	ND	ug/L	U	3.5	5
Benzyl alcohol	100-51-6	1	ND	ug/L	U	2.4	5
4-Bromophenyl phenyl ether	101-55-3	1	ND	ug/L	U	2.6	5
Butyl benzyl phthalate	85-68-7	1	ND	ug/L	U	2.7	5
2-sec-Butyl-4,6-dinitrophenol	88-85-7	1	ND	ug/L	U	10	10
4-Chloroaniline	106-47-8	1	ND	ug/L	U	3.8	5
Bis(2-chloroethoxy)methane	111-91-1	1	ND	ug/L	U	2.9	5
Bis(2-chloroethyl) ether	111-44-4	1	ND	ug/L	U	2.1	5
Bis(2-chloroisopropyl) ether	108-60-1	1	ND	ug/L	U	1.9	5
4-Chloro-3-methylphenol	59-50-7	1	ND	ug/L	U	3.2	5
2-Chloronaphthalene	91-58-7	1	ND	ug/L	U	4.2	5
2-Chlorophenol	95-57-8	1	ND	ug/L	U	2.9	5
4-Chlorophenyl phenyl ether	7005-72-3	1	ND	ug/L	U	3.9	5
Chrysene	218-01-9	1	ND	ug/L	U	4.2	5
Dibenz(a,h)anthracene	53-70-3	1	ND	ug/L	U	3.4	5
Dibenzofuran	132-64-9	1	ND	ug/L	U	4	5
1,3-Dichlorobenzene	541-73-1	1	ND	ug/L	U	3	5
1,4-Dichlorobenzene	106-46-7	1	ND	ug/L	U	2.9	5
1,2-Dichlorobenzene	95-50-1	1	ND	ug/L	U	2.6	5
Di-n-butyl phthalate	84-74-2	1	ND	ug/L	U	5.2	20

Review By: Bob Cathel

Report Approved By: Karen Kuoppala

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- RL - Method Reporting Limit

Form 1 - Data Summary Report  
 Prepared By: HydroLogic Laboratories, Inc.

Client ID: CAFB-MWN-12/18/96-1  
 Project Number: 95-321-330  
 Sample ID: L3891-2  
 Site / Project ID: CANNON AFB LTMP  
 Run ID: R5872  
 Collection Date: 18-DEC-96  
 Received Date: 21-DEC-96  
 Report Date: 08-JAN-97

Analyte	CAS No.	Dil	Sample Conc.	Units	Qual	MDL	RL
3,3'-Dichlorobenzidine	91-94-1	1	ND	ug/L	U	3.6	10
2,4-Dichlorophenol	120-83-2	1	ND	ug/L	U	4.4	5
2,6-Dichlorophenol	87-65-0	1	ND	ug/L	U	4.4	5
Diethyl phthalate	84-66-2	1	ND	ug/L	U	5.1	10
Dimethoate	60-51-5	1	ND	ug/L	U	5.1	10
p-Dimethylaminoazobenzene	60-11-7	1	ND	ug/L	U	2.5	5
7,12-Dimethylbenz(a)anthracene	57-97-6	1	ND	ug/L	U	3.4	5
3,3'-Dimethylbenzidine	119-93-7	1	ND	ug/L	U	5	10
a,a-Dimethylphenethylamine	122-09-8	1	ND	ug/L	U	4.5	100
2,4-Dimethylphenol	105-67-9	1	ND	ug/L	U	3.2	5
Dimethyl phthalate	131-11-3	1	ND	ug/L	U	4.8	5
1,3-Dinitrobenzene	99-65-0	1	ND	ug/L	U	5	10
4,6-Dinitro-2-methylphenol	534-52-1	1	ND	ug/L	U	4.3	25
2,4-Dinitrophenol	51-28-5	1	ND	ug/L	U	6.9	25
2,4-Dinitrotoluene	121-14-2	1	ND	ug/L	U	2.9	5
2,6-Dinitrotoluene	606-20-2	1	ND	ug/L	U	3.8	5
Di-n-octyl phthalate	117-84-0	1	ND	ug/L	U	2.7	5
Diphenylamine	122-39-4	1	ND	ug/L	U	4.2	10
Disulfoton	298-04-4	1	ND	ug/L	U	5.1	10
bis(2-ethylhexyl) phthalate	117-81-7	1	ND	ug/L	U	3.6	5
Ethyl methanesulfonate	62-50-0	1	ND	ug/L	U	2.6	10
Famphur	52-85-7	1	ND	ug/L	U	5.1	10
Fluoranthene	206-44-0	1	ND	ug/L	U	4	5
Fluorene	86-73-7	1	ND	ug/L	U	3.3	5
Hexachlorobenzene	118-74-1	1	ND	ug/L	U	2.5	5
Hexachlorobutadiene	87-68-3	1	ND	ug/L	U	3	5
Hexachlorocyclopentadiene	77-47-4	1	ND	ug/L	U	2.2	5
Hexachloroethane	67-72-1	1	ND	ug/L	U	4.7	5
Hexachloropropene	1888-71-7	1	ND	ug/L	U	5	5
Hexachlorophene	70-30-4	1	ND	ug/L	U	100	100
Indeno(1,2,3-cd)pyrene	193-39-5	1	ND	ug/L	U	3.1	5
Isophorone	78-59-1	1	ND	ug/L	U	3	5
Isosafrole	120-58-1	1	ND	ug/L	U	20	20
Methapyrilene	91-80-5	1	ND	ug/L	U	10	10
3-Methylcholanthrene	56-49-5	1	ND	ug/L	U	2.7	5
Methyl methanesulfonate	66-27-3	1	ND	ug/L	U	2.9	5

Review By: Bob Cathel

Report Approved By: Karen Kuoppala

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- MDL - Method Detection Limit
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Form 1 - Data Summary Report  
 Prepared By: HydroLogic Laboratories, Inc.

Client ID: CAFB-MWN-12/18/96-1  
 Project Number: 95-321-330  
 Sample ID: L3891-2  
 Site / Project ID: CANNON AFB LTMP  
 Run ID: R5872  
 Collection Date: 18-DEC-96  
 Received Date: 21-DEC-96  
 Report Date: 08-JAN-97

Analyte	CAS No.	Dil	Sample Conc.	Units	Qual	MDL	RL
2-Methylnaphthalene	91-57-6	1	ND	ug/L	U	2.8	5
Methyl parathion	298-00-0	1	ND	ug/L	U	5.1	10
2-Methylphenol	95-48-7	1	ND	ug/L	U	1.9	5
3&4-Methylphenol	NA	1	ND	ug/L	U	2	5
Naphthalene	91-20-3	1	ND	ug/L	U	2.4	5
1,4-Naphthoquinone	130-15-4	1	ND	ug/L	U	10	10
1-Naphthylamine	134-32-7	1	ND	ug/L	U	3.8	5
2-Naphthylamine	91-59-8	1	ND	ug/L	U	3.9	5
2-Nitroaniline	88-74-4	1	ND	ug/L	U	3.7	25
3-Nitroaniline	99-09-2	1	ND	ug/L	U	3.4	25
4-Nitroaniline	100-01-6	1	ND	ug/L	U	6.4	25
Nitrobenzene	98-95-3	1	ND	ug/L	U	4.7	5
2-Nitrophenol	88-75-5	1	ND	ug/L	U	4.3	5
4-Nitrophenol	100-02-7	1	ND	ug/L	U	8.4	25
N-Nitroso-di-n-butylamine	924-16-3	1	ND	ug/L	U	3	5
N-Nitrosodiethylamine	55-18-5	1	ND	ug/L	U	10	10
N-Nitrosodimethylamine	62-75-9	1	ND	ug/L	U	2	10
N-Nitrosodiphenylamine	86-30-6	1	ND	ug/L	U	5.2	25
N-Nitrosodipropylamine	621-64-7	1	ND	ug/L	U	3.1	5
N-Nitrosomethylethylamine	10595-95-6	1	ND	ug/L	U	10	10
N-Nitrosomorpholine	59-89-2	1	ND	ug/L	U	10	10
N-Nitrosopiperidine	100-75-4	1	ND	ug/L	U	3.4	10
N-Nitrosopyrrolidine	930-55-2	1	ND	ug/L	U	10	10
5-Nitro-o-toluidine	99-55-8	1	ND	ug/L	U	10	10
4-Nitroquinoline-n-oxide	56-57-5	1	ND	ug/L	U	100	100
Parathion	56-38-2	1	ND	ug/L	U	5.1	10
Pentachlorobenzene	608-93-5	1	ND	ug/L	U	3.9	5
Pentachloroethane	76-01-7	1	ND	ug/L	U	10	10
Pentachloronitrobenzene	82-68-8	1	ND	ug/L	U	4.7	10
Pentachlorophenol	87-86-5	1	ND	ug/L	U	5.7	25
Phenacetin	62-44-2	1	ND	ug/L	U	5.9	25
Phenanthrene	85-01-8	1	ND	ug/L	U	2.5	5
Phenol	108-95-2	1	ND	ug/L	U	3.4	5
p-Phenylenediamine	106-50-3	1	ND	ug/L	U	100	100
Phorate	298-02-2	1	ND	ug/L	U	5.1	10
2-Picoline	109-06-8	1	ND	ug/L	U	3.6	5

Review By: Bob Cathel

Report Approved By: Karen Kuoppala

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Form 1 - Data Summary Report  
 Prepared By: HydroLogic Laboratories, Inc.

Client ID: CAFB-MWN-12/18/96-1  
 Project Number: 95-321-330  
 Sample ID: L3891-2  
 Site / Project ID: CANNON AFB LTMP  
 Run ID: R5872  
 Collection Date: 18-DEC-96  
 Received Date: 21-DEC-96  
 Report Date: 08-JAN-97

Analyte	CAS No.	Dil	Sample Conc.	Units	Qual	MDL	RL
Pronamide	23950-58-5	1	ND	ug/L	U	3.8	5
Pyrene	129-00-0	1	ND	ug/L	U	3.5	5
Pyridine	110-86-1	1	ND	ug/L	U	10	10
Safrole	94-59-7	1	ND	ug/L	U	10	10
1,2,4,5-Tetrachlorobenzene	95-94-3	1	ND	ug/L	U	5.1	10
2,3,4,6-Tetrachlorophenol	58-90-2	1	ND	ug/L	U	4.5	5
o-Toluidine	95-53-4	1	ND	ug/L	U	10	10
1,2,4-Trichlorobenzene	120-82-1	1	ND	ug/L	U	3.2	5
2,4,5-Trichlorophenol	95-95-4	1	ND	ug/L	U	5.6	25
2,4,6-Trichlorophenol	88-06-2	1	ND	ug/L	U	4.4	5
1,3,5-Trinitrobenzene	99-35-4	1	ND	ug/L	U	10	10
Nitrobenzene-d5	SURROGATE	1	94	%			
2-Fluorobiphenyl	SURROGATE	1	98	%			
p-Terphenyl-d14	SURROGATE	1	98	%			
Phenol-d6	SURROGATE	1	47	%			
2-Fluorophenol	SURROGATE	1	64	%			
2,4,6-Tribromophenol	SURROGATE	1	100	%			

Review By: Bob Cathel

Report Approved By: Karen Kuoppala

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Form 1 - Data Summary Report  
 Prepared By: HydroLogic Laboratories, Inc.

Client ID: CAFB-MWN-12/18/96-1  
 Project Number: 95-321-330  
 Sample ID: L3891-2  
 Site / Project ID: CANNON AFB LTMP  
 Run ID: R5872  
 Collection Date: 18-DEC-96  
 Received Date: 21-DEC-96  
 Report Date: 08-JAN-97

Analyte	CAS No.	Dil	Sample Conc.	Units	Qual	MDL	RL
SW846 Methods 3520/8080							
Preparation Date: 24-DEC-96							
Analysis Date: 31-DEC-96 22:46							
Workgroup Number: WG9106							
Aldrin	309-00-2	1	ND	ug/L	U	.05	.05
alpha-BHC	319-84-6	1	ND	ug/L	U	.018	.05
beta-BHC	319-85-7	1	ND	ug/L	U	.015	.05
delta-BHC	319-86-8	1	ND	ug/L	U	.011	.05
gamma-BHC (Lindane)	58-89-9	1	ND	ug/L	U	.013	.05
alpha-Chlordane	5103-71-9	1	ND	ug/L	J	.01	.05
gamma-Chlordane	5103-74-2	1	ND	ug/L	J	.01	.05
Chlorobenzilate	510-15-6	1	ND	ug/L	U	.05	.1
4,4'-DDD	72-54-8	1	ND	ug/L	U	.078	.1
4,4'-DDE	72-55-9	1	ND	ug/L	U	.017	.1
4,4'-DDT	50-29-3	1	ND	ug/L	U	.031	.1
Diallate	60-57-1	1	ND	ug/L	U	.5	1
Dieldrin	60-57-1	1	ND	ug/L	U	.012	.1
Endosulfan I	959-98-8	1	ND	ug/L	U	.015	.05
Endosulfan II	33213-65-9	1	ND	ug/L	U	.013	.1
Endosulfan sulfate	1031-07-8	1	ND	ug/L	U	.018	.1
Endrin	72-20-8	1	ND	ug/L	U	.013	.1
Endrin aldehyde	7421-93-4	1	ND	ug/L	U	.081	.1
Heptachlor	76-44-8	1	ND	ug/L	U	.036	.05
Heptachlor epoxide	1024-57-3	1	ND	ug/L	U	.014	.05
Isodrin	465-73-6	1	ND	ug/L	U	.05	.1
Kepone	143-50-0	1	ND	ug/L	U	.5	1
Methoxychlor	72-43-5	1	ND	ug/L	U	.049	.5
Toxaphene	8001-35-2	1	ND	ug/L	U	.24	2.4
Aroclor-1016	12674-11-2	1	ND	ug/L	U	.18	.5
Aroclor-1221	11104-28-2	1	ND	ug/L	U	.11	.5
Aroclor-1232	11141-16-5	1	ND	ug/L	U	.11	.5
Aroclor-1242	53469-21-9	1	ND	ug/L	U	.11	.5
Aroclor-1248	12672-29-6	1	ND	ug/L	U	.11	.5
Aroclor-1254	11097-69-1	1	ND	ug/L	U	.11	1
Aroclor-1260	11096-82-5	1	ND	ug/L	U	.11	1
Tetrachloro-m-xylene	SURROGATE	1	79	%			

Review By: Bob Cathel

Report Approved By: Karen Kuoppala

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Form 1 - Data Summary Report  
Prepared By: HydroLogic Laboratories, Inc.

Client ID: CAFB-MMM-12/18/96-1  
Project Number: 95-321-330  
Sample ID: L3891-2  
Site / Project ID: CANNON AFB LTMP  
Run ID: R5872  
Collection Date: 18-DEC-96  
Received Date: 21-DEC-96  
Report Date: 08-JAN-97

Analyte	CAS No.	Dil	Sample Conc.	Units	Qual	MDL	RL
Decachlorobiphenyl	SURROGATE	1	105	%			

Review By: Bob Cathel

Report Approved By: Karen Kuoppala

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Form 1 - Data Summary Report  
 Prepared By: HydroLogic Laboratories, Inc.

Client ID: CAFB-MWN-12/18/96-1  
 Project Number: 95-321-330  
 Sample ID: L3891-2  
 Site / Project ID: CANNON AFB LTMP  
 Run ID: R5872  
 Collection Date: 18-DEC-96  
 Received Date: 21-DEC-96  
 Report Date: 08-JAN-97

Analyte	CAS No.	Dil	Sample Conc.	Units	Qual	MDL	RL
SW846 Met. 8150 (APIX)							
Preparation Date: 24-DEC-96							
Analysis Date: 08-JAN-97 05:27							
Workgroup Number: WG9107							
2,4-D	94-75-7	1	ND	ug/L	U	1	1
2,4,5-T	93-76-5	1	ND	ug/L	U	.1	.1
2,4,5-TP (Silvex)	93-72-1	1	ND	ug/L	U	.1	.1
Dinoseb	88-85-7	1	ND	ug/L	U	.5	.5
DCAA	SURROGATE	1	48	%			

Review By: Bob Cathel

Report Approved By: Karen Kuoppala

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- RL - Method Reporting Limit

Form 1 - Data Summary Report  
 Prepared By: HydroLogic Laboratories, Inc.

Client ID: CAFB-MWN-12/18/96-1  
 Project Number: 95-321-330  
 Sample ID: L3891-2  
 Site / Project ID: CANNON AFB LTMP  
 Run ID: R5872  
 Collection Date: 18-DEC-96  
 Received Date: 21-DEC-96  
 Report Date: 08-JAN-97

Analyte	CAS No.	Dil	Sample Conc.	Units	Qual	MDL	RL
SW846 Met. 6010 (APIX)							
Preparation Date: 06-JAN-97							
Analysis Date: 07-JAN-97 19:39							
Workgroup Number: WG9293							
Barium	7440-39-3	1	.0562	mg/L		.00026	.02
Beryllium	7440-41-7	1	ND	mg/L	U	.00016	.004
Cadmium	7440-43-9	1	ND	mg/L	U	.0019	.005
Chromium	7440-47-3	1	ND	mg/L	U	.0045	.01
Cobalt	7440-48-4	1	ND	mg/L	U	.0053	.05
Copper	7440-50-8	1	ND	mg/L	U	.0073	.01
Nickel	7440-02-0	1	ND	mg/L	U	.0056	.02
Silver	7440-22-4	1	ND	mg/L	U	.0019	.01
Tin	7440-31-5	1	ND	mg/L	U	.054	.1
Vanadium	7440-62-2	1	.014	mg/L	J	.0017	.05
Zinc	7440-66-6	1	.0099	mg/L	JB	.0052	.0

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Form 1 - Data Summary Report  
 Prepared By: HydroLogic Laboratories, Inc.

Client ID: CAFB-MWN-12/18/96-1  
 Project Number: 95-321-330  
 Sample ID: L3891-2  
 Site / Project ID: CANNON AFB LTMP  
 Run ID: R5872  
 Collection Date: 18-DEC-96  
 Received Date: 21-DEC-96  
 Report Date: 08-JAN-97

Analyte	CAS No.	Dil	Sample Conc.	Units	Qual	MDL	RL
SW846 Method 7060 Analysis Date: 07-JAN-97 10:03 Workgroup Number: WG9295							
Arsenic	7440-38-2	1	ND	mg/L	U	.00073	.005
SW846 Method 7470 Analysis Date: 31-DEC-96 15:33 Workgroup Number: WG9215							
Mercury	7439-97-6	1	ND	mg/L	U	.00005	.0002
SW846 Method 7421 Analysis Date: 07-JAN-97 10:09 Workgroup Number: WG9294							
Lead	7439-92-1	1	ND	mg/L	U	.00089	.003
SW846 Method 7041 Analysis Date: 07-JAN-97 15:30 Workgroup Number: WG9317							
Antimony	7440-36-0	1	ND	mg/L	U	.00068	.006
SW846 Method 7740 Analysis Date: 07-JAN-97 11:38 Workgroup Number: WG9296							
Selenium	7782-49-2	1	.0097	mg/L		.00074	.005
SW846 Method 7841 Analysis Date: 07-JAN-97 17:02 Workgroup Number: WG9297							
Thallium	7440-26-0	1	ND	mg/L	U	.00079	.005

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Form 1 - Data Summary Report  
 Prepared By: HydroLogic Laboratories, Inc.

Client ID: CAFB-MWN-12/18/96-1  
 Project Number: 95-321-330  
 Sample ID: L3891-2  
 Site / Project ID: CANNON AFB LTMP  
 Run ID: R5872  
 Collection Date: 18-DEC-96  
 Received Date: 21-DEC-96  
 Report Date: 08-JAN-97

Analyte	CAS No.	Dil	Sample Conc.	Units	Qual	MDL	RL
SW846 Method 9012							
Analysis Date: 08-JAN-97 12:25							
Workgroup Number: WG9352							
Cyanide (tot.)	N/A	1	ND	mg/L	U	.003	.02
Cyanide (amen.)	N/A	1	ND	mg/L	U	.005	.02
SW-846, Method 9030							
Preparation Date: 24-DEC-96							
Analysis Date: 24-DEC-96 08:00							
Workgroup Number: WG9086							
Sulfide	N/A	1	ND	mg/L	U	.48	1
SW-846, Method 9060							
Analysis Date: 27-DEC-96 10:10							
Workgroup Number: WG9138							
Total Organic Carbon	N/A	1	2.3	mg/L		.15	1
SW-846, Method 9020							
Analysis Date: 28-DEC-96 07:31							
Workgroup Number: WG9144							
Total Organic Halides	N/A	1	.003	mg/L	J	.001	.005

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Form 1 - Data Summary Report  
 Prepared By: Hydrologic Laboratories, Inc.

Client ID: CAFB-MWN-12/18/96-2  
 Project Number: 95-321-330  
 Sample ID: L3891-3  
 Site / Project ID: CANNON AFB LTMP  
 Run ID: R5872  
 Collection Date: 18-DEC-96  
 Received Date: 21-DEC-96  
 Report Date: 08-JAN-97

Analyte	CAS No.	Dil	Sample Conc.	Units	Qual	MDL	RL
SW846 Met. 8260 (APIX)							
Preparation Date: 26-DEC-96							
Analysis Date: 26-DEC-96 18:23							
Workgroup Number: WG9104							
Acetone	67-64-1	1	ND	ug/L	U	1.5	100
Acetonitrile	75-05-8	1	ND	ug/L	U	.5	100
Acrolein	107-02-8	1	ND	ug/L	U	.5	100
Acrylonitrile	107-13-1	1	ND	ug/L	U	.5	100
Allyl chloride	107-05-1	1	ND	ug/L	U	.5	10
Benzene	71-43-2	1	ND	ug/L	U	.39	5
Bromodichloromethane	75-27-4	1	ND	ug/L	U	.64	5
Bromoform	75-25-2	1	ND	ug/L	U	.47	5
Bromomethane	74-83-9	1	ND	ug/L	U	.49	10
2-Butanone	78-93-3	1	ND	ug/L	U	1.1	100
Carbon disulfide	75-15-0	1	ND	ug/L	U	1.1	100
Carbon tetrachloride	56-23-5	1	ND	ug/L	U	1.4	5
Chlorobenzene	108-90-7	1	ND	ug/L	U	.44	5
Chloroethane	75-00-3	1	ND	ug/L	U	.54	10
Chloroform	67-66-3	1	ND	ug/L	U	1.4	5
Chloromethane	74-87-3	1	ND	ug/L	U	2	10
Dibromochloromethane	124-48-1	1	ND	ug/L	U	.5	5
1,2-Dibromo-3-chloropropane	96-12-8	1	ND	ug/L	U	.61	100
1,2-Dibromoethane	106-93-4	1	ND	ug/L	U	.5	5
Dibromomethane	74-95-3	1	ND	ug/L	U	1.4	5
trans-1,4-Dichloro-2-butene	110-57-6	1	ND	ug/L	U	5	5
Dichlorodifluoromethane	75-71-8	1	ND	ug/L	U	.43	10
1,1-Dichloroethane	75-34-3	1	ND	ug/L	U	1.7	5
1,2-Dichloroethane	107-06-2	1	ND	ug/L	U	2.1	5
1,1-Dichloroethene	75-35-4	1	ND	ug/L	U	.48	5
trans-1,2-Dichloroethene	156-60-5	1	ND	ug/L	U	.55	5
cis-1,2-Dichloroethene	156-59-2	1	ND	ug/L	U	.5	5
1,2-Dichloropropane	78-87-5	1	ND	ug/L	U	.51	5
cis-1,3-Dichloropropene	10061-01-5	1	ND	ug/L	U	.78	5
trans-1,3-Dichloropropene	10061-02-6	1	ND	ug/L	U	.55	5
1,4-Dioxane	123-91-1	1	ND	ug/L	U	100	100
Ethylbenzene	100-41-4	1	ND	ug/L	U	.75	5

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Form 1 - Data Summary Report  
 Prepared By: HydroLogic Laboratories, Inc.

Client ID: CAFB-MWN-12/18/96-2  
 Project Number: 95-321-330  
 Sample ID: L3891-3  
 Site / Project ID: CANNON AFB LTMP  
 Run ID: R5872  
 Collection Date: 18-DEC-96  
 Received Date: 21-DEC-96  
 Report Date: 08-JAN-97

Analyte	CAS No.	Dil	Sample Conc.	Units	Qual	MDL	RL
Ethyl methacrylate	97-63-2	1	ND	ug/L	U	.5	5
2-Hexanone	591-78-6	1	ND	ug/L	U	.5	100
Iodomethane	74-88-4	1	ND	ug/L	U	10	10
Methacrylonitrile	126-98-7	1	ND	ug/L	U	.5	100
Methylene chloride	75-09-2	1	ND	ug/L	U	.75	5
Methyl methacrylate	80-62-6	1	ND	ug/L	U	.5	50
4-Methyl-2-pentanone	108-10-1	1	ND	ug/L	U	.56	50
Propionitrile	107-12-0	1	ND	ug/L	U	.5	5
Styrene	100-42-5	1	ND	ug/L	U	.5	5
1,1,1,2-Tetrachloroethane	630-20-6	1	ND	ug/L	U	.45	5
1,1,2,2-Tetrachloroethane	79-34-5	1	ND	ug/L	U	.63	5
Tetrachloroethene	127-18-4	1	ND	ug/L	U	.49	5
Toluene	108-88-3	1	ND	ug/L	U	.85	5
1,1,1-Trichloroethane	71-55-6	1	ND	ug/L	U	1.7	5
1,1,2-Trichloroethane	79-00-5	1	ND	ug/L	U	1.2	5
Trichloroethene	79-01-6	1	ND	ug/L	U	.42	5
Trichlorofluoromethane	75-69-4	1	ND	ug/L	U	.5	5
1,2,3-Trichloropropane	96-18-4	1	ND	ug/L	U	1.1	5
Vinyl acetate	108-05-4	1	ND	ug/L	U	5	5
Vinyl chloride	75-01-4	1	ND	ug/L	U	.47	5
Xylene (Total)	1330-20-7	1	ND	ug/L	U	1	5
Dibromofluoromethane	SURROGATE	1	102	%			
Toluene-d8	SURROGATE	1	95	%			
4-Bromofluorobenzene	SURROGATE	1	94	%			

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Form 1 - Data Summary Report  
 Prepared By: HydroLogic Laboratories, Inc.

Client ID: CAFB-MWN-12/18/96-2  
 Project Number: 95-321-330  
 Sample ID: L3891-3  
 Site / Project ID: CANNON AFB LTMP  
 Run ID: R5872  
 Collection Date: 18-DEC-96  
 Received Date: 21-DEC-96  
 Report Date: 08-JAN-97

Analyte	CAS No.	Dil	Sample Conc.	Units	Qual	MDL	RL
SW846 Met. 8270 (APIX)							
Preparation Date: 24-DEC-96							
Analysis Date: 13-JAN-97 23:19							
Workgroup Number: WG9105							
Acenaphthene	83-32-9	1	ND	ug/L	U	4.2	5
Acenaphthylene	208-96-8	1	ND	ug/L	U	3.5	5
Acetophenone	98-86-2	1	ND	ug/L	U	2.9	5
2-Acetylaminofluorene	53-96-3	1	ND	ug/L	U	100	100
4-Aminobiphenyl	92-67-1	1	ND	ug/L	U	3.3	10
Aniline	62-53-3	1	ND	ug/L	U	2.4	5
Anthracene	120-12-7	1	ND	ug/L	U	2.6	5
Aramite	140-57-8	1	ND	ug/L	U	10	10
Benz(a)anthracene	56-55-3	1	ND	ug/L	U	2.8	5
Benzo(b)fluoranthene	205-99-2	1	ND	ug/L	U	2.6	5
Benzo(k)fluoranthene	207-08-9	1	ND	ug/L	U	3.9	5
Benzo(g,h,i)perylene	191-24-2	1	ND	ug/L	U	3.1	5
Benzo(a)pyrene	50-32-8	1	ND	ug/L	U	3.5	5
Benzyl alcohol	100-51-6	1	ND	ug/L	U	2.4	5
4-Bromophenyl phenyl ether	101-55-3	1	ND	ug/L	U	2.6	5
Butyl benzyl phthalate	85-68-7	1	ND	ug/L	U	2.7	5
2-sec-Butyl-4,6-dinitrophenol	88-85-7	1	ND	ug/L	U	10	10
4-Chloroaniline	106-47-8	1	ND	ug/L	U	3.8	5
Bis(2-chloroethoxy)methane	111-91-1	1	ND	ug/L	U	2.9	5
Bis(2-chloroethyl) ether	111-44-4	1	ND	ug/L	U	2.1	5
Bis(2-chloroisopropyl) ether	108-60-1	1	ND	ug/L	U	1.9	5
4-Chloro-3-methylphenol	59-50-7	1	ND	ug/L	U	3.2	5
2-Chloronaphthalene	91-58-7	1	ND	ug/L	U	4.2	5
2-Chlorophenol	95-57-8	1	ND	ug/L	U	2.9	5
4-Chlorophenyl phenyl ether	7005-72-3	1	ND	ug/L	U	3.9	5
Chrysene	218-01-9	1	ND	ug/L	U	4.2	5
Dibenz(a,h)anthracene	53-70-3	1	ND	ug/L	U	3.4	5
Dibenzofuran	132-64-9	1	ND	ug/L	U	4	5
1,3-Dichlorobenzene	541-73-1	1	ND	ug/L	U	3	5
1,4-Dichlorobenzene	106-46-7	1	ND	ug/L	U	2.9	5
1,2-Dichlorobenzene	95-50-1	1	ND	ug/L	U	2.6	5
Di-n-butyl phthalate	84-74-2	1	ND	ug/L	U	5.2	20

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Form 1 - Data Summary Report  
 Prepared By: HydroLogic Laboratories, Inc.

Client ID: CAFB-MWN-12/18/96-2  
 Project Number: 95-321-330  
 Sample ID: L3891-3  
 Site / Project ID: CANNON AFB LTMP  
 Run ID: R5872  
 Collection Date: 18-DEC-96  
 Received Date: 21-DEC-96  
 Report Date: 08-JAN-97

Analyte	CAS No.	Dil	Sample Conc.	Units	Qual	MDL	RL
3,3'-Dichlorobenzidine	91-94-1	1	ND	ug/L	U	3.6	10
2,4-Dichlorophenol	120-83-2	1	ND	ug/L	U	4.4	5
2,6-Dichlorophenol	87-65-0	1	ND	ug/L	U	4.4	5
Diethyl phthalate	84-66-2	1	ND	ug/L	U	5.1	10
Dimethoate	60-51-5	1	ND	ug/L	U	5.1	10
p-Dimethylaminoazobenzene	60-11-7	1	ND	ug/L	U	2.5	5
7,12-Dimethylbenz(a)anthracene	57-97-6	1	ND	ug/L	U	3.4	5
3,3'-Dimethylbenzidine	119-93-7	1	ND	ug/L	U	5	10
a,a-Dimethylphenethylamine	122-09-8	1	ND	ug/L	U	4.5	100
2,4-Dimethylphenol	105-67-9	1	ND	ug/L	U	3.2	5
Dimethyl phthalate	131-11-3	1	ND	ug/L	U	4.8	5
1,3-Dinitrobenzene	99-65-0	1	ND	ug/L	U	5	10
4,6-Dinitro-2-methylphenol	534-52-1	1	ND	ug/L	U	4.3	25
2,4-Dinitrophenol	51-28-5	1	ND	ug/L	U	6.9	25
2,4-Dinitrotoluene	121-14-2	1	ND	ug/L	U	2.9	5
2,6-Dinitrotoluene	606-20-2	1	ND	ug/L	U	3.8	5
Di-n-octyl phthalate	117-84-0	1	ND	ug/L	U	2.7	5
Diphenylamine	122-39-4	1	ND	ug/L	U	4.2	10
Disulfoton	298-04-4	1	ND	ug/L	U	5.1	10
bis(2-ethylhexyl) phthalate	117-81-7	1	ND	ug/L	U	3.6	5
Ethyl methanesulfonate	62-50-0	1	ND	ug/L	U	2.6	10
Famphur	52-85-7	1	ND	ug/L	U	5.1	10
Fluoranthene	206-44-0	1	ND	ug/L	U	4	5
Fluorene	86-73-7	1	ND	ug/L	U	3.3	5
Hexachlorobenzene	118-74-1	1	ND	ug/L	U	2.5	5
Hexachlorobutadiene	87-68-3	1	ND	ug/L	U	3	5
Hexachlorocyclopentadiene	77-47-4	1	ND	ug/L	U	2.2	5
Hexachloroethane	67-72-1	1	ND	ug/L	U	4.7	5
Hexachloropropene	1888-71-7	1	ND	ug/L	U	5	5
Hexachlorophene	70-30-4	1	ND	ug/L	U	100	100
Indeno(1,2,3-cd)pyrene	193-39-5	1	ND	ug/L	U	3.1	5
Isophorone	78-59-1	1	ND	ug/L	U	3	5
Isosafrole	120-58-1	1	ND	ug/L	U	20	20
Methapyrilene	91-80-5	1	ND	ug/L	U	10	10
3-Methylcholanthrene	56-49-5	1	ND	ug/L	U	2.7	5
Methyl methanesulfonate	66-27-3	1	ND	ug/L	U	2.9	5

Review By: Bob Cathel

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Form 1 - Data Summary Report  
 Prepared By: HydroLogic Laboratories, Inc.

Client ID: CAFB-MWN-12/18/96-2  
 Project Number: 95-321-330  
 Sample ID: L3891-3  
 Site / Project ID: CANNON AFB LTMP  
 Run ID: R5872  
 Collection Date: 18-DEC-96  
 Received Date: 21-DEC-96  
 Report Date: 08-JAN-97

Analyte	CAS No.	Dil	Sample Conc.	Units	Qual	MDL	RL
2-Methylnaphthalene	91-57-6	1	ND	ug/L	U	2.8	5
Methyl parathion	298-00-0	1	ND	ug/L	U	5.1	10
2-Methylphenol	95-48-7	1	ND	ug/L	U	1.9	5
3&4-Methylphenol	NA	1	ND	ug/L	U	2	5
Naphthalene	91-20-3	1	ND	ug/L	U	2.4	5
1,4-Naphthoquinone	130-15-4	1	ND	ug/L	U	10	10
1-Naphthylamine	134-32-7	1	ND	ug/L	U	3.8	5
2-Naphthylamine	91-59-8	1	ND	ug/L	U	3.9	5
2-Nitroaniline	88-74-4	1	ND	ug/L	U	3.7	25
3-Nitroaniline	99-09-2	1	ND	ug/L	U	3.4	25
4-Nitroaniline	100-01-6	1	ND	ug/L	U	6.4	25
Nitrobenzene	98-95-3	1	ND	ug/L	U	4.7	5
2-Nitrophenol	88-75-5	1	ND	ug/L	U	4.3	5
4-Nitrophenol	100-02-7	1	ND	ug/L	U	8.4	25
N-Nitroso-di-n-butylamine	924-16-3	1	ND	ug/L	U	3	5
N-Nitrosodiethylamine	55-18-5	1	ND	ug/L	U	10	10
N-Nitrosodimethylamine	62-75-9	1	ND	ug/L	U	2	10
N-Nitrosodiphenylamine	86-30-6	1	ND	ug/L	U	5.2	25
N-Nitrosodipropylamine	621-64-7	1	ND	ug/L	U	3.1	5
N-Nitrosomethylethylamine	10595-95-6	1	ND	ug/L	U	10	10
N-Nitrosomorpholine	59-89-2	1	ND	ug/L	U	10	10
N-Nitrosopiperidine	100-75-4	1	ND	ug/L	U	3.4	10
N-Nitrosopyrrolidine	930-55-2	1	ND	ug/L	U	10	10
5-Nitro-o-toluidine	99-55-8	1	ND	ug/L	U	10	10
4-Nitroquinoline-n-oxide	56-57-5	1	ND	ug/L	U	100	100
Parathion	56-38-2	1	ND	ug/L	U	5.1	10
Pentachlorobenzene	608-93-5	1	ND	ug/L	U	3.9	5
Pentachloroethane	76-01-7	1	ND	ug/L	U	10	10
Pentachloronitrobenzene	82-68-8	1	ND	ug/L	U	4.7	10
Pentachlorophenol	87-86-5	1	ND	ug/L	U	5.7	25
Phenacetin	62-44-2	1	ND	ug/L	U	5.9	25
Phenanthrene	85-01-8	1	ND	ug/L	U	2.5	5
Phenol	108-95-2	1	ND	ug/L	U	3.4	5
p-Phenylenediamine	106-50-3	1	ND	ug/L	U	100	100
Phorate	298-02-2	1	ND	ug/L	U	5.1	10
2-Picoline	109-06-8	1	ND	ug/L	U	3.6	5

Review By: Bob Cathel

Report Approved By: Karen Kuoppala

- Qual - U = Analyte Not Detected above the Method Detection Limit  
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- Dil - Sample Dilution Factor
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- MDL - Method Detection Limit
- RL - Method Reporting Limit

Form 1 - Data Summary Report  
 Prepared By: HydroLogic Laboratories, Inc.

Client ID: CAFB-MWN-12/18/96-2  
 Project Number: 95-321-330  
 Sample ID: L3891-3  
 Site / Project ID: CANNON AFB LTMP  
 Run ID: R5872  
 Collection Date: 18-DEC-96  
 Received Date: 21-DEC-96  
 Report Date: 08-JAN-97

Analyte	CAS No.	Dil	Sample Conc.	Units	Qual	MDL	RL
Pronamide	23950-58-5	1	ND	ug/L	U	3.8	5
Pyrene	129-00-0	1	ND	ug/L	U	3.5	5
Pyridine	110-86-1	1	ND	ug/L	U	10	10
Safrole	94-59-7	1	ND	ug/L	U	10	10
1,2,4,5-Tetrachlorobenzene	95-94-3	1	ND	ug/L	U	5.1	10
2,3,4,6-Tetrachlorophenol	58-90-2	1	ND	ug/L	U	4.5	5
o-Toluidine	95-53-4	1	ND	ug/L	U	10	10
1,2,4-Trichlorobenzene	120-82-1	1	ND	ug/L	U	3.2	5
2,4,5-Trichlorophenol	95-95-4	1	ND	ug/L	U	5.6	25
2,4,6-Trichlorophenol	88-06-2	1	ND	ug/L	U	4.4	5
1,3,5-Trinitrobenzene	99-35-4	1	ND	ug/L	U	10	10
Nitrobenzene-d5	SURROGATE	1	106	%			
2-Fluorobiphenyl	SURROGATE	1	110	%			
p-Terphenyl-d14	SURROGATE	1	120	%			
Phenol-d6	SURROGATE	1	55	%			
2-Fluorophenol	SURROGATE	1	73	%			
2,4,6-Tribromophenol	SURROGATE	1	120	%			

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Form 1 - Data Summary Report  
 Prepared By: HydroLogic Laboratories, Inc.

Client ID: CAFB-MWN-12/18/96-2  
 Project Number: 95-321-330  
 Sample ID: L3891-3  
 Site / Project ID: CANNON AFB LTMP  
 Run ID: R5872  
 Collection Date: 18-DEC-96  
 Received Date: 21-DEC-96  
 Report Date: 08-JAN-97

Analyte	CAS No.	Dil	Sample Conc.	Units	Qual	MDL	RL
SW846 Methods 3520/8080							
Preparation Date: 24-DEC-96							
Analysis Date: 31-DEC-96 23:26							
Workgroup Number: WG9106							
Aldrin	309-00-2	1	ND	ug/L	U	.05	.05
alpha-BHC	319-84-6	1	ND	ug/L	U	.018	.05
beta-BHC	319-85-7	1	ND	ug/L	U	.015	.05
delta-BHC	319-86-8	1	ND	ug/L	U	.011	.05
gamma-BHC (Lindane)	58-89-9	1	ND	ug/L	U	.013	.05
alpha-Chlordane	5103-71-9	1	ND	ug/L	J	.01	.05
gamma-Chlordane	5103-74-2	1	ND	ug/L	J	.01	.05
Chlorobenzilate	510-15-6	1	ND	ug/L	U	.05	.1
4,4'-DDD	72-54-8	1	ND	ug/L	U	.078	.1
4,4'-DDE	72-55-9	1	ND	ug/L	U	.017	.1
4,4'-DDT	50-29-3	1	ND	ug/L	U	.031	.1
Diallate	60-57-1	1	ND	ug/L	U	.5	1
Dieldrin	60-57-1	1	ND	ug/L	U	.012	.1
Endosulfan I	959-98-8	1	ND	ug/L	U	.015	.05
Endosulfan II	33213-65-9	1	ND	ug/L	U	.013	.1
Endosulfan sulfate	1031-07-8	1	ND	ug/L	U	.018	.1
Endrin	72-20-8	1	ND	ug/L	U	.013	.1
Endrin aldehyde	7421-93-4	1	ND	ug/L	U	.081	.1
Heptachlor	76-44-8	1	ND	ug/L	U	.036	.05
Heptachlor epoxide	1024-57-3	1	ND	ug/L	U	.014	.05
Isodrin	465-73-6	1	ND	ug/L	U	.05	.1
Kepone	143-50-0	1	ND	ug/L	U	.5	1
Methoxychlor	72-43-5	1	ND	ug/L	U	.049	.5
Toxaphene	8001-35-2	1	ND	ug/L	U	.24	2.4
Aroclor-1016	12674-11-2	1	ND	ug/L	U	.18	.5
Aroclor-1221	11104-28-2	1	ND	ug/L	U	.11	.5
Aroclor-1232	11141-16-5	1	ND	ug/L	U	.11	.5
Aroclor-1242	53469-21-9	1	ND	ug/L	U	.11	.5
Aroclor-1248	12672-29-6	1	ND	ug/L	U	.11	.5
Aroclor-1254	11097-69-1	1	ND	ug/L	U	.11	1
Aroclor-1260	11096-82-5	1	ND	ug/L	U	.11	1
Tetrachloro-m-xylene	SURROGATE	1	75	%			

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Form 1 - Data Summary Report  
Prepared By: HydroLogic Laboratories, Inc.

Client ID: CAFB-MWN-12/18/96-2  
Project Number: 95-321-330  
Sample ID: L3891-3  
Site / Project ID: CANNON AFB LTMP  
Run ID: R5872  
Collection Date: 18-DEC-96  
Received Date: 21-DEC-96  
Report Date: 08-JAN-97

Analyte	CAS No.	Dil	Sample Conc.	Units	Qual	MDL	RL
Decachlorobiphenyl	SURROGATE	1	105	%			

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Form 1 - Data Summary Report  
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Client ID: CAFB-MWN-12/18/96-2  
 Project Number: 95-321-330  
 Sample ID: L3891-3  
 Site / Project ID: CANNON AFB LTMP  
 Run ID: R5872  
 Collection Date: 18-DEC-96  
 Received Date: 21-DEC-96  
 Report Date: 08-JAN-97

Analyte	CAS No.	Dil	Sample Conc.	Units	Qual	MDL	RL
SW846 Met. 8150 (APIX)							
Preparation Date: 24-DEC-96							
Analysis Date: 08-JAN-97 04:13							
Workgroup Number: WG9107							
2,4-D	94-75-7	1	ND	ug/L	U	1	1
2,4,5-T	93-76-5	1	ND	ug/L	U	.1	.1
2,4,5-TP (Silvex)	93-72-1	1	ND	ug/L	U	.1	.1
Dinoseb	88-85-7	1	ND	ug/L	U	.5	.5
DCAA	SURROGATE	1	66	%			

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Form 1 - Data Summary Report  
 Prepared By: HydroLogic Laboratories, Inc.

Client ID: CAFB-MWN-12/18/96-2  
 Project Number: 95-321-330  
 Sample ID: L3891-3  
 Site / Project ID: CANNON AFB LTMP  
 Run ID: R5872  
 Collection Date: 18-DEC-96  
 Received Date: 21-DEC-96  
 Report Date: 08-JAN-97

Analyte	CAS No.	Dil	Sample Conc.	Units	Qual	MDL	RL
SW846 Met. 6010 (APIX)							
Preparation Date: 06-JAN-97							
Analysis Date: 07-JAN-97 19:42							
Workgroup Number: WG9293							
Barium	7440-39-3	1	.0551	mg/L		.00026	.02
Beryllium	7440-41-7	1	ND	mg/L	U	.00016	.004
Cadmium	7440-43-9	1	ND	mg/L	U	.0019	.005
Chromium	7440-47-3	1	ND	mg/L	U	.0045	.01
Cobalt	7440-48-4	1	ND	mg/L	U	.0053	.05
Copper	7440-50-8	1	ND	mg/L	U	.0073	.01
Nickel	7440-02-0	1	ND	mg/L	U	.0056	.02
Silver	7440-22-4	1	ND	mg/L	U	.0019	.01
Tin	7440-31-5	1	.12	mg/L		.054	.1
Vanadium	7440-62-2	1	.012	mg/L	J	.0017	.05
Zinc	7440-66-6	1	.0067	mg/L	JB	.0052	.02

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Form 1 - Data Summary Report  
 Prepared By: HydroLogic Laboratories, Inc.

Client ID: CAFB-MWN-12/18/96-2  
 Project Number: 95-321-330  
 Sample ID: L3891-3  
 Site / Project ID: CANNON AFB LTMP  
 Run ID: R5872  
 Collection Date: 18-DEC-96  
 Received Date: 21-DEC-96  
 Report Date: 08-JAN-97

Analyte	CAS No.	Dil	Sample Conc.	Units	Qual	MDL	RL
SW846 Method 7060 Analysis Date: 07-JAN-97 10:12 Workgroup Number: WG9295							
Arsenic	7440-38-2	1	ND	mg/L	U	.00073	.005
SW846 Method 7470 Analysis Date: 31-DEC-96 15:35 Workgroup Number: WG9215							
Mercury	7439-97-6	1	ND	mg/L	U	.00005	.0002
SW846 Method 7421 Analysis Date: 07-JAN-97 10:19 Workgroup Number: WG9294							
Lead	7439-92-1	1	ND	mg/L	U	.00089	.003
SW846 Method 7041 Analysis Date: 07-JAN-97 14:39 Workgroup Number: WG9317							
Antimony	7440-36-0	.1	ND	mg/L	U	.00068	.006
SW846 Method 7740 Analysis Date: 07-JAN-97 11:46 Workgroup Number: WG9296							
Selenium	7782-49-2	1	.0101	mg/L		.00074	.005
SW846 Method 7841 Analysis Date: 07-JAN-97 17:12 Workgroup Number: WG9297							
Thallium	7440-26-0	1	ND	mg/L	U	.00079	.005

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Form 1 - Data Summary Report  
 Prepared By: HydroLogic Laboratories, Inc.

Client ID: CAFB-MWN-12/18/96-2  
 Project Number: 95-321-330  
 Sample ID: L3891-3  
 Site / Project ID: CANNON AFB LTMP  
 Run ID: R5872  
 Collection Date: 18-DEC-96  
 Received Date: 21-DEC-96  
 Report Date: 08-JAN-97

Analyte	CAS No.	Dil	Sample Conc.	Units	Qual	MDL	RL
SW846 Method 9012							
Analysis Date: 08-JAN-97 12:25							
Workgroup Number: WG9352							
Cyanide (tot.)	N/A	1	ND	mg/L	U	.003	.02
Cyanide (amen.)	N/A	1	ND	mg/L	U	.005	.02
SW-846, Method 9030							
Preparation Date: 24-DEC-96							
Analysis Date: 24-DEC-96 08:00							
Workgroup Number: WG9086							
Sulfide	N/A	1	ND	mg/L	U	.48	1
SW-846, Method 9060							
Analysis Date: 27-DEC-96 10:10							
Workgroup Number: WG9138							
Total Organic Carbon	N/A	1	2.2	mg/L		.15	1
SW-846, Method 9020							
Analysis Date: 28-DEC-96 07:31							
Workgroup Number: WG9144							
Total Organic Halides	N/A	1	.005	mg/L	J	.001	.005

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Form 1 - Data Summary Report  
 Prepared By: HydroLogic Laboratories, Inc.

Client ID: TRIP BLANK  
 Project Number: 95-321-330  
 Sample ID: L3891-4  
 Site / Project ID: CANNON AFB LTMP  
 Run ID: R5731  
 Collection Date: 18-DEC-96  
 Received Date: 21-DEC-96  
 Report Date: 27-DEC-96

Analyte	CAS No.	Dil	Sample Conc.	Units	Qual	MDL	RL
SW846 Met. 8260 (APIX)							
Preparation Date: 26-DEC-96							
Analysis Date: 26-DEC-96 19:04							
Workgroup Number: WG9104							
Acetone	67-64-1	1	ND	ug/L	U	1.5	100
Acetonitrile	75-05-8	1	ND	ug/L	U	.5	100
Acrolein	107-02-8	1	ND	ug/L	U	.5	100
Acrylonitrile	107-13-1	1	ND	ug/L	U	.5	100
Allyl chloride	107-05-1	1	ND	ug/L	U	.5	10
Benzene	71-43-2	1	ND	ug/L	U	.39	5
Bromodichloromethane	75-27-4	1	ND	ug/L	U	.64	5
Bromoform	75-25-2	1	ND	ug/L	U	.47	5
Bromomethane	74-83-9	1	ND	ug/L	U	.49	10
2-Butanone	78-93-3	1	ND	ug/L	U	1.1	100
Carbon disulfide	75-15-0	1	ND	ug/L	U	1.1	100
Carbon tetrachloride	56-23-5	1	ND	ug/L	U	1.4	5
Chlorobenzene	108-90-7	1	ND	ug/L	U	.44	5
Chloroethane	75-00-3	1	ND	ug/L	U	.54	10
Chloroform	67-66-3	1	ND	ug/L	U	1.4	5
Chloromethane	74-87-3	1	ND	ug/L	U	2	10
Dibromochloromethane	124-48-1	1	ND	ug/L	U	.5	5
1,2-Dibromo-3-chloropropane	96-12-8	1	ND	ug/L	U	.61	100
1,2-Dibromoethane	106-93-4	1	ND	ug/L	U	.5	5
Dibromomethane	74-95-3	1	ND	ug/L	U	1.4	5
trans-1,4-Dichloro-2-butene	110-57-6	1	ND	ug/L	U	5	5
Dichlorodifluoromethane	75-71-8	1	ND	ug/L	U	.43	10
1,1-Dichloroethane	75-34-3	1	ND	ug/L	U	1.7	5
1,2-Dichloroethane	107-06-2	1	ND	ug/L	U	2.1	5
1,1-Dichloroethene	75-35-4	1	ND	ug/L	U	.48	5
trans-1,2-Dichloroethene	156-60-5	1	ND	ug/L	U	.55	5
cis-1,2-Dichloroethene	156-59-2	1	ND	ug/L	U	.5	5
1,2-Dichloropropane	78-87-5	1	ND	ug/L	U	.51	5
cis-1,3-Dichloropropene	10061-01-5	1	ND	ug/L	U	.78	5
trans-1,3-Dichloropropene	10061-02-6	1	ND	ug/L	U	.55	5
1,4-Dioxane	123-91-1	1	ND	ug/L	U	100	100
Ethylbenzene	100-41-4	1	ND	ug/L	U	.75	5

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Form 1 - Data Summary Report  
 Prepared By: HydroLogic Laboratories, Inc.

Client ID: TRIP BLANK  
 Project Number: 95-321-330  
 Sample ID: L3891-4  
 Site / Project ID: CANNON AFB LTMP  
 Run ID: R5731  
 Collection Date: 18-DEC-96  
 Received Date: 21-DEC-96  
 Report Date: 27-DEC-96

Analyte	CAS No.	Dil	Sample Conc.	Units	Qual	MDL	RL
Ethyl methacrylate	97-63-2	1	ND	ug/L	U	.5	5
2-Hexanone	591-78-6	1	ND	ug/L	U	.5	100
Iodomethane	74-88-4	1	ND	ug/L	U	10	10
Methacrylonitrile	126-98-7	1	ND	ug/L	U	.5	100
Methylene chloride	75-09-2	1	ND	ug/L	U	.75	5
Methyl methacrylate	80-62-6	1	ND	ug/L	U	.5	50
4-Methyl-2-pentanone	108-10-1	1	ND	ug/L	U	.56	50
Propionitrile	107-12-0	1	ND	ug/L	U	.5	5
Styrene	100-42-5	1	ND	ug/L	U	.5	5
1,1,1,2-Tetrachloroethane	630-20-6	1	ND	ug/L	U	.45	5
1,1,2,2-Tetrachloroethane	79-34-5	1	ND	ug/L	U	.63	5
Tetrachloroethene	127-18-4	1	ND	ug/L	U	.49	5
Toluene	108-88-3	1	ND	ug/L	U	.85	5
1,1,1-Trichloroethane	71-55-6	1	ND	ug/L	U	1.7	5
1,1,2-Trichloroethane	79-00-5	1	ND	ug/L	U	1.2	5
Trichloroethene	79-01-6	1	ND	ug/L	U	.42	5
Trichlorofluoromethane	75-69-4	1	ND	ug/L	U	.5	5
1,2,3-Trichloropropane	96-18-4	1	ND	ug/L	U	1.1	5
Vinyl acetate	108-05-4	1	ND	ug/L	U	.5	50
Vinyl chloride	75-01-4	1	ND	ug/L	U	.47	5
Xylene (Total)	1330-20-7	1	ND	ug/L	U	1	5
Dibromofluoromethane	SURROGATE	1	103	%			
Toluene-d8	SURROGATE	1	96	%			
4-Bromofluorobenzene	SURROGATE	1	94	%			

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Form 1 - Data Summary Report  
 Prepared By: HydroLogic Laboratories, Inc.

Client ID: TRIP BLANK  
 Project Number: 95-321-330  
 Sample ID: L3891-5  
 Site / Project ID: CANNON AFB LTMP  
 Run ID: R5731  
 Collection Date: 18-DEC-96  
 Received Date: 21-DEC-96  
 Report Date: 27-DEC-96

Analyte	CAS No.	Dil	Sample Conc.	Units	Qual	MDL	RL
SW846 Met. 8260 (APIX)							
Preparation Date: 26-DEC-96							
Analysis Date: 26-DEC-96 19:46							
Workgroup Number: WG9104							
Acetone	67-64-1	1	ND	ug/L	U	1.5	100
Acetonitrile	75-05-8	1	ND	ug/L	U	.5	100
Acrolein	107-02-8	1	ND	ug/L	U	.5	100
Acrylonitrile	107-13-1	1	ND	ug/L	U	.5	100
Allyl chloride	107-05-1	1	ND	ug/L	U	.5	10
Benzene	71-43-2	1	ND	ug/L	U	.39	5
Bromodichloromethane	75-27-4	1	ND	ug/L	U	.64	5
Bromoform	75-25-2	1	ND	ug/L	U	.47	5
Bromomethane	74-83-9	1	ND	ug/L	U	.49	10
2-Butanone	78-93-3	1	ND	ug/L	U	1.1	100
Carbon disulfide	75-15-0	1	ND	ug/L	U	1.1	100
Carbon tetrachloride	56-23-5	1	ND	ug/L	U	1.4	5
Chlorobenzene	108-90-7	1	ND	ug/L	U	.44	5
Chloroethane	75-00-3	1	ND	ug/L	U	.54	10
Chloroform	67-66-3	1	ND	ug/L	U	1.4	5
Chloromethane	74-87-3	1	ND	ug/L	U	2	10
Dibromochloromethane	124-48-1	1	ND	ug/L	U	.5	5
1,2-Dibromo-3-chloropropane	96-12-8	1	ND	ug/L	U	.61	100
1,2-Dibromoethane	106-93-4	1	ND	ug/L	U	.5	5
Dibromomethane	74-95-3	1	ND	ug/L	U	1.4	5
trans-1,4-Dichloro-2-butene	110-57-6	1	ND	ug/L	U	5	5
Dichlorodifluoromethane	75-71-8	1	ND	ug/L	U	.43	10
1,1-Dichloroethane	75-34-3	1	ND	ug/L	U	1.7	5
1,2-Dichloroethane	107-06-2	1	ND	ug/L	U	2.1	5
1,1-Dichloroethene	75-35-4	1	ND	ug/L	U	.48	5
trans-1,2-Dichloroethene	156-60-5	1	ND	ug/L	U	.55	5
cis-1,2-Dichloroethene	156-59-2	1	ND	ug/L	U	.5	5
1,2-Dichloropropane	78-87-5	1	ND	ug/L	U	.51	5
cis-1,3-Dichloropropene	10061-01-5	1	ND	ug/L	U	.78	5
trans-1,3-Dichloropropene	10061-02-6	1	ND	ug/L	U	.55	5
1,4-Dioxane	123-91-1	1	ND	ug/L	U	100	100
Ethylbenzene	100-41-4	1	ND	ug/L	U	.75	5

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- Dil - Sample Dilution Factor
- ND - Sample Concentration Not Detected above MDL
- MDL - Method Detection Limit
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Form 1 - Data Summary Report  
 Prepared By: HydroLogic Laboratories, Inc.

Client ID: TRIP BLANK  
 Project Number: 95-321-330  
 Sample ID: L3891-5  
 Site / Project ID: CANNON AFB LTMP  
 Run ID: R5731  
 Collection Date: 18-DEC-96  
 Received Date: 21-DEC-96  
 Report Date: 27-DEC-96

Analyte	CAS No.	Dil	Sample Conc.	Units	Qual	MDL	RL
Ethyl methacrylate	97-63-2	1	ND	ug/L	U	.5	5
2-Hexanone	591-78-6	1	ND	ug/L	U	.5	100
Iodomethane	74-88-4	1	ND	ug/L	U	10	10
Methacrylonitrile	126-98-7	1	ND	ug/L	U	.5	100
Methylene chloride	75-09-2	1	ND	ug/L	U	.75	5
Methyl methacrylate	80-62-6	1	ND	ug/L	U	.5	50
4-Methyl-2-pentanone	108-10-1	1	ND	ug/L	U	.56	50
Propionitrile	107-12-0	1	ND	ug/L	U	.5	5
Styrene	100-42-5	1	ND	ug/L	U	.5	5
1,1,1,2-Tetrachloroethane	630-20-6	1	ND	ug/L	U	.45	5
1,1,2,2-Tetrachloroethane	79-34-5	1	ND	ug/L	U	.63	5
Tetrachloroethene	127-18-4	1	ND	ug/L	U	.49	5
Toluene	108-88-3	1	ND	ug/L	U	.85	5
1,1,1-Trichloroethane	71-55-6	1	ND	ug/L	U	1.7	5
1,1,2-Trichloroethane	79-00-5	1	ND	ug/L	U	1.2	5
Trichloroethene	79-01-6	1	ND	ug/L	U	.42	5
Trichlorofluoromethane	75-69-4	1	ND	ug/L	U	.5	5
1,2,3-Trichloropropane	96-18-4	1	ND	ug/L	U	1.1	5
Vinyl acetate	108-05-4	1	ND	ug/L	U	.5	5
Vinyl chloride	75-01-4	1	ND	ug/L	U	.47	5
Xylene (Total)	1330-20-7	1	ND	ug/L	U	1	5
Dibromofluoromethane	SURROGATE	1	103	%			
Toluene-d8	SURROGATE	1	95	%			
4-Bromofluorobenzene	SURROGATE	1	97	%			

Review By: Bob Cathel

Report Approved By: Karen Kuoppala

- Qual - U = Analyte Not Detected above the Method Detection Limit  
 - J = Estimated Concentration, B = Analyte Detected in the Blank  
 - E = Analyte Conc. is above the Method Calibration Range
- Dil - Sample Dilution Factor
- ND - Sample Concentration Not Detected above MDL
- MDL - Method Detection Limit
- RL - Method Reporting Limit

Form 1 - Data Summary Report  
 Prepared By: HydroLogic Laboratories, Inc.

Client ID: TRIP BLANK  
 Project Number: 95-321-330  
 Sample ID: L3891-6  
 Site / Project ID: CANNON AFB LTMP  
 Run ID: R5731  
 Collection Date: 18-DEC-96  
 Received Date: 21-DEC-96  
 Report Date: 27-DEC-96

Analyte	CAS No.	Dil	Sample Conc.	Units	Qual	MDL	RL
SW846 Met. 8260 (APIX)							
Preparation Date: 26-DEC-96							
Analysis Date: 26-DEC-96 20:27							
Workgroup Number: WG9104							
Acetone	67-64-1	1	ND	ug/L	U	1.5	100
Acetonitrile	75-05-8	1	ND	ug/L	U	.5	100
Acrolein	107-02-8	1	ND	ug/L	U	.5	100
Acrylonitrile	107-13-1	1	ND	ug/L	U	.5	100
Allyl chloride	107-05-1	1	ND	ug/L	U	.5	10
Benzene	71-43-2	1	ND	ug/L	U	.39	5
Bromodichloromethane	75-27-4	1	ND	ug/L	U	.64	5
Bromoform	75-25-2	1	ND	ug/L	U	.47	5
Bromomethane	74-83-9	1	ND	ug/L	U	.49	10
2-Butanone	78-93-3	1	ND	ug/L	U	1.1	100
Carbon disulfide	75-15-0	1	ND	ug/L	U	1.1	100
Carbon tetrachloride	56-23-5	1	ND	ug/L	U	1.4	5
Chlorobenzene	108-90-7	1	ND	ug/L	U	.44	5
Chloroethane	75-00-3	1	ND	ug/L	U	.54	10
Chloroform	67-66-3	1	ND	ug/L	U	1.4	5
Chloromethane	74-87-3	1	ND	ug/L	U	2	10
Dibromochloromethane	124-48-1	1	ND	ug/L	U	.5	5
1,2-Dibromo-3-chloropropane	96-12-8	1	ND	ug/L	U	.61	100
1,2-Dibromoethane	106-93-4	1	ND	ug/L	U	.5	5
Dibromomethane	74-95-3	1	ND	ug/L	U	1.4	5
trans-1,4-Dichloro-2-butene	110-57-6	1	ND	ug/L	U	5	5
Dichlorodifluoromethane	75-71-8	1	ND	ug/L	U	.43	10
1,1-Dichloroethane	75-34-3	1	ND	ug/L	U	1.7	5
1,2-Dichloroethane	107-06-2	1	ND	ug/L	U	2.1	5
1,1-Dichloroethene	75-35-4	1	ND	ug/L	U	.48	5
trans-1,2-Dichloroethene	156-60-5	1	ND	ug/L	U	.55	5
cis-1,2-Dichloroethene	156-59-2	1	ND	ug/L	U	.5	5
1,2-Dichloropropane	78-87-5	1	ND	ug/L	U	.51	5
cis-1,3-Dichloropropene	10061-01-5	1	ND	ug/L	U	.78	5
trans-1,3-Dichloropropene	10061-02-6	1	ND	ug/L	U	.55	5
1,4-Dioxane	123-91-1	1	ND	ug/L	U	100	100
Ethylbenzene	100-41-4	1	ND	ug/L	U	.75	5

Review By: Bob Cathel

Report Approved By: Karen Kuoppala

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 - E = Analyte Conc. is above the Method Calibration Range
- Dil - Sample Dilution Factor
- ND - Sample Concentration Not Detected above MDL
- MDL - Method Detection Limit
- RL - Method Reporting Limit

Form 1 - Data Summary Report  
 Prepared By: HydroLogic Laboratories, Inc.

Client ID: TRIP BLANK  
 Project Number: 95-321-330  
 Sample ID: L3891-6  
 Site / Project ID: CANNON AFB LTMP  
 Run ID: R5731  
 Collection Date: 18-DEC-96  
 Received Date: 21-DEC-96  
 Report Date: 27-DEC-96

Analyte	CAS No.	Dil	Sample Conc.	Units	Qual	MDL	RL
Ethyl methacrylate	97-63-2	1	ND	ug/L	U	.5	5
2-Hexanone	591-78-6	1	ND	ug/L	U	.5	100
Iodomethane	74-88-4	1	ND	ug/L	U	10	10
Methacrylonitrile	126-98-7	1	ND	ug/L	U	.5	100
Methylene chloride	75-09-2	1	ND	ug/L	U	.75	5
Methyl methacrylate	80-62-6	1	ND	ug/L	U	.5	50
4-Methyl-2-pentanone	108-10-1	1	ND	ug/L	U	.56	50
Propionitrile	107-12-0	1	ND	ug/L	U	.5	5
Styrene	100-42-5	1	ND	ug/L	U	.5	5
1,1,1,2-Tetrachloroethane	630-20-6	1	ND	ug/L	U	.45	5
1,1,2,2-Tetrachloroethane	79-34-5	1	ND	ug/L	U	.63	5
Tetrachloroethene	127-18-4	1	ND	ug/L	U	.49	5
Toluene	108-88-3	1	ND	ug/L	U	.85	5
1,1,1-Trichloroethane	71-55-6	1	ND	ug/L	U	1.7	5
1,1,2-Trichloroethane	79-00-5	1	ND	ug/L	U	1.2	5
Trichloroethene	79-01-6	1	ND	ug/L	U	.42	5
Trichlorofluoromethane	75-69-4	1	ND	ug/L	U	.5	5
1,2,3-Trichloropropane	96-18-4	1	ND	ug/L	U	1.1	5
Vinyl acetate	108-05-4	1	ND	ug/L	U	.5	10
Vinyl chloride	75-01-4	1	ND	ug/L	U	.47	5
Xylene (Total)	1330-20-7	1	ND	ug/L	U	1	5
Dibromofluoromethane	SURROGATE	1	101	%			
Toluene-d8	SURROGATE	1	96	%			
4-Bromofluorobenzene	SURROGATE	1	97	%			

Review By: Bob Cathel

Report Approved By: Karen Kuoppala

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 - J = Estimated Concentration, B = Analyte Detected in the Blank  
 - E = Analyte Conc. is above the Method Calibration Range
- Dil - Sample Dilution Factor
- ND - Sample Concentration Not Detected above MDL
- MDL - Method Detection Limit
- RL - Method Reporting Limit

QC

DATA

PACKAGE

Form 1 - Data Summary Report  
 Prepared By: Hydrologic Laboratories, Inc.

Client ID: Method Blank  
 Project Number: Not Reported  
 Sample ID: WG9104-1  
 Site / Project ID: Not Reported  
 Run ID: R5731  
 Collection Date: Not Reported  
 Received Date: 27-DEC-96  
 Report Date: 27-DEC-96

Analyte	CAS No.	Dil	Sample Conc.	Units	Qual	MDL	RL
SW846 Met. 8260 (APIX)							
Preparation Date: 26-DEC-96							
Analysis Date: 26-DEC-96 13:35							
Workgroup Number: WG9104							
Acetone	67-64-1	1	ND	ug/L	U	1.5	100
Acetonitrile	75-05-8	1	ND	ug/L	U	.5	100
Acrolein	107-02-8	1	ND	ug/L	U	.5	100
Acrylonitrile	107-13-1	1	ND	ug/L	U	.5	100
Allyl chloride	107-05-1	1	ND	ug/L	U	.5	10
Benzene	71-43-2	1	ND	ug/L	U	.39	5
Bromodichloromethane	75-27-4	1	ND	ug/L	U	.64	5
Bromoform	75-25-2	1	ND	ug/L	U	.47	5
Bromomethane	74-83-9	1	ND	ug/L	U	.49	10
2-Butanone	78-93-3	1	ND	ug/L	U	1.1	100
Carbon disulfide	75-15-0	1	ND	ug/L	U	1.1	100
Carbon tetrachloride	56-23-5	1	ND	ug/L	U	1.4	5
Chlorobenzene	108-90-7	1	ND	ug/L	U	.44	5
Chloroethane	75-00-3	1	ND	ug/L	U	.54	10
Chloroform	67-66-3	1	ND	ug/L	U	1.4	5
Chloromethane	74-87-3	1	ND	ug/L	U	2	5
Dibromochloromethane	124-48-1	1	ND	ug/L	U	.5	5
1,2-Dibromo-3-chloropropane	96-12-8	1	ND	ug/L	U	.61	100
1,2-Dibromoethane	106-93-4	1	ND	ug/L	U	.5	5
Dibromomethane	74-95-3	1	ND	ug/L	U	1.4	5
trans-1,4-Dichloro-2-butene	110-57-6	1	ND	ug/L	U	5	5
Dichlorodifluoromethane	75-71-8	1	ND	ug/L	U	.43	10
1,1-Dichloroethane	75-34-3	1	ND	ug/L	U	1.7	5
1,2-Dichloroethane	107-06-2	1	ND	ug/L	U	2.1	5
1,1-Dichloroethene	75-35-4	1	ND	ug/L	U	.48	5
trans-1,2-Dichloroethene	156-60-5	1	ND	ug/L	U	.55	5
cis-1,2-Dichloroethene	156-59-2	1	ND	ug/L	U	.5	5
1,2-Dichloropropane	78-87-5	1	ND	ug/L	U	.51	5
cis-1,3-Dichloropropene	10061-01-5	1	ND	ug/L	U	.78	5
trans-1,3-Dichloropropene	10061-02-6	1	ND	ug/L	U	.55	5
1,4-Dioxane	123-91-1	1	ND	ug/L	U	100	100
Ethylbenzene	100-41-4	1	ND	ug/L	U	.75	5

Review By: Bob Cathel

Report Approved By: Karen Kuoppala

- Qual - U = Analyte Not Detected above the Method Detection Limit  
 - J = Estimated Concentration, B = Analyte Detected in the Blank  
 - E = Analyte Conc. is above the Method Calibration Range  
 Dil - Sample Dilution Factor  
 ND - Sample Concentration Not Detected above MDL  
 MDL - Method Detection Limit  
 RL - Method Reporting Limit

Form 1 - Data Summary Report  
 Prepared By: HydroLogic Laboratories, Inc.

Client ID: Method Blank  
 Project Number: Not Reported  
 Sample ID: WG9104-1  
 Site / Project ID: Not Reported  
 Run ID: R5731  
 Collection Date: Not Reported  
 Received Date: 27-DEC-96  
 Report Date: 27-DEC-96

Analyte	CAS No.	Dil	Sample Conc.	Units	Qual	MDL	RL
Ethyl methacrylate	97-63-2	1	ND	ug/L	U	.5	5
2-Hexanone	591-78-6	1	ND	ug/L	U	.5	100
Iodomethane	74-88-4	1	ND	ug/L	U	10	10
Methacrylonitrile	126-98-7	1	ND	ug/L	U	.5	100
Methylene chloride	75-09-2	1	ND	ug/L	U	.75	5
Methyl methacrylate	80-62-6	1	ND	ug/L	U	.5	50
4-Methyl-2-pentanone	108-10-1	1	ND	ug/L	U	.56	50
Propionitrile	107-12-0	1	ND	ug/L	U	.5	5
Styrene	100-42-5	1	ND	ug/L	U	.5	5
1,1,1,2-Tetrachloroethane	630-20-6	1	ND	ug/L	U	.45	5
1,1,2,2-Tetrachloroethane	79-34-5	1	ND	ug/L	U	.63	5
Tetrachloroethene	127-18-4	1	ND	ug/L	U	.49	5
Toluene	108-88-3	1	ND	ug/L	U	.85	5
1,1,1-Trichloroethane	71-55-6	1	ND	ug/L	U	1.7	5
1,1,2-Trichloroethane	79-00-5	1	ND	ug/L	U	1.2	5
Trichloroethene	79-01-6	1	ND	ug/L	U	.42	5
Trichlorofluoromethane	75-69-4	1	ND	ug/L	U	.5	5
1,2,3-Trichloropropane	96-18-4	1	ND	ug/L	U	1.1	5
Vinyl acetate	108-05-4	1	ND	ug/L	U	.5	10
Vinyl chloride	75-01-4	1	ND	ug/L	U	.47	2
Xylene (Total)	1330-20-7	1	ND	ug/L	U	1	5
Dibromofluoromethane	SURROGATE	1	95	%			
Toluene-d8	SURROGATE	1	100	%			
4-Bromofluorobenzene	SURROGATE	1	98	%			

Review By: Bob Cathel

Report Approved By: Karen Kuoppala

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 - J = Estimated Concentration, B = Analyte Detected in the Blank  
 - E = Analyte Conc. is above the Method Calibration Range
- Dil - Sample Dilution Factor  
 ND - Sample Concentration Not Detected above MDL  
 MDL - Method Detection Limit  
 RL - Method Reporting Limit

Form 1 - Data Summary Report  
 Prepared By: HydroLogic Laboratories, Inc.

Client ID: Method Blank  
 Project Number: Not Reported  
 Sample ID: WG9105-1  
 Site / Project ID: Not Reported  
 Run ID: R5945  
 Collection Date: Not Reported  
 Received Date: 26-DEC-96  
 Report Date: 15-JAN-97

Analyte	CAS No.	Dil.	Sample Conc.	Units	Qual	MDL	RL
SW846 Met. 8270 (APIX)							
Preparation Date: 24-DEC-96							
Analysis Date: 13-JAN-97 18:46							
Workgroup Number: WG9105							
Acenaphthene	83-32-9	1	ND	ug/L	U	4.2	5
Acenaphthylene	208-96-8	1	ND	ug/L	U	3.5	5
Acetophenone	98-86-2	1	ND	ug/L	U	2.9	5
2-Acetylaminofluorene	53-96-3	1	ND	ug/L	U	100	100
4-Aminobiphenyl	92-67-1	1	ND	ug/L	U	3.3	10
Aniline	62-53-3	1	ND	ug/L	U	2.4	5
Anthracene	120-12-7	1	ND	ug/L	U	2.6	5
Aramite	140-57-8	1	ND	ug/L	U	10	10
Benz(a)anthracene	56-55-3	1	ND	ug/L	U	2.8	5
Benzo(b)fluoranthene	205-99-2	1	ND	ug/L	U	2.6	5
Benzo(k)fluoranthene	207-08-9	1	ND	ug/L	U	3.9	5
Benzo(g,h,i)perylene	191-24-2	1	ND	ug/L	U	3.1	5
Benzo(a)pyrene	50-32-8	1	ND	ug/L	U	3.5	5
Benzyl alcohol	100-51-6	1	ND	ug/L	U	2.4	5
4-Bromophenyl phenyl ether	101-55-3	1	ND	ug/L	U	2.6	5
Butyl benzyl phthalate	85-68-7	1	ND	ug/L	U	2.7	5
2-sec-Butyl-4,6-dinitrophenol	88-85-7	1	ND	ug/L	U	10	10
4-Chloroaniline	106-47-8	1	ND	ug/L	U	3.8	5
Bis(2-chloroethoxy)methane	111-91-1	1	ND	ug/L	U	2.9	5
Bis(2-chloroethyl) ether	111-44-4	1	ND	ug/L	U	2.1	5
Bis(2-chloroisopropyl) ether	108-60-1	1	ND	ug/L	U	1.9	5
4-Chloro-3-methylphenol	59-50-7	1	ND	ug/L	U	3.2	5
2-Chloronaphthalene	91-58-7	1	ND	ug/L	U	4.2	5
2-Chlorophenol	95-57-8	1	ND	ug/L	U	2.9	5
4-Chlorophenyl phenyl ether	7005-72-3	1	ND	ug/L	U	3.9	5
Chrysene	218-01-9	1	ND	ug/L	U	4.2	5
Dibenz(a,h)anthracene	53-70-3	1	ND	ug/L	U	3.4	5
Dibenzofuran	132-64-9	1	ND	ug/L	U	4	5
1,3-Dichlorobenzene	541-73-1	1	ND	ug/L	U	3	5
1,4-Dichlorobenzene	106-46-7	1	ND	ug/L	U	2.9	5
1,2-Dichlorobenzene	95-50-1	1	ND	ug/L	U	2.6	5
Di-n-butyl phthalate	84-74-2	1	ND	ug/L	U	5.2	20

Review By: Bob Cathel

Report Approved By: Karen Kuoppala

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 - J = Estimated Concentration, B = Analyte Detected in the Blank  
 - E = Analyte Conc. is above the Method Calibration Range
- Dil - Sample Dilution Factor
- ND - Sample Concentration Not Detected above MDL
- MDL - Method Detection Limit
- RL - Method Reporting Limit

Form 1 - Data Summary Report  
 Prepared By: HydroLogic Laboratories, Inc.

Client ID: Method Blank  
 Project Number: Not Reported  
 Sample ID: WG9105-1  
 Site / Project ID: Not Reported  
 Run ID: R5945  
 Collection Date: Not Reported  
 Received Date: 26-DEC-96  
 Report Date: 15-JAN-97

Analyte	CAS No.	Dil	Sample Conc.	Units	Qual	MDL	RL
3,3'-Dichlorobenzidine	91-94-1	1	ND	ug/L	U	3.6	10
2,4-Dichlorophenol	120-83-2	1	ND	ug/L	U	4.4	5
2,6-Dichlorophenol	87-65-0	1	ND	ug/L	U	4.4	5
Diethyl phthalate	84-66-2	1	ND	ug/L	U	5.1	10
Dimethoate	60-51-5	1	ND	ug/L	U	5.1	10
p-Dimethylaminoazobenzene	60-11-7	1	ND	ug/L	U	2.5	5
7,12-Dimethylbenz(a)anthracene	57-97-6	1	ND	ug/L	U	3.4	5
3,3'-Dimethylbenzidine	119-93-7	1	ND	ug/L	U	5	10
a,a-Dimethylphenethylamine	122-09-8	1	ND	ug/L	U	4.5	100
2,4-Dimethylphenol	105-67-9	1	ND	ug/L	U	3.2	5
Dimethyl phthalate	131-11-3	1	ND	ug/L	U	4.8	5
1,3-Dinitrobenzene	99-65-0	1	ND	ug/L	U	5	10
4,6-Dinitro-2-methylphenol	534-52-1	1	ND	ug/L	U	4.3	25
2,4-Dinitrophenol	51-28-5	1	ND	ug/L	U	6.9	25
2,4-Dinitrotoluene	121-14-2	1	ND	ug/L	U	2.9	5
2,6-Dinitrotoluene	606-20-2	1	ND	ug/L	U	3.8	5
Di-n-octyl phthalate	117-84-0	1	ND	ug/L	U	2.7	5
Diphenylamine	122-39-4	1	ND	ug/L	U	4.2	10
Disulfoton	298-04-4	1	ND	ug/L	U	5.1	10
bis(2-ethylhexyl) phthalate	117-81-7	1	ND	ug/L	U	3.6	5
Ethyl methanesulfonate	62-50-0	1	ND	ug/L	U	2.6	10
Famphur	52-85-7	1	ND	ug/L	U	5.1	10
Fluoranthene	206-44-0	1	ND	ug/L	U	4	5
Fluorene	86-73-7	1	ND	ug/L	U	3.3	5
Hexachlorobenzene	118-74-1	1	ND	ug/L	U	2.5	5
Hexachlorobutadiene	87-68-3	1	ND	ug/L	U	3	5
Hexachlorocyclopentadiene	77-47-4	1	ND	ug/L	U	2.2	5
Hexachloroethane	67-72-1	1	ND	ug/L	U	4.7	5
Hexachloropropene	1888-71-7	1	ND	ug/L	U	5	5
Hexachlorophene	70-30-4	1	ND	ug/L	U	100	100
Indeno(1,2,3-cd)pyrene	193-39-5	1	ND	ug/L	U	3.1	5
Isophorone	78-59-1	1	ND	ug/L	U	3	5
Isosafrole	120-58-1	1	ND	ug/L	U	20	20
Methapyrilene	91-80-5	1	ND	ug/L	U	10	10
3-Methylcholanthrene	56-49-5	1	ND	ug/L	U	2.7	5
Methyl methanesulfonate	66-27-3	1	ND	ug/L	U	2.9	5

Review By: Bob Cathel

Report Approved By: Karen Kuoppala

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 - J = Estimated Concentration, B = Analyte Detected in the Blank  
 - E = Analyte Conc. is above the Method Calibration Range
- Dil - Sample Dilution Factor  
 ND - Sample Concentration Not Detected above MDL  
 MDL - Method Detection Limit  
 RL - Method Reporting Limit

Form 1 - Data Summary Report  
 Prepared By: HydroLogic Laboratories, Inc.

Client ID: Method Blank  
 Project Number: Not Reported  
 Sample ID: WG9105-1  
 Site / Project ID: Not Reported  
 Run ID: R5945  
 Collection Date: Not Reported  
 Received Date: 26-DEC-96  
 Report Date: 15-JAN-97

Analyte	CAS No.	Dil	Sample Conc.	Units	Qual	MDL	RL
2-Methylnaphthalene	91-57-6	1	ND	ug/L	U	2.8	5
Methyl parathion	298-00-0	1	ND	ug/L	U	5.1	10
2-Methylphenol	95-48-7	1	ND	ug/L	U	1.9	5
3&4-Methylphenol	NA	1	ND	ug/L	U	2	5
Naphthalene	91-20-3	1	ND	ug/L	U	2.4	5
1,4-Naphthoquinone	130-15-4	1	ND	ug/L	U	10	10
1-Naphthylamine	134-32-7	1	ND	ug/L	U	3.8	5
2-Naphthylamine	91-59-8	1	ND	ug/L	U	3.9	5
2-Nitroaniline	88-74-4	1	ND	ug/L	U	3.7	25
3-Nitroaniline	99-09-2	1	ND	ug/L	U	3.4	25
4-Nitroaniline	100-01-6	1	ND	ug/L	U	6.4	25
Nitrobenzene	98-95-3	1	ND	ug/L	U	4.7	5
2-Nitrophenol	88-75-5	1	ND	ug/L	U	4.3	5
4-Nitrophenol	100-02-7	1	ND	ug/L	U	8.4	25
N-Nitroso-di-n-butylamine	924-16-3	1	ND	ug/L	U	3	5
N-Nitrosodiethylamine	55-18-5	1	ND	ug/L	U	10	10
N-Nitrosodimethylamine	62-75-9	1	ND	ug/L	U	2	10
N-Nitrosodiphenylamine	86-30-6	1	ND	ug/L	U	5.2	25
N-Nitrosodipropylamine	621-64-7	1	ND	ug/L	U	3.1	5
N-Nitrosomethylethylamine	10595-95-6	1	ND	ug/L	U	10	5
N-Nitrosomorpholine	59-89-2	1	ND	ug/L	U	10	10
N-Nitrosopiperidine	100-75-4	1	ND	ug/L	U	3.4	10
N-Nitrosopyrrolidine	930-55-2	1	ND	ug/L	U	10	10
5-Nitro-o-toluidine	99-55-8	1	ND	ug/L	U	10	10
4-Nitroquinoline-n-oxide	56-57-5	1	ND	ug/L	U	100	100
Parathion	56-38-2	1	ND	ug/L	U	5.1	10
Pentachlorobenzene	608-93-5	1	ND	ug/L	U	3.9	5
Pentachloroethane	76-01-7	1	ND	ug/L	U	10	10
Pentachloronitrobenzene	82-68-8	1	ND	ug/L	U	4.7	10
Pentachlorophenol	87-86-5	1	ND	ug/L	U	5.7	25
Phenacetin	62-44-2	1	ND	ug/L	U	5.9	25
Phenanthrene	85-01-8	1	ND	ug/L	U	2.5	5
Phenol	108-95-2	1	ND	ug/L	U	3.4	5
p-Phenylenediamine	106-50-3	1	ND	ug/L	U	100	100
Phorate	298-02-2	1	ND	ug/L	U	5.1	10
2-Picoline	109-06-8	1	ND	ug/L	U	3.6	5

Review By: Bob Cathel

Report Approved By: Karen Kuoppala

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- Dil - Sample Dilution Factor
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Form 1 - Data Summary Report  
 Prepared By: HydroLogic Laboratories, Inc.

Client ID: Method Blank  
 Project Number: Not Reported  
 Sample ID: WG9105-1  
 Site / Project ID: Not Reported  
 Run ID: R5945  
 Collection Date: Not Reported  
 Received Date: 26-DEC-96  
 Report Date: 15-JAN-97

Analyte	CAS No.	Dil	Sample Conc.	Units	Qual	MDL	RL
Pronamide	23950-58-5	1	ND	ug/L	U	3.8	5
Pyrene	129-00-0	1	ND	ug/L	U	3.5	5
Pyridine	110-86-1	1	ND	ug/L	U	10	10
Safrole	94-59-7	1	ND	ug/L	U	10	10
1,2,4,5-Tetrachlorobenzene	95-94-3	1	ND	ug/L	U	5.1	10
2,3,4,6-Tetrachlorophenol	58-90-2	1	ND	ug/L	U	4.5	5
o-Toluidine	95-53-4	1	ND	ug/L	U	10	10
1,2,4-Trichlorobenzene	120-82-1	1	ND	ug/L	U	3.2	5
2,4,5-Trichlorophenol	95-95-4	1	ND	ug/L	U	5.6	25
2,4,6-Trichlorophenol	88-06-2	1	ND	ug/L	U	4.4	5
1,3,5-Trinitrobenzene	99-35-4	1	ND	ug/L	U	10	10
Nitrobenzene-d5	SURROGATE	1	40	%			
2-Fluorobiphenyl	SURROGATE	1	40	%			
p-Terphenyl-d14	SURROGATE	1	40	%			
Phenol-d6	SURROGATE	1	19	%			
2-Fluorophenol	SURROGATE	1	27	%			
2,4,6-Tribromophenol	SURROGATE	1.001	48	%			

Review By: Bob Cathel

Report Approved By: Karen Kuoppala

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- RL - Method Reporting Limit

Form 1 - Data Summary Report  
 Prepared By: Hydrologic Laboratories, Inc.

Client ID: Method Blank  
 Project Number: Not Reported  
 Sample ID: WG9106-1  
 Site / Project ID: Not Reported  
 Run ID: R5818  
 Collection Date: Not Reported  
 Received Date: 26-DEC-96  
 Report Date: 02-JAN-97

Analyte	CAS No.	Dil	Sample Conc.	Units	Qual	MDL	RL
SW846 Methods 3520/8080							
Preparation Date: 24-DEC-96							
Analysis Date: 31-DEC-96 18:42							
Workgroup Number: WG9106							
Aldrin	309-00-2	1	ND	ug/L	U	.05	.05
alpha-BHC	319-84-6	1	ND	ug/L	U	.018	.05
beta-BHC	319-85-7	1	ND	ug/L	U	.015	.05
delta-BHC	319-86-8	1	ND	ug/L	U	.011	.05
gamma-BHC (Lindane)	58-89-9	1	ND	ug/L	U	.013	.05
alpha-Chlordane	5103-71-9	1	ND	ug/L	J	.01	.05
gamma-Chlordane	5103-74-2	1	ND	ug/L	J	.01	.05
Chlorobenzilate	510-15-6	1	ND	ug/L	U	.05	.1
4,4'-DDD	72-54-8	1	ND	ug/L	U	.078	.1
4,4'-DDE	72-55-9	1	ND	ug/L	U	.017	.1
4,4'-DDT	50-29-3	1	ND	ug/L	U	.031	.1
Diallate	60-57-1	1	ND	ug/L	U	.5	1
Dieldrin	60-57-1	1	ND	ug/L	U	.012	.1
Endosulfan I	959-98-8	1	ND	ug/L	U	.015	.05
Endosulfan II	33213-65-9	1	ND	ug/L	U	.013	.1
Endosulfan sulfate	1031-07-8	1	ND	ug/L	U	.018	.1
Endrin	72-20-8	1	ND	ug/L	U	.013	.1
Endrin aldehyde	7421-93-4	1	ND	ug/L	U	.081	.1
Heptachlor	76-44-8	1	ND	ug/L	U	.036	.05
Heptachlor epoxide	1024-57-3	1	ND	ug/L	U	.014	.05
Isodrin	465-73-6	1	ND	ug/L	U	.05	.1
Kepone	143-50-0	1	ND	ug/L	U	.5	1
Methoxychlor	72-43-5	1	ND	ug/L	U	.049	.5
Toxaphene	8001-35-2	1	ND	ug/L	U	.24	2.4
Aroclor-1016	12674-11-2	1	ND	ug/L	U	.18	.5
Aroclor-1221	11104-28-2	1	ND	ug/L	U	.11	.5
Aroclor-1232	11141-16-5	1	ND	ug/L	U	.11	.5
Aroclor-1242	53469-21-9	1	ND	ug/L	U	.11	.5
Aroclor-1248	12672-29-6	1	ND	ug/L	U	.11	.5
Aroclor-1254	11097-69-1	1	ND	ug/L	U	.11	1
Aroclor-1260	11096-82-5	1	ND	ug/L	U	.11	1
Tetrachloro-m-xylene	SURROGATE	1	72	%			

Review By: Bob Cathel

Report Approved By: Karen Kuoppala

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- Dil - Sample Dilution Factor
- ND - Sample Concentration Not Detected above MDL
- MDL - Method Detection Limit
- RL - Method Reporting Limit

Form 1 - Data Summary Report  
Prepared By: HydroLogic Laboratories, Inc.

Client ID: Method Blank  
Project Number: Not Reported  
Sample ID: WG9106-1  
Site / Project ID: Not Reported  
Run ID: R5818  
Collection Date: Not Reported  
Received Date: 26-DEC-96  
Report Date: 02-JAN-97

Analyte	CAS No.	Dil	Sample Conc.	Units	Qual	MDL	RL
Decachlorobiphenyl	SURROGATE	1	101	%			

Review By: Bob Cathel

Report Approved By: Karen Kuoppala

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Form 1 - Data Summary Report  
 Prepared By: HydroLogic Laboratories, Inc.

Client ID: Method Blank  
 Project Number: Not Reported  
 Sample ID: WG9107-1  
 Site / Project ID: Not Reported  
 Run ID: R5887  
 Collection Date: Not Reported  
 Received Date: 26-DEC-96  
 Report Date: 16-JAN-97

Analyte	CAS No.	Dil	Sample Conc.	Units	Qual	MDL	RL
SW846 Met. 8150 (APIX)							
Preparation Date: 24-DEC-96							
Analysis Date: 07-JAN-97 23:54							
Workgroup Number: WG9107							
2,4-D	94-75-7	1	ND	ug/L	U	1	1
2,4,5-T	93-76-5	1	ND	ug/L	U	.1	.1
2,4,5-TP (Silvex)	93-72-1	1	ND	ug/L	U	.1	.1
Dinoseb	88-85-7	1	ND	ug/L	U	.5	.5
DCAA	SURROGATE	1	58	%			

Review By: Bob Cathel

Report Approved By: Karen Kuoppala

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Form 1 - Data Summary Report  
 Prepared By: HydroLogic Laboratories, Inc.

Client ID: Method Blank  
 Project Number: Not Reported  
 Sample ID: WG9293-1  
 Site / Project ID: Not Reported  
 Run ID: R5872  
 Collection Date: Not Reported  
 Received Date: 06-JAN-97  
 Report Date: 08-JAN-97

Analyte	CAS No.	Dil	Sample Conc.	Units	Qual	MDL	RL
SW846 Met. 6010 (APIX)							
Preparation Date: 06-JAN-97							
Analysis Date: 07-JAN-97 19:27							
Workgroup Number: WG9293							
Barium	7440-39-3	1	.0021	mg/L	J	.00026	.02
Beryllium	7440-41-7	1	ND	mg/L	U	.00016	.004
Cadmium	7440-43-9	1	ND	mg/L	U	.0019	.005
Chromium	7440-47-3	1	ND	mg/L	U	.0045	.01
Cobalt	7440-48-4	1	ND	mg/L	U	.0053	.05
Copper	7440-50-8	1	.0082	mg/L	J	.0073	.01
Nickel	7440-02-0	1	ND	mg/L	U	.0056	.02
Silver	7440-22-4	1	ND	mg/L	U	.0019	.01
Tin	7440-31-5	1	ND	mg/L	U	.054	.1
Vanadium	7440-62-2	1	.0018	mg/L	J	.0017	.05
Zinc	7440-66-6	1	.0209	mg/L		.0052	.02

Review By: Bob Cathel

Report Approved By: Karen Kuoppala

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- Dil - Sample Dilution Factor
- ND - Sample Concentration Not Detected above MDL
- MDL - Method Detection Limit
- RL - Method Reporting Limit

Form 1 - Data Summary Report  
Prepared By: HydroLogic Laboratories, Inc.

Client ID: Method Blank  
Project Number: Not Reported  
Sample ID: WG9317-1  
Site / Project ID: Not Reported  
Run ID: R5873  
Collection Date: Not Reported  
Received Date: 07-JAN-97  
Report Date: 07-JAN-97

Analyte	CAS No.	Dil	Sample Conc.	Units	Qual	MDL	RL
SW846 Method 7041							
Analysis Date: 07-JAN-97 14:14							
Workgroup Number: WG9317							
Antimony	7440-36-0	1	ND	mg/L	U	.00068	.006

Review By: Bob Cathel

Report Approved By: Karen Kuoppala

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- Dil - Sample Dilution Factor
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- MDL - Method Detection Limit
- RL - Method Reporting Limit

Form 1 - Data Summary Report  
Prepared By: HydroLogic Laboratories, Inc.

Client ID: Method Blank  
Project Number: Not Reported  
Sample ID: WG9295-1  
Site / Project ID: Not Reported  
Run ID: R5858  
Collection Date: Not Reported  
Received Date: 06-JAN-97  
Report Date: 07-JAN-97

Analyte	CAS No.	Dil	Sample Conc.	Units	Qual	MDL	RL
SW846 Method 7060							
Analysis Date: 07-JAN-97 09:46							
Workgroup Number: WG9295							
Arsenic	7440-38-2	1	ND	mg/L	U	.00073	.005

Review By: Bob Cathel

Report Approved By: Karen Kuoppala

- Qual - U = Analyte Not Detected above the Method Detection Limit  
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- RL - Method Reporting Limit

Form 1 - Data Summary Report  
Prepared By: HydroLogic Laboratories, Inc.

Client ID: Method Blank  
Project Number: Not Reported  
Sample ID: WG9294-1  
Site / Project ID: Not Reported  
Run ID: R5859  
Collection Date: Not Reported  
Received Date: 06-JAN-97  
Report Date: 07-JAN-97

Analyte	CAS No.	Dil	Sample Conc.	Units	Qual	MDL	RL
SW846 Method 7421 Analysis Date: 07-JAN-97 09:50 Workgroup Number: WG9294							
Lead	7439-92-1	1	ND	mg/L	U	.00089	.003

Review By: Bob Cathel

Report Approved By: Karen Kuoppala

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Dil - Sample Dilution Factor  
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RL - Method Reporting Limit

Form 1 - Data Summary Report  
Prepared By: HydroLogic Laboratories, Inc.

Client ID: Method Blank  
Project Number: Not Reported  
Sample ID: WG9215-1  
Site / Project ID: Not Reported  
Run ID: R5806  
Collection Date: Not Reported  
Received Date: 31-DEC-96  
Report Date: 02-JAN-97

Analyte	CAS No.	Dil	Sample Conc.	Units	Qual	MDL	RL
SWB46 Method 7470							
Analysis Date: 31-DEC-96 15:19							
Workgroup Number: WG9215							
Mercury	7439-97-6	1	ND	mg/L	U	.00005	.0002

Review By: Bob Cathel

Report Approved By: Karen Kuoppala

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- Dil - Sample Dilution Factor
- ND - Sample Concentration Not Detected above MDL
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- RL - Method Reporting Limit

Form 1 - Data Summary Report  
Prepared By: HydroLogic Laboratories, Inc.

Client ID: Method Blank  
Project Number: Not Reported  
Sample ID: WG9296-1  
Site / Project ID: Not Reported  
Run ID: R5861  
Collection Date: Not Reported  
Received Date: 06-JAN-97  
Report Date: 07-JAN-97

Analyte	CAS No.	Dil	Sample Conc.	Units	Qual	MDL	RL
SW846 Method 7740							
Analysis Date: 07-JAN-97 11:21							
Workgroup Number: WG9296							
Selenium	7782-49-2	1	ND	mg/L	U	.00074	.005

Review By: Bob Cathel

Report Approved By: Karen Kuoppala

- Qual - U = Analyte Not Detected above the Method Detection Limit  
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- ND - Sample Concentration Not Detected above MDL
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- RL - Method Reporting Limit

Form 1 - Data Summary Report  
Prepared By: HydroLogic Laboratories, Inc.

Client ID: Method Blank  
Project Number: Not Reported  
Sample ID: WG9297-1  
Site / Project ID: Not Reported  
Run ID: R5874  
Collection Date: Not Reported  
Received Date: 06-JAN-97  
Report Date: 07-JAN-97

Analyte	CAS No.	Dil	Sample Conc.	Units	Qual	MDL	RL
SW846 Method 7841							
Analysis Date: 07-JAN-97 16:42							
Workgroup Number: WG9297							
Thallium	7440-26-0	1	ND	mg/L	U	.00079	.005

Review By: Bob Cathel

Report Approved By: Karen Kuoppala

Qual - U = Analyte Not Detected above the Method Detection Limit  
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Dil - Sample Dilution Factor  
ND - Sample Concentration Not Detected above MDL  
MDL - Method Detection Limit  
RL - Method Reporting Limit

Form 1 - Data Summary Report  
 Prepared By: HydroLogic Laboratories, Inc.

Client ID: Method Blank  
 Project Number: Not Reported  
 Sample ID: WG9352-1  
 Site / Project ID: Not Reported  
 Run ID: R5898  
 Collection Date: Not Reported  
 Received Date: 09-JAN-97  
 Report Date: 09-JAN-97

Analyte	CAS No.	Dil	Sample Conc.	Units	Qual	MDL	RL
SW846 Method 9012							
Analysis Date: 08-JAN-97 12:25							
Workgroup Number: WG9352							
Cyanide (tot.)	N/A	1	ND	mg/L	U	.003	.02
Cyanide (amen.)	N/A	1	ND	mg/L	U	.005	.02

Review By: Bob Cathel

Report Approved By: Karen Kuoppala

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- Dil - Sample Dilution Factor
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- RL - Method Reporting Limit

Form 1 - Data Summary Report  
Prepared By: HydroLogic Laboratories, Inc.

Client ID: Method Blank  
Project Number: Not Reported  
Sample ID: WG9086-1  
Site / Project ID: Not Reported  
Run ID: R5769  
Collection Date: Not Reported  
Received Date: 24-DEC-96  
Report Date: 30-DEC-96

Analyte	CAS No.	Dil	Sample Conc.	Units	Qual	MDL	RL
SW-846, Method 9030							
Preparation Date: 24-DEC-96							
Analysis Date: 24-DEC-96 08:00							
Workgroup Number: WG9086							
Sulfide	N/A	1	ND	mg/L	U	.48	1

Review By: Bob Cathel

Report Approved By: Karen Kuoppala

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- Dil - Sample Dilution Factor
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- RL - Method Reporting Limit

Form 1 - Data Summary Report  
 Prepared By: HydroLogic Laboratories, Inc.

Client ID: Method Blank  
 Project Number: Not Reported  
 Sample ID: WG9138-1  
 Site / Project ID: Not Reported  
 Run ID: R5753  
 Collection Date: Not Reported  
 Received Date: 27-DEC-96  
 Report Date: 27-DEC-96

Analyte	CAS No.	Dil	Sample Conc.	Units	Qual	MDL	RL
SW-846, Method 9060							
Analysis Date: 27-DEC-96 10:10							
Workgroup Number: WG9138							
Total Organic Carbon	N/A	1	.2	mg/L	J	.15	1

Review By: Bob Cathel

Report Approved By: Karen Kuoppala

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- Dil - Sample Dilution Factor
- ND - Sample Concentration Not Detected above MDL
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- RL - Method Reporting Limit

Form 1 - Data Summary Report  
Prepared By: HydroLogic Laboratories, Inc.

Client ID: Method Blank  
Project Number: Not Reported  
Sample ID: WG9144-1  
Site / Project ID: Not Reported  
Run ID: R5789  
Collection Date: Not Reported  
Received Date: 28-DEC-96  
Report Date: 31-DEC-96

Analyte	CAS No.	Dil	Sample Conc.	Units	Qual	MDL	RL
SW-846, Method 9020 Analysis Date: 26-DEC-96 09:12 Workgroup Number: WG9144							
Total Organic Halides	N/A	1	ND	mg/L	J	.001	.005

Review By: Bob Cathel

Report Approved By: Karen Kuoppala

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Dil - Sample Dilution Factor  
ND - Sample Concentration Not Detected above MDL  
MDL - Method Detection Limit  
RL - Method Reporting Limit

Laboratory Control Spike / Laboratory Control Spike Duplicate QC Report  
 Prepared By: HydroLogic Laboratories, Inc.

Sample Id: /usr/users/seed2/target/B0885  
 Work Group Id: WG9104-2  
 Run Id: R5731  
 GALP Record Id: Not Reported  
 Preparation Date: 26-DEC-96  
 Analysis Date: 26-DEC-96  
 Report Date: 27-DEC-96

Analyte	CAS No.	Low Limit	High Limit	RPD Limit	LCS Add	LCSD Add	Units	LCS %REC	LCSD %REC	LCS/LCSD RPD	QUAL (1)
SW846 Met. 8260 (APIX)											
Preparation Date: 26-DEC-96											
Analysis Date: 26-DEC-96 14:16											
Workgroup Number: WG9104											
Benzene	71-43-2	76	127	13	50	50	ug/L	84	90	7	---
Chlorobenzene	108-90-7	75	130	13	50	50	ug/L	78	84	7	---
1,1-Dichloroethene	75-35-4	61	145	14	50	50	ug/L	84	90	7	---
Toluene	108-88-3	76	125	13	50	50	ug/L	84	88	5	---
Trichloroethene	79-01-6	71	120	14	50	50	ug/L	82	80	2	---

Note:  
 Technical Review By: Bob Cathel

Note:  
 Report Approved By: Karen Kuoppala

(1) QUAL - \* = LCS Outside Control Limits; # = LCSD Outside Control Limits; @ = RPD Outside Control Limits; '-' = Value Within Control Limits  
 "Limits" - The "Limits" reported above (Low, High and RPD) are in units of percent (%).  
 "LCS,SD Add" - The conc. of analyte added to the LCS or LCSD sample.  
 "LCS %REC" - Laboratory Control Sample Percent Recovery  
 "LCSD %REC" - Laboratory Control Sample Duplicate Percent Recovery  
 "LCS/LCSD RPD" - Laboratory Control Sample / Laboratory Control Sample Duplicate Relative Percent Difference  
 NR - Not Reported

Single Laboratory Control Spike QC Report  
 Prepared By: HydroLogic Laboratories, Inc.

Sample Id: /usr/users/seed2/target/D8584.2  
 Work Group Id: WG9105-2  
 Run Id: R5945  
 GALP Record Id: Not Reported  
 Preparation Date: 24-DEC-96  
 Analysis Date: 13-JAN-97  
 Report Date: 15-JAN-97

Analyte	CAS No.	Sample Value	Units	Spike Conc.	Low Limit	High Limit	SLCS %REC	QUAL (1)
SW846 Met. 8270 (APIX)								
Preparation Date: 24-DEC-96								
Analysis Date: 13-JAN-97 19:32								
Workgroup Number: WG9105								
Acenaphthene	83-32-9	40	ug/L	50	47	118	80	-
4-Chloro-3-methylphenol	59-50-7	87	ug/L	100	23	97	87	-
2-Chlorophenol	95-57-8	83	ug/L	100	27	123	83	-
1,4-Dichlorobenzene	106-46-7	32	ug/L	50	36	97	64	-
2,4-Dinitrotoluene	121-14-2	42	ug/L	50	39	96	84	-
4-Nitrophenol	100-02-7	46	ug/L	100	10	80	46	-
N-Nitrosodipropylamine	621-64-7	46	ug/L	50	41	116	92	-
Pentachlorophenol	87-86-5	100	ug/L	100	14	103	100	-
Phenol	108-95-2	44	ug/L	100	12	89	44	-
Pyrene	129-00-0	40	ug/L	50	52	115	80	-
1,2,4-Trichlorobenzene	120-82-1	34	ug/L	50	44	98	68	-

Note:  
 Technical Review By: Bob Cathel

Note:  
 Report Approved By: Karen Kuoppala

(1) QUAL - \* = LCS Outside Control Limits; '-' = Value Within Control Limits  
 "Limits" - The "Limits" reported above (Low and High) are in units of percent (%).  
 "LCS Add" - The conc. of analyte added to the SLCS sample.  
 "SLCS %REC" - Laboratory Control Sample Percent Recovery  
 NR - Not Reported

Laboratory Control Spike / Laboratory Control Spike Duplicate QC Report  
 Prepared By: HydroLogic Laboratories, Inc.

Sample Id: LCS/LCSD Pair  
 Work Group Id: WG9106-2  
 Run Id: R5818  
 GALP Record Id: Not Reported  
 Preparation Date: 24-DEC-96  
 Analysis Date: 31-DEC-96  
 Report Date: 02-JAN-97

Analyte	CAS No.	Low Limit	High Limit	RPD Limit	LCS Add	LCSD Add	Units	LCS %REC	LCSD %REC	LCS/LCSD RPD	QUAL (1)
SW846 Methods 3520/8080											
Preparation Date: 24-DEC-96											
Analysis Date: 31-DEC-96 19:23											
Workgroup Number: WG9106											
Aldrin	309-00-2	40	120	22	.2	.2	ug/L	96	89	8	---
gamma-BHC (Lindane)	58-89-9	56	123	15	.2	.2	ug/L	94	94	0	---
4,4'-DDT	50-29-3	38	127	27	.5	.5	ug/L	98	99	1	---
Dieldrin	60-57-1	52	126	18	.5	.5	ug/L	104	104	0	---
Endrin	72-20-8	56	121	21	.5	.5	ug/L	94	95	1	---
Heptachlor	76-44-8	40	131	20	.2	.2	ug/L	92	89	3	---

Note:  
 Technical Review By: Bob Cathel

Note:  
 Report Approved By: Karen Kuoppala

(1) QUAL - \* = LCS Outside Control Limits; # = LCSD Outside Control Limits; @ = RPD Outside Control Limits; '-' = Value Within Control Limits  
 "Limits" - The "Limits" reported above (Low, High and RPD) are in units of percent (%).  
 "LCS,SD Add" - The conc. of analyte added to the LCS or LCSD sample.  
 "LCS %REC" - Laboratory Control Sample Percent Recovery  
 "LCSD %REC" - Laboratory Control Sample Duplicate Percent Recovery  
 "LCS/LCSD RPD" - Laboratory Control Sample / Laboratory Control Sample Duplicate Relative Percent Difference  
 NR - Not Reported

Laboratory Control Spike / Laboratory Control Spike Duplicate QC Report  
 Prepared By: HydroLogic Laboratories, Inc.

Sample Id: LCS/LCSD Pair  
 Work Group Id: WG9107-2  
 Run Id: R5887  
 GALP Record Id: Not Reported  
 Preparation Date: 24-DEC-96  
 Analysis Date: 08-JAN-97  
 Report Date: 09-JAN-97

Analyte	CAS No.	Low Limit	High Limit	RPD Limit	LCS Add	LCSD Add	Units	LCS %REC	LCSD %REC	LCS/LCSD RPD	QUAL (1)
SW846 Met. 8150 (APIX)											
Preparation Date: 24-DEC-96											
Analysis Date: 08-JAN-97 00:32											
Workgroup Number: WG9107											
2,4-D	94-75-7	40	160	25	2	2	ug/L	97	101	4	---
2,4,5-T	93-76-5	40	160	25	.2	.2	ug/L	106	102	4	---
2,4,5-TP (Silvex)	93-72-1	40	160	25	.2	.2	ug/L	115	114	1	---

Note:  
 Technical Review By: Bob Cathel

Note:  
 Report Approved By: Karen Kuoppala

(1) QUAL - \* = LCS Outside Control Limits; # = LCSD Outside Control Limits; @ = RPD Outside Control Limits; '-' = Value Within Control Limits  
 "Limits" - The "Limits" reported above (Low, High and RPD) are in units of percent (%).  
 "LCS,SD Add" - The conc. of analyte added to the LCS or LCSD sample.  
 "LCS %REC" - Laboratory Control Sample Percent Recovery  
 "LCSD %REC" - Laboratory Control Sample Duplicate Percent Recovery  
 "LCS/LCSD RPD" - Laboratory Control Sample / Laboratory Control Sample Duplicate Relative Percent Difference  
 NR - Not Reported

Laboratory Control Spike / Laboratory Control Spike Duplicate QC Report  
 Prepared By: HydroLogic Laboratories, Inc.

Sample Id: /usr/users/seed2/pe3000/qc  
 Work Group Id: WG9293-2  
 Run Id: R5872  
 GALP Record Id: Not Reported  
 Preparation Date: 06-JAN-97  
 Analysis Date: 07-JAN-97  
 Report Date: 08-JAN-97

Analyte	CAS No.	Low Limit	High Limit	RPD Limit	LCS Add	LCSD Add	Units	LCS %REC	LCSD %REC	LCS/LCSD RPD	QUAL (1)
SW846 Met. 6010 (APIX)											
Preparation Date: 06-JAN-97											
Analysis Date: 07-JAN-97 19:30											
Workgroup Number: WG9293											
Barium	7440-39-3	80	120	20	2	2	mg/L	99	100	1	---
Beryllium	7440-41-7	80	120	20	.05	.05	mg/L	99	98	1	---
Cadmium	7440-43-9	80	120	20	.05	.05	mg/L	96	98	2	---
Chromium	7440-47-3	80	120	20	.2	.2	mg/L	98	97	1	---
Cobalt	7440-48-4	80	120	20	.5	.5	mg/L	100	100	0	---
Copper	7440-50-8	80	120	20	.25	.25	mg/L	98	98	0	---
Nickel	7440-02-0	80	120	20	.5	.5	mg/L	102	100	2	---
Silver	7440-22-4	80	120	20	.05	.05	mg/L	88	85	3	---
Vanadium	7440-62-2	80	120	20	.5	.5	mg/L	100	100	0	---
Zinc	7440-66-6	80	120	20	.5	.5	mg/L	101	101	0	---

Note:  
 Technical Review By: Bob Cathel

Note:  
 Report Approved By: Karen Kuoppala

(1) QUAL - \* = LCS Outside Control Limits; # = LCSD Outside Control Limits; @ = RPD Outside Control Limits; '-' = Value Within Control Limits  
 "Limits" - The "Limits" reported above (Low, High and RPD) are in units of percent (%).  
 "LCS,SD Add" - The conc. of analyte added to the LCS or LCSD sample.  
 "LCS %REC" - Laboratory Control Sample Percent Recovery  
 "LCSD %REC" - Laboratory Control Sample Duplicate Percent Recovery  
 "LCS/LCSD RPD" - Laboratory Control Sample / Laboratory Control Sample Duplicate Relative Percent Difference  
 NR - Not Reported

Laboratory Control Spike / Laboratory Control Spike Duplicate QC Report  
 Prepared By: HydroLogic Laboratories, Inc.

Sample Id: LCS/LCSD Pair  
 Work Group Id: WG9317-2  
 Run Id: R5873  
 GALP Record Id: Not Reported  
 Preparation Date: 06-JAN-97  
 Analysis Date: 07-JAN-97  
 Report Date: 07-JAN-97

Analyte	CAS No.	Low Limit	High Limit	RPD Limit	LCS Add	LCSD Add	Units	LCS %REC	LCSD %REC	LCS/LCSD RPD	QUAL (1)
SW846 Method 7041 Analysis Date: 07-JAN-97 14:18 Workgroup Number: WG9317 Antimony	7440-36-0	75	125	20	.02	.02	mg/L	93	81	14	---

Note:  
 Technical Review By: Bob Cathel

Note:  
 Report Approved By: Karen Kuoppala

(1) QUAL - \* = LCS Outside Control Limits; # = LCSD Outside Control Limits; @ = RPD Outside Control Limits; '-' = Value Within Control Limits  
 "Limits" - The "Limits" reported above (Low, High and RPD) are in units of percent (%).  
 "LCS,SD Add" - The conc. of analyte added to the LCS or LCSD sample.  
 "LCS %REC" - Laboratory Control Sample Percent Recovery  
 "LCSD %REC" - Laboratory Control Sample Duplicate Percent Recovery  
 "LCS/LCSD RPD" - Laboratory Control Sample / Laboratory Control Sample Duplicate Relative Percent Difference  
 NR - Not Reported

Laboratory Control Spike / Laboratory Control Spike Duplicate QC Report  
 Prepared By: HydroLogic Laboratories, Inc.

Sample Id: LCS/LCSD Pair  
 Work Group Id: WG9295-2  
 Run Id: R5858  
 GALP Record Id: Not Reported  
 Preparation Date: 06-JAN-97  
 Analysis Date: 07-JAN-97  
 Report Date: 07-JAN-97

Analyte	CAS No.	Low Limit	High Limit	RPD Limit	LCS Add	LCSD Add	Units	LCS %REC	LCSD %REC	LCS/LCSD RPD	QUAL (1)
SW846 Method 7060											
Analysis Date: 07-JAN-97 09:51											
Workgroup Number: WG9295											
Arsenic	7440-38-2	75	125	20	.04	.04	mg/L	94	94	0	---

Note:  
 Technical Review By: Bob Cathel

Note:  
 Report Approved By: Karen Kuoppala

(1) QUAL - \* = LCS Outside Control Limits; # = LCSD Outside Control Limits; @ = RPD Outside Control Limits; '-' = Value Within Control Limits  
 "Limits" - The "Limits" reported above (Low, High and RPD) are in units of percent (%).  
 "LCS,SD Add" - The conc. of analyte added to the LCS or LCSD sample.  
 "LCS %REC" - Laboratory Control Sample Percent Recovery  
 "LCSD %REC" - Laboratory Control Sample Duplicate Percent Recovery  
 "LCS/LCSD RPD" - Laboratory Control Sample / Laboratory Control Sample Duplicate Relative Percent Difference  
 NR - Not Reported

Laboratory Control Spike / Laboratory Control Spike Duplicate QC Report  
 Prepared By: HydroLogic Laboratories, Inc.

Sample Id: LCS/LCSD Pair  
 Work Group Id: WG9294-2  
 Run Id: R5859  
 GALP Record Id: Not Reported  
 Preparation Date: 06-JAN-97  
 Analysis Date: 07-JAN-97  
 Report Date: 07-JAN-97

Analyte	CAS No.	Low Limit	High Limit	RPD Limit	LCS Add	LCSD Add	Units	LCS %REC	LCSD %REC	LCS/LCSD RPD	QUAL (1)
SW846 Method 7421 Analysis Date: 07-JAN-97 09:55 Workgroup Number: WG9294 Lead	7439-92-1	75	125	20	.02	.02	mg/L	102	103	1	---

Note:  
 Technical Review By: Bob Cathel

Note:  
 Report Approved By: Karen Kuoppala

(1) QUAL - \* = LCS Outside Control Limits; # = LCSD Outside Control Limits; @ = RPD Outside Control Limits; '-' = Value Within Control Limits  
 "Limits" - The "Limits" reported above (Low, High and RPD) are in units of percent (%).  
 "LCS,SD Add" - The conc. of analyte added to the LCS or LCSD sample.  
 "LCS %REC" - Laboratory Control Sample Percent Recovery  
 "LCSD %REC" - Laboratory Control Sample Duplicate Percent Recovery  
 "LCS/LCSD RPD" - Laboratory Control Sample / Laboratory Control Sample Duplicate Relative Percent Difference  
 NR - Not Reported

Laboratory Control Spike / Laboratory Control Spike Duplicate QC Report  
 Prepared By: HydroLogic Laboratories, Inc.

Sample Id: LCS/LCSD Pair  
 Work Group Id: WG9215-2  
 Run Id: R5806  
 GALP Record Id: Not Reported  
 Preparation Date: 31-DEC-96  
 Analysis Date: 31-DEC-96  
 Report Date: 02-JAN-97

Analyte	CAS No.	Low Limit	High Limit	RPD Limit	LCS Add	LCSD Add	Units	LCS %REC	LCSD %REC	LCS/LCSD RPD	QUAL (1)
SW846 Method 7470											
Analysis Date: 31-DEC-96 15:21											
Workgroup Number: WG9215											
Mercury	7439-97-6	80	120	20	.002	.002	mg/L	100	105	5	---

Note:  
 Technical Review By: Bob Cathel

Note:  
 Report Approved By: Karen Kuoppala

(1) QUAL - \* = LCS Outside Control Limits; # = LCSD Outside Control Limits; @ = RPD Outside Control Limits; '-' = Value Within Control Limits  
 "Limits" - The "Limits" reported above (Low, High and RPD) are in units of percent (%).  
 "LCS,SD Add" - The conc. of analyte added to the LCS or LCSD sample.  
 "LCS %REC" - Laboratory Control Sample Percent Recovery  
 "LCSD %REC" - Laboratory Control Sample Duplicate Percent Recovery  
 "LCS/LCSD RPD" - Laboratory Control Sample / Laboratory Control Sample Duplicate Relative Percent Difference  
 NR - Not Reported

Laboratory Control Spike / Laboratory Control Spike Duplicate QC Report  
 Prepared By: HydroLogic Laboratories, Inc.

Sample Id: LCS/LCSD Pair  
 Work Group Id: WG9296-2  
 Run Id: R5861  
 GALP Record Id: Not Reported  
 Preparation Date: 06-JAN-97  
 Analysis Date: 07-JAN-97  
 Report Date: 07-JAN-97

Analyte	CAS No.	Low Limit	High Limit	RPD Limit	LCS Add	LCSD Add	Units	LCS %REC	LCSD %REC	LCS/LCSD RPD	QUAL (1)
SW846 Method 7740											
Analysis Date: 07-JAN-97 11:25											
Workgroup Number: WG9296											
Selenium	7782-49-2	75	125	20	.01	.01	mg/L	96	103	7	---

Note:  
 Technical Review By: Bob Cathel

Note:  
 Report Approved By: Karen Kuoppala

(1) QUAL - \* = LCS Outside Control Limits; # = LCSD Outside Control Limits; @ = RPD Outside Control Limits; '-' = Value Within Control Limits  
 "Limits" - The "Limits" reported above (Low, High and RPD) are in units of percent (%).  
 "LCS,SD Add" - The conc. of analyte added to the LCS or LCSD sample.  
 "LCS %REC" - Laboratory Control Sample Percent Recovery  
 "LCSD %REC" - Laboratory Control Sample Duplicate Percent Recovery  
 "LCS/LCSD RPD" - Laboratory Control Sample / Laboratory Control Sample Duplicate Relative Percent Difference  
 NR - Not Reported

Laboratory Control Spike / Laboratory Control Spike Duplicate QC Report  
 Prepared By: HydroLogic Laboratories, Inc.

Sample Id: LCS/LCSD Pair  
 Work Group Id: WG9297-2  
 Run Id: R5874  
 GALP Record Id: Not Reported  
 Preparation Date: 06-JAN-97  
 Analysis Date: 07-JAN-97  
 Report Date: 07-JAN-97

Analyte	CAS No.	Low Limit	High Limit	RPD Limit	LCS Add	LCSD Add	Units	LCS %REC	LCSD %REC	LCS/LCSD RPD	QUAL (1)
SW846 Method 7841											
Analysis Date: 07-JAN-97 16:47											
Workgroup Number: WG9297											
Thallium	7440-26-0	75	125	20	.05	.05	mg/L	109	113	4	---

Note:  
 Technical Review By: Bob Cathel

Note:  
 Report Approved By: Karen Kuoppala

(1) QUAL - \* = LCS Outside Control Limits; # = LCSD Outside Control Limits; @ = RPD Outside Control Limits; --- = Value Within Control Limits  
 "Limits" - The "Limits" reported above (Low, High and RPD) are in units of percent (%).  
 "LCS,SD Add" - The conc. of analyte added to the LCS or LCSD sample.  
 "LCS %REC" - Laboratory Control Sample Percent Recovery  
 "LCSD %REC" - Laboratory Control Sample Duplicate Percent Recovery  
 "LCS/LCSD RPD" - Laboratory Control Sample / Laboratory Control Sample Duplicate Relative Percent Difference  
 NR - Not Reported

Laboratory Control Spike / Laboratory Control Spike Duplicate QC Report  
 Prepared By: HydroLogic Laboratories, Inc.

Sample Id: LCS/LCSD Pair  
 Work Group Id: WG9352-2  
 Run Id: R5898  
 GALP Record Id: Not Reported  
 Preparation Date: 31-DEC-96  
 Analysis Date: 08-JAN-97  
 Report Date: 09-JAN-97

Analyte	CAS No.	Low Limit	High Limit	RPD Limit	LCS Add	LCSD Add	Units	LCS %REC	LCSD %REC	LCS/LCSD RPD	QUAL (1)
SW846 Method 9012 Analysis Date: 08-JAN-97 12:25 Workgroup Number: WG9352 Cyanide (tot.)	N/A	85	115	20	.2	.2	mg/L	91	91	0	---

Note:  
 Technical Review By: Bob Cathel

Note:  
 Report Approved By: Karen Kuoppala

(1) QUAL - \* = LCS Outside Control Limits; # = LCSD Outside Control Limits; @ = RPD Outside Control Limits; --- = Value Within Control Limits  
 "Limits" - The "Limits" reported above (Low, High and RPD) are in units of percent (%).  
 "LCS,SD Add" - The conc. of analyte added to the LCS or LCSD sample.  
 "LCS %REC" - Laboratory Control Sample Percent Recovery  
 "LCSD %REC" - Laboratory Control Sample Duplicate Percent Recovery  
 "LCS/LCSD RPD" - Laboratory Control Sample / Laboratory Control Sample Duplicate Relative Percent Difference  
 NR - Not Reported

Laboratory Control Spike / Laboratory Control Spike Duplicate QC Report  
 Prepared By: HydroLogic Laboratories, Inc.

Sample Id: LCS/LCSD Pair  
 Work Group Id: WG9086-2  
 Run Id: R5769  
 GALP Record Id: Not Reported  
 Preparation Date: 24-DEC-96  
 Analysis Date: 24-DEC-96  
 Report Date: 30-DEC-96

Analyte	CAS No.	Low Limit	High Limit	RPD Limit	LCS Add	LCSD Add	Units	LCS %REC	LCSD %REC	LCS/LCSD RPD	QUAL (1)
SW-846, Method 9030											
Preparation Date: 24-DEC-96											
Analysis Date: 24-DEC-96 08:00											
Workgroup Number: WG9086											
Sulfide	N/A	80	120	20	1000	1000	mg/L	96	100	4	---

Note:  
 Technical Review By: Bob Cathel

Note:  
 Report Approved By: Karen Kuoppala

(1) QUAL - \* = LCS Outside Control Limits; # = LCSD Outside Control Limits; @ = RPD Outside Control Limits; '-' = Value Within Control Limits  
 "Limits" - The "Limits" reported above (Low, High and RPD) are in units of percent (%).  
 "LCS,SD Add" - The conc. of analyte added to the LCS or LCSD sample.  
 "LCS %REC" - Laboratory Control Sample Percent Recovery  
 "LCSD %REC" - Laboratory Control Sample Duplicate Percent Recovery  
 "LCS/LCSD RPD" - Laboratory Control Sample / Laboratory Control Sample Duplicate Relative Percent Difference  
 NR - Not Reported

Laboratory Control Spike / Laboratory Control Spike Duplicate QC Report  
 Prepared By: HydroLogic Laboratories, Inc.

Sample Id: LCS/LCSD Pair  
 Work Group Id: WG9138-2  
 Run Id: R5753  
 GALP Record Id: Not Reported  
 Preparation Date: 27-DEC-96  
 Analysis Date: 27-DEC-96  
 Report Date: 27-DEC-96

Analyte	CAS No.	Low Limit	High Limit	RPD Limit	LCS Add	LCSD Add	Units	LCS %REC	LCSD %REC	LCS/LCSD RPD	QUAL (1)
SW-846, Method 9060											
Analysis Date: 27-DEC-96 10:10											
Workgroup Number: WG9138											
Total Organic Carbon	N/A	80	120	20	52.7	52.7	mg/L	95	95	0	---

Note:  
 Technical Review By: Bob Cathel

Note:  
 Report Approved By: Karen Kuoppala

(1) QUAL - \* = LCS Outside Control Limits; # = LCSD Outside Control Limits; @ = RPD Outside Control Limits; '-' = Value Within Control Limits  
 "Limits" - The "Limits" reported above (Low, High and RPD) are in units of percent (%).  
 "LCS,SD Add" - The conc. of analyte added to the LCS or LCSD sample.  
 "LCS %REC" - Laboratory Control Sample Percent Recovery  
 "LCSD %REC" - Laboratory Control Sample Duplicate Percent Recovery  
 "LCS/LCSD RPD" - Laboratory Control Sample / Laboratory Control Sample Duplicate Relative Percent Difference  
 NR - Not Reported

Laboratory Control Spike / Laboratory Control Spike Duplicate QC Report  
 Prepared By: HydroLogic Laboratories, Inc.

Sample Id: LCS/LCSD Pair  
 Work Group Id: WG9144-2  
 Run Id: R5789  
 GALP Record Id: Not Reported  
 Preparation Date: 26-DEC-96  
 Analysis Date: 26-DEC-96  
 Report Date: 31-DEC-96

Analyte	CAS No.	Low Limit	High Limit	RPD Limit	LCS Add	LCSD Add	Units	LCS %REC	LCSD %REC	LCS/LCSD RPD	QUAL (1)
SW-846, Method 9020 Analysis Date: 26-DEC-96 09:12 Workgroup Number: WG9144 Total Organic Halides	N/A	80	120	20	NR	NR	mg/L	92	97	5	---

Note:  
 Technical Review By: Bob Cathel

Note:  
 Report Approved By: Karen Kuoppala

(1) QUAL - \* = LCS Outside Control Limits; # = LCSD Outside Control Limits; @ = RPD Outside Control Limits; '-' = Value Within Control Limits  
 "Limits" - The "Limits" reported above (Low, High and RPD) are in units of percent (%).  
 "LCS,SD Add" - The conc. of analyte added to the LCS or LCSD sample.  
 "LCS %REC" - Laboratory Control Sample Percent Recovery  
 "LCSD %REC" - Laboratory Control Sample Duplicate Percent Recovery  
 "LCS/LCSD RPD" - Laboratory Control Sample / Laboratory Control Sample Duplicate Relative Percent Difference  
 NR - Not Reported

Matrix Spike / Matrix Spike Duplicate QC Report  
 Prepared By: HydroLogic Laboratories, Inc.

Client Id: /usr/users/seed2/target/B0887  
 Work Group Id: WG9104-4  
 Run Id: R5731  
 GALP Record Id: Not Reported  
 Preparation Date: 26-DEC-96  
 Analysis Date: 26-DEC-96  
 Report Date: 27-DEC-96

Analyte	CAS No.	Low Limit	High Limit	RPD Limit	MS Add	MSD Add	Units	Sample Conc	MS %REC	MSD %REC	MS/MSD RPD	QUAL (1)
SW846 Met. 8260 (APIX)												
Preparation Date: 26-DEC-96												
Analysis Date: 26-DEC-96 15:37												
Workgroup Number: WG9104												
Benzene	71-43-2	76	127	13	50	50	ug/L	ND	86	92	7	----
Chlorobenzene	108-90-7	75	130	13	50	50	ug/L	ND	82	88	7	----
1,1-Dichloroethene	75-35-4	61	145	14	50	50	ug/L	ND	94	104	10	----
Toluene	108-88-3	76	125	13	50	50	ug/L	ND	80	84	5	----
Trichloroethene	79-01-6	71	120	14	50	50	ug/L	ND	88	92	4	----

Note:  
 Technical Review By: Bob Cathel

Note:  
 Report Approved By: Karen Kuoppala

- (1) QUAL - \* = MS Outside Control Limits; # = MSD Outside Control Limits; @ = RPD Outside Control Limits; '-' = Value Within Control Limits  
 (1) QUAL - ! = The sample concentration is greater than two times the MS or MSD spike conc. High analyte conc. will effect the MS/MSD recoveries.  
 "Limits" - The "Limits" reported above (Low, High and RPD) are in units of percent (%).  
 "MS, MSD Add" - The conc. of analyte added to the MS or MSD sample (soil results are corrected for % moisture).  
 "Sample Conc" - The units are the same as those reported on the Form 1 Data Summary Report (soil results are corrected for % moisture).  
 "MS %REC" - Matrix Spike Percent Recovery  
 "MSD %REC" - Matrix Spike Duplicate Percent Recovery  
 "MS/MSD RPD" - Matrix Spike / Matrix Spike Duplicate Relative Percent Difference  
 NR - Not Reported  
 ND - Analyte "Not Detected" above the method detection limit.

Matrix Spike / Matrix Spike Duplicate QC Report  
 Prepared By: HydroLogic Laboratories, Inc.

Client Id: /usr/users/seed2/target/D8585.2  
 Work Group Id: WG9105-3  
 Run Id: R5945  
 GALP Record Id: Not Reported  
 Preparation Date: 24-DEC-96  
 Analysis Date: 13-JAN-97  
 Report Date: 15-JAN-97

Analyte	CAS No.	Low Limit	High Limit	RPD Limit	MS Add	MSD Add	Units	Sample Conc	MS %REC	MSD %REC	MS/MSD RPD	QUAL (1)
SW846 Met. 8270 (APIX)												
Preparation Date: 24-DEC-96												
Analysis Date: 13-JAN-97 20:17												
Workgroup Number: WG9105												
Acenaphthene	83-32-9	47	118	31	50	50	ug/L	ND	98	80	20	----
4-Chloro-3-methylphenol	59-50-7	23	97	42	100	100	ug/L	ND	110	85	26	*---
2-Chlorophenol	95-57-8	27	123	40	100	100	ug/L	ND	100	81	21	----
1,4-Dichlorobenzene	106-46-7	36	97	28	50	50	ug/L	ND	82	66	22	----
2,4-Dinitrotoluene	121-14-2	39	96	38	50	50	ug/L	ND	104	82	24	*---
N-Nitrosodipropylamine	621-64-7	41	116	38	50	50	ug/L	ND	116	92	23	*---
Pentachlorophenol	87-86-5	14	103	50	100	100	ug/L	ND	44	26	51	--@-
Phenol	108-95-2	12	89	42	100	100	ug/L	ND	71	57	22	----
Pyrene	129-00-0	52	115	31	50	50	ug/L	ND	100	82	20	----
1,2,4-Trichlorobenzene	120-82-1	44	98	28	50	50	ug/L	ND	86	70	21	----

Note:  
 Technical Review By: Bob Cathel

Note:  
 Report Approved By: Karen Kuoppala

- (1) QUAL - \* = MS Outside Control Limits; # = MSD Outside Control Limits; @ = RPD Outside Control Limits; ! = Value Within Control Limits  
 (1) QUAL - ! = The sample concentration is greater than two times the MS or MSD spike conc. High analyte conc. will effect the MS/MSD recoveries.  
 "Limits" - The "Limits" reported above (Low, High and RPD) are in units of percent (%).  
 "MS, MSD Add" - The conc. of analyte added to the MS or MSD sample (soil results are corrected for % moisture).  
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 "MS %REC" - Matrix Spike Percent Recovery  
 "MSD %REC" - Matrix Spike Duplicate Percent Recovery  
 "MS/MSD RPD" - Matrix Spike / Matrix Spike Duplicate Relative Percent Difference  
 NR - Not Reported  
 ND - Analyte "Not Detected" above the method detection limit.

Matrix Spike / Matrix Spike Duplicate QC Report  
 Prepared By: HydroLogic Laboratories, Inc.

Client Id: Not Reported  
 Work Group Id: WG9106-4  
 Run Id: R5818  
 GALP Record Id: Not Reported  
 Preparation Date: 24-DEC-96  
 Analysis Date: 31-DEC-96  
 Report Date: 16-JAN-97

Analyte	CAS No.	Low Limit	High Limit	RPD Limit	MS Add	MSD Add	Units	Sample Conc	MS %REC	MSD %REC	MS/MSD RPD	QUAL (1)
SW846 Methods 3520/8080												
Preparation Date: 24-DEC-96												
Analysis Date: 31-DEC-96 20:44												
Workgroup Number: WG9106												
Aldrin	309-00-2	40	120	22	.2	.2	ug/L	ND	110	90	20	----
gamma-BHC (Lindane)	58-89-9	56	123	15	.2	.2	ug/L	ND	94	98	3	----
4,4'-DDT	50-29-3	38	127	27	.5	.5	ug/L	ND	99	92	8	----
Dieldrin	60-57-1	52	126	18	.5	.5	ug/L	ND	104	103	1	----
Endrin	72-20-8	56	121	21	.5	.5	ug/L	ND	98	85	14	----
Heptachlor	76-44-8	40	131	20	.2	.2	ug/L	ND	106	96	10	----

Note:  
 Technical Review By: Bob Cathel

Note:  
 Report Approved By: Karen Kuoppala

- (1) QUAL - \* = MS Outside Control Limits; # = MSD Outside Control Limits; @ = RPD Outside Control Limits; '-' = Value Within Control Limits
- (1) QUAL - ! = The sample concentration is greater than two times the MS or MSD spike conc. High analyte conc. will effect the MS/MSD recoveries.
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- "MS %REC" - Matrix Spike Percent Recovery
- "MSD %REC" - Matrix Spike Duplicate Percent Recovery
- "MS/MSD RPD" - Matrix Spike / Matrix Spike Duplicate Relative Percent Difference
- NR - Not Reported
- ND - Analyte "Not Detected" above the method detection limit.

Matrix Spike / Matrix Spike Duplicate QC Report  
 Prepared By: HydroLogic Laboratories, Inc.

Client Id: Not Reported  
 Work Group Id: WG9107-4  
 Run Id: R5887  
 GALP Record Id: Not Reported  
 Preparation Date: 24-DEC-96  
 Analysis Date: 08-JAN-97  
 Report Date: 09-JAN-97

Analyte	CAS No.	Low Limit	High Limit	RPD Limit	MS Add	MSD Add	Units	Sample Conc	MS %REC	MSD %REC	MS/MSD RPD	QUAL (1)
SW846 Met. 8150 (APIX)												
Preparation Date: 24-DEC-96												
Analysis Date: 08-JAN-97 03:00												
Workgroup Number: WG9107												
2,4-D	94-75-7	40	160	25	2	2	ug/L	ND	87	117	29	--@-
2,4,5-T	93-76-5	40	160	25	.2	.2	ug/L	ND	96	133	32	--@-
2,4,5-TP (Silvex)	93-72-1	40	160	25	.2	.2	ug/L	ND	93	112	19	----

Note:  
 Technical Review By: Bob Cathel

Note:  
 Report Approved By: Karen Kuoppala

- (1) QUAL - \* = MS Outside Control Limits; # = MSD Outside Control Limits; @ = RPD Outside Control Limits; '-' = Value Within Control Limits
- (1) QUAL - ! = The sample concentration is greater than two times the MS or MSD spike conc. High analyte conc. will effect the MS/MSD recoveries.
- "Limits" - The "Limits" reported above (Low, High and RPD) are in units of percent (%).
- "MS, MSD Add" - The conc. of analyte added to the MS or MSD sample (soil results are corrected for % moisture).
- "Sample Conc" - The units are the same as those reported on the Form 1 Data Summary Report (soil results are corrected for % moisture).
- "MS %REC" - Matrix Spike Percent Recovery
- "MSD %REC" - Matrix Spike Duplicate Percent Recovery
- "MS/MSD RPD" - Matrix Spike / Matrix Spike Duplicate Relative Percent Difference
- NR - Not Reported
- ND - Analyte "Not Detected" above the method detection limit.

Matrix Spike / Matrix Spike Duplicate QC Report  
 Prepared By: HydroLogic Laboratories, Inc.

Client Id: /usr/users/seed2/pe3000/qc  
 Work Group Id: WG9293-5  
 Run Id: R5872  
 GALP Record Id: Not Reported  
 Preparation Date: 06-JAN-97  
 Analysis Date: 07-JAN-97  
 Report Date: 08-JAN-97

Analyte	CAS No.	Low Limit	High Limit	RPD Limit	MS Add	MSD Add	Units	Sample Conc	MS %REC	MSD %REC	MS/MSD RPD	QUAL (1)
SW846 Met. 6010 (APIX)												
Preparation Date: 06-JAN-97												
Analysis Date: 07-JAN-97 19:51												
Workgroup Number: WG9293												
Barium	7440-39-3	75	125	20	2	2	mg/L	.017	99	98	1	----
Beryllium	7440-41-7	75	125	20	.05	.05	mg/L	ND	95	95	0	----
Cadmium	7440-43-9	75	125	20	.05	.05	mg/L	ND	91	95	4	----
Chromium	7440-47-3	75	125	20	.2	.2	mg/L	.005	93	94	1	----
Cobalt	7440-48-4	75	125	20	.5	.5	mg/L	.0072	95	96	1	----
Copper	7440-50-8	75	125	20	.25	.25	mg/L	ND	97	97	0	----
Nickel	7440-02-0	75	125	20	.5	.5	mg/L	.01	97	98	1	----
Silver	7440-22-4	75	125	20	.05	.05	mg/L	.0353	92	88	4	----
Vanadium	7440-62-2	75	125	20	.5	.5	mg/L	ND	96	97	1	----
Zinc	7440-66-6	75	125	20	.5	.5	mg/L	.017	96	100	4	----

Note:  
 Technical Review By: Bob Cathel

Note:  
 Report Approved By: Karen Kuoppala

- (1) QUAL - \* = MS Outside Control Limits; # = MSD Outside Control Limits; @ = RPD Outside Control Limits; ' ' = Value Within Control Limits  
 (1) QUAL - ! = The sample concentration is greater than two times the MS or MSD spike conc. High analyte conc. will effect the MS/MSD recoveries.  
 "Limits" - The "Limits" reported above (Low, High and RPD) are in units of percent (%).  
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 "Sample Conc" - The units are the same as those reported on the Form 1 Data Summary Report (soil results are corrected for % moisture).  
 "MS %REC" - Matrix Spike Percent Recovery  
 "MSD %REC" - Matrix Spike Duplicate Percent Recovery  
 "MS/MSD RPD" - Matrix Spike / Matrix Spike Duplicate Relative Percent Difference  
 NR - Not Reported  
 ND - Analyte "Not Detected" above the method detection limit.

Matrix Spike / Matrix Spike Duplicate QC Report  
 Prepared By: HydroLogic Laboratories, Inc.

Client Id: Not Reported  
 Work Group Id: WG9317-5  
 Run Id: R5873  
 GALP Record Id: Not Reported  
 Preparation Date: 06-JAN-97  
 Analysis Date: 07-JAN-97  
 Report Date: 07-JAN-97

Analyte	CAS No.	Low Limit	High Limit	RPD Limit	MS Add	MSD Add	Units	Sample Conc	MS %REC	MSD %REC	MS/MSD RPD	QUAL (1)
SW846 Method 7041												
Analysis Date: 07-JAN-97 15:09												
Workgroup Number: WG9317												
Antimony	7440-36-0	75	125	20	.02	.02	mg/L	ND	105	99	6	----

Note:  
 Technical Review By: Bob Cathel

Note:  
 Report Approved By: Karen Kuoppala

- (1) QUAL - \* = MS Outside Control Limits; # = MSD Outside Control Limits; @ = RPD Outside Control Limits; ' ' = Value Within Control Limits
- (1) QUAL - ! = The sample concentration is greater than two times the MS or MSD spike conc. High analyte conc. will effect the MS/MSD recoveries.
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- "Sample Conc" - The units are the same as those reported on the Form 1 Data Summary Report (soil results are corrected for % moisture).
- "MS %REC" - Matrix Spike Percent Recovery
- "MSD %REC" - Matrix Spike Duplicate Percent Recovery
- "MS/MSD RPD" - Matrix Spike / Matrix Spike Duplicate Relative Percent Difference
- NR - Not Reported
- ND - Analyte "Not Detected" above the method detection limit.

Matrix Spike / Matrix Spike Duplicate QC Report  
 Prepared By: HydroLogic Laboratories, Inc.

Client Id: Not Reported  
 Work Group Id: WG9295-5  
 Run Id: R5858  
 GALP Record Id: Not Reported  
 Preparation Date: 06-JAN-97  
 Analysis Date: 07-JAN-97  
 Report Date: 07-JAN-97

Analyte	CAS No.	Low Limit	High Limit	RPD Limit	MS Add	MSD Add	Units	Sample Conc	MS %REC	MSD %REC	MS/MSD RPD	QUAL (1)
SW846 Method 7060												
Analysis Date: 07-JAN-97 10:42												
Workgroup Number: WG9295												
Arsenic	7440-38-2	75	125	20	.04	.04	mg/L	ND	92	98	6	----

Note:  
 Technical Review By: Bob Cathel

Note:  
 Report Approved By: Karen Kuoppala

- (1) QUAL - \* = MS Outside Control Limits; # = MSD Outside Control Limits; @ = RPD Outside Control Limits; ' ' = Value Within Control Limits
- (1) QUAL - ! = The sample concentration is greater than two times the MS or MSD spike conc. High analyte conc. will effect the MS/MSD recoveries.
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- "Sample Conc" - The units are the same as those reported on the Form 1 Data Summary Report (soil results are corrected for % moisture).
- "MS %REC" - Matrix Spike Percent Recovery
- "MSD %REC" - Matrix Spike Duplicate Percent Recovery
- "MS/MSD RPD" - Matrix Spike / Matrix Spike Duplicate Relative Percent Difference
- NR - Not Reported
- ND - Analyte "Not Detected" above the method detection limit.

Matrix Spike / Matrix Spike Duplicate QC Report  
 Prepared By: HydroLogic Laboratories, Inc.

Client Id: Not Reported  
 Work Group Id: WG9294-5  
 Run Id: R5859  
 GALP Record Id: Not Reported  
 Preparation Date: 06-JAN-97  
 Analysis Date: 07-JAN-97  
 Report Date: 07-JAN-97

Analyte	CAS No.	Low Limit	High Limit	RPD Limit	MS Add	MSD Add	Units	Sample Conc	MS %REC	MSD %REC	MS/MSD RPD	QUAL (1)
SW846 Method 7421 Analysis Date: 07-JAN-97 10:52 Workgroup Number: WG9294 Lead	7439-92-1	75	125	20	.02	.02	mg/L	ND	103	111	7	----

Note:  
 Technical Review By: Bob Cathel

Note:  
 Report Approved By: Karen Kuoppala

- (1) QUAL - \* = MS Outside Control Limits; # = MSD Outside Control Limits; @ = RPD Outside Control Limits; '-' = Value Within Control Limits
- (1) QUAL - ! = The sample concentration is greater than two times the MS or MSD spike conc. High analyte conc. will effect the MS/MSD recoveries.
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- "Sample Conc" - The units are the same as those reported on the Form 1 Data Summary Report (soil results are corrected for % moisture).
- "MS %REC" - Matrix Spike Percent Recovery
- "MSD %REC" - Matrix Spike Duplicate Percent Recovery
- "MS/MSD RPD" - Matrix Spike / Matrix Spike Duplicate Relative Percent Difference
- NR - Not Reported
- ND - Analyte "Not Detected" above the method detection limit.

Matrix Spike / Matrix Spike Duplicate QC Report  
 Prepared By: HydroLogic Laboratories, Inc.

Client Id: Not Reported  
 Work Group Id: WG9215-5  
 Run Id: R5806  
 GALP Record Id: Not Reported  
 Preparation Date: 31-DEC-96  
 Analysis Date: 31-DEC-96  
 Report Date: 02-JAN-97

Analyte	CAS No.	Low Limit	High Limit	RPD Limit	MS Add	MSD Add	Units	Sample Conc	MS %REC	MSD %REC	MS/MSD RPD	QUAL (1)
SW846 Method 7470												
Analysis Date: 31-DEC-96 15:49												
Workgroup Number: WG9215												
Mercury	7439-97-6	75	125	20	.002	.002	mg/L	ND	100	105	5	----

Note:  
 Technical Review By: Bob Cathel

Note:  
 Report Approved By: Karen Kuoppala

- (1) QUAL - \* = MS Outside Control Limits; # = MSD Outside Control Limits; @ = RPD Outside Control Limits; '-' = Value Within Control Limits
- (1) QUAL - ! = The sample concentration is greater than two times the MS or MSD spike conc. High analyte conc. will effect the MS/MSD recoveries.
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- "Sample Conc" - The units are the same as those reported on the Form 1 Data Summary Report (soil results are corrected for % moisture).
- "MS %REC" - Matrix Spike Percent Recovery
- "MSD %REC" - Matrix Spike Duplicate Percent Recovery
- "MS/MSD RPD" - Matrix Spike / Matrix Spike Duplicate Relative Percent Difference
- NR - Not Reported
- ND - Analyte "Not Detected" above the method detection limit.

Matrix Spike / Matrix Spike Duplicate QC Report  
 Prepared By: HydroLogic Laboratories, Inc.

Client Id: Not Reported  
 Work Group Id: WG9296-5  
 Run Id: R5861  
 GALP Record Id: Not Reported  
 Preparation Date: 06-JAN-97  
 Analysis Date: 07-JAN-97  
 Report Date: 07-JAN-97

Analyte	CAS No.	Low Limit	High Limit	RPD Limit	MS Add	MSD Add	Units	Sample Conc	MS %REC	MSD %REC	MS/MSD RPD	QUAL (1)
SW846 Method 7740												
Analysis Date: 07-JAN-97 12:16												
Workgroup Number: WG9296												
Selenium	7782-49-2	75	125	20	.01	.01	mg/L	ND	107	98	9	----

Note:  
 Technical Review By: Bob Cathel

Note:  
 Report Approved By: Karen Kuoppala

- (1) QUAL - \* = MS Outside Control Limits; # = MSD Outside Control Limits; @ = RPD Outside Control Limits; '-' = Value Within Control Limits
- (1) QUAL - ! = The sample concentration is greater than two times the MS or MSD spike conc. High analyte conc. will effect the MS/MSD recoveries.
- "Limits" - The "Limits" reported above (Low, High and RPD) are in units of percent (%).
- "MS, MSD Add" - The conc. of analyte added to the MS or MSD sample (soil results are corrected for % moisture).
- "Sample Conc" - The units are the same as those reported on the Form 1 Data Summary Report (soil results are corrected for % moisture).
- "MS %REC" - Matrix Spike Percent Recovery
- "MSD %REC" - Matrix Spike Duplicate Percent Recovery
- "MS/MSD RPD" - Matrix Spike / Matrix Spike Duplicate Relative Percent Difference
- NR - Not Reported
- ND - Analyte "Not Detected" above the method detection limit.

Matrix Spike / Matrix Spike Duplicate QC Report  
 Prepared By: HydroLogic Laboratories, Inc.

Client Id: Not Reported  
 Work Group Id: WG9297-5  
 Run Id: R5874  
 GALP Record Id: Not Reported  
 Preparation Date: 06-JAN-97  
 Analysis Date: 07-JAN-97  
 Report Date: 07-JAN-97

Analyte	CAS No.	Low Limit	High Limit	RPD Limit	MS Add	MSD Add	Units	Sample Conc	MS %REC	MSD %REC	MS/MSD RPD	QUAL (1)
SW846 Method 7841												
Analysis Date: 07-JAN-97 17:46												
Workgroup Number: WG9297												
Thallium	7440-26-0	75	125	20	.05	.05	mg/L	ND	101	107	6	----

Note:  
 Technical Review By: Bob Cathel

Note:  
 Report Approved By: Karen Kuoppala

- (1) QUAL - \* = MS Outside Control Limits; # = MSD Outside Control Limits; @ = RPD Outside Control Limits; '-' = Value Within Control Limits
- (1) QUAL - ! = The sample concentration is greater than two times the MS or MSD spike conc. High analyte conc. will effect the MS/MSD recoveries.
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- "MS %REC" - Matrix Spike Percent Recovery
- "MSD %REC" - Matrix Spike Duplicate Percent Recovery
- "MS/MSD RPD" - Matrix Spike / Matrix Spike Duplicate Relative Percent Difference
- NR - Not Reported
- ND - Analyte "Not Detected" above the method detection limit.

Matrix Spike / Matrix Spike Duplicate QC Report  
Prepared By: HydroLogic Laboratories, Inc.

Client Id: L3891-1  
Work Group Id: WG9138-5  
Run Id: R5753  
GALP Record Id: Not Reported  
Preparation Date: 27-DEC-96  
Analysis Date: 27-DEC-96  
Report Date: 27-DEC-96

Analyte	CAS No.	Low Limit	High Limit	RPD Limit	MS Add	MSD Add	Units	Sample Conc	MS %REC	MSD %REC	MS/MSD RPD	QUAL (1)
SW-846, Method 9060												
Analysis Date: 27-DEC-96 10:10												
Workgroup Number: WG9138												
Total Organic Carbon	N/A	75	125	20	20	20	mg/L	2.3	100	101	1	----

Note:  
Technical Review By: Bob Cathel

Note:  
Report Approved By: Karen Kuoppala

- (1) QUAL - \* = MS Outside Control Limits; # = MSD Outside Control Limits; @ = RPD Outside Control Limits; ' ' = Value Within Control Limits
- (1) QUAL - ! = The sample concentration is greater than two times the MS or MSD spike conc. High analyte conc. will effect the MS/MSD recoveries.
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- "Sample Conc" - The units are the same as those reported on the Form 1 Data Summary Report (soil results are corrected for % moisture).
- "MS %REC" - Matrix Spike Percent Recovery
- "MSD %REC" - Matrix Spike Duplicate Percent Recovery
- "MS/MSD RPD" - Matrix Spike / Matrix Spike Duplicate Relative Percent Difference
- NR - Not Reported
- ND - Analyte "Not Detected" above the method detection limit.

Matrix Spike / Matrix Spike Duplicate QC Report  
 Prepared By: HydroLogic Laboratories, Inc.

Client Id: 13891-3  
 Work Group Id: WG9144-5  
 Run Id: R5789  
 GALP Record Id: Not Reported  
 Preparation Date: 28-DEC-96  
 Analysis Date: 28-DEC-96  
 Report Date: 31-DEC-96

Analyte	CAS No.	Low Limit	High Limit	RPD Limit	MS Add	MSD Add	Units	Sample Conc	MS %REC	MSD %REC	MS/MSD RPD	QUAL (1)
SW-846, Method 9020												
Analysis Date: 28-DEC-96 07:31												
Workgroup Number: WG9144												
Total Organic Halides	N/A	75	125	20	.13	.13	mg/L	.005	96	104	8	----

Note:  
 Technical Review By: Bob Cathel

Note:  
 Report Approved By: Karen Kuoppala

- |               |  |
|---------------|--|
| (1) QUAL      | - * = MS Outside Control Limits; # = MSD Outside Control Limits; @ = RPD Outside Control Limits; '-' = Value Within Control Limits       |
| (1) QUAL      | - ! = The sample concentration is greater than two times the MS or MSD spike conc. High analyte conc. will effect the MS/MSD recoveries. |
| "Limits"      | - The "Limits" reported above (Low, High and RPD) are in units of percent (%).   |
| "MS, MSD Add" | - The conc. of analyte added to the MS or MSD sample (soil results are corrected for % moisture).  |
| "Sample Conc" | - The units are the same as those reported on the Form 1 Data Summary Report (soil results are corrected for % moisture).                |
| "MS %REC"     | - Matrix Spike Percent Recovery  |
| "MSD %REC"    | - Matrix Spike Duplicate Percent Recovery  |
| "MS/MSD RPD"  | - Matrix Spike / Matrix Spike Duplicate Relative Percent Difference  |
| NR            | - Not Reported   |
| ND            | - Analyte "Not Detected" above the method detection limit.   |

Replicate Sample QC Report  
Prepared By: HydroLogic Laboratories, Inc.

Work Group Id: WG9138-4  
Run Id: R5753  
GALP Record Id: Not Reported  
Preparation Date: 27-DEC-96  
Analysis Date: 27-DEC-96  
Report Date: 27-DEC-96

Analyte	CAS No.	Sample Conc	REP Conc	Units	RPD
SW-846, Method 9060 Analysis Date: 27-DEC-96 10:10 Workgroup Number: WG9138					
Total Organic Carbon	N/A	2.3	2.7	mg/L	16

Note:  
Technical Review By: Bob Cathel

Note:  
Report Approved By: Karen Kuoppala

---

Note - Only analytes with concentrations above the method detection limit are reported. Some samples may be reported above without any analyte concentrations. For these samples, analytes were not detected in the sample or in the sample replicate.

"Sample Conc" - The sample concentration.  
"REP Conc" - The replicate sample concentration.  
"RPD" - Relative percent difference  
"ND" - Not Detected

Replicate Sample QC Report  
Prepared By: HydroLogic Laboratories, Inc.

Work Group Id: WG9144-4  
Run Id: R5789  
GALP Record Id: Not Reported  
Preparation Date: 28-DEC-96  
Analysis Date: 28-DEC-96  
Report Date: 31-DEC-96

Analyte	CAS No.	Sample Conc	REP Conc	Units	RPD
SW-846, Method 9020 Analysis Date: 28-DEC-96 07:31 Workgroup Number: WG9144					
Total Organic Halides	N/A	.005	.005	mg/L	0

Note:  
Technical Review By: Bob Cathel

Note:  
Report Approved By: Karen Kuoppala

---

Note	- Only analytes with concentrations above the method detection limit are reported. Some samples may be reported above without any analyte concentrations. For these samples, analytes were not detected in the sample or in the sample replicate.
"Sample Conc"	- The sample concentration.
"REP Conc"	- The replicate sample concentration.
"RPD"	- Relative percent difference
"ND"	- Not Detected

Quanterra Incorporated  
880 Riverside Parkway  
West Sacramento, California 95605

916 373-5600 Telephone  
916 372-1059 Fax

January 10, 1997

QUANTERRA INCORPORATED PROJECT NUMBER: **091182**  
PO/CONTRACT: **S96064**

Bob Cathel  
Hydrologic Labs  
695 North Seventh Avenue  
Brighton, CO 80601

Dear Mr. Cathel:

This report contains the analytical results for the three aqueous samples which were received under chain of custody by Quanterra Incorporated on 26 December 1996.

The case narrative is an integral part of this report.

If you have any questions, please feel free to call.

Sincerely,



Robert Hrabak  
Project Manager  
Advanced Technology

RH/ct

## TABLE OF CONTENTS

### QUANTERRA INCORPORATED PROJECT NUMBER 091182

Case Narrative

Quanterra's Quality Assurance Program

Sample Description Information

Chain of Custody Documentation

#### **2,3,7,8-TCDD - Method 8280**

Includes Samples: 1 through 3

Method Blank Sheets

Sample Data Sheets

Laboratory Control Sample Report

#### **Organophosphorus Pesticides - Method 8140**

Includes Samples: 1 through 3

Sample Data Sheets

Method Blank Report

Single Control Sample Report

Duplicate Control Sample Report

## **CASE NARRATIVE**

### **QUANTERRA INCORPORATED PROJECT NUMBER 091182**

Detection limits for dioxins and furans are reported on a sample specific basis and all results are recovery corrected per the isotope dilution technique.

Please note that your samples were received at 8 degrees Celsius. Also, note that the samples were received outside of the method recommended holding time for method 8140.

SAMPLE DESCRIPTION INFORMATION  
for  
Hydrologic Laboratories

Lab ID	Client ID	Matrix	Sampled Date	Time	Received Date
091182-0001-MB	Method Blank	AQUEOUS			26 DEC 96
091182-0001-SA	L3891-1	AQUEOUS	18 DEC 96		26 DEC 96
091182-0002-SA	L3891-2	AQUEOUS	18 DEC 96		26 DEC 96
091182-0003-SA	L3891-3	AQUEOUS	18 DEC 96		26 DEC 96

OUTSIDE CONTRACTOR ANALYSIS REQUEST & CHAIN-OF-CUSTODY

Analytical Lab: Quanterra  
Address: 880 Riverside Pkwy Phone: (916) 373-5600  
West Sacramento, CA Contact: \_\_\_\_\_  
95605

Results Required By: \_\_\_\_\_

Please analyze the following samples as described below:

No. of Samples Shipped: 3

<u>Project No.</u>	<u>Sample No.</u>	<u>Date Sampled</u>	<u>Analyses Requested</u>
<u>L3891</u>	<u>L3891-1</u>	<u>12-18-96</u>	<u>Dioxin-8280 &amp; 8140</u>
_____	<u>91-2</u>	↓	↓
_____	<u>91-3</u>	↓	↓
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

RUSH SERVICES (FOR EXTRA FEE): YES \_\_\_\_\_ NO X

IF ANY QUESTIONS OR PROBLEMS CONTACT: PHONE NO.: \_\_\_\_\_  
(303) 659-0497

PLEASE FAX THE RESULTS TO: FAX NO.: \_\_\_\_\_  
(303) 659-5064

PLEASE MAIL WRITTEN RESULTS TO: \_\_\_\_\_

SAMPLES RELINQUISHED BY: Orma Dimpes  
METHOD OF SHIPMENT: Evid. Encl. DATE: 12-23-96  
SAMPLES RECEIVED BY: W.D. Tilly DATE: 12-26-96  
CUSTODY SEAL INTACT: YES \_\_\_\_\_ NO \_\_\_\_\_

2,3,7,8-TCDD

LOW RESOLUTION

Client Name: Hydrologic Laboratories

Client ID: Method Blank

Lab ID: 091182-0001-MB

Matrix: AQUEOUS

Authorized: 26 DEC 96

Sampled: NA

Prepared: 07 JAN 97

Received: NA

Analyzed: 09 JAN 97

Sample Amount 1.0 L  
Column Type SP-2331

Parameter	Result	Units	Detection Limit	Data Qualifiers
Dioxins				
2,3,7,8-TCDD	ND	ng/L	0.64	
	% Recovery			
13C-2,3,7,8-TCDD	69			

ND = Not detected  
NA = Not applicable

Reported By: Teri Stone

Approved By: Robert Hrabak

The cover letter is an integral part of this report.

Rev 230787



Environmental  
Services

2,3,7,8-TCDD

LOW RESOLUTION

Client Name: Hydrologic Laboratories

Client ID: L3891-1

Lab ID: 091182-0001-SA

Matrix: AQUEOUS

Authorized: 26 DEC 96

Sampled: 18 DEC 96

Prepared: 07 JAN 97

Received: 26 DEC 96

Analyzed: 09 JAN 97

Sample Amount 0.980 L

Column Type SP-2331

Parameter	Result	Units	Detection Limit	Data Qualifiers
Dioxins				
2,3,7,8-TCDD	ND	ng/L	0.72	
	% Recovery			
13C-2,3,7,8-TCDD	67			

ND = Not detected

NA = Not applicable

Reported By: Teri Stone

Approved By: Robert Hrabak

The cover letter is an integral part of this report.

Rev 230787



Environmental  
Services

### 2,3,7,8-TCDD

#### LOW RESOLUTION

Client Name: Hydrologic Laboratories

Client ID: L3891-2

Lab ID: 091182-0002-SA

Matrix: AQUEOUS

Authorized: 26 DEC 96

Sampled: 18 DEC 96

Prepared: 07 JAN 97

Received: 26 DEC 96

Analyzed: 09 JAN 97

Sample Amount 0.980 L

Column Type SP-2331

Parameter	Result	Units	Detection Limit	Data Qualifiers
Dioxins				
2,3,7,8-TCDD	ND	ng/L	0.65	
	% Recovery			
13C-2,3,7,8-TCDD	64			

ND = Not detected  
NA = Not applicable

Reported By: Teri Stone

Approved By: Robert Hrabak

The cover letter is an integral part of this report.

Rev 230787

2,3,7,8-TCDD

LOW RESOLUTION

Client Name: Hydrologic Laboratories

Client ID: L3891-3

Lab ID: 091182-0003-SA

Matrix: AQUEOUS

Authorized: 26 DEC 96

Sampled: 18 DEC 96

Prepared: 07 JAN 97

Received: 26 DEC 96

Analyzed: 09 JAN 97

Sample Amount 0.989 L

Column Type SP-2331

Parameter	Result	Units	Detection Limit	Data Qualifiers
Dioxins				
2,3,7,8-TCDD	ND	ng/L	0.53	
	% Recovery			
13C-2,3,7,8-TCDD	82			

ND = Not detected  
NA = Not applicable

Reported By: Teri Stone

Approved By: Robert Hrabak

The cover letter is an integral part of this report.

Rev 230787

LABORATORY CONTROL SAMPLE REPORT  
Semivolatile Organics by GC  
Project: 091182

Category: TCDD1-A 2,3,7,8-TCDD - by Low Resolution MS  
Test: TCDD-A  
Matrix: AQUEOUS  
QC Lot: 07 JAN 97-A  
Concentration Units: ng/L

QC Run: 07 JAN 97-A

Analyte	Concentration		Accuracy(%)	
	Spiked	Measured	LCS	Limits
2,3,7,8-TCDD	25.0	26.3	105	60-140
13C-2,3,7,8-TCDD	25	16	63	40-120

Calculations are performed before rounding to avoid round-off errors in calculated results.



Environmental  
Services

### Organophosphorus Pesticides

#### Method 8140

Client Name: Hydrologic Laboratories

Client ID: L3891-1

Lab ID: 091182-0001-SA

Matrix: AQUEOUS

Authorized: 26 DEC 96

Sampled: 18 DEC 96

Prepared: 30 DEC 96

Received: 26 DEC 96

Analyzed: 04 JAN 97

Parameter	Result	Units	Reporting Limit
Azinphos-methyl (Guthion)	ND	ug/L	1.0
Bolstar	ND	ug/L	1.0
Dursban (Chlorpyrifos)	ND	ug/L	1.0
Coumaphos	ND	ug/L	1.0
Demeton O&S	ND	ug/L	1.0
Diazinon	ND	ug/L	1.0
Dichlorvos	ND	ug/L	2.0
Disyston (Disulfoton)	ND	ug/L	1.0
Ethoprop	ND	ug/L	1.0
Fensulfothion	ND	ug/L	1.0
Baytex (Fenthion)	ND	ug/L	1.0
Merphos	ND	ug/L	1.0
Phosdrin (Mevinphos)	ND	ug/L	1.0
Naled	ND	ug/L	2.0
Methyl parathion	ND	ug/L	1.0
Phorate (Thimet)	ND	ug/L	1.0
Ronnel	ND	ug/L	1.0
Tetrachlorvinphos	ND	ug/L	1.0
Tokuthion (Prothiophos)	ND	ug/L	1.0
Trichloronate	ND	ug/L	1.0
Surrogate	Recovery		
Ethion	90	%	

ND = Not detected

NA = Not applicable

Reported By: Emily Uebelhoer

Approved By: Mike Orbanosky

The cover letter is an integral part of this report.

Rev 230787

Organophosphorus Pesticides

Method 8140

Client Name: Hydrologic Laboratories  
 Client ID: L3891-2  
 Lab ID: 091182-0002-SA  
 Matrix: AQUEOUS  
 Authorized: 26 DEC 96

Sampled: 18 DEC 96  
 Prepared: 30 DEC 96

Received: 26 DEC 96  
 Analyzed: 04 JAN 97

Parameter	Result	Units	Reporting Limit
Azinphos-methyl (Guthion)	ND	ug/L	1.0
Bolstar	ND	ug/L	1.0
Dursban (Chlorpyrifos)	ND	ug/L	1.0
Coumaphos	ND	ug/L	1.0
Demeton O&S	ND	ug/L	1.0
Diazinon	ND	ug/L	1.0
Dichlorvos	ND	ug/L	2.0
Disyston (Disulfoton)	ND	ug/L	1.0
Ethoprop	ND	ug/L	1.0
Fensulfothion	ND	ug/L	1.0
Baytex (Fenthion)	ND	ug/L	1.0
Merphos	ND	ug/L	1.0
Phosdrin (Mevinphos)	ND	ug/L	1.0
Naled	ND	ug/L	2.0
Methyl parathion	ND	ug/L	1.0
Phorate (Thimet)	ND	ug/L	1.0
Ronnel	ND	ug/L	1.0
Tetrachlorvinphos	ND	ug/L	1.0
Tokuthion (Prothiophos)	ND	ug/L	1.0
Trichloronate	ND	ug/L	1.0
Surrogate	Recovery		
Ethion	83	%	

ND = Not detected  
 NA = Not applicable

Reported By: Emily Uebelhoer

Approved By: Mike Orbanosky

The cover letter is an integral part of this report.

Rev 230787



Environmental  
Services

# Organophosphorus Pesticides

## Method 8140

Client Name: Hydrologic Laboratories

Client ID: L3891-3

Lab ID: 091182-0003-SA

Matrix: AQUEOUS

Authorized: 26 DEC 96

Sampled: 18 DEC 96

Prepared: 30 DEC 96

Received: 26 DEC 96

Analyzed: 04 JAN 97

Parameter	Result	Units	Reporting Limit
Azinphos-methyl (Guthion)	ND	ug/L	1.0
Bolstar	ND	ug/L	1.0
Dursban (Chlorpyrifos)	ND	ug/L	1.0
Coumaphos	ND	ug/L	1.0
Demeton O&S	ND	ug/L	1.0
Diazinon	ND	ug/L	1.0
Dichlorvos	ND	ug/L	2.0
Disyston (Disulfoton)	ND	ug/L	1.0
Ethoprop	ND	ug/L	1.0
Fensulfothion	ND	ug/L	1.0
Baytex (Fenthion)	ND	ug/L	1.0
Merphos	ND	ug/L	1.0
Phosdrin (Mevinphos)	ND	ug/L	1.0
Naled	ND	ug/L	2.0
Methyl parathion	ND	ug/L	1.0
Phorate (Thimet)	ND	ug/L	1.0
Ronnel	ND	ug/L	1.0
Tetrachlorvinphos	ND	ug/L	1.0
Tokuthion (Prothiophos)	ND	ug/L	1.0
Trichloronate	ND	ug/L	1.0
Surrogate	Recovery		
Ethion	86	%	

ND = Not detected  
NA = Not applicable

Reported By: Emily Uebelhoer

Approved By: Mike Orbanosky

The cover letter is an integral part of this report.

Rev 230787

QC LOT ASSIGNMENT REPORT  
Semivolatile Organics by GC

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK)
091182-0001-SA	AQUEOUS	8140-SW-A	30 DEC 96-11A	30 DEC 96-11A
091182-0002-SA	AQUEOUS	8140-SW-A	30 DEC 96-11A	30 DEC 96-11A
091182-0003-SA	AQUEOUS	8140-SW-A	30 DEC 96-11A	30 DEC 96-11A

METHOD BLANK REPORT  
Semivolatile Organics by GC

Analyte	Result	Units	Reporting Limit
Test: 8140-SW-A			
Matrix: AQUEOUS			
QC Lot: 30 DEC 96-11A QC Run: 30 DEC 96-11A			
Azinphos-methyl (Guthion)	ND	ug/L	1.0
Bolstar	ND	ug/L	1.0
Dursban (Chlorpyrifos)	ND	ug/L	1.0
Coumaphos	ND	ug/L	1.0
Demeton O&S	ND	ug/L	1.0
Diazinon	ND	ug/L	1.0
Dichlorvos	ND	ug/L	2.0
Disyston (Disulfoton)	ND	ug/L	1.0
Ethoprop	ND	ug/L	1.0
Fensulfothion	ND	ug/L	1.0
Baytex (Fenthion)	ND	ug/L	1.0
Merphos	ND	ug/L	1.0
Phosdrin (Mevinphos)	ND	ug/L	1.0
Naled	ND	ug/L	2.0
Methyl parathion	ND	ug/L	1.0
Phorate (Thimet)	ND	ug/L	1.0
Ronnel	ND	ug/L	1.0
Tetrachlorvinphos	ND	ug/L	1.0
Tokuthion (Prothiophos)	ND	ug/L	1.0
Trichloronate	ND	ug/L	1.0

SINGLE CONTROL SAMPLE REPORT  
Semivolatile Organics by GC

Analyte	Concentration		Accuracy(%)	
	Spiked	Measured	SCS	Limits
Category: 8140-SW-A				
Matrix: AQUEOUS				
QC Lot: 30 DEC 96-11A QC Run: 30 DEC 96-11A				
Concentration Units: ug/L				
Ethion	2.50	2.14	86	67-117

Calculations are performed before rounding to avoid round-off errors in calculated results.

DUPLICATE CONTROL SAMPLE REPORT  
Semivolatile Organics by GC

Analyte	Concentration		Measured	AVG	Accuracy		Precision	
	Spiked	DCS1			DCS2	DCS	Average (%) Limits	(RPD)
Category: 8140-SW-A								
Matrix: AQUEOUS								
QC Lot: 30 DEC 96-11A								
Concentration Units: ug/L								
Dursban (Chlorpyrifos)	2.5	2.0	2.0	2.0	81	60-140	0.8	40.C
Diazinon	2.5	2.1	2.1	2.1	83	53-115	0.7	18.C
Phosdrin (Mevinphos)	2.5	2.1	2.3	2.2	89	60-140	9.7	40.C
Phorate (Thimet)	2.5	2.0	1.9	1.9	78	46-107	1.5	25.C
Tetrachlorvinphos	2.5	1.9	2.0	2.0	79	60-140	4.7	40.C
Ethion	2.5	2.11	2.03	2.07	83	67-117	4.0*	0.C

\* = RPD outside QC Limits

Calculations are performed before rounding to avoid round-off errors in calculated results.

**APPENDIX III**  
**DATA ASSESSMENT**

DATA ASSESSMENT  
CANNON AIR FORCE BASE  
QUARTERLY MONITORING

Data for the fourth quarterly sampling event (December 18, 1996) at Cannon Air Force Base was reviewed and evaluated as specified in the Final Work Plan (FEC, February 1996). The following paragraphs discuss specific findings of the data review process for sample CAFB-MWO-12-18-96-1.

**VOCs.** The sample was analyzed within the required 14-day hold time for volatile organic compounds via SW-846 Method 8260. VOCs were not detected in the method blank analyzed with the sample. Surrogate percent recoveries for p-bromofluorobenzene, dibromofluoromethane, and toluene were within QC limits. Percent recoveries and relative percent differences obtained in the laboratory control spike and MS/MSD for analyses via SW-846 Method 8260 were within QC limits, demonstrating adequate analytical precision and accuracy. VOC results, reported as non-detected for all compounds, are usable without qualification.

**SVOCs.** The sample was extracted within the required 7-day hold time for semivolatile organic compounds via SW-846 Method 8270. Surrogate percent recoveries were within QC limits. The associated method blank did not contain SVOCs above reporting limits. Percent recoveries of 4-chloro-3-methylphenol, 2,4-dinitrotoluene, and N-nitrosodipropylamine in the matrix spike sample associated with this sample exceeded upper QC limits, indicating the potential for high bias. Corresponding recoveries in the laboratory control spike were within QC limits. Associated SVOC results were reported as not-detected and did not require qualification. Results for SVOCs are usable without qualification.

**Pesticides/PCBs.** The sample was extracted within the required 7-day holding time for pesticides/PCBs via SW-846 Method 8080. Neither pesticides nor PCBs were detected in the method blank associated with the sample. Surrogate percent recoveries were within QC limits. Percent recoveries were within QC limits in the laboratory control spike and MS/MSD analyzed in conjunction with this sample. Results for pesticides/PCBs were reported as non-detected and are usable without qualification.

**Herbicides.** The sample was extracted within the required 7-day holding time for extraction via SW-846 Method 8150. Percent recovery of the surrogate DCAA was acceptable. Results for herbicide compounds were reported as non-detected and are usable without qualification.

**Metals.** Sample CAFB-MWO-12-18-96-1 was analyzed for metal analytes within the required holding time. The method blank analyzed with this sample contained barium, copper, vanadium, and zinc at relatively low concentrations. Percent recoveries and RPDs in the laboratory control sample and MS/MSD sample were within QC limits for all metal analytes. Results for metal analytes are usable without qualification.

***Dioxin (2,3,7,8-TCDD).*** The sample was extracted 20 days after sample collection, meeting the required extraction holding time of 30 days for dioxin analysis via SW-846 Method 8280. Surrogate percent recovery and recovery in the laboratory control sample were within QC limits. The result for dioxin in sample CAFB-MWO-12-18-96-1 was reported as non-detected. TCDD was not detected in the sample. Results are useable without qualification.

***Organophosphorous Pesticides.*** The sample was extracted 12 days after sample collection, exceeding the 7-day requirement for analysis via SW-846 Method 8140. Surrogate percent recovery and recovery in the laboratory control sample/duplicate control sample were within QC limits. Results for organophosphorous pesticides in sample CAFB-MWO-12-18-96-1 were reported as non-detected. The effects of the missed holding time should be considered in determining the usability of the reported results for organophosphorous pesticides.

***Total Organic Carbon (TOC).*** The sample was analyzed within the holding time for TOC. Percent recoveries in the LCS/LCSD and MS/MSD were within QC limits. The TOC result reported for sample CAFB-MWO-12-18-96-1 is usable without qualification.

***Total Organic Halides (TOX).*** Sample CAFB-MWO-12-18-96-1 was analyzed within the required 28-day holding time for TOX. TOX were not detected in the method blank associated with this sample. The percent recovery of TOX in the MSD was within QC limits, as were percent recoveries in the associated LCS and LCSD. The reported result for TOX in sample CAFB-MWO-12-18-96-1 is usable without qualification.

***Cyanide, Sulfide.*** For sample CAFB-MWO-12-18-96-1, the holding time for cyanide analysis (14 days) was exceeded by seven days. The holding time for sulfide was met. Neither cyanide or sulfide was detected in associated method blanks. LCS/LCSD percent recoveries for cyanide and sulfide were within QC limits. Results for sulfide are usable without qualification. The effects of the missed holding time should be considered in determining the usability of the reported result for cyanide.

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EXECUTIVE SUMMARY ..... ES-1

## TABLES

- 1 Summary of Quarterly Groundwater Sampling for Monitoring Well Q, First Quarter 1996, Groundwater Sample Summary, Cannon Air Force Base, Clovis, New Mexico
- 2 Summary of Quarterly Groundwater Sampling for Monitoring Well Q, Second Quarter 1996, Groundwater Sample Summary, Cannon Air Force Base, Clovis, New Mexico
- 3 Summary of Quarterly Groundwater Sampling for Monitoring Well Q, Third Quarter 1996, Groundwater Sample Summary, Cannon Air Force Base, Clovis, New Mexico
- 4 Summary of Quarterly Groundwater Sampling for Monitoring Well Q, Fourth Quarter 1996, Groundwater Sample Summary, Cannon Air Force Base, Clovis, New Mexico

## APPENDIXES

- I ASSESSMENT MONITORING QUARTERLY REPORT FOR NOVEMBER 19, 1996
- II ANALYTICAL RESULTS FOR GROUNDWATER SAMPLES COLLECTED NOVEMBER 19, 1996
- III CASE NARRATIVES FOR GROUNDWATER SAMPLES COLLECTED NOVEMBER 19, 1996
- IV GROUNDWATER SAMPLING FORM FOR NOVEMBER 19, 1996

## EXECUTIVE SUMMARY

This report presents data from the groundwater sampling of Monitoring Well Q (MW-Q) at Landfill Number 5, Cannon Air Force Base, Clovis, New Mexico. MW-Q is located upgradient of Landfill 5.

Table 1 summarizes the data from the first quarter 1996 groundwater samples, collected March 21, 1996. Table 2 summarizes the data from the second quarter 1996 groundwater samples, collected May 22, 1996. Table 3 summarizes the data from the third quarter 1996 groundwater samples collected August 28, 1996. Table 4 summarizes the data from the fourth quarter 1996 groundwater sample collected November 19, 1996. The Assessment Monitoring Quarterly Report for MW-Q, presented in appropriate New Mexico Environmental Department data forms, is provided in Appendix I. The results for each analytical method from ARDL, Inc., are provided in Appendix II. The ARDL Case Narratives for organic and inorganic analyses are provided in Appendix III. The Groundwater Sampling Form from the fourth quarter sampling event, which contains the field data collected during well purging activities, is provided in Appendix IV.

MW-Q was sampled by Harding Lawson Associates (HLA) in accordance with procedures outlined in HLA's work plan titled "Final Work Plan: Landfill No. 5 Monitoring Wells, Cannon Air Force Base, Clovis, New Mexico" dated January 25, 1996. The well was sampled for the 40 Code of Federal Regulations (CFR), Part 264, Appendix IX analytes listed below:

- Volatile organic compounds, SW-846 Method 8260
- Semivolatile organic compounds, SW-846 Method 8270
- Dioxins (2,3,7,8-TCDD), SW-846 Method 8280
- Polynuclear aromatic hydrocarbons, SW-846 Method 8310
- Pesticides/polychlorinated biphenyls, SW-846 Method 8080
- Herbicides, SW-846 Method 8150
- Metals, SW-846 Method 6010 and 7000
- Cyanide, SW-846 Method 9012

## **Executive Summary**

---

- Sulfide, SW-846 Method 9030
- Total organic carbon, SW-846 Method 9060
- Total organic halides, SW-846 Method 9020

MW-Q was sampled for investigative and duplicate analyses of the Appendix IX parameters; a third set of samples, without total organic carbon and total organic halides, was collected and sent to the U.S. Army Corps of Engineers, Missouri River Division laboratory as an independent quality control sample. As part of the quality assurance/quality control (QA/QC) procedures for this sampling event, a trip blank and matrix spike-matrix spike duplicate (MS/MSD) sample were also analyzed for the Appendix IX parameters.

The duplicate sample collected for semi-volatile organic compound (SVOC) analysis (Method 8270B) was lost in the laboratory. Insufficient sample material remained for a duplicate sample, therefore, only one groundwater sample was analyzed for SVOCs during the fourth quarter.

Concentrations of detected Appendix IX analytes from the fourth quarter sampling event are summarized in Table 4. The analytical results are very similar to the data collected from the first, second, and third quarter sampling events. Chemical data from MW-Q indicate that no organic contaminants were detected above method detection limits. Other analytes detected in the sample include metals commonly found in groundwater.

A full data validation was performed on the first quarter data set to provide a baseline evaluation of the analytical laboratory's performance for future data submissions. The second quarter data set was validated only for organochlorine pesticides and polychlorinated biphenyls. A review of case narratives and QC data was performed on the third and fourth quarter data sets. The QC review found that QA/QC procedures were implemented properly according to analytical method operating procedures. No discrepancies or errors were detected that would compromise the quality of the data for their intended use.

**Table 1: Summary of Quarterly Groundwater Sampling for Monitoring Well Q  
 First Quarter 1996, Groundwater Sample Summary  
 Cannon Air Force Base, Clovis, New Mexico**

Analyte-Method	Well/Sample ID:	CAFB-MWQ-032196-1*	CAFB-MWQ-032196-2#	Reporting Limit
	Sample Date:	March 21, 1996	March 21, 1996	
		Concentration	Concentration	
Arsenic - (7061)		0.0031 mg/l	0.0034 mg/l	0.00050 mg/l
Barium - (6010)		0.054 mg/l	0.053 mg/l	0.01 mg/l
Copper - (6010)		0.0061 mg/l U	ND	0.0050 mg/l
Selenium - (7741)		0.0052 mg/l	0.0052 mg/l	0.00050 mg/l
Vanadium - (6010)		0.017 mg/l	0.017 mg/l	0.0050 mg/l
TOC - (9060)		ND	NA	1.0 mg/l
TOX - (9020)		ND	NA	0.010 mg/l
Methylene chloride - (8260)		2.7 µg/l BJU	3.0 µg/l BJU	0.36 µg/l
SVOCs - (8270)		ND	ND	Varies
PAHs - (8310)		ND	ND	Varies
Organochlorine pesticides/PCBs - (8080)		ND	ND	Varies
Herbicides - (8150)		ND	ND	Varies
Dioxin-2,3,7,8-TCDD (8280)		ND	ND	Varies
Cyanide (9012)		ND	ND	0.010 mg/l
Sulfide (9030)		ND	ND	1.0 mg/l

B Analyte detected in blank sample  
 J Estimated concentration  
 mg/l Milligrams per liter  
 NA Not analyzed  
 ND Not detected  
 PAH Polynuclear aromatic hydrocarbon  
 PCB Polychlorinated biphenyl  
 SVOC Semivolatile organic compound  
 TCDD Tetrachloro dibenzo-p-dioxin

TOC Total organic carbon  
 TOX Total organic halides  
 U Not detected  
 µg/l Micrograms per liter

\* Groundwater field sample  
 # Groundwater field duplicate

**Table 2: Summary of Quarterly Groundwater Sampling for Monitoring Well Q  
Second Quarter 1996, Groundwater Sample Summary  
Cannon Air Force Base, Clovis, New Mexico**

Analyte-Method	Well/Sample ID:	CAFB-MWQ-052296-1*	CAFB-MWQ-052296-2#	Reporting Limit
	Sample Date:	May 22, 1996 Concentration	May 22, 1996 Concentration	
Arsenic - (7061)		0.0041 mg/l	0.0041 mg/l	0.00050 mg/l
Barium - (6010)		0.034mg/l	0.034 mg/l	0.01 mg/l
Lead - (7421)		ND	0.0042 mg/l	0.0040 mg/l
Selenium - (7741)		0.0061 mg/l	0.0059 mg/l	0.00050 mg/l
Vanadium - (6010)		0.02 mg/l	0.02 mg/l	0.0050 mg/l
TOC - (9060)		ND	ND	1.0 mg/l
TOX - (9020)		ND	0.012	0.010 mg/l
Methylene chloride - (8260)		10.7 µg/l B	10.5 µg/l B	0.36 µg/l
SVOCs - (8270)		ND	ND	Varies
PAHs - (8310)		ND	ND	Varies
Organochlorine pesticides/PCBs - (8080)		ND	ND	Varies
Herbicides - (8150)		ND	ND	Varies
Dioxin-2,3,7,8-TCDD (8280)		ND	ND	Varies
Cyanide (9012)		ND	ND	0.010 mg/l
Sulfide (9030)		ND	ND	1.0 mg/l

B Analyte detected in blank sample  
 mg/l Milligrams per liter  
 ND Not detected  
 PAH Polynuclear aromatic hydrocarbon  
 PCB Polychlorinated biphenyl  
 SVOC Semivolatile organic compound  
 TCDD Tetrachloro dibenzo-p-dioxin

TOX Total organic halides  
 µg/l Micrograms per liter

\* Groundwater field sample  
 # Groundwater field duplicate

**Table 3: Summary of Quarterly Groundwater Sampling for Monitoring Well Q  
Third Quarter 1996, Groundwater Sample Summary  
Cannon Air Force Base, Clovis, New Mexico**

Analyte-Method	Well/Sample ID:	CAFB-MWQ-082896-1*	CAFB-MWQ-082896-2#	Reporting Limit
	Sample Date:	August 28, 1996	August 28, 1996	
		Concentration	Concentration	
Arsenic - (7061)		0.0038 mg/l	0.0037 mg/l	0.00050 mg/l
Barium - (6010)		0.034mg/l	0.034 mg/l	0.01 mg/l
Lead - (7421)		0.0020 mg/l	0.0024 mg/l	0.0010 mg/l
Selenium - (7741)		0.0062 mg/l	0.0059 mg/l	0.00050 mg/l
Vanadium - (6010)		0.023 mg/l	0.023 mg/l	0.0050 mg/l
TOC - (9060)		ND	NA	1.0 mg/l
TOX - (9020)		0.012	NA	0.010 mg/l
VOCs - (8260)		ND	ND	Varies
SVOCs - (8270)		ND	ND	Varies
PAHs - (8310)		ND	ND	Varies
Organochlorine pesticides/PCBs - (8080)		ND	ND	Varies
Herbicides - (8150)		ND	ND	Varies
Dioxin-2,3,7,8-TCDD (8280)		ND	ND	Varies
Cyanide (9012)		ND	ND	0.010 mg/l
Sulfide (9030)		ND	ND	1.0 mg/l

B Analyte detected in blank sample  
 mg/l Milligrams per liter  
 NA Not analyzed  
 ND Not detected  
 PAH Polynuclear aromatic hydrocarbon  
 PCB Polychlorinated biphenyl  
 SVOC Semivolatile organic compound  
 TCDD Tetrachloro dibenzo-p-dioxin

TOX Total organic halides  
 µg/l Micrograms per liter

\* Groundwater field sample  
 # Groundwater field duplicate

**Table 4: Summary of Quarterly Groundwater Sampling for Monitoring Well Q  
Fourth Quarter 1996, Groundwater Sample Summary  
Cannon Air Force Base, Clovis, New Mexico**

Analyte-Method	Well/Sample ID:	CAFB-MWQ-111996-1*	CAFB-MWQ-111996-2#	Reporting Limit
	Sample Date:	November 19, 1996	November 19, 1996	
		Concentration	Concentration	
Arsenic - (7061)		0.0040 mg/l	0.0036 mg/l	0.00050 mg/l
Barium - (6010)		0.027 mg/l	0.027 mg/l	0.01 mg/l
Lead - (7421)		0.0022 mg/l	0.0016 mg/l	0.0010 mg/l
Selenium - (7741)		0.0057 mg/l	0.0059 mg/l	0.00050 mg/l
Vanadium - (6010)		0.023 mg/l	0.024 mg/l	0.0050 mg/l
TOC - (9060)		ND	NA	1.0 mg/l
TOX - (9020)		0.011	NA	0.010 mg/l
VOCs - (8260)		ND	ND	Varies
SVOCs - (8270)		ND	ND	Varies
PAHs - (8310)		ND	ND	Varies
Organochlorine pesticides/PCBs - (8080)		ND	ND	Varies
Herbicides - (8150)		ND	ND	Varies
Dioxin-2,3,7,8-TCDD (8280)		ND	ND	Varies
Cyanide (9012)		ND	ND	0.010 mg/l
Sulfide (9030)		ND	ND	1.0 mg/l

B Analyte detected in blank sample  
 mg/l Milligrams per liter  
 NA Not analyzed  
 ND Not detected  
 PAH Polynuclear aromatic hydrocarbon  
 PCB Polychlorinated biphenyl  
 SVOC Semivolatile organic compound  
 TCDD Tetrachloro dibenzo-p-dioxin

TOX Total organic halides  
 µg/l Micrograms per liter

\* Groundwater field sample  
 # Groundwater field duplicate

**Appendix I**

**ASSESSMENT MONITORING QUARTERLY REPORT  
NOVEMBER 19, 1996**

## ASSESSMENT MONITORING QUARTERLY REPORT

Facility Name: Cannon Air Force Base, Landfill No. 5, Solid Waste Management  
Unit No. 113, Installation Restoration Program No. LF-5

EPA ID. No.: NM7572124454

MRD LIMS No.:3593 3593

Well No.: MW-Q

Sample Collection by: Jeffrey Minchak and Leonard Stockton - HLA, Albuquerque

Laboratory Name: ARDL, Inc.  
P.O. Box 1566, Mt. Vernon Airport, Rt. 15E,  
Mt. Vernon, IL 62864

Date Sampled: November 19, 1996

Time Sampled: 1237-1311

Laboratory Sample ID. No.: 300364

Date Received by Laboratory: November 21, 1996

ASSESSMENT MONITORING QUARTERLY REPORT

NEW MEXICO ENVIRONMENT DEPARTMENT  
 HAZARDOUS & RADIOACTIVE MATERIALS BUREAU  
 525 CAMINO DE LOS MARQUEZ, SUITE 4  
 SANTA FE, NM 87502

This set of data sheets is for use by all facilities in  
 assessment monitoring (20 NMAC 4.1, Subpart VI, Section  
 265.93(d)(4), (5) and (7)(e) and (f), and Section 265.94 (b).

FACILITY NAME Cannon Air Force Base EPA I.D. # NM7572124454  
 WELL NUMBER MW-Q SAMPLE COLLECTION BY Harding Lawson Associates  
 LABORATORY NAME ARDL, Inc., Mt. Vernon, IL DATE SAMPLED November 19, 1996  
 TIME SAMPLED 1237-1311 DATE RECEIVED BY LAB. November 21, 1996

PARAMETERS	STORET CODE	UNITS	VALUE	DATE ANALYZED
Elevation of G.Water	71993	ft.	3990.69	11/19/96
Well Depth	N/A	ft.	297.79	11/19/96
Well Casing Volume	N/A	gal.	14.1	11/19/96
Pump Rate	N/A	gal/min	1.2	11/19/96
Pump Period	72004	min.	80	11/19/96
Volume Evacuated	73675	gal.	75	11/19/96
Sampler Material	N/A	N/A	tubing	N/A

Well Sampling Method: dedicated pneumatic pump

Assessment Monitoring Quarterly Report cont.

Well Number: MW-Q

Facility Name Cannon Air Force Base

INDICATOR PARAMETERS

PARAMETERS	STORET CODE	UNITS	VALUE	DETECTION LIMIT	DATE ANALYZED	METHOD USED
pH	00400	S.U.	<u>7.73</u>	<u>0.01</u>	<u>11/19/96</u>	
	00400	S.U.	<u>7.74</u>	<u>0.01</u>	<u>11/19/96</u>	Field Instrument
	00400	S.U.	<u>7.73</u>	<u>0.01</u>	<u>11/19/96</u>	
	00400	S.U.	<u>7.71</u>	<u>0.01</u>	<u>11/19/96</u>	
Specific Conductivity	00095	umhos/cm	<u>765</u>	<u>10</u>	<u>11/19/96</u>	
	00095	umhos/cm	<u>750</u>	<u>10</u>	<u>11/19/96</u>	Field Instrument
	00095	umhos/cm	<u>762</u>	<u>10</u>	<u>11/19/96</u>	
	00095	umhos/cm	<u>769</u>	<u>10</u>	<u>11/19/96</u>	
T.O.X.	70354	mg/l	<u>0.011</u>	<u>0.010</u>	<u>12/6/96</u>	
	70354	mg/l	<u>NA</u>	<u>NA</u>	<u>NA</u>	9020
	70354	mg/l	<u>NA</u>	<u>NA</u>	<u>NA</u>	
	70354	mg/l	<u>NA</u>	<u>NA</u>	<u>NA</u>	
T.O.C.	00680	mg/l	<u>ND</u>	<u>1.0</u>	<u>12/27/96</u>	
	00680	mg/l	<u>NA</u>	<u>NA</u>	<u>NA</u>	9060
	00680	mg/l	<u>NA</u>	<u>NA</u>	<u>NA</u>	
	00680	mg/l	<u>NA</u>	<u>NA</u>	<u>NA</u>	

ND - not detected  
 NA - not analysed

Assessment Monitoring Quarterly Report cont.

Well Number: MW-Q

Facility Name Cannon Air Force Base

GROUND WATER QUALITY PARAMETERS

PARAMETERS	STORET CODE	UNITS	VALUE	DETECTION LIMIT	DATE ANALYZED	METHOD USED
Chloride	00940	mg/l	NA	--	--	--
Iron	01045	mg/l	0.054	0.050	12/2/96	6010
Manganese	71883	mg/l	ND	0.0050	12/2/96	6010
Phenols	32730	mg/l	NA	--	--	--
Sodium	00929	mg/l	46.2	0.40	12/2/96	6010
Sulfate	00945	mg/l	NA	--	--	--
Turbidity		TU	0.78	0.01	11/19/96	Field Instrument

ND = Not Detected  
 NA = Not Analyzed

DATE OF THIS REPORT: \_\_\_\_\_

SIGNATURE: \_\_\_\_\_

NAME (PRINTED): \_\_\_\_\_



**Appendix II**

**ANALYTICAL RESULTS FOR GROUNDWATER SAMPLES  
COLLECTED NOVEMBER 19, 1996**

**ARDL, INC.**  
**Rt. 15E, Mt. Vernon Airport Industrial Park**  
**Mt. Vernon, Illinois 62864**

Lab Report No: 300364

Report Date: 12/11/1996

Project Name: CANNON AFB  
 Project No:

Analysis: Inorganics

Field ID: WELL  
 Sampling Loc'n: NA  
 Sampling Date: 11/19/1996  
 Sampling Time: 1237

ARDL No: 300364-01  
 Received: 11/21/1996  
 Matrix: WATER  
 Moisture: NA

Analyte	Detection Limit	Result	Units	Prep Method	Analysis Method	Prep Date	Analysis Date	Run Number
ALUMINUM	0.050	ND	MG/L	3010	6010	11/26/96	12/02/96	P1757
ANTIMONY	0.020	ND	MG/L	3010	6010	11/26/96	12/02/96	P1757
ARSENIC	0.00050	0.004	MG/L	3020	7061	11/26/96	12/09/96	BH2646
BARIIUM	0.010	0.027	MG/L	3010	6010	11/26/96	12/02/96	P1757
BERYLLIUM	0.0010	ND	MG/L	3010	6010	11/26/96	12/02/96	P1757
CADMIUM	0.0050	ND	MG/L	3010	6010	11/26/96	12/02/96	P1757
CALCIUM	0.10	41.9	MG/L	3010	6010	11/26/96	12/02/96	P1757
CHROMIUM	0.0050	ND	MG/L	3010	6010	11/26/96	12/02/96	P1757
COBALT	0.0050	ND	MG/L	3010	6010	11/26/96	12/02/96	P1757
COPPER	0.010	0.012	MG/L	3010	6010	11/26/96	12/02/96	P1757
IRON	0.050	0.054	MG/L	3010	6010	11/26/96	12/02/96	P1757
LEAD	0.0010	0.0022	MG/L	3020	7421	11/26/96	11/27/96	F1756
MAGNESIUM	0.10	37.0	MG/L	3010	6010	11/26/96	12/02/96	P1757
MANGANESE	0.0050	ND	MG/L	3010	6010	11/26/96	12/02/96	P1757
MERCURY	0.00020	ND	MG/L	7470	7470	11/25/96	11/25/96	C0751
NICKEL	0.020	0.025	MG/L	3010	6010	11/26/96	12/02/96	P1757
POTASSIUM	1.5	5.8	MG/L	3010	6010	11/26/96	12/02/96	P1757
SELENIUM	0.00050	0.0057	MG/L	3020	7741	11/26/96	12/09/96	BH2647
SILVER	0.0050	ND	MG/L	3010	6010	11/26/96	12/02/96	P1757
SODIUM	0.40	46.0	MG/L	3010	6010	11/26/96	12/02/96	P1757
THALLIUM	0.0010	ND	MG/L	3020	7841	11/26/96	11/27/96	F1776
TIN	0.020	ND	MG/L	3010	6010	11/26/96	12/02/96	P1757
VANADIUM	0.0050	0.023	MG/L	3010	6010	11/26/96	12/02/96	P1757
ZINC	0.0050	ND	MG/L	3010	6010	11/26/96	12/02/96	P1757
CYANIDE, TOTAL	0.010	ND	MG/L	9012	9012	11/22/96	11/22/96	11273655



**ARDL, INC.**  
**Rt. 15E, Mt. Vernon Airport Industrial Park**  
**Mt. Vernon, Illinois 62864**

Lab Report No: 300364

Report Date: 12/11/1996

Project Name: CANNON AFB  
 Project No:

Analysis: Inorganics

Field ID: WELL-DUP  
 Sampling Loc'n: NA  
 Sampling Date: 11/19/1996  
 Sampling Time: 1237

ARDL No: 300364-04  
 Received: 11/21/1996  
 Matrix: WATER  
 Moisture: NA

Analyte	Detection Limit	Result	Units	Prep Method	Analysis Method	Prep Date	Analysis Date	Run Number
ALUMINUM	0.050	ND	MG/L	3010	6010	11/26/96	12/02/96	P1757
ANTIMONY	0.020	ND	MG/L	3010	6010	11/26/96	12/02/96	P1757
ARSENIC	0.00050	0.0036	MG/L	3020	7061	11/26/96	12/09/96	BH2646
BARIUM	0.010	0.027	MG/L	3010	6010	11/26/96	12/02/96	P1757
BERYLLIUM	0.0010	ND	MG/L	3010	6010	11/26/96	12/02/96	P1757
CADMIUM	0.0050	ND	MG/L	3010	6010	11/26/96	12/02/96	P1757
CALCIUM	0.10	41.9	MG/L	3010	6010	11/26/96	12/02/96	P1757
CHROMIUM	0.0050	ND	MG/L	3010	6010	11/26/96	12/02/96	P1757
COBALT	0.0050	ND	MG/L	3010	6010	11/26/96	12/02/96	P1757
COPPER	0.010	ND	MG/L	3010	6010	11/26/96	12/02/96	P1757
IRON	0.050	ND	MG/L	3010	6010	11/26/96	12/02/96	P1757
LEAD	0.0010	0.0016	MG/L	3020	7421	11/26/96	11/27/96	F1756
MAGNESIUM	0.10	37.2	MG/L	3010	6010	11/26/96	12/02/96	P1757
MANGANESE	0.0050	ND	MG/L	3010	6010	11/26/96	12/02/96	P1757
MERCURY	0.00020	ND	MG/L	7470	7470	11/25/96	11/25/96	C0751
NICKEL	0.020	ND	MG/L	3010	6010	11/26/96	12/02/96	P1757
POTASSIUM	1.5	6.4	MG/L	3010	6010	11/26/96	12/02/96	P1757
SELENIUM	0.00050	0.0059	MG/L	3020	7741	11/26/96	12/09/96	BH2647
SILVER	0.0050	ND	MG/L	3010	6010	11/26/96	12/02/96	P1757
SODIUM	0.40	46.2	MG/L	3010	6010	11/26/96	12/02/96	P1757
THALLIUM	0.0010	ND	MG/L	3020	7841	11/26/96	11/27/96	F1776
TIN	0.020	ND	MG/L	3010	6010	11/26/96	12/02/96	P1757
VANADIUM	0.0050	0.024	MG/L	3010	6010	11/26/96	12/02/96	P1757
ZINC	0.0050	ND	MG/L	3010	6010	11/26/96	12/02/96	P1757
CYANIDE, TOTAL	0.010	ND	MG/L	9012	9012	11/22/96	11/22/96	11273655
SULFIDE, TOTAL	1.0	ND	MG/L	NONE	9030	NA	11/25/96	11273656





ARDL, INC.  
 Rt. 15E, Mt. Vernon Airport Industrial Park  
 Mt. Vernon, Illinois 62864

Lab Report No: 300364

Report Date: 12/10/1996

Project Name: CANNON AFB	Analysis: VOLATILES, GC/MS (8260)
Project No.:	Analytical Method: 8260A
	Prep Method: 5030A

Field ID: WELL	ARDL Lab No.: 300364-01 (cont'd)
Desc/Location: NA	Lab Filename:
Sample Date: 11/19/1996	Received Date: 11/21/1996
Sample Time: 1237	Prep. Date: 12/03/1996
Matrix: WATER	Analysis Date: 12/03/1996
Amount Used: 5 mL	QC Batch: 1210LS8
% Moisture: NA	Level: LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
1,3-DICHLOROBENZENE	0.14	5.0	ND		UG/L	1
1,4-DICHLOROBENZENE	0.090	5.0	ND		UG/L	1
1,2-DICHLOROBENZENE	0.17	5.0	ND		UG/L	1
n-BUTYLBENZENE	0.44	5.0	ND		UG/L	1
1,2-DIBROMO-3-CHLOROPROPANE	1.4	10.0	ND		UG/L	1
1,2,4-TRICHLOROBENZENE	0.34	5.0	ND		UG/L	1
HEXACHLOROBUTADIENE	0.75	5.0	ND		UG/L	1
NAPHTHALENE	0.39	5.0	ND		UG/L	1
1,2,3-TRICHLOROBENZENE	0.44	5.0	ND		UG/L	1

SURROGATE RECOVERIES:	Limits	Results
4-BROMOFLUOROBENZENE	86-115	102%
DIBROMOFLUOROMETHANE	86-118	106%
1,2-DICHLOROETHANE-D4	80-120	103%
TOLUENE-D8	88-110	106%

Surrogate recoveries marked with '\*' indicates they are outside standard limits.

ARDL, INC.  
 Rt. 15E, Mt. Vernon Airport Industrial Park  
 Mt. Vernon, Illinois 62864

Lab Report No: 300364

Report Date: 12/10/1996

Project Name: CANNON AFB		Analysis: VOLATILES, GC/MS (8260)				
Project No.:		Analytical Method: 8260A				
		Prep Method: 5030A				
Field ID:	WELL-DUP	ARDL Lab No.:	300364-04			
Desc/Location:	NA	Lab Filename:				
Sample Date:	11/19/1996	Received Date:	11/21/1996			
Sample Time:	1237	Prep. Date:	12/03/1996			
Matrix:	WATER	Analysis Date:	12/03/1996			
Amount Used:	5 mL	QC Batch:	1210LS8			
% Moisture:	NA	Level:	LOW			
Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
DICHLORODIFLUOROMETHANE	0.92	5.0	ND		UG/L	1
CHLOROMETHANE	0.94	5.0	ND		UG/L	1
VINYL CHLORIDE	0.73	5.0	ND		UG/L	1
BROMOMETHANE	0.80	5.0	ND		UG/L	1
CHLOROETHANE	1.2	5.0	ND		UG/L	1
TRICHLOROFLUOROMETHANE	0.86	5.0	ND		UG/L	1
1,1-DICHLOROETHENE	0.67	5.0	ND		UG/L	1
2-PROPENAL	4.6	10.0	ND		UG/L	1
ACETONE	5.1	25.0	ND		UG/L	1
CARBON DISULFIDE	0.33	10.0	ND		UG/L	1
IODOMETHANE	0.73	5.0	ND		UG/L	1
ALLYL CHLORIDE	1.1	5.0	ND		UG/L	1
METHYLENE CHLORIDE	0.36	5.0	ND		UG/L	1
trans-1,2-DICHLOROETHENE	0.61	5.0	ND		UG/L	1
ACRYLONITRILE	2.9	10.0	ND		UG/L	1
1,1-DICHLOROETHANE	0.31	5.0	ND		UG/L	1
CHLOROPRENE	0.69	5.0	ND		UG/L	1
VINYL ACETATE	0.37	10.0	ND		UG/L	1
2,2-DICHLOROPROPANE	1.7	5.0	ND		UG/L	1
cis-1,2-DICHLOROETHENE	0.34	5.0	ND		UG/L	1
2-BUTANONE	2.6	25.0	ND		UG/L	1
BROMOCHLOROMETHANE	0.37	5.0	ND		UG/L	1
CHLOROFORM	0.20	5.0	ND		UG/L	1
1,1,1-TRICHLOROETHANE	0.36	5.0	ND		UG/L	1
1,1-DICHLOROPROPENE	0.40	5.0	ND		UG/L	1
CARBON TETRACHLORIDE	0.54	5.0	ND		UG/L	1
BENZENE	0.17	5.0	ND		UG/L	1
1,2-DICHLOROETHANE	0.50	5.0	ND		UG/L	1
ISOBUTYL ALCOHOL	8.0	100	ND		UG/L	1
TRICHLOROETHENE	0.26	5.0	ND		UG/L	1
1,2-DICHLOROPROPANE	0.24	5.0	ND		UG/L	1
DIBROMOMETHANE	0.39	5.0	ND		UG/L	1

ARDL, INC.  
 Rt. 15E, Mt. Vernon Airport Industrial Park  
 Mt. Vernon, Illinois 62864

Lab Report No: 300364

Report Date: 12/10/1996

Project Name: CANNON AFB	Analysis: VOLATILES, GC/MS (8260)
Project No.:	Analytical Method: 8260A
	Prep Method: 5030A

Field ID: WELL-DUP	ARDL Lab No.: 300364-04 (cont'd)
Desc/Location: NA	Lab Filename:
Sample Date: 11/19/1996	Received Date: 11/21/1996
Sample Time: 1237	Prep. Date: 12/03/1996
Matrix: WATER	Analysis Date: 12/03/1996
Amount Used: 5 mL	QC Batch: 1210LS8
% Moisture: NA	Level: LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
BROMODICHLOROMETHANE	0.13	5.0	ND		UG/L	1
METHYLMETHACRYLATE	1.5	5.0	ND		UG/L	1
cis-1,3-DICHLOROPROPENE	0.40	5.0	ND		UG/L	1
4-METHYL-2-PENTANONE	0.79	10.0	ND		UG/L	1
TOLUENE	0.15	5.0	ND		UG/L	1
trans-1,3-DICHLOROPROPENE	0.35	5.0	ND		UG/L	1
1,1,2-TRICHLOROETHANE	0.49	5.0	ND		UG/L	1
1,2-DIBROMOETHANE	0.43	5.0	ND		UG/L	1
TETRACHLOROETHENE	0.27	5.0	ND		UG/L	1
1,3-DICHLOROPROPANE	0.31	5.0	ND		UG/L	1
2-HEXANONE	1.7	10.0	ND		UG/L	1
DIBROMOCHLOROMETHANE	0.21	5.0	ND		UG/L	1
CHLOROBENZENE	0.090	5.0	ND		UG/L	1
1,1,1,2-TETRACHLOROETHANE	0.19	5.0	ND		UG/L	1
ETHYLBENZENE	0.20	5.0	ND		UG/L	1
m & p-XYLENE	0.54	5.0	ND		UG/L	1
o-XYLENE	0.20	5.0	ND		UG/L	1
STYRENE	0.080	5.0	ND		UG/L	1
BROMOFORM	0.29	5.0	ND		UG/L	1
ISOPROPYLBENZENE	0.27	5.0	ND		UG/L	1
1,1,2,2-TETRACHLOROETHANE	0.44	5.0	ND		UG/L	1
BROMOBENZENE	0.28	5.0	ND		UG/L	1
1,2,3-TRICHLOROPROPANE	0.29	5.0	ND		UG/L	1
n-PROPYLBENZENE	0.38	5.0	ND		UG/L	1
2-CHLOROTOLUENE	0.28	5.0	ND		UG/L	1
trans-1,4-DICHLORO-2-BUTENE	3.1	5.0	ND		UG/L	1
4-CHLOROTOLUENE	0.16	5.0	ND		UG/L	1
1,3,5-TRIMETHYLBENZENE	0.23	5.0	ND		UG/L	1
tert-BUTYLBENZENE	0.23	5.0	ND		UG/L	1
1,2,4-TRIMETHYLBENZENE	0.090	5.0	ND		UG/L	1
sec-BUTYLBENZENE	0.40	5.0	ND		UG/L	1
p-ISOPROPYLTOLUENE	0.27	5.0	ND		UG/L	1

ARDL, INC.  
 Rt. 15E, Mt. Vernon Airport Industrial Park  
 Mt. Vernon, Illinois 62864

Lab Report No: 300364

Report Date: 12/10/1996

Project Name: CANNON AFB	Analysis: VOLATILES, GC/MS (8260)
Project No.:	Analytical Method: 8260A
	Prep Method: 5030A

Field ID: WELL-DUP	ARDL Lab No.: 300364-04 (cont'd)
Desc/Location: NA	Lab Filename:
Sample Date: 11/19/1996	Received Date: 11/21/1996
Sample Time: 1237	Prep. Date: 12/03/1996
Matrix: WATER	Analysis Date: 12/03/1996
Amount Used: 5 mL	QC Batch: 1210LS8
% Moisture: NA	Level: LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
1,3-DICHLOROBENZENE	0.14	5.0	ND		UG/L	1
1,4-DICHLOROBENZENE	0.090	5.0	ND		UG/L	1
1,2-DICHLOROBENZENE	0.17	5.0	ND		UG/L	1
n-BUTYLBENZENE	0.44	5.0	ND		UG/L	1
1,2-DIBROMO-3-CHLOROPROPANE	1.4	10.0	ND		UG/L	1
1,2,4-TRICHLOROBENZENE	0.34	5.0	ND		UG/L	1
HEXACHLOROBUTADIENE	0.75	5.0	ND		UG/L	1
NAPHTHALENE	0.39	5.0	ND		UG/L	1
1,2,3-TRICHLOROBENZENE	0.44	5.0	ND		UG/L	1

SURROGATE RECOVERIES:	Limits	Results
4-BROMOFLUOROBENZENE	86-115	99%
DIBROMOFLUOROMETHANE	86-118	107%
1,2-DICHLOROETHANE-D4	80-120	107%
TOLUENE-D8	88-110	103%

Surrogate recoveries marked with '\*' indicates they are outside standard limits.

**ARDL, INC.**  
**Rt. 15E, Mt. Vernon Airport Industrial Park**  
**Mt. Vernon, Illinois 62864**

Lab Report No: 300364

Report Date: 12/16/1996

Project Name: CANNON AFB	Analysis: BNA'S (METHOD 8270)
Project No.:	Analytical Method: 8270B
	Prep Method: 3510B

Field ID: WELL	ARDL Lab No.: 300364-01
Desc/Location: NA	Lab Filename:
Sample Date: 11/19/1996	Received Date: 11/21/1996
Sample Time: 1237	Prep. Date: 11/22/1996
Matrix: WATER	Analysis Date: 12/10/1996
Amount Used: 1000 mL	QC Batch: B1927
% Moisture: NA	Level: LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
PYRIDINE	2.1	10.0	ND		UG/L	1
N-NITROSODIMETHYLAMINE	2.5	10.0	ND		UG/L	1
2-PICOLINE	2.4	10.0	ND		UG/L	1
N-NITROSOMETHYLETHYLAMINE	2.5	10.0	ND		UG/L	1
METHYL METHANESULFONATE	1.4	10.0	ND		UG/L	1
N-NITROSODIETHYLAMINE	2.4	10.0	ND		UG/L	1
ETHYL METHANESULFONATE	2.0	10.0	ND		UG/L	1
ANILINE	1.7	10.0	ND		UG/L	1
PHENOL	1.8	10.0	ND		UG/L	1
BIS (-2-CHLOROETHYL) ETHER	2.9	10.0	ND		UG/L	1
2-CHLOROPHENOL	2.5	10.0	ND		UG/L	1
1,3-DICHLOROBENZENE	3.2	10.0	ND		UG/L	1
1,4-DICHLOROBENZENE	1.6	10.0	ND		UG/L	1
BENZYL ALCOHOL	3.3	10.0	ND		UG/L	1
1,2-DICHLOROBENZENE	2.4	10.0	ND		UG/L	1
2-METHYLPHENOL	1.8	10.0	ND		UG/L	1
BIS (2-CHLOROISOPROPYL) ETHER	2.7	10.0	ND		UG/L	1
ACETOPHENONE	1.8	10.0	ND		UG/L	1
N-NITROSOPYRROLIDINE	1.8	10.0	ND		UG/L	1
N-NITROSOMORPHOLINE	1.6	10.0	ND		UG/L	1
o-TOLUIDINE	2.0	10.0	ND		UG/L	1
4-METHYLPHENOL	2.0	10.0	ND		UG/L	1
N-NITROSO-DI-N-PROPYLAMINE	3.2	10.0	ND		UG/L	1
HEXACHLOROETHANE	3.2	10.0	ND		UG/L	1
NITROBENZENE	2.7	10.0	ND		UG/L	1
N-NITROSOPIPERIDINE	2.0	10.0	ND		UG/L	1
ISOPHORONE	3.2	10.0	ND		UG/L	1
2-NITROPHENOL	3.4	10.0	ND		UG/L	1
2,4-DIMETHYLPHENOL	2.1	10.0	ND		UG/L	1
BIS (-2-CHLOROETHOXY) METHANE	3.3	10.0	ND		UG/L	1
o,o,o-TRIETHYLPHOSPHOROTHIOATE	2.1	10.0	ND		UG/L	1
2,4-DICHLOROPHENOL	3.2	10.0	ND		UG/L	1

ARDL, INC.  
Rt. 15E, Mt. Vernon Airport Industrial Park  
Mt. Vernon, Illinois 62864

Lab Report No: 300364

Report Date: 12/16/1996

Project Name: CANNON AFB  
Project No.:

Analysis: BNA'S (METHOD 8270)  
Analytical Method: 8270B  
Prep Method: 3510B

Field ID: WELL	ARDL Lab No.: 300364-01 (cont'd)
Desc/Location: NA	Lab Filename:
Sample Date: 11/19/1996	Received Date: 11/21/1996
Sample Time: 1237	Prep. Date: 11/22/1996
Matrix: WATER	Analysis Date: 12/10/1996
Amount Used: 1000 mL	QC Batch: B1927
% Moisture: NA	Level: LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
1,2,4-TRICHLOROBENZENE	2.8	10.0	ND		UG/L	1
NAPHTHALENE	3.4	10.0	ND		UG/L	1
4-CHLOROANILINE	4.6	10.0	ND		UG/L	1
2,6-DICHLOROPHENOL	1.7	10.0	ND		UG/L	1
HEXACHLOROPROPENE	2.0	10.0	ND		UG/L	1
HEXACHLOROBUTADIENE	2.8	10.0	ND		UG/L	1
N-NITROSO-DI-N-BUTYLAMINE	1.7	10.0	ND		UG/L	1
4-CHLORO-3-METHYLPHENOL	3.4	10.0	ND		UG/L	1
SAFROLE	1.9	10.0	ND		UG/L	1
2-METHYLNAPHTHALENE	3.3	10.0	ND		UG/L	1
1,2,4,5-TETRACHLOROBENZENE	1.5	10.0	ND		UG/L	1
HEXACHLOROCYCLOPENTADIENE	1.7	10.0	ND		UG/L	1
ISOSAFROLE	2.6	10.0	ND		UG/L	1
2,4,6-TRICHLOROPHENOL	4.7	10.0	ND		UG/L	1
2,4,5-TRICHLOROPHENOL	4.2	50.0	ND		UG/L	1
2-CHLORONAPHTHALENE	2.7	10.0	ND		UG/L	1
2-NITROANILINE	2.8	50.0	ND		UG/L	1
1,4-NAPHTHOQUINONE	1.5	10.0	ND		UG/L	1
ACENAPHTHYLENE	3.1	10.0	ND		UG/L	1
DIMETHYL PHTHALATE	5.7	10.0	ND		UG/L	1
2,6-DINITROTOLUENE	2.1	10.0	ND		UG/L	1
3-NITROANILINE	5.9	50.0	ND		UG/L	1
ACENAPHTHENE	2.3	10.0	ND		UG/L	1
2,4-DINITROPHENOL	3.7	50.0	ND		UG/L	1
PENTACHLOROBENZENE	1.2	10.0	ND		UG/L	1
4-NITROPHENOL	2.0	50.0	ND		UG/L	1
DIBENZOFURAN	2.4	10.0	ND		UG/L	1
2,4-DINITROTOLUENE	2.3	10.0	ND		UG/L	1
1-NAPHTHYLAMINE	2.6	10.0	ND		UG/L	1
2-NAPHTHYLAMINE	1.2	10.0	ND		UG/L	1
2,3,4,6-TETRACHLOROPHENOL	0.86	10.0	ND		UG/L	1
DIETHYLPHTHALATE	3.5	10.0	ND		UG/L	1

ARDL, INC.  
Rt. 15E, Mt. Vernon Airport Industrial Park  
Mt. Vernon, Illinois 62864

Lab Report No: 300364

Report Date: 12/16/1996

Project Name: CANNON AFB	Analysis: BNA'S (METHOD 8270)
Project No.:	Analytical Method: 8270B
	Prep Method: 3510B

Field ID: WELL	ARDL Lab No.: 300364-01 (cont'd)
Desc/Location: NA	Lab Filename:
Sample Date: 11/19/1996	Received Date: 11/21/1996
Sample Time: 1237	Prep. Date: 11/22/1996
Matrix: WATER	Analysis Date: 12/10/1996
Amount Used: 1000 mL	QC Batch: B1927
% Moisture: NA	Level: LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
4-CHLOROPHENYL-PHENYLETHER	2.6	10.0	ND		UG/L	1
FLUORENE	3.2	10.0	ND		UG/L	1
5-NITRO-o-TOLUIDINE	1.3	10.0	ND		UG/L	1
THIONAZIN	0.81	10.0	ND		UG/L	1
4-NITROANILINE	6.4	50.0	ND		UG/L	1
4,6-DINITRO-2-METHYLPHENOL	3.4	50.0	ND		UG/L	1
N-NITROSODIPHENYLAMINE	2.2	10.0	ND		UG/L	1
SULFOTEP	0.86	10.0	ND		UG/L	1
1,3,5-TRINITROBENZENE	1.0	10.0	ND		UG/L	1
4-BROMOPHENYL-PHENYLETHER	2.3	10.0	ND		UG/L	1
PHORATE	0.75	10.0	ND		UG/L	1
PHENACETIN	0.59	10.0	ND		UG/L	1
DIALLATE	0.43	10.0	ND		UG/L	1
HEXACHLOROENZENE	2.2	10.0	ND		UG/L	1
DIMETHOATE	0.88	10.0	ND		UG/L	1
4-AMINOBIIPHENYL	1.1	10.0	ND		UG/L	1
PENTACHLOROPHENOL	2.9	50.0	ND		UG/L	1
PENTACHLORONITROBENZENE	0.84	10.0	ND		UG/L	1
PRONAMIDE	0.80	10.0	ND		UG/L	1
PHENANTHRENE	3.1	10.0	ND		UG/L	1
ANTHRACENE	2.9	10.0	ND		UG/L	1
DISULFOTON	0.58	10.0	ND		UG/L	1
METHYL PARATHION	0.87	10.0	ND		UG/L	1
DI-N-BUTYLPHTHALATE	3.9	10.0	ND		UG/L	1
PARATHION	0.75	10.0	ND		UG/L	1
METHAPYRILENE	2.6	10.0	ND		UG/L	1
FLUORANTHENE	3.3	10.0	ND		UG/L	1
PYRENE	3.5	10.0	ND		UG/L	1
ARAMITE	0.60	10.0	ND		UG/L	1
p-DIMETHYLAMINOAZOBENZENE	0.92	10.0	ND		UG/L	1
CHLOROBENZILATE	1.0	10.0	ND		UG/L	1
KEPONE	0.41	10.0	ND		UG/L	1

30027

**ARDL, INC.**  
**Rt. 15E, Mt. Vernon Airport Industrial Park**  
**Mt. Vernon, Illinois 62864**

Lab Report No: 300364

Report Date: 12/16/1996

Project Name: CANNON AFB		Analysis: BNA'S (METHOD 8270)	
Project No.:		Analytical Method: 8270B	
		Prep Method: 3510B	
Field ID:	WELL	ARDL Lab No.:	300364-01 (cont'd)
Desc/Location:	NA	Lab Filename:	
Sample Date:	11/19/1996	Received Date:	11/21/1996
Sample Time:	1237	Prep. Date:	11/22/1996
Matrix:	WATER	Analysis Date:	12/10/1996
Amount Used:	1000 mL	QC Batch:	B1927
% Moisture:	NA	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
3,3'-DIMETHYLBENZIDINE	3.2	10.0	ND		UG/L	1
FAMPHUR	1.3	10.0	ND		UG/L	1
BUTYLBENZYLPTHALATE	3.6	10.0	ND		UG/L	1
2-ACETYLAMINOFLUORENE	0.95	10.0	ND		UG/L	1
3,3'-DICHLOROBENZIDINE	10.0	20.0	ND		UG/L	1
BENZO (a) ANTHRACENE	3.3	10.0	ND		UG/L	1
BIS (2-ETHYLHEXYL) PHTHALATE	3.5	10.0	ND		UG/L	1
CHRYSENE	2.5	10.0	ND		UG/L	1
DI-N-OCTYL PHTHALATE	2.7	10.0	ND		UG/L	1
BENZO (b) FLUORANTHENE	3.5	10.0	ND		UG/L	1
BENZO (k) FLUORANTHENE	3.4	10.0	ND		UG/L	1
7,12-DIMETHYLBENZ [A] ANTHRACENE	0.74	10.0	ND		UG/L	1
BENZO (a) PYRENE	1.3	10.0	ND		UG/L	1
3-METHYLCHOLANTHRENE	1.2	10.0	ND		UG/L	1
INDENO (1,2,3-cd) PYRENE	2.3	10.0	ND		UG/L	1
DIBENZO (a,h) ANTHRACENE	1.9	10.0	ND		UG/L	1
BENZO (g,h,i) PERYLENE	3.1	10.0	ND		UG/L	1

SURROGATE RECOVERIES:	Limits	Results
2-FLUOROBIPHENYL	43-116	83%
2-FLUOROPHENOL	21-100	38%
D5 NITROBENZENE	35-114	80%
2,4,6-TRIBROMOPHENOL	10-123	65%
D5 PHENOL	10-94	24%
D14 TERPHENYL	33-141	87%

Surrogate recoveries marked with '\*' indicates they are outside standard limits.

ARDL, INC.  
 Rt. 15E, Mt. Vernon Airport Industrial Park  
 Mt. Vernon, Illinois 62864

Lab Report No: 300364

Report Date: 12/02/1996

Project Name: CANNON AFB	Analysis: POLYNUCLEAR AROMATICS, HPLC
Project No.:	Analytical Method: 8310
	Prep Method: 3510B

Field ID: WELL	ARDL Lab No.: 300364-02
Desc/Location: NA	Lab Filename:
Sample Date: 11/19/1996	Received Date: 11/21/1996
Sample Time: 1254	Prep. Date: 11/22/1996
Matrix: WATER	Analysis Date: 11/27/1996
Amount Used: 1000 mL	QC Batch: B1880
% Moisture: NA	Level: LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
ACENAPHTHENE	0.065	0.60	ND		UG/L	1
ACENAPHTHYLENE	0.069	0.60	ND		UG/L	1
ANTHRACENE	0.040	0.50	ND		UG/L	1
BENZO (a) ANTHRACENE	0.030	0.13	ND		UG/L	1
BENZO (a) PYRENE	0.022	0.22	ND		UG/L	1
BENZO (b) FLUORANTHENE	0.031	0.18	ND		UG/L	1
BENZO (g, h, i) PERYLENE	0.039	0.30	ND		UG/L	1
BENZO (k) FLUORANTHENE	0.020	0.17	ND		UG/L	1
CHRYSENE	0.024	0.25	ND		UG/L	1
DIBENZO (a, h) ANTHRACENE	0.053	0.43	ND		UG/L	1
FLUORANTHENE	0.066	0.60	ND		UG/L	1
FLUORENE	0.049	0.50	ND		UG/L	1
INDENO (1, 2, 3-cd) PYRENE	0.022	0.20	ND		UG/L	1
NAPHTHALENE	0.057	0.60	ND		UG/L	1
PHENANTHRENE	0.049	0.50	ND		UG/L	1
PYRENE	0.037	0.40	ND		UG/L	1

SURROGATE RECOVERIES:	Limits	Results
9-PHENYLANTHRACENE	0-173	61%

Surrogate recoveries marked with '\*' indicates they are outside standard limits.

ARDL, INC.  
 Rt. 15E, Mt. Vernon Airport Industrial Park  
 Mt. Vernon, Illinois 62864

Lab Report No: 300364

Report Date: 12/02/1996

Project Name: CANNON AFB	Analysis: POLYNUCLEAR AROMATICS, HPLC
Project No.:	Analytical Method: 8310
	Prep Method: 3510B

Field ID: WELL-DUP	ARDL Lab No.: 300364-04
Desc/Location: NA	Lab Filename:
Sample Date: 11/19/1996	Received Date: 11/21/1996
Sample Time: 1237	Prep. Date: 11/22/1996
Matrix: WATER	Analysis Date: 11/27/1996
Amount Used: 1000 mL	QC Batch: B1880
% Moisture: NA	Level: LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
ACENAPHTHENE	0.065	0.60	ND		UG/L	1
ACENAPHTHYLENE	0.069	0.60	ND		UG/L	1
ANTHRACENE	0.040	0.50	ND		UG/L	1
BENZO (a) ANTHRACENE	0.030	0.13	ND		UG/L	1
BENZO (a) PYRENE	0.022	0.22	ND		UG/L	1
BENZO (b) FLUORANTHENE	0.031	0.18	ND		UG/L	1
BENZO (g, h, i) PERYLENE	0.039	0.30	ND		UG/L	1
BENZO (k) FLUORANTHENE	0.020	0.17	ND		UG/L	1
CHRYSENE	0.024	0.25	ND		UG/L	1
DIBENZO (a, h) ANTHRACENE	0.053	0.43	ND		UG/L	1
FLUORANTHENE	0.066	0.60	ND		UG/L	1
FLUORENE	0.049	0.50	ND		UG/L	1
INDENO (1, 2, 3-cd) PYRENE	0.022	0.20	ND		UG/L	1
NAPHTHALENE	0.057	0.60	ND		UG/L	1
PHENANTHRENE	0.049	0.50	ND		UG/L	1
PYRENE	0.037	0.40	ND		UG/L	1

SURROGATE RECOVERIES:	Limits	Results
9-PHENYLANTHRACENE	0-173	81%

Surrogate recoveries marked with '\*' indicates they are outside standard limits.

ARDL, INC.  
 Rt. 15E, Mt. Vernon Airport Industrial Park  
 Mt. Vernon, Illinois 62864

Lab Report No: 300364

Report Date: 12/09/1996

Project Name: CANNON AFB		Analysis: CHLORINATED PESTICIDES & PCB'S				
Project No.:		Analytical Method: 8080A				
		Prep Method: 3510B				
Field ID:	WELL	ARDL Lab No.:	300364-01			
Desc/Location:	NA	Lab Filename:				
Sample Date:	11/19/1996	Received Date:	11/21/1996			
Sample Time:	1237	Prep. Date:	11/22/1996			
Matrix:	WATER	Analysis Date:	12/04/1996			
Amount Used:	1000 mL	QC Batch:	B1879			
% Moisture:	NA	Level:	LOW			
Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
alpha-BHC	0.0090	0.050	ND		UG/L	1
beta-BHC	0.0090	0.050	ND		UG/L	1
delta-BHC	0.0090	0.050	ND		UG/L	1
gamma-BHC	0.0080	0.050	ND		UG/L	1
HEPTACHLOR	0.010	0.050	ND		UG/L	1
ALDRIN	0.0080	0.050	ND		UG/L	1
HEPTACHLOR EPOXIDE	0.0080	0.050	ND		UG/L	1
ENDOSULFAN 1	0.0090	0.050	ND		UG/L	1
DIELDRIN	0.0080	0.10	ND		UG/L	1
4,4'-DDE	0.0080	0.10	ND		UG/L	1
ENDRIN	0.0080	0.10	ND		UG/L	1
ENDOSULFAN II	0.0080	0.10	ND		UG/L	1
4,4'-DDD	0.0080	0.10	ND		UG/L	1
ENDOSULFAN SULFATE	0.0090	0.10	ND		UG/L	1
4,4'-DDT	0.0080	0.10	ND		UG/L	1
METHOXYCHLOR	0.0090	0.10	ND		UG/L	1
ENDRIN ALDEHYDE	0.0090	0.10	ND		UG/L	1
CHLORDANE	0.017	0.14	ND		UG/L	1
TOXAPHENE	0.17	1.7	ND		UG/L	1
AROCLOR 1016	0.17	1.0	ND		UG/L	1
AROCLOR 1221	0.33	2.0	ND		UG/L	1
AROCLOR 1232	0.16	1.0	ND		UG/L	1
AROCLOR 1242	0.16	1.0	ND		UG/L	1
AROCLOR 1248	0.17	1.0	ND		UG/L	1
AROCLOR 1254	0.17	1.0	ND		UG/L	1
AROCLOR 1260	0.17	1.0	ND		UG/L	1
ENDRIN KETONE	0.0080	0.10	ND		UG/L	1
ISODRIN	0.0090	0.050	ND		UG/L	1

ARDL, INC.  
 Rt. 15E, Mt. Vernon Airport Industrial Park  
 Mt. Vernon, Illinois 62864

Lab Report No: 300364

Report Date: 12/09/1996

Project Name: CANNON AFB		Analysis: CHLORINATED PESTICIDES & PCB'S			
Project No.:		Analytical Method: 8080A		Prep Method: 3510B	
Field ID:	WELL	ARDL Lab No.:	300364-01 (cont'd)		
Desc/Location:	NA	Lab Filename:			
Sample Date:	11/19/1996	Received Date:	11/21/1996		
Sample Time:	1237	Prep. Date:	11/22/1996		
Matrix:	WATER	Analysis Date:	12/04/1996		
Amount Used:	1000 mL	QC Batch:	B1879		
% Moisture:	NA	Level:	LOW		
Parameter	Method Limit	Reporting Limit	Result	Data Flag	Dilution Units Factor
<b>SURROGATE RECOVERIES:</b>					
DECACHLOROBIPHENYL	3-144				100%
TETRACHLORO-m-XYLENE	37-150				96%

Surrogate recoveries marked with '\*' indicates they are outside standard limits.

ARDL, INC.  
 Rt. 15E, Mt. Vernon Airport Industrial Park  
 Mt. Vernon, Illinois 62864

Lab Report No: 300364

Report Date: 12/09/1996

Project Name: CANNON AFB	Analysis: CHLORINATED PESTICIDES & PCB'S
Project No.:	Analytical Method: 8080A
	Prep Method: 3510B
Field ID: WELL-DUP	ARDL Lab No.: 300364-04
Desc/Location: NA	Lab Filename:
Sample Date: 11/19/1996	Received Date: 11/21/1996
Sample Time: 1237	Prep. Date: 11/22/1996
Matrix: WATER	Analysis Date: 12/04/1996
Amount Used: 1000 mL	QC Batch: B1879
% Moisture: NA	Level: LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
alpha-BHC	0.0090	0.050	ND		UG/L	1
beta-BHC	0.0090	0.050	ND		UG/L	1
delta-BHC	0.0090	0.050	ND		UG/L	1
gamma-BHC	0.0080	0.050	ND		UG/L	1
HEPTACHLOR	0.010	0.050	ND		UG/L	1
ALDRIN	0.0080	0.050	ND		UG/L	1
HEPTACHLOR EPOXIDE	0.0080	0.050	ND		UG/L	1
ENDOSULFAN 1	0.0090	0.050	ND		UG/L	1
DIELDRIN	0.0080	0.10	ND		UG/L	1
4,4'-DDE	0.0080	0.10	ND		UG/L	1
ENDRIN	0.0080	0.10	ND		UG/L	1
ENDOSULFAN II	0.0080	0.10	ND		UG/L	1
4,4'-DDD	0.0080	0.10	ND		UG/L	1
ENDOSULFAN SULFATE	0.0090	0.10	ND		UG/L	1
4,4'-DDT	0.0080	0.10	ND		UG/L	1
METHOXYCHLOR	0.0090	0.10	ND		UG/L	1
ENDRIN ALDEHYDE	0.0090	0.10	ND		UG/L	1
CHLORDANE	0.017	0.14	ND		UG/L	1
TOXAPHENE	0.17	1.7	ND		UG/L	1
AROCLOR 1016	0.17	1.0	ND		UG/L	1
AROCLOR 1221	0.33	2.0	ND		UG/L	1
AROCLOR 1232	0.16	1.0	ND		UG/L	1
AROCLOR 1242	0.16	1.0	ND		UG/L	1
AROCLOR 1248	0.17	1.0	ND		UG/L	1
AROCLOR 1254	0.17	1.0	ND		UG/L	1
AROCLOR 1260	0.17	1.0	ND		UG/L	1
ENDRIN KETONE	0.0080	0.10	ND		UG/L	1
ISODRIN	0.0090	0.050	ND		UG/L	1

ARDL, INC.  
 Rt. 15E, Mt. Vernon Airport Industrial Park  
 Mt. Vernon, Illinois 62864

Lab Report No: 300364

Report Date: 12/09/1996

Project Name: CANNON AFB		Analysis: CHLORINATED PESTICIDES & PCB'S			
Project No.:		Analytical Method: 8080A		Prep Method: 3510B	
Field ID:	WELL-DUP	ARDL Lab No.:	300364-04 (cont'd)		
Desc/Location:	NA	Lab Filename:			
Sample Date:	11/19/1996	Received Date:	11/21/1996		
Sample Time:	1237	Prep. Date:	11/22/1996		
Matrix:	WATER	Analysis Date:	12/04/1996		
Amount Used:	1000 mL	QC Batch:	B1879		
% Moisture:	NA	Level:	LOW		
Parameter	Method Limit	Reporting Limit	Result	Data Flag	Dilution Units Factor

SURROGATE RECOVERIES:	Limits	Results
DECACHLOROBIPHENYL	3-144	75%
TETRACHLORO-m-XYLENE	37-150	76%

Surrogate recoveries marked with '\*' indicates they are outside standard limits.

ARDL, INC.  
 Rt. 15E, Mt. Vernon Airport Industrial Park  
 Mt. Vernon, Illinois 62864

Lab Report No: 300364

Report Date: 12/03/1996

Project Name: CANNON AFB	Analysis: HERBICIDES	
Project No.:	Analytical Method: 8150B	
	Prep Method: METHOD	
Field ID: WELL	ARLD Lab No.:	300364-03
Desc/Location: NA	Lab Filename:	
Sample Date: 11/19/1996	Received Date:	11/21/1996
Sample Time: 1304	Prep. Date:	11/22/1996
Matrix: WATER	Analysis Date:	11/28/1996
Amount Used: 1000 mL	QC Batch:	B1891
% Moisture: NA	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
2,4-D	0.063	0.60	ND		UG/L	1
2,4-DB	0.058	0.60	ND		UG/L	1
2,4,5-T	0.068	0.60	ND		UG/L	1
DALAPON	0.066	0.66	ND		UG/L	1
DICAMBA	0.059	0.60	ND		UG/L	1
DICHLORPROP	0.071	0.71	ND		UG/L	1
DINOSEB	0.059	0.60	ND		UG/L	1
SILVEX	0.064	0.60	ND		UG/L	1
MCPA	35.1	350	ND		UG/L	1
MCPP	33.0	330	ND		UG/L	1

SURROGATE RECOVERIES:	Limits	Results
DICHLOROPHENYL ACETIC ACID	12-108	72%

Surrogate recoveries marked with '\*' indicates they are outside standard limits.

ARDL, INC.  
 Rt. 15E, Mt. Vernon Airport Industrial Park  
 Mt. Vernon, Illinois 62864

Lab Report No: 300364

Report Date: 12/03/1996

Project Name: CANNON AFB		Analysis: HERBICIDES	
Project No.:		Analytical Method: 8150B	
		Prep Method: METHOD	
Field ID:	WELL-DUP	ARDL Lab No.:	300364-04
Desc/Location:	NA	Lab Filename:	
Sample Date:	11/19/1996	Received Date:	11/21/1996
Sample Time:	1237	Prep. Date:	11/22/1996
Matrix:	WATER	Analysis Date:	11/28/1996
Amount Used:	1000 mL	QC Batch:	B1891
% Moisture:	NA	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
2,4-D	0.063	0.60	ND		UG/L	1
2,4-DB	0.058	0.60	ND		UG/L	1
2,4,5-T	0.068	0.60	ND		UG/L	1
DALAPON	0.066	0.66	ND		UG/L	1
DICAMBA	0.059	0.60	ND		UG/L	1
DICHLORPROP	0.071	0.71	ND		UG/L	1
DINOSEB	0.059	0.60	ND		UG/L	1
SILVEX	0.064	0.60	ND		UG/L	1
MCPA	35.1	350	ND		UG/L	1
MCPD	33.0	330	ND		UG/L	1

SURROGATE RECOVERIES:	Limits	Results
DICHLOROPHENYL ACETIC ACID	12-108	68%

Surrogate recoveries marked with '\*' indicates they are outside standard limits.

TLI Project: 39742  
 Client Sample: 300364-1  
 Client Project: ULA-Cannon

Method 8280 PCDD/PCDF Analysis (b)  
 Analysis File: E962529  
 Matrix: WATER

PCDD/PCDF SUMMARY REPORT

Specific Analytes	Conc. (ppt)	DL (ppt)	Blank (ppt)	Definitions:
2,3,7,8-TCDD	ND	0.32	ND	
1,2,3,7,8-PeCDD	ND	6.4	ND	
1,2,3,4,7,8-HxCDD	ND	4	ND	
1,2,3,6,7,8-HxCDD	ND	1.4	ND	
1,2,3,7,8,9-HxCDD	ND	2	ND	
1,2,3,4,6,7,8-HpCDD	ND	4.1	ND	
1,2,3,4,6,7,8,9-OCDD	ND	4.4	ND	
2,3,7,8-TCDF	ND	0.36	ND	
1,2,3,7,8-PeCDF	ND	5.6	ND	
2,3,4,7,8-PeCDF	ND	8	ND	
1,2,3,4,7,8-HxCDF	ND	7	ND	
1,2,3,6,7,8-HxCDF	ND	6.5	ND	
2,3,4,6,7,8-HxCDF	ND	4.2	ND	
1,2,3,7,8,9-HxCDF	ND	3.8	ND	
1,2,3,4,6,7,8-HpCDF	ND	1.4	ND	
1,2,3,4,7,8,9-HpCDF	ND	4.3	ND	
1,2,3,4,6,7,8,9-OCDF	ND	2.5	ND	

Total Analytes	Conc. (ppt)	DL (ppt)
Total TCDD	ND	0.32
Total PeCDD	ND	6.4
Total HxCDD	ND	2.47
Total HpCDD	ND	4.1
Total TCDF	ND	0.36
Total PeCDF	ND	6.8
Total HxCDF	ND	5.38
Total HpCDF	ND	2.85

TLI Project: 39742  
 Client Sample: 300364-1

Method 8280 PCDD/PCDF Analysis (b)  
 Analysis File: E962529

Client Project: ULA-Cannon	Date Received: 11/22/96	Spike File: SP828050
Sample Matrix: WATER	Date Extracted: 11/25/96	ICal: E859276
TLI ID: 147-79-1A	Date Analyzed: 11/27/96	ConCal: E962523
Sample Size: 1.000 L	Dilution Factor: n/a	% Moisture: n/a
Dry Weight: n/a	Blank File: E962528	% Lipid: n/a
GC Column: DB-5	Analyst: MC	% Solids: n/a

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	ND	0.32				—
1,2,3,7,8-PeCDD	ND	6.4				—
1,2,3,4,7,8-HxCDD	ND	4				—
1,2,3,6,7,8-HxCDD	ND	1.4				—
1,2,3,7,8,9-HxCDD	ND	2				—
1,2,3,4,6,7,8-HpCDD	ND	4.1				—
1,2,3,4,6,7,8,9-OCDD	ND	4.4				—
2,3,7,8-TCDF	ND	0.36				—
1,2,3,7,8-PeCDF	ND	5.6				—
2,3,4,7,8-PeCDF	ND	8				—
1,2,3,4,7,8-HxCDF	ND	7				—
1,2,3,6,7,8-HxCDF	ND	6.5				—
2,3,4,6,7,8-HxCDF	ND	4.2				—
1,2,3,7,8,9-HxCDF	ND	3.8				—
1,2,3,4,6,7,8-HpCDF	ND	1.4				—
1,2,3,4,7,8,9-HpCDF	ND	4.3				—
1,2,3,4,6,7,8,9-OCDF	ND	2.5				—

Totals	Conc. (ppt)	Number	DL	EMPC	Flags
Total TCDD		0		5.1	—
Total PeCDD	ND	0	6.4		—
Total HxCDD	ND	0	2.47		—
Total HpCDD	ND	0	4.1		—
Total TCDF	ND	0	0.36		—
Total PeCDF	ND	0	6.8		—
Total HxCDF	ND	0	5.38		—
Total HpCDF	ND	0	2.85		—

ARDL, Inc

TLI Project: 39742  
 Client Sample: 300364-1

Method 8280 PCDD/PCDF Analysis (b)  
 Analysis File: E962529

Internal Standards	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
<sup>13</sup> C <sub>12</sub> -2,3,7,8-TCDF	42.4	84.8	40%-120%	0.79	20:01	—
<sup>13</sup> C <sub>12</sub> -2,3,7,8-TCDD	37.9	75.8	40%-120%	0.79	20:53	—
<sup>13</sup> C <sub>12</sub> -1,2,3,6,7,8-HxCDD	36.5	73.0	40%-120%	1.27	28:58	—
<sup>13</sup> C <sub>12</sub> -1,2,3,4,6,7,8-HpCDF	70.4	70.4	40%-120%	1.08	30:57	—
<sup>13</sup> C <sub>12</sub> -1,2,3,4,6,7,8,9-OCDD	74	74.0	25%-120%	0.91	34:17	—

Clean-Up Standard	Conc. (ppt)	% Recovery	QC Limits	RT	Flags
<sup>37</sup> Cl <sub>4</sub> -2,3,7,8-TCDD	18.9	75.7	40%-120%	20:53	—

Recovery Standards	Ratio	RT	Flags
<sup>13</sup> C <sub>12</sub> -1,2,3,4-TCDD	0.81	20:40	—
<sup>13</sup> C <sub>12</sub> -1,2,3,7,8,9-HxCDD	1.26	29:16	—

Data Reviewer: VC 11/28/96

TLI Project: **39742**  
 Client Sample: **300364-1**

Toxicity Equivalents Report  
 Analysis File: **E962529**

Client Project: <b>ULA-Cannon</b>	Date Received: <b>11/22/96</b>	Spike File: <b>SP828050</b>
Sample Matrix: <b>WATER</b>	Date Extracted: <b>11/25/96</b>	ICal: <b>E859276</b>
TLI ID: <b>147-79-1A</b>	Date Analyzed: <b>11/27/96</b>	ConCal: <b>E962523</b>
Sample Size: <b>1.000 L</b>	Dilution Factor: <b>n/a</b>	% Moisture: <b>n/a</b>
Dry Weight: <b>n/a</b>	Blank File: <b>E962528</b>	% Lipid: <b>n/a</b>
GC Column: <b>DB-5</b>	Analyst: <b>MC</b>	% Solids: <b>n/a</b>

Analytes	Conc. (ppt)		TEF		Equivalent
2,3,7,8-TCDD	ND	x	1	=	0
1,2,3,7,8-PeCDD	ND	x	0.5	=	0
1,2,3,4,7,8-HxCDD	ND	x	0.1	=	0
1,2,3,6,7,8-HxCDD	ND	x	0.1	=	0
1,2,3,7,8,9-HxCDD	ND	x	0.1	=	0
1,2,3,4,6,7,8-HpCDD	ND	x	0.01	=	0
1,2,3,4,6,7,8,9-OCDD	ND	x	0.001	=	0
2,3,7,8-TCDF	ND	x	0.1	=	0
1,2,3,7,8-PeCDF	ND	x	0.05	=	0
2,3,4,7,8-PeCDF	ND	x	0.5	=	0
1,2,3,4,7,8-HxCDF	ND	x	0.1	=	0
1,2,3,6,7,8-HxCDF	ND	x	0.1	=	0
2,3,4,6,7,8-HxCDF	ND	x	0.1	=	0
1,2,3,7,8,9-HxCDF	ND	x	0.1	=	0
1,2,3,4,6,7,8-HpCDF	ND	x	0.01	=	0
1,2,3,4,7,8,9-HpCDF	ND	x	0.01	=	0
1,2,3,4,6,7,8,9-OCDF	ND	x	0.001	=	0

**Total 2,3,7,8-TCDD Toxicity (1989 ITF) Equivalents: 0 ppt**

TLI Project: 39742  
 Client Sample: 300364-4  
 Client Project: ULA-Cannon

Method 8280 PCDD/PCDF Analysis (b)  
 Analysis File: E962532  
 Matrix: WATER

PCDD/PCDF SUMMARY REPORT

Specific Analytes	Conc. (ppt)	DL (ppt)	Blank (ppt)	Definitions:
2,3,7,8-TCDD	ND	0.32	ND	
1,2,3,7,8-PeCDD	ND	6.4	ND	
1,2,3,4,7,8-HxCDD	ND	4	ND	
1,2,3,6,7,8-HxCDD	ND	1.4	ND	
1,2,3,7,8,9-HxCDD	ND	2	ND	
1,2,3,4,6,7,8-HpCDD	ND	4.1	ND	
1,2,3,4,6,7,8,9-OCDD	ND	4.4	ND	
2,3,7,8-TCDF	ND	0.36	ND	
1,2,3,7,8-PeCDF	ND	5.6	ND	
2,3,4,7,8-PeCDF	ND	8	ND	
1,2,3,4,7,8-HxCDF	ND	7	ND	
1,2,3,6,7,8-HxCDF	ND	6.5	ND	
2,3,4,6,7,8-HxCDF	ND	4.2	ND	
1,2,3,7,8,9-HxCDF	ND	3.8	ND	
1,2,3,4,6,7,8-HpCDF	ND	1.4	ND	
1,2,3,4,7,8,9-HpCDF	ND	4.3	ND	
1,2,3,4,6,7,8,9-OCDF	ND	2.5	ND	

Total Analytes	Conc. (ppt)	DL (ppt)	
Total TCDD	ND	0.32	
Total PeCDD	ND	6.4	
Total HxCDD	ND	2.47	
Total HpCDD	ND	4.1	
Total TCDF	ND	0.36	
Total PeCDF	ND	6.8	
Total HxCDF	ND	5.38	
Total HpCDF	ND	2.85	

**ARDL, Inc.**

TLI Project: **39742**  
 Client Sample: **300364-4**

Method 8280 PCDD/PCDF Analysis (b)  
 Analysis File: **E962532**

Client Project: <b>ULA-Cannon</b>	Date Received: <b>11/22/96</b>	Spike File: <b>SP828050</b>
Sample Matrix: <b>WATER</b>	Date Extracted: <b>11/25/96</b>	ICal: <b>E859276</b>
TLI ID: <b>147-79-2</b>	Date Analyzed: <b>11/27/96</b>	ConCal: <b>E962523</b>
Sample Size: <b>1.000 L</b>	Dilution Factor: <b>n/a</b>	% Moisture: <b>n/a</b>
Dry Weight: <b>n/a</b>	Blank File: <b>E962528</b>	% Lipid: <b>n/a</b>
GC Column: <b>DB-5</b>	Analyst: <b>MC</b>	% Solids: <b>n/a</b>

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	ND	0.32				---
1,2,3,7,8-PeCDD	ND	6.4				---
1,2,3,4,7,8-HxCDD	ND	4				---
1,2,3,6,7,8-HxCDD	ND	1.4				---
1,2,3,7,8,9-HxCDD	ND	2				---
1,2,3,4,6,7,8-HpCDD	ND	4.1				---
1,2,3,4,6,7,8,9-OCDD	ND	4.4				---
2,3,7,8-TCDF	ND	0.36				---
1,2,3,7,8-PeCDF	ND	5.6				---
2,3,4,7,8-PeCDF	ND	8				---
1,2,3,4,7,8-HxCDF	ND	7				---
1,2,3,6,7,8-HxCDF	ND	6.5				---
2,3,4,6,7,8-HxCDF	ND	4.2				---
1,2,3,7,8,9-HxCDF	ND	3.8				---
1,2,3,4,6,7,8-HpCDF	ND	1.4				---
1,2,3,4,7,8,9-HpCDF	ND	4.3				---
1,2,3,4,6,7,8,9-OCDF	ND	2.5				---

Totals	Conc. (ppt)	Number	DL	EMPC	Flags
Total TCDD		0		5.75	---
Total PeCDD	ND	0	6.4		---
Total HxCDD	ND	0	2.47		---
Total HpCDD	ND	0	4.1		---
Total TCDF	ND	0	0.36		---
Total PeCDF	ND	0	6.8		---
Total HxCDF	ND	0	5.38		---
Total HpCDF	ND	0	2.85		---

**ARDL, Inc.**

TLI Project: 39742  
 Client Sample: 300364-4

Method 8280 PCDD/PCDF Analysis (b)  
 Analysis File: E962532

Internal Standards	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
<sup>13</sup> C <sub>12</sub> -2,3,7,8-TCDF	41.3	82.7	40%-120%	0.80	20:01	—
<sup>13</sup> C <sub>12</sub> -2,3,7,8-TCDD	34.6	69.3	40%-120%	0.80	20:53	—
<sup>13</sup> C <sub>12</sub> -1,2,3,6,7,8-HxCDD	36.2	72.3	40%-120%	1.28	28:58	—
<sup>13</sup> C <sub>12</sub> -1,2,3,4,6,7,8-HpCDF	54.3	54.3	40%-120%	1.08	30:57	—
<sup>13</sup> C <sub>12</sub> -1,2,3,4,6,7,8,9-OCDD	57.9	57.9	25%-120%	0.92	34:17	—

Clean-Up Standard	Conc. (ppt)	% Recovery	QC Limits	RT	Flags
<sup>37</sup> Cl <sub>4</sub> -2,3,7,8-TCDD	18.7	74.7	40%-120%	20:53	—

Recovery Standards	Ratio	RT	Flags
<sup>13</sup> C <sub>12</sub> -1,2,3,4-TCDD	0.82	20:39	—
<sup>13</sup> C <sub>12</sub> -1,2,3,7,8,9-HxCDD	1.28	29:16	—

VC

Data Reviewer: \_\_\_\_\_ 11/28/96

TLI Project: 39742  
 Client Sample: 300364-4

Toxicity Equivalents Report  
 Analysis File: E962532

Client Project: ULA-Cannon	Date Received: 11/22/96	Spike File: SP828050
Sample Matrix: WATER	Date Extracted: 11/25/96	ICal: E859276
TLI ID: 147-79-2	Date Analyzed: 11/27/96	ConCal: E962523
Sample Size: 1.000 L	Dilution Factor: n/a	% Moisture: n/a
Dry Weight: n/a	Blank File: E962528	% Lipid: n/a
GC Column: DB-5	Analyst: MC	% Solids: n/a

Analytes	Conc. (ppt)	TEF	Equivalent
2,3,7,8-TCDD	ND	x 1 =	0
1,2,3,7,8-PeCDD	ND	x 0.5 =	0
1,2,3,4,7,8-HxCDD	ND	x 0.1 =	0
1,2,3,6,7,8-HxCDD	ND	x 0.1 =	0
1,2,3,7,8,9-HxCDD	ND	x 0.1 =	0
1,2,3,4,6,7,8-HpCDD	ND	x 0.01 =	0
1,2,3,4,6,7,8,9-OCDD	ND	x 0.001 =	0
2,3,7,8-TCDF	ND	x 0.1 =	0
1,2,3,7,8-PeCDF	ND	x 0.05 =	0
2,3,4,7,8-PeCDF	ND	x 0.5 =	0
1,2,3,4,7,8-HxCDF	ND	x 0.1 =	0
1,2,3,6,7,8-HxCDF	ND	x 0.1 =	0
2,3,4,6,7,8-HxCDF	ND	x 0.1 =	0
1,2,3,7,8,9-HxCDF	ND	x 0.1 =	0
1,2,3,4,6,7,8-HpCDF	ND	x 0.01 =	0
1,2,3,4,7,8,9-HpCDF	ND	x 0.01 =	0
1,2,3,4,6,7,8,9-OCDF	ND	x 0.001 =	0

Total 2,3,7,8-TCDD Toxicity (1989 ITF) Equivalents: 0 ppt

ORGANIC ANALYSIS DATA PACKAGE

Harding Lawson Associates

Date: 12/18/96

Lab Name: ARDL, Inc.

ARDL Report No.: 300364

Samples Received at ARDL: 11/21/96

Project Name: Cannon AFB

CASE NARRATIVE

<u>Sample ID No.</u>	<u>Lab ID No.</u>	<u>Date Collected</u>	<u>Volatile Analysis Date</u>
WELL	300364-01	11/19/96	12/03/96
WELLMS	300364-01MS	11/19/96	12/03/96
WELLMSD	300364-01MD	11/19/96	12/03/96
WELL-DUP	300364-04	11/19/96	12/03/96
WELL-DUPRE	300364-04RE	11/19/96	12/05/96
TRIP	300364-05	11/19/96	12/03/96
TRIP	300364-06	11/19/96	12/03/96
VBLKG1	300364-01B1		12/03/96
VBLKG2	300364-04B1		12/05/96

ORGANIC ANALYSIS DATA PACKAGE

Harding Lawson Associates

Date: 12/18/96

Lab Name: ARDL, Inc.

ARDL Report No.: 300364

Samples Received at ARDL: 11/21/96

Project Name: Cannon AFB

CASE NARRATIVE

<u>Sample ID No.</u>	<u>Lab ID No.</u>	<u>Date Collected</u>	<u>Semi-Volatiles</u>	
			<u>Extr. Date</u>	<u>Analysis Date</u>
WELL	300364-01	11/19/96	11/22/96	12/10/96
WELLMS	300364-01MS	11/19/96	11/22/96	12/10/96
WELLMSD	300364-01MD	11/19/96	11/22/96	12/10/96
BLANK B5748	300364-01B1		11/22/96	12/10/96

ORGANIC ANALYSIS DATA PACKAGE

Harding Lawson Associates

Date: 12/18/96

Lab Name: ARDL, Inc.

ARDL Report No.: 300364

Samples Received at ARDL: 11/21/96

Project Name: Cannon AFB

CASE NARRATIVE

<u>Sample ID No.</u>	<u>Lab ID No.</u>	<u>Date Collected</u>	<u>PNA</u>	
			<u>Extr. Date</u>	<u>Analysis Date</u>
WELL	300364-02	11/19/96	11/22/96	11/27/96
WELLMS	300364-02MS	11/19/96	11/22/96	11/27/96
WELLMSD	300364-02MSD	11/19/96	11/22/96	11/27/96
WELL-DUP	300364-04	11/19/96	11/22/96	11/27/96
	300364-B5749		11/22/96	11/27/96
	300364-SPB5749		11/22/96	11/27/96

ORGANIC ANALYSIS DATA PACKAGE

Harding Lawson Associates

Date: 12/18/96

Lab Name: ARDL, Inc.

ARDL Report No.: 300364

Samples Received at ARDL: 11/21/96

Project Name: Cannon AFB

CASE NARRATIVE

<u>Sample ID No.</u>	<u>Lab ID No.</u>	<u>Date Collected</u>	<u>Pesticide/PCB</u>	
			<u>Extr. Date</u>	<u>Analysis Date</u>
WELL	300364-01	11/19/96	11/22/96	12/04/96
WELLMS	300364-01MS	11/19/96	11/22/96	12/04/96
WELLMSD	300364-01MSD	11/19/96	11/22/96	12/04/96
WELL-DUP	300364-04	11/19/96	11/22/96	12/04/96
	300364-B5747		11/22/96	12/04/96
	300364-SPB5747		11/22/96	12/04/96

ORGANIC ANALYSIS DATA PACKAGE

Harding Lawson Associates

Date: 12/18/96

Lab Name: ARDL, Inc.

ARDL Report No.: 300364

Samples Received at ARDL: 11/21/96

Project Name: Cannon AFB

CASE NARRATIVE

<u>Sample ID No.</u>	<u>Lab ID No.</u>	<u>Date Collected</u>	<u>Herbicides</u>	
			<u>Extr. Date</u>	<u>Analysis Date</u>
WELL	300364-3	11/19/96	11/22/96	11/28/96
WELLMS	300364-3MS	11/19/96	11/22/96	11/28/96
WELLMSD	300364-3MSD	11/19/96	11/22/96	11/28/96
WELL-DUP	300364-4	11/19/96	11/22/96	11/28/96
	300364-B5750		11/22/96	11/28/96
	300364-SPB5750		11/22/96	11/28/96



Harding Lawson Associates  
 2400 Arco Tower  
 707 Seventeenth Street  
 Denver, Colorado 80202  
 303/292-5365  
 Telecopy 303/292-5411

Lab I.D.: AR - ARDL

Work Authorization Number: NA

Sample Round/Episode: 4

CHAIN-OF-CUSTODY RECORD

Project Name/Project No.: Cannon Air Force Base 33364 2.4.2		Sample Date: <u>11/19/96</u>	Sample Technique: Grab	Site Identification: MWQ
Sampler: (Signature) <i>Samuel Jackson</i>		Sample Depth: (Ft)	File-Type/Matrix: CGW/Groundwater	Site Type: WELL/Well
TIME	TAG NO.	ANALYSIS REQUIRED	CONTAINER	PRESERVATIVE/REMARKS
<u>1237</u>	CN00195	VOCs/8260	40ml VOA vial	HCl, pH<2, Cool 4°C
<u>1237</u>	CN00196	VOCs/8260	40ml VOA vial	HCl, pH<2, Cool 4°C
<u>1237</u>	CN00197	VOCs/8260	40ml VOA vial	HCl, pH<2, Cool 4°C
<u>1237</u>	CN00198	VOCs/8260	40ml VOA vial	HCl, pH<2, Cool 4°C
<u>1237</u>	CN00199	VOCs/8260	40ml VOA vial	HCl, pH<2, Cool 4°C
<u>1237</u>	CN00200	VOCs/8260	40ml VOA vial	HCl, pH<2, Cool 4°C
<u>1237</u>	CN00201	VOCs/8260	40ml VOA vial	HCl, pH<2, Cool 4°C
<u>1237</u>	CN00202	VOCs/8260	40ml VOA vial	HCl, pH<2, Cool 4°C
<u>1237</u>	CN00203	VOCs/8260	40ml VOA vial	HCl, pH<2, Cool 4°C
<u>1246</u>	CN00204	SVOCs/8270	1L glass, amber	Cool 4°C
<u>1246</u>	CN00205	SVOCs/8270	1L glass, amber	Cool 4°C
<u>1246</u>	CN00206	SVOCs/8270	1L glass, amber	Cool 4°C
<u>1250</u>	CN00207	Dioxins/8280	1L glass, amber	Cool 4°C
<u>1250</u>	CN00208	Dioxins/8280	1L glass, amber	Cool 4°C
<u>N/A</u>	<del>CN00209</del>	<del>Dioxins/8280</del>	<del>1L glass, amber</del>	<del>Cool 4°C</del> <b>BROKEN BOTTLE</b>
<u>1254</u>	CN00210	PAH/8310	1L glass, amber	Cool 4°C
<u>1254</u>	CN00211	PAH/8310	1L glass, amber	Cool 4°C
<u>1254</u>	CN00212	PAH/8310	1L glass, amber	Cool 4°C
<u>1257</u>	CN00213	Pesticides/PCBs/8080	1L glass, amber	Cool 4°C
<u>1257</u>	CN00214	Pesticides/PCBs/8080	1L glass, amber	Cool 4°C
<u>1257</u>	CN00215	Pesticides/PCBs/8080	1L glass, amber	Cool 4°C
<u>1304</u>	CN00216	Herbicides/8150	1L glass, amber	Cool 4°C
Relinquished by: (Signature) <i>Samuel Jackson</i>		Date/Time <u>11/20/96-1500</u>	Received by: (Signature) <b>FEDEX</b>	
Relinquished by: (Signature)		Date/Time <u>11/21/96 0930</u>	Received by: (Signature) <i>Barbara Jackson</i>	
Relinquished by: (Signature)		Date/Time	Received by: (Signature)	
Relinquished by: (Signature)		Date/Time	Received by: (Signature)	
Airbill Number				





Work Authorization Number: NA

CHAIN-OF-CUSTODY RECORD

Sample Round/Episode: 4

Project Name/Project No.: Cannon Air Force Base 33364 2.4.2		Sample Date: <u>11/19/96</u>	Sample Technique: Grab	Site Identification: MWQ
Sampler: (Signature) <i>Leonard Stocker</i>		Sample Depth: (Ft)	File-Type/Matrix: CGW/Groundwater	Site Type: WELL/Well <i>1 Dup</i>
TIME	TAG NO.	ANALYSIS REQUIRED	CONTAINER	PRESERVATIVE/REMARKS
<u>1237</u>	CN00225	VOCs/8260	40ml VOA vial	HCl, pH<2, Cool 4°C
<u>1237</u>	CN00226	VOCs/8260	40ml VOA vial	HCl, pH<2, Cool 4°C
<u>1237</u>	CN00227	VOCs/8260	40ml VOA vial	HCl, pH<2, Cool 4°C
<u>1246</u>	CN00228	SVOCs/8270	1L glass, amber	Cool 4°C
<u>1250</u>	CN00229	Dioxins/8280	1L glass, amber	Cool 4°C
<u>1254</u>	CN00230	PAH/8310	1L glass, amber	Cool 4°C
<u>1257</u>	CN00231	Pesticides/PCBs/8080	1L glass, amber	Cool 4°C
<u>1304</u>	CN00232	Herbicides/8150	1L glass, amber	Cool 4°C
<u>1307</u>	CN00233	EPA 6010 - Metals/ICP, Metals/GFAA, Mercury/CVAA	1L poly	HNO3, pH<2, Cool 4°C
<u>1309</u>	CN00234	Cyanide/9012	1L poly	NaOH, pH>12, Cool 4°C
<u>1302</u>	CN00235	Sulfide/9030	500ml poly	NAOH, pH>9, ZnAc

Relinquished by: (Signature) <i>Leonard Stocker</i>	Date/Time <u>11/20/96 - 1500</u>	Received by: (Signature) <b>FEDEx</b>
Relinquished by: (Signature)	Date/Time <u>11/21/96 0930</u>	Received by: (Signature) <i>Donna Lockrum</i>
Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time	Received by: (Signature)

Airbill Number



**TRIANGLE LABS**

DOCUMENT  
CONTROL

---

*Triangle Laboratories, Inc.*

801 Capitola Drive  
Durham, NC 27713-4411  
919-544-5729

P.O. Box 13485  
Research Triangle Park, NC 27709-3485  
Fax # 919-544-5491



**COOLER RECEIPT REPORT**  
**ARDL, INC.**

ARDL #: 300364

Cooler # 100

Number of Coolers In Shipment: 3

Project: Cannon AFB

Date Received: 11/21/96

A. **PRELIMINARY EXAMINATION PHASE:** Date cooler was opened: 11/21/96 (Signature) Donna Beckum

1. Did cooler come with a shipping slip (airbill, etc.)? .....  YES NO  
If YES, enter carrier name and airbill number here: Federal Express **FedEx** 900 5420 076  
CUSTOMER PACKAGE TRACKING NUMBER - PULL UP PURPLE TAB
2. Were custody seals on outside of cooler? .....  YES NO N/A  
How many and where? 1 front Seal Date: 11/20/96 Seal Name: L. Steckler
3. Were custody seals unbroken and intact at the date and time of arrival? .....  YES NO N/A
4. Did you screen samples for radioactivity using a Geiger Counter? .....  YES NO
5. Were custody papers sealed in a plastic bag and taped inside to the lid? in another cooler YES  NO
6. Were custody papers filled out properly (ink, signed, etc.)? .....  YES NO N/A
7. Were custody papers signed in appropriate place by ARDL personnel? .....  YES NO N/A
8. Was project identifiable from custody papers? If YES, enter project name at the top of this form .....  YES NO N/A
9. Was a separate container provided for measuring temperature? YES  NO  Cooler Temp. 5.50 °C

B. **LOG-IN PHASE:** Date samples were logged-in: 11/21/96 (Signature) Donna Beckum

10. Describe type of packing in cooler: packing paper, bubble bags, loose ice
11. Were all bottles sealed in separate plastic bags? .....  YES  NO N/A <sup>3L 11/21/96</sup>
12. Did all bottles arrive unbroken and were labels in good condition? .....  YES NO
13. Were bottle labels complete? .....  YES NO
14. Did all bottle labels agree with custody papers? .....  YES NO
15. Were correct containers used for the tests indicated? .....  YES NO
16. Was pH correct on preserved water samples? .....  YES NO N/A
17. Was a sufficient amount of sample sent for tests indicated? .....  YES NO
18. Were bubbles absent in VOA samples? If NO, list by sample #: (1) YES  NO N/A
19. Was the ARDL project coordinator notified of any deficiencies? ..... YES NO  N/A

Comments and/or Corrective Action:
<u>18. sample CN00192 1 of 1 trip blank</u>
(By: Signature) <u>Donna Beckum</u> Date: <u>11/21/96</u>

Sample Transfer	
Fraction <u>VOA</u>	Fraction <u>All Else</u>
Area # <u>GMs</u>	Area # <u>walk in #1 + #2</u>
By <u>DLG</u>	By <u>DLG</u>
On <u>11/21/96</u>	On <u>11/21/96</u>

10006

**COOLER RECEIPT REPORT**  
**ARDL, INC.**

ARDL #: 300 364

Cooler # 131  
Number of Coolers In Shipment: 3

Project: Cannon AFB

Date Received: 11/21/96

A. **PRELIMINARY EXAMINATION PHASE:** Date cooler was opened: 11/21/96 (Signature) Kanna Jackson

1. Did cooler come with a shipping slip (airbill, etc.)? .....  YES  NO  
If YES, enter carrier name and airbill number here: FedEx 900 5420 067  
CUSTOMER PACKAGE TRACKING NUMBER - PULL UP PURPLE TAB
2. Were custody seals on outside of cooler?.....  YES  NO  N/A  
How many and where? 1 front Seal Date: 11/21/96 Seal Name: L. Stockton
3. Were custody seals unbroken and intact at the date and time of arrival?.....  YES  NO  N/A
4. Did you screen samples for radioactivity using a Geiger Counter?.....  YES  NO
5. Were custody papers sealed in a plastic bag and taped inside to the lid?..... in another cooler  YES  NO
6. Were custody papers filled out properly (ink, signed, etc.)?.....  YES  NO  N/A
7. Were custody papers signed in appropriate place by ARDL personnel?.....  YES  NO  N/A
8. Was project identifiable from custody papers? If YES, enter project name at the top of this form.....  YES  NO  N/A
9. Was a separate container provided for measuring temperature? YES  NO  Cooler Temp. 5.4° C

B. **LOG-IN PHASE:** Date samples were logged-in: 11/21/96 (Signature) Kanna Jackson

10. Describe type of packing in cooler: packing paper, bubble wrap, loose ice
11. Were all bottles sealed in separate plastic bags?..... YES  NO  N/A
12. Did all bottles arrive unbroken and were labels in good condition?.....  YES  NO
13. Were bottle labels complete?.....  YES  NO
14. Did all bottle labels agree with custody papers?.....  YES  NO
15. Were correct containers used for the tests indicated?.....  YES  NO
16. Was pH correct on preserved water samples?.....  YES  NO  N/A
17. Was a sufficient amount of sample sent for tests indicated?.....  YES  NO
18. Were bubbles absent in VOA samples? If NO, list by sample #:.....  YES  NO  N/A
19. Was the ARDL project coordinator notified of any deficiencies?..... YES  NO  N/A

Comments and/or Corrective Action:	
(By: Signature) <u>Shirley Kitter</u>	Date: <u>11/21/96</u>

Sample Transfer	
Fraction <u>VOA</u>	Fraction <u>All else</u>
Area # <u>GCMS</u>	Area # <u>Walk in #1 + #2</u>
By <u>LHC</u>	By <u>LHC</u>
On <u>11/21/96</u>	On <u>11/21/96</u>

10007

**COOLER RECEIPT REPORT**  
**ARDL, INC.**

ARDL #: 300364

Cooler # 103

Number of Coolers In Shipment: 3

Project: Cannon Air Force Base

Date Received: 11/21/96

A. **PRELIMINARY EXAMINATION PHASE:** Date cooler was opened: 11/21/96 (Signature) [Signature]

1. Did cooler come with a shipping slip (airbill, etc.)? .....  YES  NO  
If YES, enter carrier name and airbill number here: Federal Express 1553933150
2. Were custody seals on outside of cooler? .....  YES  NO  N/A  
How many and where? 1 front Seal Date: 11/21/96 Seal Name: L. Stackton
3. Were custody seals unbroken and intact at the date and time of arrival? .....  YES  NO  N/A
4. Did you screen samples for radioactivity using a Geiger Counter? .....  YES  NO
5. Were custody papers sealed in a plastic bag and taped inside to the lid? on top of packing YES  NO
6. Were custody papers filled out properly (ink, signed, etc.)? .....  YES  NO  N/A
7. Were custody papers signed in appropriate place by ARDL personnel? .....  YES  NO  N/A
8. Was project identifiable from custody papers? If YES, enter project name at the top of this form .....  YES  NO  N/A
9. Was a separate container provided for measuring temperature? YES  NO  Cooler Temp. 5.7 C

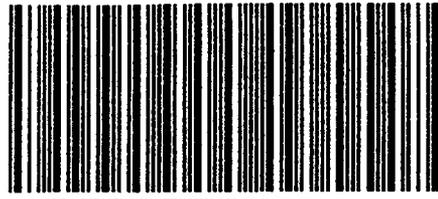
B. **LOG-IN PHASE:** Date samples were logged-in: 11/21/96 (Signature) [Signature]

10. Describe type of packing in cooler: packing paper, bubble bag, loose ice
11. Were all bottles sealed in separate plastic bags? ..... YES  NO  N/A
12. Did all bottles arrive unbroken and were labels in good condition? .....  YES  NO
13. Were bottle labels complete? .....  YES  NO
14. Did all bottle labels agree with custody papers? .....  YES  NO
15. Were correct containers used for the tests indicated? .....  YES  NO
16. Was pH correct on preserved water samples? .....  YES  NO  N/A
17. Was a sufficient amount of sample sent for tests indicated? .....  YES  NO
18. Were bubbles absent in VOA samples? If NO, list by sample #: (1) YES  NO  N/A
19. Was the ARDL project coordinator notified of any deficiencies? ..... YES  NO  N/A

Comments and/or Corrective Action:	
<u>18. sample # CN40191 1 of 1 trip mark</u>	
(By: Signature) <u>[Signature]</u> Date: <u>11/21/96</u>	

Sample Transfer	
Fraction <u>VOA</u>	Fraction <u>All else</u>
Area # <u>GCMS</u>	Area # <u>Walk in #1 + #2</u>
By <u>[Signature]</u>	By <u>[Signature]</u>
On <u>11/21/96</u>	On <u>11/21/96</u>

10008



1553933150

Questions? Call 1-800-Go-FedEx (1-800-463-3339)

**1 From**  
 Date 11/22/96 Sender's FedEx Account Number

Sender's Name L. STOCKTON Phone (505) 43-2017  
 Dept./Floor/Suite/Room \_\_\_\_\_

Company Hodley Lawson Associates

Address 702 Central SE Suite 102

City Albuquerque State NM Zip 87102

**2 Your Internal Billing Reference Information** 33364 2.4.1

**3 To**  
 Recipient's Name Sample Receiving Phone (615) 244-3234  
 Dept./Floor/Suite/Room \_\_\_\_\_

Company ARL INC

Address Route 15 East Airport

City MT VERNON State IL Zip 61364

**For HOLD at FedEx Location check here**  
 Hold Weekday (Not available with FedEx First Overnight)  
 Hold Saturday (Not available with FedEx First Overnight or FedEx Standard Overnight)  
**For Saturday Delivery check here**  
 (Extra Charge. Not available at all locations) (Not available with FedEx First Overnight or FedEx Standard Overnight)

**4a Express Package Service Packages under 150 lbs.** Delivery commitment may be later in some areas.  
 FedEx Priority Overnight (Next business morning)  
 FedEx Standard Overnight (Next business afternoon)  
 FedEx 2Day\* (Second business day)  
 FedEx Government Overnight (Authorized use only)  
 NEW FedEx First Overnight (Earliest next business morning delivery to select locations) (Higher rates apply)  
 \*FedEx Letter Rate not available. Minimum charge: One pound FedEx 2Day rate.

**4b Express Freight Service Packages over 150 lbs.** Delivery commitment may be later in some areas.  
 FedEx Overnight Freight (Next business-day service for any distance)  
 FedEx 2Day Freight (Second business-day service for any distance)  
 FedEx Express Saver Freight (Up to 3 business-day service based upon distance)  
 (Call for delivery schedule. See back for detailed descriptions of freight products.)

**5 Packaging**  
 Other Packaging  
 Dangerous Goods can not be shipped in FedEx packaging.

**6 Special Handling**  
 Dangerous Goods as per attached Shipper's Declaration  
 Dangerous Goods Shipper's Declaration not required CA  Cargo Aircraft Only  
 Dry Ice (Dry Ice, 3, UN 1845 III) \_\_\_\_\_ kg. 904 (Dangerous Goods Shipper's Declaration not required)

**7 Payment**  
 Bill to:  Sender (Account no. in section 1 will be billed)  Recipient (Enter FedEx account no. or Credit Card no. below)  Third Party  Credit Card  Cash/Check

Total Packages	Total Weight	Total Declared Value	Total Charges
3		\$ .00	\$

\*When declaring a value higher than \$100 per shipment, you pay an additional charge. See SERVICE CONDITIONS, DECLARED VALUE AND LIMIT OF LIABILITY section for further information.

Signature Release Unavailable

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241

TRACKING NUMBER

1553933150

SRC 96

Two completed and signed copies of this Declaration must be handed to the operator.

**WARNING**

Failure to comply in all respects with the applicable Dangerous Goods Regulations may be in breach of the applicable law, subject to legal penalties. This Declaration must not, in any circumstances, be completed and/or signed by a consolidator, a forwarder or an IATA cargo agent.

**TRANSPORT DETAILS**  
 This shipment is within the limitations prescribed for: (delete non applicable)  
 PASSENGER AND CARGO AIRCRAFT  
 CARGO AIRCRAFT ONLY  
 Airport of Departure ALBUQUERQUE NM  
 Airport of Destination MT. VERNON

Shipment type: (delete non-applicable)  
 NON-RADIOACTIVE  RADIOACTIVE

NATURE AND QUANTITY OF DANGEROUS GOODS					Quantity and type of packing	Packing Inst.	Authorization
Dangerous Goods Identification							
Proper Shipping Name	Class or Division	UN or ID No.	Packing Group	Subsidiary Risk			
OTHER Regulated Substance's	9	ID 3027			3 Plastic Box Coolers (1 x 10 Liters) (1 x 10.86 Liters) (1 x 10.86 Liters)	906	

Additional Handling Information

I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked, and labelled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.  
 Emergency Telephone Number (Required for US Origin or Destination Shipments) (505) 875-1007  
 Name/Title of Signatory LEONARDO SACKRON  
 Signatory STAFF ENGINEER  
 Place and Date ALBUQUERQUE NM 11/20/96  
 Signature (see warning above)

**Appendix III**

**CASE NARRATIVES FOR GROUNDWATER SAMPLES  
COLLECTED NOVEMBER 19, 1996**

# INORGANIC ANALYSIS DATA PACKAGE

Harding Lawson Associates

Date: 12/12/96

ARDL Report No.: 300364

Lab Name: ARDL, Inc.

Samples Received at ARDL: 11/21/96

Project Name: Cannon AFB

## CASE NARRATIVE

<u>Sample ID No.</u>	<u>Date Collected</u>	<u>Lab ID No.</u>	<u>Analysis Requested</u>
WELL	11/19/96	300364-01	Total Metals(1), Cyanide
WELL	11/19/96	300364-02	Sulfide, TOX, TOC
WELL-DUP	11/19/96	300364-04	Total Metals(1), Cyanide, Sulfide

(1) Including aluminum, antimony, arsenic, barium, beryllium, cadmium, calcium, chromium, cobalt, copper, iron, lead, magnesium, manganese, mercury, nickel, potassium, selenium, silver, sodium, thallium, tin, vanadium and zinc.

The quality control data are summarized as follows:

### LABORATORY CONTROL SAMPLES

Percent recovery of all LCS analyses were within control limits.

### PREPARATION BLANKS

Results of all preparation blanks were within acceptable limits.

### MATRIX SPIKES

Percent recovery of all matrix spikes and matrix spike duplicates were within control limits.

### DUPLICATES

RPD on all duplicate analyses were within control limits.

All duplicate analyses are reported as MS/MSD except calcium, magnesium, potassium and sodium which are reported as sample/duplicate.

Release of the data contained in this package has been authorized by the Technical Services Manager or his designee as verified by the following signature.

  
Daniel J. Gillespie  
Technical Services Manager

10001

ORGANIC ANALYSIS DATA PACKAGE

Harding Lawson Associates

Date: 12/18/96

Lab Name: ARDL, Inc.

ARDL Report No.: 300364

Samples Received at ARDL: 11/21/96

Project Name: Cannon AFB

CASE NARRATIVE

VOLATILE FRACTION - METHOD 8260A

Water samples were received by ARDL, Inc. on November 21, 1996, for VOA analysis by GC/MS. All analyses were performed according to low level protocol.

HLA Sample WELL-DUP failed to meet internal standard area recovery criteria during the initial analysis and passed during the reanalysis. The reanalysis was performed out of holding. No target compounds were detected in either analysis. Only the results of the initial analysis have been reported herein.

A single point calibration of each of the Appendix IX compounds of interest was analyzed to illustrate the capability of the instrument to detect the analytes of concern.

No other unusual problems were encountered during the sample analyses.

SEMIVOLATILE FRACTION - METHOD 8270B

Water samples were received by ARDL, Inc. on November 21, 1996, for BNA analysis by GC/MS. All analyses were performed according to low level protocol within method specified holding times.

The duplicate sample for HLA sample WELL was lost in a lab accident. John Helfrich, HLA, was contacted by phone December 06, 1996 and told of the accident. ARDL was instructed to continue analyses for the other extracts.

No other unusual problems were encountered during the sample analyses.

POLYNUCLEAR AROMATIC HYDROCARBONS FRACTION - METHOD 8310

Water samples were received by ARDL, Inc. on November 21, 1996, for PNA analysis. The samples were extracted and concentrated per SW-846. The samples were analyzed using a diode-array detector for both quantitative and confirmational purposes.

30006

ORGANIC ANALYSIS DATA PACKAGE

Harding Lawson Associates

Date: 12/18/96

Lab Name: ARDL, Inc.

ARDL Report No.: 300364

Samples Received at ARDL: 11/21/96

Project Name: Cannon AFB

CASE NARRATIVE (Continued)

POLYNUCLEAR AROMATIC HYDROCARBONS FRACTION - METHOD 8310 (Continued)

The % RPD for some compounds in the matrix spike/matrix spike duplicate evaluation did not fall within QC acceptance criteria. However, all recoveries of each analyte in the samples were within acceptable range. In addition, all spike blank recoveries yielded acceptable results. No further analysis was performed.

No additional problems were encountered in the analysis of these samples.

PESTICIDE/PCB FRACTION - METHOD 8080A

Water samples were received by ARDL, Inc. on November 21, 1996, for Pesticide/PCB analysis. The samples were extracted and concentrated per SW-846/SOW.

Two sequences were used to analyze the subject samples. The pesticide portion was analyzed on HP 2 (HP 2 P95.CAL). The Aroclor portion was analyzed on HP 9 (HP9AR97.cam). Therefore, each sample has four chromatograms associated with the data results.

No additional problems were encountered in the analyses of these samples.

HERBICIDE FRACTION - METHOD 8150B

Water samples were received by ARDL, Inc. on November 11, 1996, for Herbicide analysis. The samples were extracted and concentrated per SW-846.

No problems were encountered during the sample analyses.

ORGANIC DATA REPORTING QUALIFIERS

The following organic data reporting qualifiers are used as required.

U - Indicates compound was analyzed for but not detected. The sample quantitation limit must be corrected for dilution and for percent moisture.

30007

ORGANIC ANALYSIS DATA PACKAGE

Harding Lawson Associates

Date: 12/18/96

Lab Name: ARDL, Inc.

ARDL Report No.: 300364

Samples Received at ARDL: 11/21/96

Project Name: Cannon AFB

CASE NARRATIVE (Continued)

ORGANIC DATA REPORTING QUALIFIERS (Continued)

- J - Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the mass spectral data indicate the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.
- N - Indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds, where the identification is based on a mass spectral library search. It is applied to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the N code is not used.
- P - This flag is used for a pesticide/Aroclor target analyte when there is greater than 25% difference for detected concentrations between the two GC columns.
- C - This flag applies to pesticide results where the identification has been confirmed by GC/MS. If GC/MS confirmation was attempted but was unsuccessful, do not apply this flag, instead use a laboratory-defined flag.
- B - This flag is used when the analyte is found in the blank as well as the sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action. This flag must be used for a TIC as well as for a positively identified target compound.
- E - This flag identifies compounds whose concentrations exceed the calibration range of the GC/MS instrument for that specific analysis. If one or more compounds have a response greater than full scale, except as noted in Exhibit D, the sample or extract must be diluted and re-analyzed according to the specifications in Exhibit D. All such compounds with a response greater than full scale should have the concentration flagged with an "E" on the Form 1 for the original analysis. If the dilution of the extract causes any compounds identified in the first analysis to be below the calibration range in the second analysis, then the results of both analyses shall be reported on separate copies of Form 1. The Form 1 for the diluted sample shall have the "DL" suffix appended to the sample number.

0008

ORGANIC ANALYSIS DATA PACKAGE

Harding Lawson Associates

Date: 12/18/96

Lab Name: ARDL, Inc.

ARDL Report No.: 300364

Samples Received at ARDL: 11/21/96

Project Name: Cannon AFB

CASE NARRATIVE (Continued)

ORGANIC DATA REPORTING QUALIFIERS (Continued)

D - This flag identifies all compounds identified in an analysis at a secondary dilution factor. If a sample or extract is re-analyzed at a higher dilution factor, as in the "E" flag above, the "DL" suffix is appended to the sample number on the Form 1 for the diluted sample, and all concentration values reported on that Form 1 are flagged with the "D" flag.

A - This flag indicates that a TIC is a suspected aldol-condensation product.

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

  
\_\_\_\_\_  
Daniel J. Gillespie  
Technical Services Manager

# TRIANGLE LABS

## CASE NARRATIVE

**Analysis of Samples for the Presence of  
Polychlorinated Dibenzo-*p*-Dioxins and Dibenzofurans by  
High-Resolution Chromatography / Low-Resolution Mass Spectrometry**

**Method 8280 Rev. 0 (9/86)**

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**Date:** November 28, 1996  
**Client ID:** ARDL, Inc.  
**P.O. Number:**  
**TLI Project Number:** 39742

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Rev. 06/21/95

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## Overview

The samples and any associated QC samples were extracted and analyzed according to procedures described in EPA Method 8280. Any particular difficulties encountered during the sample handling by Triangle Laboratories will be discussed in the QC Remarks section below. Results reported relate only to the items tested.

## Sample Extraction

The water samples have been separatory funnel extracted with methylene chloride to produce a final extract. Eighty percent of the extract was archived while twenty percent was processed through the cleanup procedures.

The cleanup of extracts may include the use of bulk acid/base washes, and acid silica, basic silica, activated alumina, and carbon column liquid chromatography.

## Sample Analysis

A five point initial calibration curve was analyzed, in triplicate, on each instrument used for sample analysis. Calibration ranges are listed below and are based on sample size. A continuing calibration check and a column performance evaluation are analyzed at the beginning of each twelve hour period of sample analysis. The column performance solution, which is used to evaluate the GC resolution is also performed at the end of each twelve hour analytical sequence.

### Calibration Ranges

<u>Compounds</u>	<u>Solid</u> (10 g sample)	<u>Water</u> (1 L sample)	
	ppb ( $\mu\text{g/Kg}$ )	ppt (ng/L)	ppb ( $\mu\text{g/L}$ )
TCDD/TCDF PeCDD/PeCDF	1-20	10-200	0.01-0.2
HxCDD/HxCDF HpCDD/HpCDF	2.5-50	25-500	0.025-0.5
OCDD/OCDF	5-100	50-1000	0.05-1.0

Some of the labeled standards used in the analysis have ion fragments with the same mass as the quantitation mass of some of the analytes. These lower mass fragments appear as peaks or 'breakthrough' in the analyte channels. This can often be witnessed in the cases of  $^{13}\text{C}_{12}$ -TCDF internal standard appearing in the TCDD analyte channels,  $^{13}\text{C}_{12}$ -HxCDD

internal and recovery standards appearing the HpCDF analyte channels, and  $^{13}\text{C}_{12}$ -HpCDF internal standard appearing the HpCDD analyte channels. For most of the above situations, the interfering peaks due to the labeled standards lie outside the retention time window of the analyte. In the case of TCDD/TCDF, the interferences usually lie within the retention time window. Whenever breakthrough peaks occur from the labeled standards, these peaks are reported as EMPCs, and may be considered artifacts from the labeled standards. This is a limitation caused by the use of low-resolution mass spectrometry, recommended in the method.

### Quality Control Samples

A laboratory method blank, identified as the TLI Blank, was prepared along with the samples. One such sample per 20 field samples (or less) of a given matrix is prepared.

Matrix spike (MS) and matrix spike duplicate (MSD) samples were created using sample 300364-1. The matrix spike samples were extracted and analyzed along with the samples. A report summarizing the analyte recoveries and relative percent differences for these samples is included in the data package.

The advisory quality control range for internal and clean-up standard percent recoveries is 40-120 percent recovery (25-120 for the OCDD internal standard). If recoveries are below the advisory range, analyte results are judged to be valid as long as the ratio of signal to noise for the standard is greater than ten to one and the percent recovery is greater than ten percent.

### Quality Control Remarks

This release of this particular set of ARDL, Inc. analytical data by Triangle Laboratories was authorized by the Quality Control Chemist who has reviewed each sample data package individually following a series of inspections/reviews. When applicable, general deviations from acceptable QC requirements are identified below and comments are made on the effect of these deviations upon the validity and reliability of the results. Specific QC issues associated with this particular project are:

**Sample receipt:** Two water samples were received from ARDL, Inc. at 3 °C in good condition November 22, 1996 and were stored in a refrigerator at 4°C until the time of extraction.

**Sample Preparation Laboratory:** As per client's communication, the sample 300364-4 is a duplicate of sample 300364-1. A report summarizing the relative percent differences (RPD's) for these samples is included in this data package.

**Mass Spectrometry:** None

**Data Review:** The internal and cleanup standards for these samples are within the QC advisory limits of 40-120 percent (25-120 percent for the OCDD internal standard) or meet ten to one signal to noise criteria in all cases.

The analyte percent recovery of 234678-HxCDF and 123789-HxCDF analytes are slightly above the specified QC limits. Since no associated analytes are detected in any of the field samples these high recoveries does not have a significant impact on the final results.

**Other Comments:** No 2,3,7,8-substituted target analytes were detected in the TLI Blank above the method detection limit (MDL).

**Sample Calculations:**

Method 8280 does not specify which of the two monitored masses to use for quantitation of all of the isotope-labeled standards. Following the pattern established by the method, we have selected which mass to use for each analyte and standard based on the theoretical ratio. For groups with theoretical ratios that are greater than one (the pentas, hexas and heptas), the first monitored mass should be larger and is therefore used for quantitation. For channels with theoretical ratios of less than one (the tetras and octas), the second monitored mass should generally be larger and is used for quantitation.

Analyte Concentration

The concentration or amount of any analyte is calculated using the following expression.

$$C_{(\sigma)} = \frac{A_{\sigma} * Q_{\beta}}{A_{\beta} * RRF_{(\sigma)} * W}$$

Where:

$C_{(\sigma)}$  is the concentration or amount of a given analyte,

$A_{\sigma}$  is the integrated ion current of the quantitation ion of the analyte,

$A_{\beta}$  is the integrated ion current of the quantitation ion of the corresponding internal standard,

$Q_{\beta}$  represents the amount of internal standard added to the sample before extraction,

$RRF_{(\sigma)}$  is the analyte relative response factor from the continuing calibration and,

W is the sample weight or volume

### Detection Limits

The detection limit reported for a target analyte was derived from a method validation study performed by Triangle Laboratories, Inc. The reported detection limit has been adjusted for each sample using the actual sample size extracted and any dilution factors associated with that sample analysis.

### *Data Flags*

In order to assist with data interpretation, data qualifier flags are used on the final reports. Please note that all data qualifier flags are subjective and are applied as consistently as possible. Each flag has been reviewed by two independent Chemists and the impact of the data qualifier flag on the quality of the data discussed above. The most commonly used flags are:

A 'B' flag is used to indicate that an analyte has been detected in the laboratory method blank as well as in an associated field sample. The 'B' flag will be used only when the concentration of analyte found in the sample is less than 20 times that found in the associated blank. This flag denotes possible contribution of background laboratory contamination to the concentration or amount of that analyte detected in the field sample. Under Triangle Laboratories guidelines, a laboratory blank is acceptable if the analyte levels are all below the target detection limits (TDLS) or if the contamination levels are less than 5% of the levels detected in the associated field samples. If these conditions are satisfied or if the blank is unable to be reextracted, the interpretation of the contamination levels relative to the samples should be as follows: 1) analyte quantitations should be considered valid if the level of blank contamination is less than five percent of the level detected in the field sample, 2) analyte quantitations should be considered estimated if the analyte level in the sample is five to twenty times the level of the analyte in the blank, or 3) analytes whose level in a sample is the same as or less than five times the level detected in the associated blank should be considered present likely due to laboratory contamination and not native to the sample.

An 'E' flag is used to indicate that a PCDF peak has eluted at the same time as the associated diphenyl ether (DPE) and that the DPE peak intensity is ten percent or more of the total PCDF peak intensity. Total PCDF values are flagged 'E' if the total DPE contribution to the total PCDF value is greater than ten percent. All PCDF peaks that are significantly influenced by the presence of DPE peaks are quantitated with EMPC values, regardless of the isotopic abundance ratio. These EMPC values are most likely overestimated due to the DPE contribution to the peak area.

A 'V' flag is used to indicate that, although the percent recovery of a labeled standard may

be below a specific QC limit, the signal-to-noise ratio of the peak is greater than ten-to-one. The standard is considered reliably quantifiable. All quantitations derived from the standard are considered valid as well.

The value reported for 'EMPCs' represents the estimated maximum possible concentration reported for GC/MS peaks eluting within the retention time windows established by the daily GC performance analysis, and which are characterized by a signal to noise ratio in excess of 2.5 to 1, but which do not meet the ion abundance ratio criteria. The 'EMPC' is calculated by using the same expression used for reporting the identified analyte concentrations. An EMPC can be reported for a non-detected specific isomers (e.g. 2,3,7,8-TCDD) but can also be reported for 'totals' (e.g. Total TCDD) in which case the 'total' EMPC represents the sum of all the positively identified PCDD/PCDF peaks and of the peaks that do not meet all the identification criteria.

By our interpretation, the analytical data in this project are valid based on the guidelines of EPA Method 8280. Any specific QC concerns or problems have been discussed in the QC Remarks section of this case narrative with emphasis on their affect on the data. Should ARDL, Inc. have any questions or comments regarding this data package, please feel free to contact our Project Scientist Walter Murray, at 919/544-5729 ext. 271.

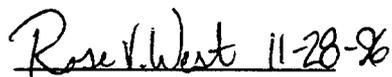
For Triangle Laboratories, Inc.,

Report Preparation



Vijay S. Chhabra  
Report Preparation Chemist

Quality Control



Rose West  
Report Preparation Chemist

The total number of pages in the data package is : 374 .

**Appendix IV**

**GROUNDWATER SAMPLING FORM  
NOVEMBER 19, 1996**



**Harding Lawson Associates**  
Engineering and  
Environmental Services

**GROUND WATER SAMPLING FORM**

Well No. MW-02 Page 1 of 2  
Well Type:  Monitor  Extraction  Other  
Well Material:  PVC  St. Steel  Other  
Date 11/19/90 Time 1237-1311  
Sampled by LDS / MEB (Initials)

Job Name Cannon AFB  
Job Number 33364, 2, 4, 1  
Recorded by Leonard Stockton (Signature)

**WELL PURGING**

**PURGING METHOD**

Casing Diameter (D in inches):  
 2-inch  4-inch  6-inch  Other  
Total Depth of Casing (TD in feet BTOC): 297.79  
Water Level Depth (WL in feet BTOC): 276.20  
Number of Well Volumes to be purged (# Vols)  
 3  4  5  10 Other

**PURGE METHOD**

Bailer - Type: \_\_\_\_\_  
 Submersible  Centrifugal  Bladder; Pump No.: \_\_\_\_\_  
 Other - Type: Pneumatic Bennett Pump

**PUMP INTAKE DEPTH**

Near Bottom  Near Top  Other Midwater Col  
Depth in feet (BTOC): 285 Screen Interval in Feet (BTOC) from 264 to 294

**PURGE VOLUME CALCULATION**

$$\left( \frac{297.79 - 276.20}{1} \right) \times 4 \times 5 \times 0.0408 = 70.5 \text{ gallons}$$
  
TD (feet) WL (feet) D (inches) # Vols Calculated Purge Volume

**PURGE RATE**

1130 Start 1237 Stop 67 Elapsed Initial 1.2 gpm Final 1.2 gpm 75 gallons

**WATER ANALYSIS FREQUENCY**

Minutes Since Pumping Began	pH	Cond. (µmhos/cm)	T °C / °F	Other
10	7.73	765	6.4 / 19.8	2.08 -53.3
15	7.74	750	6.4 / 18.4	2.39 -53.5
20	7.77	764	6.7 / 18.7	1.59 -54.3
25	7.74	750	6.9 / 18.5	1.64 -53.3
30	7.76	754	7.0 / 18.6	1.32 -53.7

Minutes Since Pumping Began	pH	Cond. (µmhos/cm)	T °C / °F	Other
35	7.75	754	7.0 / 18.5	1.20 -52.6
40	7.72	761	7.0 / 18.9	0.96 -52.8
45	7.72	763	7.0 / 18.5	0.84 -52.3
50	7.73	762	6.8 / 18.7	0.80 -52.4

Observations During Purging (Well Condition, Turbidity, Color, Odor): no odor / clear  
Discharge Water Disposal:  Sanitary Sewer  Storm Sewer  Other 300 gal poly tank

**WELL SAMPLING**

**SAMPLING METHOD**

Same As Above  
 Bailer - Type: \_\_\_\_\_  Grab - Type: \_\_\_\_\_  
 Submersible  Centrifugal  Bladder; Pump No.: \_\_\_\_\_  Other - Type: \_\_\_\_\_

**SAMPLING DISTRIBUTION**

Sample Series: \_\_\_\_\_

Sample No.	Volume/Cont.	Analysis Requested	Preservatives	Lab	Comments

**DUPLICATE & CONTROL SAMPLERS**

Duplicate Samples		Blank Samples		Other Samples	
Original Sample No.	Duplicate Sample No.	Type	Sample No.	Type	Sample No.



DAILY QUALITY CONTROL REPORT

PROJECT: Cannon AFB Landfill No. 5  
Monitoring Wells  
LOCATION: Upgradient of Landfill No. 5 at MW-Q

Date: 11/19/96  
Weather: Clear  
Temp: 65°F  
Wind: 15 mph  
Humidity: 50%

PERSONNEL

Name	Position	Company	Hours Worked
<u>L. STOCKTON</u>	<u>Technician</u>	<u>HLA</u>	<u>12.5</u>
<u>M. BRAZIE</u>	<u>ENGINEER</u>	<u>HLA</u>	<u>12.5</u>

FIELD INSTALLATIONS

ID No(s): MW-Q  
Drilled: \_\_\_\_\_  
from: \_\_\_\_\_  
to: \_\_\_\_\_  
Footage: \_\_\_\_\_  
Casing Set: \_\_\_\_\_  
Screen: \_\_\_\_\_  
Riser: \_\_\_\_\_

EQUIPMENT

Description	Purpose/Use	Time Used
<u>Chisel bit</u>	<u>Transportation</u>	<u>12.5</u>
<u>Subburden</u>		

Hours Drilling: \_\_\_\_\_  
Hours Installing: \_\_\_\_\_  
Hours Decon: \_\_\_\_\_  
Hours Development: \_\_\_\_\_  
Hours Sampling: 3.5  
Hours Shut Down: \_\_\_\_\_  
# of Samples: \_\_\_\_\_ Type: \_\_\_\_\_

Description of work performed: Collected ground water samples from monitoring well MW-Q

Health and Safety Levels: Level D

Problems encountered: \_\_\_\_\_

Any changes from work plan: \_\_\_\_\_

Remarks: \_\_\_\_\_

Signature: Edward Stockton

November 19, 1996 ... 65°F/windy

1045 L. Stockton & M. Brazie on site

CK in with John Pike

1055 Arrive at well MW-Q -

unload field equip

Take PID readings  
 Bkgnd Bz TOC  
 0.0 0.0 0.0

Take water level measurement

well ID SWL TID

MW-Q is Dry - no reading

Drop sander down well again

no water on probe at. Tape

connect air bottle to pump -

Begins pumping H<sub>2</sub>O -

Take water level readings

SWL - 276.20

T.D. - 297.79

1130 Begin purge well MW-Q

Sample collection times

1237 VOC'S

1246 SVOC'S

1250 Dioxins

1254 PAH'S

1257 Pesticides

1302 Sulfide

1304 Herb

1309 CN<sup>-</sup>

1311 TOX/TOC

1315 pick up field equip / Demob

1345 Drop off cylinders / Demob

Depart

L. Stockton

1307 metals