FINAL

GROUNDWATER MONITORING REPORT

for the May 2000 Sampling Event
at Air Force Plant 59

Prepared for:

Air Force Center for Environmental Excellence
and
Aeronautical Systems Center

Prepared by:

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Contract No. F41624-97-D-8018
Delivery Order No. 0054

August 2000

DISCLAIMER

This *Final Groundwater Monitoring Report for the May 2000 Sampling Event* has been prepared for the United States Air Force (USAF) by Earth Tech for the purpose of satisfying the groundwater monitoring requirements defined in the April 27, 1999 letter to the New York State Department of Environmental Conservation (Earth Tech, 1999a) and *the Record of Decision* (Earth Tech, 1999b) for Air Force Plant 59. Acceptance of this report in performance of the contract under which it is prepared does not mean that the USAF adopts the conclusions, recommendations, or other views expressed herein, which are those of Earth Tech only and do not necessarily reflect the official position of the USAF.

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PREFACE

This *Final Groundwater Monitoring Report for the May 2000 Sampling Event* has been prepared by Earth Tech to describe field and laboratory operations conducted as part of the 1999/2000 semiannual groundwater monitoring at Air Force Plant 59 (AFP 59), Johnson City, New York. Fieldwork followed guidelines set forth in the *Final Work Plan for Groundwater Monitoring at AFP 59* (Earth Tech, 1998), the Air Force Center for Environmental Excellence (AFCEE) *Model Work Plan* (United States Air Force [USAF], 1996), and the AFCEE *Model Field Sampling Plan, Version 1.1* (USAF, 1997). All work was completed under AFCEE Contract Number F41624-97-D-8018, Delivery Order 0054. The groundwater monitoring is being conducted to accomplish the following objective:

- To satisfy the groundwater monitoring requirements defined in the April 27, 1999 letter to the New York State Department of Environmental Conservation (Earth Tech, 1999a) and the *Record of Decision* (Earth Tech, 1999b) for Air Force Plant 59.

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13. ABSTRACT *(Maximum 200 words)*

This document is the *Final Groundwater Monitoring Report for the May 2000 Sampling Event at Air Force Plant 59 (AFP 59)*, Johnson City, New York. It summarizes the fieldwork completed during the semiannual groundwater monitoring. The monitoring was conducted to accomplish the following objective: to satisfy the groundwater monitoring requirements defined in the April 27, 1999 letter to the New York State Department of Environmental Conservation and the *Record of Decision* for Air Force Plant 59.

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LIST OF ACRONYMS AND ABBREVIATIONS

AFCEE	Air Force Center for Environmental Excellence
AFP 59	Air Force Plant 59
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
1,1-DCA	1,1-Dichloroethane
1,1-DCE	1,1-Dichloroethene
cis-1,2-DCE	cis-1,2-Dichloroethene
trans-1,2-DCE	trans-1,2-Dichloroethene
IRP	Installation Restoration Program
µg/L	Micrograms per Liter
MDL	Method Detection Limit
N/A	Not Applicable
NYSDEC	New York State Department of Environmental Conservation
QAPP	Quality Assurance Project Plan
RI/FS	Remedial Investigation/Feasibility Study
RL	Reporting Limit
1,1,1-TCA	1,1,1-Trichloroethane
TCE	Trichloroethene
USAF	United States Air Force
USEPA	United States Environmental Protection Agency
VOC	Volatile Organic Compound

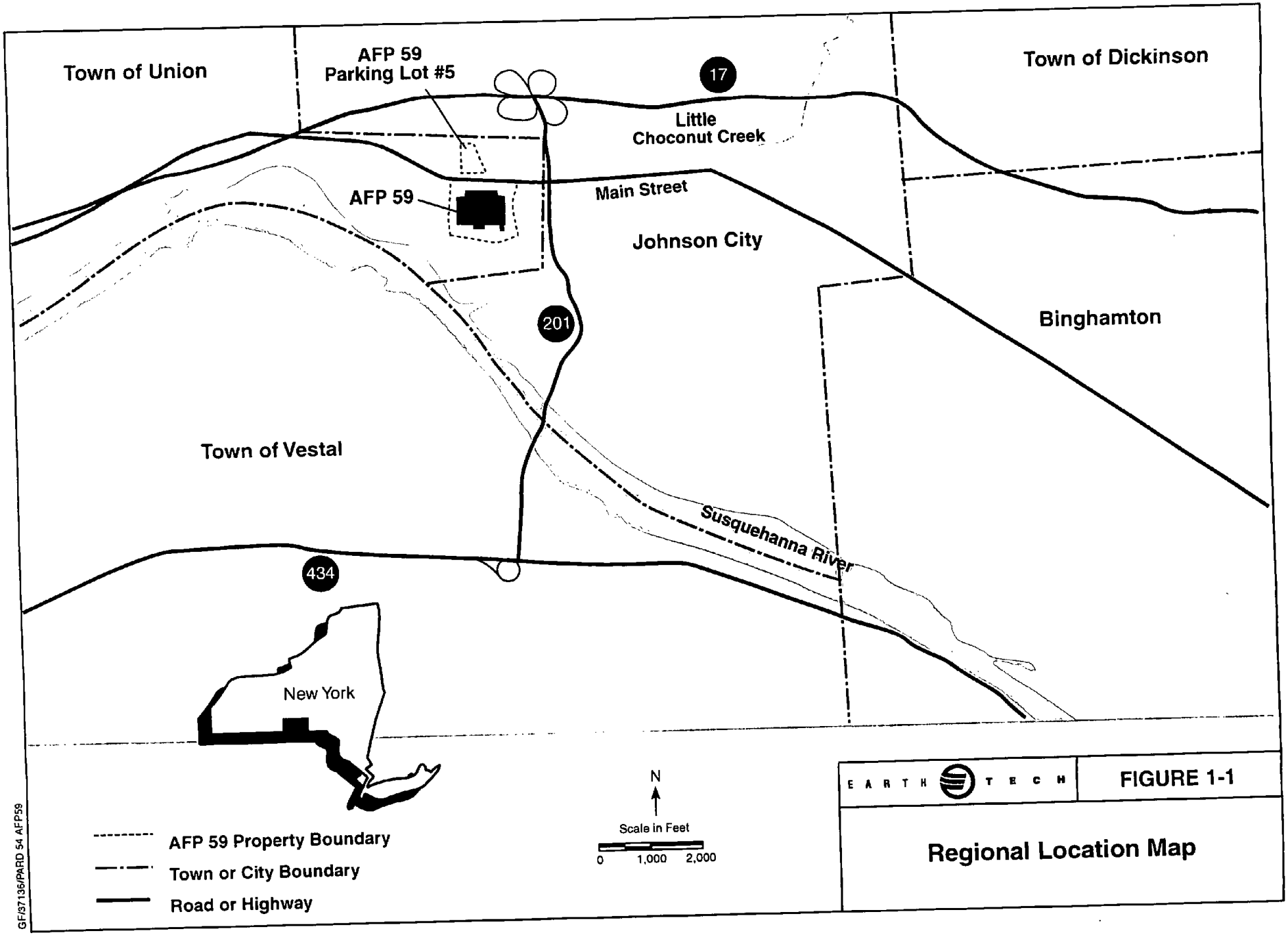
1.0 INTRODUCTION

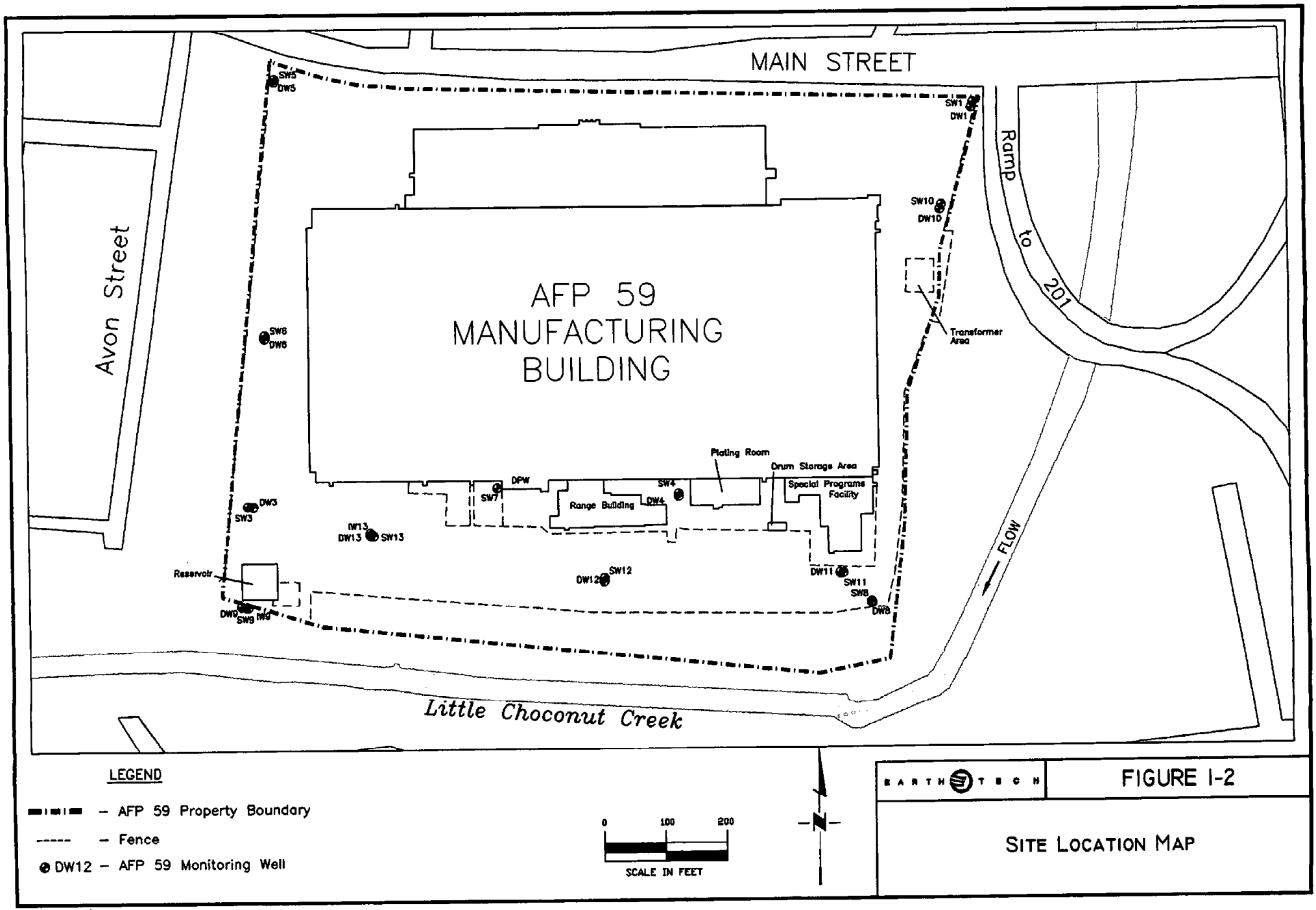
This *Final Groundwater Monitoring Report for the May 2000 Sampling Event* has been prepared by Earth Tech to describe field and laboratory operations during the May 2000 groundwater sampling event. The May 2000 sampling event was conducted as part of the 1999/2000 semiannual groundwater monitoring at Air Force Plant 59 (AFP 59), Johnson City, New York. Earth Tech was contracted by the Air Force Center for Environmental Excellence (AFCEE) to perform two rounds of groundwater sampling (semiannual sampling) at AFP 59. Figure 1-1 shows the general location of AFP 59. Figure 1-2 shows the locations of buildings and monitoring wells at AFP 59. The groundwater monitoring is being conducted to accomplish the following objective:

- To satisfy the groundwater monitoring requirements defined in the April 27, 1999 letter to the New York State Department of Environmental Conservation (NYSDEC) (Earth Tech, 1999a) and the *Record of Decision* (Earth Tech, 1999b) for Air Force Plant 59.

This report has been prepared in accordance with the United States Environmental Protection Agency (USEPA) document *Guidance for Conducting Remedial Investigations and Feasibility Studies Under Comprehensive Environmental, Response, Compensation, and Liability Act (CERCLA)* (USEPA, 1988). The report also follows the format and content requirements of the United States Air Force (USAF) document *Handbook for the Installation Restoration Program (IRP), Remedial Investigations and Feasibility Studies (RI/FS)* (USAF, 1993). All sampling activities followed protocols presented in the *Final Work Plan for Groundwater Monitoring at AFP 59* (Earth Tech, 1998), the *Final Sampling and Analysis Plan* (Earth Tech, 1994), the AFCEE *Model Work Plan* (USAF, 1996), and the AFCEE *Model Field Sampling Plan, Version 1.1* (USAF, 1997).

This report contains the following four sections: Section 1 provides the objectives of the semiannual sampling events, Section 2 provides a summary of the activities conducted during the May 2000 sampling event, Section 3 summarizes the analytical results, and Section 4 presents conclusions from the investigation.


Town of Union
AFP 59
Parking Lot #5
17
Town of Dickinson
Little
Choconut Creek
AFP 59
Main Street
Johnson City
201
Binghamton
Town of Vestal
Susquehanna River
434
New York
AFP 59 Property Boundary
Town or City Boundary
Road or Highway
N
Scale in Feet
0
1,000
2,000
EARTH TECH
FIGURE 1-1
Regional Location Map
GF/97135/PARD 54 AFP59



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2.0 PROJECT ACTIVITIES

This section summarizes activities conducted during the May 2000 sampling event. Section 2.1 summarizes the rationale for selecting the analyses performed on samples collected during the investigation. Section 2.2 outlines the groundwater sampling procedures.

2.1 Sample Analysis Summary

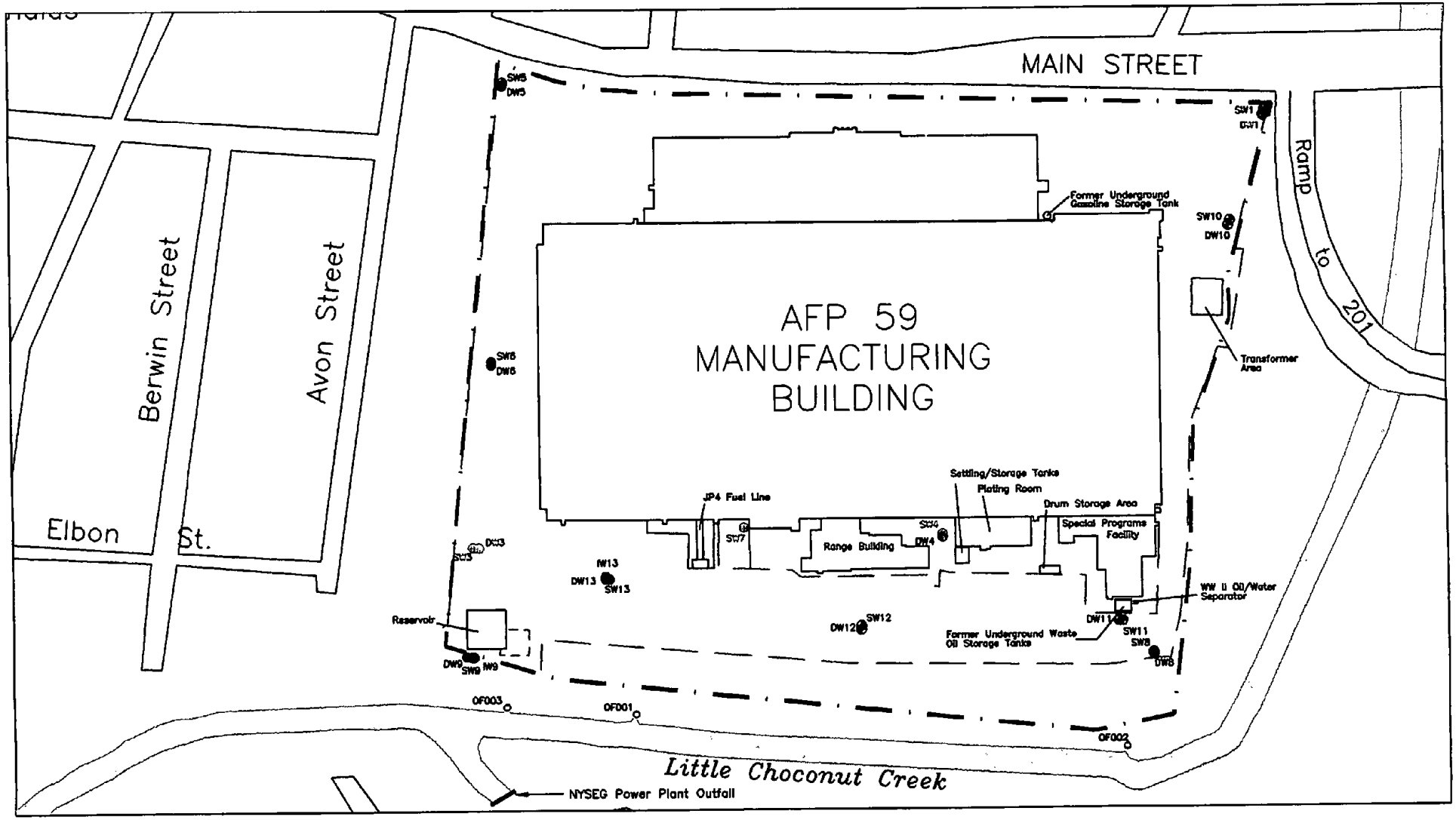
On the basis of conclusions presented in the *Final Remedial Investigation Report* (Earth Tech, 1996) and recommendations made by the NYSDEC, it was determined that VOCs represent the only chemicals of potential concern in groundwater at AFP 59. As a result, the *Record of Decision* (Earth Tech, 1999b) for AFP 59 describes the remedial alternative (i.e., the upgrade of the Camden Street Well Field groundwater treatment system) chosen as most appropriate for treating the VOCs in groundwater at AFP 59. As part of the requirements defined in the *Record of Decision* (Earth Tech, 1999b), a long-term groundwater monitoring program was established for AFP 59. The monitoring program, which is defined in the April 27, 1999 letter to the NYSDEC (Earth Tech, 1999a), is being conducted on a semiannual basis and includes sampling the following monitoring wells: SW1, DW1, SW3, DW3, SW4, and SW7. Monitoring wells SW1 and DW1 represent upgradient (background) wells; monitoring wells SW3 and DW3 represent downgradient wells; monitoring wells SW4 and SW7 have historically had the highest concentrations of VOCs.

The groundwater samples collected during the May 2000 sampling event, which represents the second sampling event of the long-term groundwater monitoring program, were analyzed for VOCs by USEPA Method SW8260. Table 2.1-1 lists the total number of groundwater samples collected for each sample type (e.g., environmental sample, duplicate sample) during the May 2000 sampling event, and Figure 2.1-1 shows the locations of the on-site monitoring wells sampled during the May 2000 sampling event.

Table 2.1-1. Sample Analysis Summary

Method	Matrix	# Samples	# Equipment Blanks	# Ambient Blanks	# Trip Blanks	# Field Duplicates	Total # Samples
SW8260B Volatile Organics	Ground-water	6	0(1)	1	1	1	9

(1) No equipment blanks were collected because disposable bailers were used during groundwater sampling.



LEGEND

- AFP 59 Property Boundary
- Fence
- OF003 – AFP 59 Outfall
- DW12 – AFP 59 Monitoring Well
- DW3 – AFP 59 Monitoring Well Sampled in November 1999

0 115 230

SCALE IN FEET

EARTH TECH

FIGURE 2.1-1

AFP 59
GROUNDWATER SAMPLING LOCATIONS
MAY 2000

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2.2 Field Activities

The primary field activity was sampling of the monitoring wells shown in Figure 2.1-1. A summary of the field activities is provided in Table 2.2-1.

Table 2.2-1. Field Activities Summary

Activity
Measure the groundwater level in all on-site monitoring wells.
Collect groundwater samples from six on-site monitoring wells.

Groundwater sampling methods followed protocols presented in the *Final Work Plan for Groundwater Monitoring at AFP 59* (Earth Tech, 1998) and in the *Final Sampling and Analysis Plan* (Earth Tech, 1994) that was prepared for the remedial investigation conducted at AFP 59. The primary objective of the groundwater sampling event was to satisfy groundwater monitoring requirements defined in the April 27, 1999 letter to the NYSDEC (Earth Tech, 1999a) and the *Record of Decision* (Earth Tech, 1999b) for Air Force Plant 59.

Groundwater sampling procedures included:

1. Measuring groundwater levels in all on-site monitoring wells;
2. Purging select on-site monitoring wells prior to sampling;
3. Measuring field-derived parameters (including temperature, pH, specific conductance, and turbidity) during monitoring well purging; and
4. Collecting groundwater samples from the purged monitoring wells.

Refer to the *Final Work Plan for Groundwater Monitoring at AFP 59* (Earth Tech, 1998) and the *Final Sampling and Analysis Plan* (Earth Tech, 1994) for a detailed description of all sampling activities and protocols.

Water level measurements were taken in all monitoring wells to determine the elevation of the water table (in the shallow zone of the aquifer) or piezometric surface (in the deep zone of the aquifer) once within a single 24-hour period. Any conditions that affected water levels were recorded in the field log. Water level measurements were taken with an electric sounder and were measured to the nearest 0.01-foot. All measuring equipment was decontaminated according to the specifications in the *Final Sampling and Analysis Plan* (Earth Tech, 1994).

Static water levels were measured each time a monitoring well was sampled and before any equipment entered the monitoring well. If the casing cap was airtight, the air pressure within the monitoring well was allowed to equilibrate after the cap was removed and prior to measurement of the water level.

3.0 INVESTIGATION RESULTS

The results of the May 2000 sampling event at AFP 59 are summarized in this section. Section 3.1 summarizes the analytical results, and Section 3.2 provides conclusions concerning the analytical and hydrogeological data. Field data are provided in Appendix B, chain-of-custody forms are provided in Appendix C, and analytical data are provided in Appendix D.

3.1 Sampling and Analysis Results

This section summarizes the data collection activities completed during the May 2000 sampling event, presents the laboratory analytical results, and provides a trend analysis of identified VOCs.

3.1.1 Review of Field and Laboratory Data

All field procedures, sample handling documentation, and laboratory procedures followed protocols presented in the *Final Work Plan for Groundwater Monitoring at AFP 59* (Earth Tech, 1998) and the *Final Sampling and Analysis Plan* (Earth Tech, 1994). All analytical data generated as a result of the May 2000 sampling event were reported as AFCEE definitive data. Analytical protocols utilized in sample preparation, analysis, and reporting were in accordance with the specific analytical method and the guidelines given in the AFCEE *Quality Assurance Project Plan (QAPP), Version 3.0* (USAF, 1998). Laboratory analyses were performed by O'Brien & Gere Laboratories located in Syracuse, New York. Analytical methods and O'Brien & Gere Laboratories' associated method detection limits (MDLs) and reporting limits (RLs) are listed in Table 3.1-1. No data validation was performed by Earth Tech.

Data flags were applied to the analytical data by the laboratory. During the data review process, Earth Tech reviewed the analytical data and associated data flags and assigned data qualifiers as per the guidelines given in the AFCEE *QAPP, Version 3.0* (USAF, 1998); the data quality review summary is provided in Appendix D. The following data qualifiers were assigned to the data as a result of the data review process and are defined below.

- **M** A matrix effect was present.
- **F** The analyte was positively identified, but the associated numerical value is below the RL.
- **U** The analyte was analyzed for, but not detected. The associated numerical value is at or below the MDL.

3.1.2 Data Summary

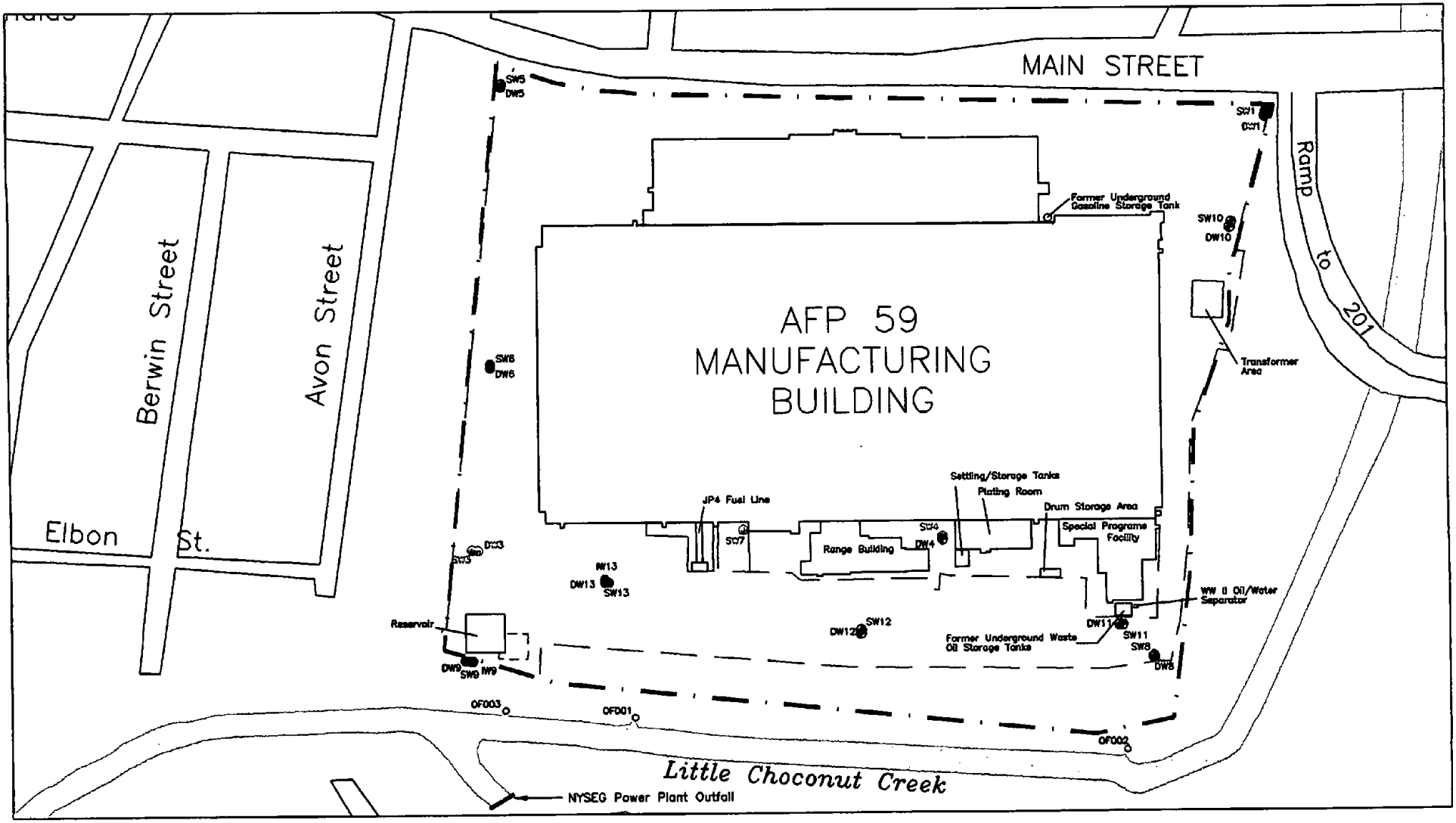
The number and locations of groundwater samples are outlined below. Figure 3.1-1 shows the locations of the monitoring wells sampled during the May 2000 sampling event.

Table 3.1-1. Analytical Parameters, Method Detection Limits, and Reporting Limits for O'Brien & Gere Laboratories

Parameter/Method	Analyte	Water			
		MDL	Unit	RL	Unit
VOCs	1,1,1,2-Tetrachloroethane	0.017	µg/L	0.5	µg/L
SW8260B	1,1,1-TCA	0.014	µg/L	0.8	µg/L
	1,1,2,2-Tetrachloroethane	0.09	µg/L	0.5	µg/L
	1,1,2-TCA	0.01	µg/L	1.0	µg/L
	1,1-DCA	0.009	µg/L	0.4	µg/L
	1,1-DCE	0.025	µg/L	1.2	µg/L
	1,1-Dichloropropene	0.07	µg/L	1.0	µg/L
	1,2,3-Trichlorobenzene	0.05	µg/L	0.3	µg/L
	1,2,3-Trichloropropane	0.075	µg/L	3.2	µg/L
	1,2,4-Trichlorobenzene	0.021	µg/L	0.4	µg/L
	1,2,4-Trimethylbenzene	0.011	µg/L	1.3	µg/L
	1,2-DCA	0.012	µg/L	0.6	µg/L
	1,2-DCB	0.013	µg/L	0.3	µg/L
	trans-1,2-Dichloroethene	0.077	µg/L	0.6	µg/L
	1,2-Dibromo-3-chloropropane	0.205	µg/L	2.6	µg/L
	1,2-Dibromoethane	0.053	µg/L	0.6	µg/L
	1,2-Dichloropropane	0.014	µg/L	0.4	µg/L
	1,3,5-Trimethylbenzene	0.012	µg/L	0.5	µg/L
	1,3-DCB	0.01	µg/L	1.2	µg/L
	1,3-Dichloropropane	0.012	µg/L	0.4	µg/L
	1,4-DCB	0.014	µg/L	0.3	µg/L
	2,2-Dichloropropane	0.013	µg/L	3.5	µg/L
	2-Chlorotoluene	0.015	µg/L	0.4	µg/L
	4-Chlorotoluene	0.011	µg/L	0.6	µg/L
	Benzene	0.009	µg/L	0.4	µg/L
	Bromobenzene	0.037	µg/L	0.3	µg/L
	Bromochloromethane	0.014	µg/L	0.4	µg/L
	Bromodichloromethane	0.011	µg/L	0.8	µg/L
	Bromoform	0.042	µg/L	1.2	µg/L
	Bromomethane	0.074	µg/L	1.1	µg/L
	n-Butylbenzene	0.015	µg/L	1.1	µg/L
	sec-Butylbenzene	0.015	µg/L	1.3	µg/L
	tert-Butylbenzene	0.016	µg/L	1.4	µg/L
	Carbon tetrachloride	0.007	µg/L	2.1	µg/L
	Chlorobenzene	0.005	µg/L	0.4	µg/L
	Chloroethane	0.01	µg/L	1.0	µg/L
	Chloroform	0.061	µg/L	0.3	µg/L
	Chloromethane	0.046	µg/L	1.3	µg/L
	cis-1,2-DCE	0.062	µg/L	1.2	µg/L
	cis-1,3-Dichloropropene	0.01	µg/L	1.0	µg/L
	Dibromochloromethane	0.012	µg/L	0.5	µg/L
	Dibromomethane	0.04	µg/L	2.4	µg/L
	Dichlorodifluoromethane	0.01	µg/L	1.0	µg/L

Table 3.1-1. Analytical Parameters, Method Detection Limits, and Reporting Limits for O'Brien & Gere Laboratories (Continued)

Parameter/Method	Analyte	Water			
		MDL	Unit	RL	Unit
VOCs SW8260B	trans-1,3-Dichloropropene	0.02	µg/L	1.0	µg/L
	Ethylbenzene	0.008	µg/L	0.6	µg/L
	Hexachlorobutadiene	0.031	µg/L	1.1	µg/L
	Isopropylbenzene	0.015	µg/L	0.5	µg/L
	p-Isopropyltoluene	0.031	µg/L	1.2	µg/L
	Methylene Chloride	0.03	µg/L	2.0	µg/L
	Naphthalene	0.04	µg/L	1.0	µg/L
	n-Propylbenzene	0.016	µg/L	0.4	µg/L
	Styrene	0.015	µg/L	0.5	µg/L
	Tetrachloroethene	0.008	µg/L	1.4	µg/L
	Trichloroethene	0.01	µg/L	1.0	µg/L
	Trichlorofluoromethane	0.01	µg/L	0.8	µg/L
	Toluene	0.017	µg/L	1.1	µg/L
	Vinyl Chloride	0.013	µg/L	1.1	µg/L
	(m&p)-Xylene	0.024	µg/L	0.6	µg/L
	o-Xylene	0.012	µg/L	1.1	µg/L
	Xylene (total)	0.019	µg/L	1.1	µg/L



LEGEND

- AFP 59 Property Boundary
- Fence
- OF003 – AFP 59 Outfall
- DW12 – AFP 59 Monitoring Well
- DW3 – AFP 59 Monitoring Well Sampled in November 1999

0 115 230

SCALE IN FEET

EARTH TECH

FIGURE 3.1-1

AFP 59
GROUNDWATER SAMPLING LOCATIONS
MAY 2000

37136GSL.DWG

The following monitoring wells were sampled:

- Shallow monitoring wells SW1, SW3, SW4, and SW7; and
- Deep monitoring wells DW1 and DW3.

3.1.3 VOCs Detected in Groundwater Samples

This section discusses the VOCs that were detected in the groundwater samples, including those samples collected from both site and background monitoring wells. The analytical results for groundwater samples collected from monitoring wells installed in the shallow and deep zones of the aquifer are discussed separately below. The analytical results for all groundwater samples collected during the May 2000 sampling event are summarized in Table 3.1-2. Appendix D provides a complete listing of all groundwater analytical results.

Shallow Zone of the Aquifer. VOCs detected in groundwater samples are shown in Figure 3.1-2. Table 3.1-3 summarizes all VOCs detected in one or more of the groundwater samples collected from monitoring wells screened in the shallow zone, the number of samples above the laboratory MDL, the minimum and maximum concentrations detected, and the location of the maximum concentration.

VOCs were detected in the groundwater samples collected from monitoring wells SW3, SW4, and SW7; no VOCs were detected in groundwater sample collected from well SW1 (see Figure 3.1-2). All of the VOCs that were detected were chlorinated hydrocarbons.

All maximum concentrations were detected in the groundwater sample collected from monitoring well SW4, including: trichloroethene (TCE) at 8 micrograms per liter (µg/L); cis-1,2-dichloroethene (cis-1,2-DCE) at 4.3 µg/L; 1,1,1-trichloroethane (1,1,1-TCA) at 2.88 µg/L; 1,1-dichloroethane (1,1-DCA) at 1.67 µg/L; tetrachloroethene at 0.91F µg/L; trichlorofluoromethane at 0.54F µg/L; trans-1,2-dichloroethene (trans-1,2-DCE) at 0.49F µg/L; 1,1-dichloroethene (1,1-DCE) at 0.21F µg/L; and vinyl chloride at 0.11F µg/L.

Deep Zone of the Aquifer. Fewer VOCs were detected in groundwater samples collected from the deep monitoring wells than in groundwater samples collected from the shallow monitoring wells (see Figure 3.1-2). Table 3.1-4 summarizes all VOCs detected in one or more of the groundwater samples collected from monitoring wells screened in the deep zone of the aquifer, the number of samples above the laboratory MDL, the minimum and maximum concentrations detected, and the location of the maximum concentration.

Table 3.1-2. Groundwater Data Summary for VOCs

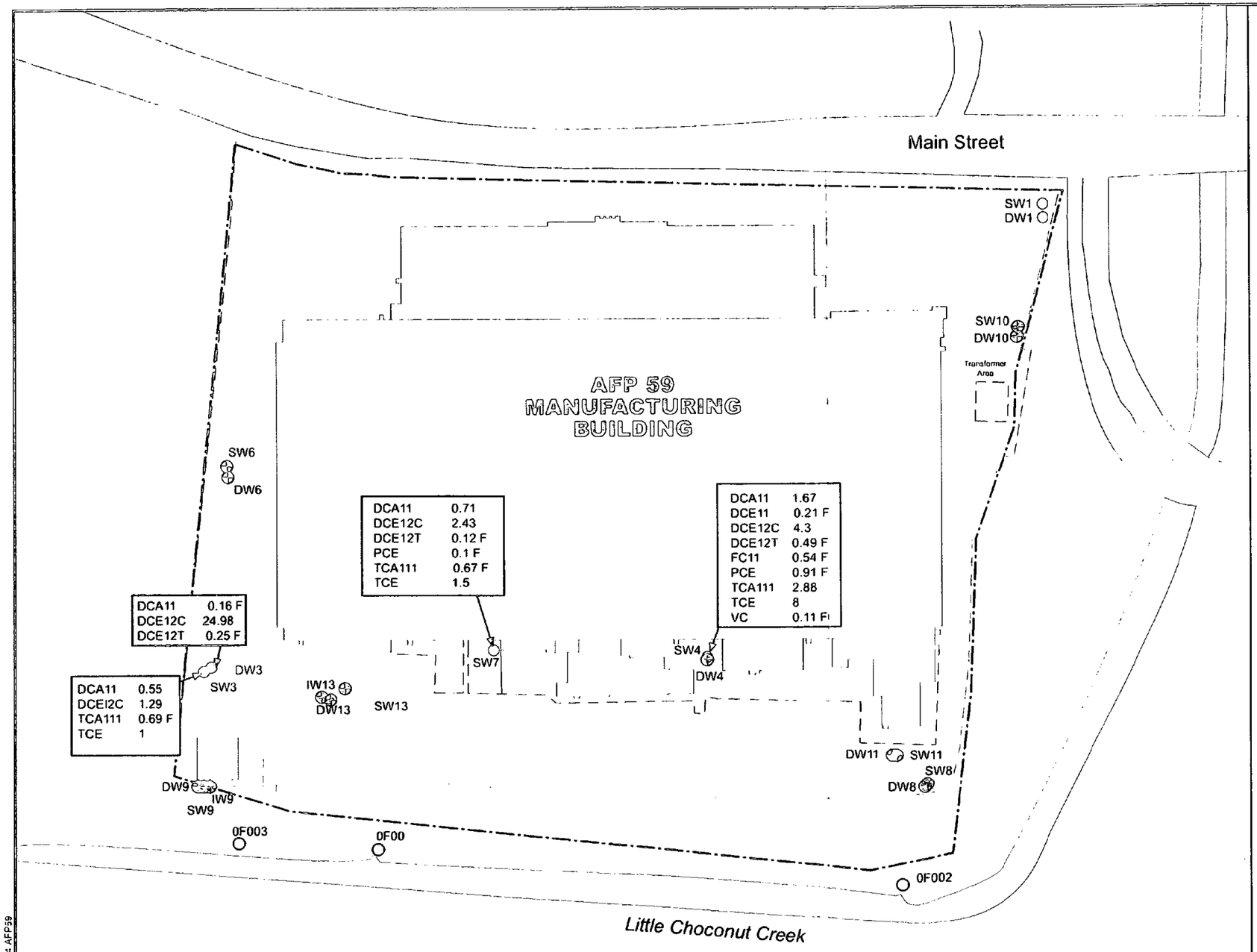
Parameters	Action Levels*	59SW1WG1	59DW1WG1	59SW3WG1	59DW3WG1
1,1,1-Trichloroethane	5	--	--	0.69 F	--
Trichloroethene	5	--	--	1	--
1,1-Dichloroethene	5	--	--	--	--
Cis-1,2-Dichloroethene	5	--	--	1.29	**24.98**
Trans-1,2-Dichloroethene	5	--	--	--	0.25 F
1,1-Dichloroethane	5	--	--	0.55	0.16 F
Trichlorofluoromethane	5	--	--	--	--
Tetrachloroethene	5	--	--	--	--
Vinyl Chloride	2	--	--	--	--

Parameters	Action Levels*	59SW4WG1	59SW4WG9	59SW7WG1
1,1,1-Trichloroethane	5	2.83	2.88	0.67 F
Trichloroethene	5	**7.9**	**8**	1.5
1,1-Dichloroethene	5	0.2 F	0.21 F	--
Cis-1,2-Dichloroethene	5	4.08	4.3	2.43
Trans-1,2-Dichloroethene	5	0.49 F	0.41 F	0.12 F
1,1-Dichloroethane	5	1.65	1.67	0.71
Trichlorofluoromethane	5	0.53 F	0.54 F	--
Tetrachloroethene	5	0.86 F	0.91 F	0.1 F
Vinyl Chloride	2	0.11 F	0.11 F	--

Key: * = New York State Drinking Water Standard.
-- = Analyte was analyzed for but not detected.

Qualifiers: F = The analyte was positively identified, but the associated numerical value is below the reporting limit.

Note: Concentrations in bold font and shaded cells exceed the New York State Drinking Water Standard for the associated compound.



Boundary
Fence
Monitoring Well
Monitoring Well Sampled November 1999
AFP 59 Outfall

DCA11	=	1,1-dichloroethane
DCE11	=	1,1-dichloroethene
DCE12C	=	cis-1,2-dichloroethene
DCE12T	=	trans-1,2,-dichloroethene
FC11	=	trichlorofluoromethane
PCE	=	tetrachloroethene
TCA111	=	1,1,1-trichloroethane
TCE	=	trichloroethene
VC	=	vinyl chloride

F = The analyte was positively identified, but the associated numerical value is below the reporting limit.

Notes:

1. Concentrations are reported in µg/L.
2. If no data are presented at a monitoring well location, no VOCs were detected in the groundwater sample.
3. At locations where duplicates were collected, the maximum concentration is presented.

100 50 0 100
Scale in Feet
N

EARTH TECH

FIGURE 3.1-2

VOCs Detected in Groundwater
November 1999

GF/37136/PARD 54 AFP59

Table 3.1-3. VOCs Detected in Shallow Zone Groundwater Samples

Analyte	Number of Samples Above MDL	Range (µg/L)		Location of Maximum Detection
		Minimum Detected	Maximum Detected	
1,1,1-Trichloroethane	4 of 5	0.67 F	2.88	SW4
Trichloroethene	4 of 5	1	8	SW4
1,1-Dichloroethene [1]	2 of 5	0.2 F	0.21 F	SW4
Cis-1,2-Dichloroethene	4 of 5	1.29	4.3	SW4
Trans-1,2-Dichloroethene	3 of 5	0.12 F	0.49 F	SW4
1,1-Dichloroethane	4 of 5	0.55	1.67	SW4
Trichlorofluoromethane [1]	2 of 5	0.53 F	0.54 F	SW4
Tetrachloroethene	3 of 5	0.1 F	0.91 F	SW4
Vinyl Chloride [2]	2 of 5	0.11 F	0.11 F	SW4

Key: µg/L = Micrograms per liter
MDL = Method detection limit

Qualifiers: F = The analyte was positively identified, but the associated numerical value is below the reporting limit.

[1] 1,1-Dichloroethene and trichlorofluoromethane were only detected at monitoring well SW4; the maximum concentrations were detected in the duplicate sample.

[1] Vinyl chloride was only detected at monitoring well SW4; the same concentration was detected in the normal and duplicate samples.

Note: Only analytes detected in one or more of the groundwater samples are included in this summary table.

Table 3.1-4. VOCs Detected in Deep Zone Groundwater Samples

Analyte	Number of Samples Above MDL	Range (µg/L)		Location of Maximum Detection
		Minimum Detected	Maximum Detected	
Cis-1,2-Dichloroethene	1 of 2	24.98	24.98	DW3
Trans-1,2-Dichloroethene	1 of 2	0.25 F	0.25 F	DW3
1,1-Dichloroethane	1 of 2	0.16 F	0.16 F	DW3

Key: µg/L = Micrograms per liter
MDL = Method detection limit

Qualifiers: F = The analyte was positively identified, but the associated numerical value is below the reporting limit.

Note: Only analytes detected in one or more samples are included in this summary table.

The following VOCs (all chlorinated hydrocarbons) were detected in the groundwater sample collected from monitoring well DW3: cis-1,2-DCE at 24.98 µg/L; trans-1,2-DCE at 0.25F µg/L; and 1,1-DCA at 0.16F µg/L. No VOCs were detected in groundwater sample collected from well DW1 (see Figure 3.1-2).

3.1.4 Trend Analysis

Table 3.1-5 presents concentrations of the most commonly detected chlorinated hydrocarbons in groundwater at AFP 59 over time. Only monitoring wells that were sampled as part of the groundwater monitoring program are included in the table.

In the groundwater samples collected from the shallow monitoring wells during the May 2000 sampling event, concentrations of the chlorinated hydrocarbons in all monitoring wells remained relatively constant compared to the previous sampling event. In the groundwater samples collected from the deep monitoring wells during the May 2000 sampling event, concentrations of chlorinated hydrocarbons remained non-detect in monitoring well DW1 and increased in monitoring well DW3 (cis-1,2,-DCE increased from non-detect in November 1999 to 24.98 µg/L in May 2000).

Table 3.1-5. Trend Analysis of VOCs in Groundwater

Well ID	Date Sampled	Concentration of Analyte in Groundwater (µg/L)					
		TCA	TCE	VC	11DCE	12DCE	11DCA
SW1	Sept. 1986[1]	--	--	--	--	--	--
	Jan. 1992[2]	0.5	--	--	--	--	--
	Dec. 1994[3]	--	--	--	--	--	--
	Nov. 1999[3]	--	--	--	--	--	--
	May 2000[3]	--	--	--	--	--	--
DW1	Jan. 1992[2]	0.6	--	--	--	--	--
	Dec. 1994[3]	--	--	--	--	1.8 (c)	--
	Nov. 1999[3]	--	--	--	--	--	--
	May 2000[3]	--	--	--	--	--	--
SW3	Sept. 1986[1]	--	6	--	--	--	--
	Jan. 1992[2]	12	9	--	--	--	5
	Dec. 1994[3]	0.50	1.8	--	--	--	--
	Dec. 1995[3]	0.86	2.8	--	--	0.44 (c)	--
	July 1997[4]	--	1	--	--	--	--
	Nov. 1998[3]	0.22	0.81	--	--	0.10 (c)	--
	Apr. 1999[3]	0.51	0.71	--	--	0.17 (c)	--
	Nov. 1999[3]	0.29	0.9	--	--	0.39 (c)	--
	May 2000[3]	0.69	1	--	--	1.29 (c)	0.55
DW3	Jan. 1992[2]	0.3	--	--	--	--	0.3
	Dec. 1994[3]	--	--	0.28	--	36 (c)	0.26
	Dec. 1995[3]	--	--	--	--	5.2 (c)	--
	April 1997[4]	--	--	--	--	41 (c)	--
	July 1997[4]	--	--	--	--	49 (c)	--
	Nov. 1998[3]	--	--	0.35	--	66 (c)	0.34
	Apr. 1999[3]	--	--	0.28	0.11	67.00 (c)	0.35
	Nov 1999[3]	--	--	--	--	--	0.11
	May 2000[3]	--	--	--	--	0.25 (t) 24.98 (c)	0.16
SW4	Jan. 1992[2]	2	97	--	0.3	--	0.6
	Dec. 1994[3]	20	370	--	2.1	19 (c)	8.5
	Dec. 1995[3]	34	1200	--	4.9	2.1 (t) 34 (c)	6.9
	April 1997[4]	--	--	--	--	71 (c)	7.1
	July 1997[4]	23	290	--	--	15 (c)	--
	Nov. 1998[3]	8.0	46	0.42	0.82	10 (c)	9.0
	Apr. 1999[3]	1.9	9.53	--	--	1.85 (c)	0.87
	Nov. 1999[3]	2.13	9.5	--	0.18	7.15 (c)	7.7
	May 2000[3]	2.88	8	0.11	0.21	0.49 (t) 4.3 (c)	1.67

Table 3.1-5. Trend Analysis of VOCs in Groundwater (Continued)

Well ID	Date Sampled	Concentration of Analyte in Groundwater (µg/L)					
		TCA	TCE	VC	11DCE	12DCE	11DCA
SW7	Jan. 1992[2]	0.2	0.4	--	--	--	--
	Dec. 1994[3]	4.6	15	6.2	1	0.3(t) 150(c)	33
	Dec. 1995[3]	2.2	7.9	6.8	0.80	130 (c)	20
	July 1997[4]	--	4	--	--	2 (c)	--
	Nov. 1998[3]	2.5	11	3.4	0.65	0.28 (t) 82 (c)	12
	Apr. 1999[3]	1.23	3.95	--	--	5.25 (c)	1.46
	Nov. 1999[3]	1.01	5.7	--	0.19	18.8 (c)	3.38
	May 2000[3]	0.67	1.5	--	--	0.12 (t) 2.43 (c)	0.71

Key:

µg/L	=	Micrograms per liter	VC	=	Vinyl chloride
(c)	=	cis-1,2-Dichloroethene	11DCE	=	1,1-Dichloroethene
(t)	=	trans-1,2-Dichloroethene	12DCE	=	1,2-Dichloroethene
TCA	=	1,1,1-Trichloroethane	11DCA	=	1,1-Dichloroethane
TCE	=	Trichloroethene	DPW	=	Deep production well
(1)	=	Fred C. Hart Associates	(3)	=	Earth Tech
(2)	=	Argonne National Laboratories	(4)	=	United States Geological Services

Notes:
1. At monitoring well locations where a duplicate groundwater sample was collected, the higher analytical value between the normal and duplicate samples is reported in this table.
2. For 1992 data, the maximum value of either round A or B of sampling was used.
3. A double dash (--) indicates the analyte was not detected during the sampling event.

4.0 CONCLUSIONS

This section provides conclusions from analytical data generated as a result of the May 2000 sampling event. As defined in Section 1.0, the objective of the groundwater sampling event was to satisfy groundwater monitoring requirements defined in the April 27, 1999 letter to the NYSDEC (Earth Tech, 1999a) and the *Record of Decision* (Earth Tech, 1999b) for Air Force Plant 59.

The VOCs detected in groundwater samples collected from monitoring wells screened in the shallow and deep zones of the aquifer during the May 2000 sampling event are similar to the VOCs that have been detected during previous investigations. Chlorinated hydrocarbons were the only VOCs detected in site groundwater, with TCE, 1,1,1-TCA, 1,1-DCA, cis-1,2-DCE, and trans-1,2-DCE being the most commonly detected. No VOCs were detected in background monitoring wells SW1 and DW1.

Historically, the highest concentrations of VOCs in the shallow zone of the aquifer at AFP 59 have been detected in groundwater samples collected from monitoring wells SW4 and SW7, which are located immediately downgradient of the Plating Room (the suspected source of VOCs in groundwater). In May 2000, concentrations at SW4 and SW7 remained relatively constant compared to the previous sampling event, and the highest concentrations of VOCs were again detected at SW4 and SW7. However, the only detections above New York State drinking water standards were TCE in the normal (7.9 µg/L) and duplicate (8.0 µg/L) samples collected from SW4. The New York State drinking water standard for TCE is 5 µg/L. No other detections from the May 2000 sampling event exceeded New York State drinking water standards.

Four VOCs were detected in the groundwater sample collected from monitoring well SW3, which was the only shallow monitoring well sampled along the western (downgradient) boundary of the site during this event. None of these detections exceeded New York State drinking water standards. Therefore, groundwater in the shallow zone of the aquifer that migrates off site toward the Camden Street Well Field complies with New York State drinking water standards.

Three VOCs were detected in the groundwater sample collected from deep monitoring well DW3, including cis-1,2-DCE at 24.98 µg/L, trans-1,2-DCE at 0.25F µg/L, and 1,1-DCA at 0.16F µg/L. No VOCs were detected in background monitoring well DW1. Although the 24.98 µg/L detection of cis-1,2-DCE exceeds the New York State drinking water standard, it does not exceed the Federal drinking water standard of 70 µg/L.

A trend analysis of chlorinated hydrocarbon levels over time at AFP 59 is presented in Section 3.1.4. The analysis indicates that levels have generally remained constant since the November 1999 sampling event (see Table 3.1-5).

APPENDIX A. REFERENCES

APPENDIX A. REFERENCES

Earth Tech, 1994. *Installation Restoration Program Investigation - Final Sampling and Analysis Plan.*

Earth Tech, 1996. *Installation Restoration Program Remedial Investigation - Final Remedial Investigation Report.*

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United States Air Force (USAF), 1993. *Handbook for the Installation Restoration Program (IRP), Remedial Investigations and Feasibility Studies (RI/FS).*

United States Air Force (USAF), 1996. *Model Work Plan.*

United States Air Force (USAF), 1997. *Model Field Sampling Plan, Version 1.1.*

United States Air Force (USAF), 1998. *Quality Assurance Project Plan, Version 3.0.*

United States Environmental Protection Agency (USEPA), 1988. *Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA, Interim Final, EPA/540/6-89/004.* Office of Emergency and Remedial Response, Washington, D.C.

APPENDIX B. FIELD DATA

GROUNDWATER PURGING AND SAMPLING RECORD

Date: 5-16-00 Well ID: DW1 Sample Number: 59DW1WG1 Recorded By: NV/AC.
Project Name: AFP59 Well Location: AFP59 Duplicate Number: — Checked By:
Project Number: 37136.06.05

EQUIPMENT

pH/Conductivity/Temperature Meter #: Horiba Pine #336 Purging Equipment: Grundfos Ready Flo
PID #: — Sampling Equipment: disposable bailer
Electric Sounder #: Dime #407

WELL DATA

Elevation: Water Column in Well: 47.41' Total Vol. Extr.: 208 gal
Well Diameter: 4" Borehole Diameter: 6" Ambient PID: —
Well Depth: 62.52' Water Column in Borehole: 47.41' Well Mouth PID: —
Depth to Well Water: 15.11' Standing Water Vol.: 70 gal
Ground Condition of Well: fine pumped @ 228.6 Hz
Remarks:

	PURGING					SAMPLING
	0	1	2	3	4	~~1~~ 5 2
Time	1109	1115	1125	1135	1145	1151
Rate	5 gpm	5gpm	5gpm	5gpm	5	5
Temperature	13.0°C	12.6	12.4	12.7	12.9	12.4
pH	6.25	6.44	6.61	6.57	6.46	6.53
Conductivity	1.47 mS/cm	1.62	1.62	~~1.6~~ 1.61	1.60	1.60
Vol. Purged	0 gal	30	80	130	180	210
~~Remarks~~	0 NTU	12	2	1	C	0
DTW	16.2	16.25	16.25	16.25	—	16.24

NTU vb.

COLLECTED SAMPLES

	1	2	3	4	5	6
Sample Time	1151					
Analytical Param	VOC (8260)					
Volume Required	3-40mL vials					
Preservation	HCl, 4°C					
Field Filtered	No					
Time						

DTW= 15.09

0461.FIG

GROUNDWATER PURGING AND SAMPLING RECORD

Date: 5/16/00 Well ID: SW1 Sample Number: SPSW1W01 Recorded By: AC/NV

Project Name: AFP 59 Well Location: AFP 59 Duplicate Number: — Checked By:

Project Number:

EQUIPMENT

pH/Conductivity/Temperature Meter #: Horiba Pine #336 Purging Equipment: Grundfos Ready Flo

PID #: — Sampling Equipment: Disposable Bailer

Electric Sounder #: Pine #407

WELL DATA

Elevation: Water Column in Well: 13.20' Total Vol. Extr.: 103 gal

Well Diameter: 2" Borehole Diameter: 8" Ambient PID: —

Well Depth: 28.33' Water Column in Borehole: 13.20' Well Mouth PID: —

Depth to Well Water: 15.13' Standing Water Vol.: 34.3 gal

Ground Condition of Well: fine

Remarks:

		PURGING				SAMPLING	
		1	2	3	4	1	2
Time	1337	1342	1347	1352	1357	1404	
Rate	4	4	4	4	4	4	
Temperature	14.5	13.4	12.7	12.6	12.5	12.6	
pH	6.77	6.836	6.48	6.71	6.77	6.78	
Conductivity	2.32	2.29	2.28	2.26	2.28	2.28	
Vol. Purged	0	20	40	60	80	103	
Turbid.M Remarks	535	535 (51)	7	3	2	3	
DTW	16.50						

COLLECTED SAMPLES

	1	2	3	4	5	6
Sample Time	1410					
Analytical Param	VOCs (SW8260)					
Volume Required	3-40 mL vials					
Preservation	HCl, 4°C					
Field Filtered	No					
Time						

0461.FIG

GROUNDWATER PURGING AND SAMPLING RECORD

Date: 5/16/00 Well ID: DW3 Sample Number: 59DW3W01 Recorded By: AC/NV

Project Name: AFP 59 Well Location: AFP 59 Duplicate Number: —— Checked By:

Project Number: 37136.0605

EQUIPMENT

pH/Conductivity/Temperature Meter #: Horiba Pine #330 Purging Equipment: Grundfos Ready Flo

PID #: —— Sampling Equipment: Disposable Bailer

Electric Sounder #: Pine #407

WELL DATA

Elevation: Water Column in Well: 77.45' Total Vol. Extr.: 341 gal

Well Diameter: 4" Borehole Diameter: 6" Ambient PID: ——

Well Depth: 88.00' Water Column in Borehole: 77.45' Well Mouth PID: ——

Depth to Well Water: 10.55' Standing Water Vol.: 113.6 gal

Ground Condition of Well:

Remarks:

	PURGING					SAMPLING	
	0	1	2	3	4	1	2
Time	1445	1457 ~~1555~~ AC	~~16~~ 1505	1512	1520	1527	1533
Rate	5	8	8	8	8	8	8
Temperature	13.3°C	13.8	14.2	14.0	14.0	14.0	13.8
pH	7.51	7.32	7.07	6.97	7.04	7.05	7.05
Conductivity	1.06	1.38	1.38	1.38	1.38	1.38	1.38
Vol. Purged	0	60	120	180	240	300	340
Remarks	4	1	1	1	1	1	0

COLLECTED SAMPLES

	1	2	3	4	5	6
Sample Time	1540					
Analytical Param	VOCs (SW8260)					
Volume Required	3-40mL vials					
Preservation	HCl, 4°C					
Field Filtered	No					
Time						

0461.FIG

GROUNDWATER PURGING AND SAMPLING RECORD

Date: 5/10/00 Well ID: SW3 Sample Number: 59SW3WG1 Recorded By: AC/NV

Project Name: AF9 59 Well Location: AFP 59 Duplicate Number: — Checked By:

Project Number: 37136.06.05

EQUIPMENT

pH/Conductivity/Temperature Meter #: Horiba Pine # 336 Purging Equipment: Grundfos Ready Flo

PID #: — Sampling Equipment: Disposable Bailer

Electric Sounder #: Pine #407

WELL DATA

Elevation: Water Column in Well: 18.41' Total Vol. Extr.: 142 gal

Well Diameter: 2" Borehole Diameter: 8" Ambient PID: —

Well Depth: 30.81' Water Column in Borehole: 18.41' Well Mouth PID: —

Depth to Well Water: 12.40' Standing Water Vol.: 37.3 gal

Ground Condition of Well:

Remarks: pumped at 206.8 Hz

PURGING / SAMPLING

	Purging 0	Purging 1	Purging 2	Purging 3	Purging 4	Sampling 1	Sampling 2
Time	1610	1617	1624	1631	1638	1643	
Rate	4	4	4	4	4	4	
Temperature	11.0	10.7	10.6	10.4	10.5	10.2	
pH	7.28	7.23	6.99	6.99	7.04	7.05	
Conductivity	1.06	1.01	1.02	1.01	1.01	1.01	
Vol. Purged	0	30	60	90	120	145	
~~Remarks~~ Turbidity	292	8	4	2	1	0	
DTW	12.50	12.50	12.50	—	12.50	12.50	

COLLECTED SAMPLES

	1	2	3	4	5	6
Sample Time	1655					
Analytical Param	VOCs (SW8260)					
Volume Required	3-40 ml vials					
Preservation	HCl, 4°C					
Field Filtered	No					
Time						

DTW=

0461.FIG

GROUNDWATER PURGING AND SAMPLING RECORD

Date: 5/17/00 Well ID: SW4 Sample Number: 595W4WG1 Recorded By: AC/NV
Project Name: AFP 59 Well Location: AFP 59 Duplicate Number: 595W4WG9 Checked By:
Project Number: 37136.0605

EQUIPMENT

pH/Conductivity/Temperature Meter #: Horiba Pine # 330 Purging Equipment: Grundfos Ready Flo
PID #: — Sampling Equipment: Disposable Bailer
Electric Sounder #: Pine #407

WELL DATA

Elevation: Water Column in Well: 19.00' Total Vol. Extr.: 148 gal
Well Diameter: 2" Borehole Diameter: 6" Ambient PID: —
Well Depth: 29.00' Water Column in Borehole: 19.00' Well Mouth PID: —
Depth to Well Water: 10.00' Standing Water Vol.: 49.4 gal

Ground Condition of Well:
Remarks:

	PURGING					SAMPLING	
	0	1	2	3	4	x5	2
Time	0838	0850	0902	0914	0926	0938	
Rate	~~3~~ 2.5	2.5	2.5	2.5	2.5	2.5	
Temperature	15.9	16.9	16.8	16.7	17.1	17.2	
pH	6.96	6.95	6.77	6.81	6.82	6.78	
Conductivity	1.47	1.45	1.46	1.44	1.42	1.37	
Vol. Purged	0	30	60	90	120	150	
Turbidity	200	120	12	14	10	53	
Remarks	DTW 15.15						

COLLECTED SAMPLES

	1	2	3	4	5	6
Sample Time	0945	0945				
Analytical Param	VOCs (SW8260)	VOCs (SW8260)				
Volume Required	3-40mL vials	3-40 mL vials				
Preservation	HCl, 4°C	HCl, 4°C				
Field Filtered	No	No				
Time						

Duplicate

0461.FIG

GROUNDWATER PURGING AND SAMPLING RECORD

Date: 5/17/00 Well ID: SW7 Sample Number: 595W7WG1 Recorded By: AC/NV
Project Name: AFP 59 Well Location: AFP 59 Duplicate Number: —— Checked By:
Project Number: 37136.06.05

EQUIPMENT

pH/Conductivity/Temperature Meter #: Horiba Pine #336 Purging Equipment: Grundfos Ready Flo
PID #: —— Sampling Equipment: Disposable Bailer
Electric Sounder #: Pine #407

WELL DATA

Elevation: Water Column in Well: 13.35' Total Vol. Extr.: 104 gal
Well Diameter: 2" Borehole Diameter: 8" Ambient PID: —
Well Depth: 26.50' Water Column in Borehole: 13.35' Well Mouth PID: —
Depth to Well Water: 13.15' Standing Water Vol.: 34.6 gal

Ground Condition of Well:
Remarks:

	PURGING				SAMPLING	
	0	1	2	3	4	1	2
Time	1023	1028	1033	1038	1043	1050	
Rate	4	4	4	4	4	4	
Temperature	16.7	15.7	15.4	15.2	15.2	15.2	
pH	7.06	6.91	6.96	6.82	6.84	6.83	
Conductivity	1.25	1.43	1.44	1.44	1.45	1.45	
Vol. Purged	0	20	40	60	80	105	
~~Remarks~~ Turbidity	25	5	2	1	0	0	

COLLECTED SAMPLES

	1	2	3	4	5	6
Sample Time	1100	1100	1100			
Analytical Param	VOCs (SW8260)	VOCs (SW8260)	VOCs (SW8260)			
Volume Required	3-40 mL vials	3-40 mL vials	3-40 mL vials			
Preservation	HCl, 4°C	HCl, 4°C	HCl, 4°C			
Field Filtered	No	No	No			
Time						

MS MSD

0461.FIG

APPENDIX C. CHAIN-OF-CUSTODY FORMS

Earth Tech
1420 King Street, Suite 600
Alexandria, Virginia 22314
Phone No. (703) 549-8728; Fax No. (703) 549-9134

Chain of Custody

EARTH TECH
A TETRA TECH INTERNATIONAL LTD. COMPANY

Laboratory	Project Name	Chain of Custody No.
O'Brien & Gere Lab	ATP59 - 37136.06.05	№ 0031
Address	**Point of Contact / Phone No.**	
5000 Brittonfield Parkway	Dave Parse 703-706-0508	
City / **State** / **Zip Code**	**Site Contact / Phone No.**	
East Syracuse / NY / 13057	Nicole Vincent 703-706-0518	

ERPIMS Information					Other Sample Information						Analysis											Comment
LOCID	SBD	SED	SACODE	SAMPNO	Sample I.D.	Date	Time	Matrix	No. of Con.	Cooler No.	VOCs (SW8260)											
DW1	D	D	N	1	59DW1WG1	5/16/00	1151	WG	3	1	X											
SW1	D	D	N	1	59SW1WG1		1410	WG	3	1	X											
DW1	D	D	N	1	59DW3WG1		1540	WG	3	1	X											
SW3	D	D	N	1	59SW3WG1		1655	WG	3	1	X											
SW4	D	D	N	1	59SW4WG1	5/17/00	0945	WG	3	1	X											
SW4	D	D	FD	1	59SW4WG9		0945	WG	3	1	X											
Field QC	D	D	AB	1	AB1051700	5/17/00	1110	WQ	3	1	X											
SW7	D	D	N	1	59SW7WG1		1100	WG	3	1	X											
SW7	D	D	MS	1	59SW7WG1MS		1100	WG	3	1	X											
SW7	D	D	MD	1	59SW7WG1MSD		1100	WG	3	1	X											
Field QC	D	D	TB	1	TB1051600	5/16/00	1130	WQ	2	1	X											

	Relinquished By / Company	Date	Time	Received By / Company	Date	Time
1.	NDAES Vincent / Earth Tech	5/17/00	1200	1.		
2.				2.		
3.				3.		
4.				4.		
5.				5.		

Comments

Shipment Method/Airbill No.: Fed Ex / #8154 0321

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APPENDIX D. DATA QUALITY REVIEW SUMMARY AND GROUNDWATER ANALYTICAL DATA

Data Quality Review

Air Force Plant 59, Johnson City, NY
Contract F41624-97-D-8018, Delivery Order 0054

Volatile Organic Compounds Analysis by Method SW8260B

This data quality review pertains to groundwater samples collected on May 16 and 17, 2000 at Air Force Plant 59 (AFP 59). The samples were analyzed following *EPA Test Methods for Evaluating Solid Waste (SW-846)* Method 8260B for volatile organic compounds (VOCs) at O'Brien & Gere Laboratories, Inc. (O'Brien & Gere) in Syracuse, New York. All samples were analyzed for the full list of volatile constituents included in the method.

Recommendations from the AFCEE *Quality Assurance Project Plan, Version 3.0* (USAF, 1998) were utilized by O'Brien and Gere for quality control limits and data flagging criteria.

Table DQR-1 provides a cross-reference list for field sample IDs and lab sample IDs from O'Brien & Gere.

Table DQR-1. Field Sample ID/Lab Sample ID Cross Reference

Field Sample ID	Lab Sample ID
59DW1WG1	Q4846
59SW1WG1	Q4847
59DW3WG1	Q4848
59SW3WG1	Q4849
59SW4WG1	Q4850
59SW4WG9	Q4851

Field Sample ID	Lab Sample ID
AB1051700	Q4852
59SW7WG1	Q4853
59SW7WG1MS	Q4853MS
59SW7WG1MSD	Q4853MSD
TB1051600	Q4854

During the data quality review process, laboratory data are verified against all available supporting documentation. Based on this review, qualifier codes may be added, deleted, or modified by the validator. Final results are therefore either qualified or unqualified. A summary of the data quality review flags is presented in Table DQR-2, listed in order of most severe to least severe. The data quality review process includes a review of sample holding times, calibrations, blanks (preparation, ambient, and trip blanks), matrix spike/matrix spike duplicates (MS/MSD), surrogate recoveries, and field duplicates. Changes to the data are reflected on the Form I's in Attachment 1. Chain-of-custody forms are provided in Appendix C.

Table DQR-2: AFCEE Data Qualifiers

Qualifier	Description
M	A matrix effect was present.
F	The analyte was positively identified, but the associated numerical value is below the reporting limit (RL).
U	The analyte was analyzed for, but not detected. The associated numerical value is at or below the method detection limit (MDL).

Holding Times

All of the groundwater samples were analyzed for VOCs within the recommended holding time of 14 days. Therefore, qualification of the data was not necessary.

Calibration Criteria

Initial calibration criteria were met for all standards. Standards were run at 0.30, 0.50, 1.0, 2.0, 10, 20, and 40 micrograms per liter (µg/L).

Continuing calibration verifications were performed at the required frequency and response factors (RFs) for target analytes were within 20 percent of the expected value. Therefore, no qualification was considered necessary.

Blanks

One preparation blank (PB052700W1) was analyzed. No analytes were detected; therefore, qualification was not considered necessary.

One trip blank and one ambient blank were collected and analyzed for VOCs. No constituents were detected above the MDL in the trip blank sample. Benzene was detected in the ambient blank at a concentration of 0.12 µg/L. However, since there were no positive results for benzene in the samples, no qualification was necessary.

Matrix Spike/Matrix Spike Duplicate

Sample 59SW7WG1 served as the MS/MSD sample for this sample delivery group. With the following exceptions, constituent recoveries were within quality control limits.

- 1,2,4 - trimethylbenzene: MS and MSD recovered at 57 and 62%, respectively (range is 75-125%)
- 1,3,5 - trimethylbenzene: MS and MSD recovered at 65 and 69%, respectively (range is 72-112%)
- styrene: MS and MSD recovered at 39 and 44%, respectively (range is 75-125%)

All results for 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, and styrene were qualified **M** in associated samples. No further qualification of the data was necessary.

Surrogate Recovery

Four surrogates were used for the monitoring of volatiles in all samples. All surrogate recoveries met the corresponding QC criteria.

Field Duplicates

A field duplicate was collected for sample 59SW4WG1. No results were both above the reporting limit as well as having a relative percent difference (RPD) outside of control limits. Therefore, no data required qualification. A comparison of field samples and duplicates is presented in Table DQR-3.

Table DQR-3: O'Brien & Gere Field Duplicate Comparison (µg/L)

Analyte	Reporting Limit (RL)	59SW4WG1	59SW4WG9	Relative Percent Difference (RPD)
1,1,1-Trichloroethane	0.8	2.83	2.88	1.8%
1,1-Dichloroethane	0.4	1.65	1.67	1.2%
1,1-Dichloroethene	1.2	0.20	0.21	4.9%
Cis-1,2-Dichloroethene	1.2	4.08	4.3	5.3%
Tetrachloroethene	1.4	0.86	0.91	5.6%
Trans-1,2-dichloroethene	0.6	0.49	0.41	18%
Trichloroethene	1.0	7.9	8.0	1.3%
Trichlorofluoromethane	0.8	0.53	0.54	1.9%
Vinyl chloride	1.1	0.11	0.11	0.0%

Summary

The data completeness is 100%. All of the data points for the volatile analysis of groundwater samples are useable with the appropriate qualifiers.

Attachment 1
Form I's

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260 Preparatory Method:5030 AAB#: 052700W1

Lab Name: O'Brien & Gere Laboratories, Inc. Contract #: F41624-97-D-8018/0001

Field Sample ID: 59DW1WG1 Lab Sample ID: 04846 Matrix:Water

%Solids: Initial Calibration ID: J525AF30.M

Date Received: 05/18/00 Date Prepared:05/27/00 Date Analyzed:05/27/00

Concentration Units(mg/L or mg/Kg dry weight): ug/L

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
(m+p)-Xylene	.019	.6	.019	1		U
1,1,1,2-Tetrachloroethane	.017	.5	.017	1		U
1,1,1-Trichloroethane	.014	.8	.014	1		U
1,1,2,2-Tetrachloroethane	.09	.5	.09	1		U
1,1,2-Trichloroethane	.01	1.	.01	1		U
1,1-Dichloroethane	.009	.4	.009	1		U
1,1-Dichloroethene	.025	1.2	.025	1		U
1,1-Dichloropropene	.02	1.	.02	1		U
1,2,3-Trichlorobenzene	.05	.3	.05	1		U
1,2,3-Trichloropropane	.072	3.2	.072	1		U
1,2,4-Trichlorobenzene	.021	.4	.021	1		U
1,2,4-Trimethylbenzene	.011	1.3	.011	1		U
1,2-Dibromo-3-chloropropane	.205	2.6	.205	1		U
1,2-Dibromoethane	.053	.6	.053	1		U
1,2-Dichlorobenzene	.013	.3	.013	1		U
1,2-Dichloroethane	.012	.6	.012	1		U
1,2-Dichloropropane	.014	.4	.014	1		U
1,3,5-Trimethylbenzene	.012	.5	.012	1		U
1,3-Dichlorobenzene	.01	1.2	.01	1		U
1,3-Dichloropropane	.012	.4	.012	1		U
1,4-Dichlorobenzene	.014	.3	.014	1		U
1-Chlorohexane	.018	.5	.018	1		U
2,2-Dichloropropane	.013	3.5	.013	1		U
2-Chlorotoluene	.015	.4	.015	1		U
4-Chlorotoluene	.011	.6	.011	1		U
Benzene	.009	.4	.009	1		U
Bromobenzene	.037	.3	.037	1		U
Bromochloromethane	.014	.4	.014	1		U
Bromodichloromethane	.011	.8	.011	1		U
Bromoform	.042	1.2	.042	1		U
Bromomethane	.074	1.1	.074	1		U

Comments:

AFCEE FORM O-2

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260 Preparatory Method:5030 AAB#: 052700W1

Lab Name: O'Brien & Gere Laboratories, Inc. Contract #: F41624-97-D-8018/0001

Field Sample ID: 590W1WG1 Lab Sample ID: Q4846 Matrix:Water

%Solids: Initial Calibration ID: J525AF30.M

Date Received: 05/18/00 Date Prepared:05/27/00 Date Analyzed:05/27/00

Concentration Units(mg/L or mg/Kg dry weight): ug/L

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
Carbon tetrachloride	.007	2.1	.007	1		U
Chlorobenzene	.005	.4	.005	1		U
Chloroethane	.01	1.	.01	1		U
Chloroform	.011	.3	.011	1		U
Chloromethane	.046	1.3	.046	1		U
cis-1,2-Dichloroethene	.062	1.2	.062	1		U
cis-1,3-Dichloropropene	.01	1.	.01	1		U
Dibromochloromethane	.012	.5	.012	1		U
Dibromomethane	.04	2.4	.04	1		U
Dichlorodifluoromethane	.01	1.	.01	1		U
Ethylbenzene	.008	.6	.008	1		U
Hexachlorobutadiene	.031	1.1	.031	1		U
Isopropylbenzene	.015	.5	.015	1		U
Methylene chloride	.03	2.	.03	1		U
n-Butylbenzene	.015	1.1	.015	1		U
n-Propylbenzene	.016	.4	.016	1		U
Naphthalene	.04	1.	.04	1		U
o-Xylene	.012	1.1	.012	1		U
p-Isopropyltoluene	.031	1.2	.031	1		U
sec-Butylbenzene	.015	1.3	.015	1		U
Styrene	.015	.5	.015	1		U
tert-Butylbenzene	.016	1.4	.016	1		U
Tetrachloroethene	.008	1.4	.008	1		U
Toluene	.011	1.1	.011	1		U
trans-1,2-Dichloroethene	.077	.6	.077	1		U
trans-1,3-Dichloropropene	.02	1.	.02	1		U
Trichloroethene	.01	1.	.01	1		U
Trichlorofluoromethane	.01	.8	.01	1		U
Vinyl chloride	.013	1.1	.013	1		U
Xylene (total)	.019	1.1	.019	1		U

Comments:

AFCEE FORM O-2

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260 Preparatory Method:5030 AAB#: 052700W1

Lab Name: O'Brien & Gere Laboratories, Inc. Contract #: F41624-97-D-8018/0001

Field Sample ID: 59DW1WG1 Lab Sample ID: 04846 Matrix:Water

%Solids: Initial Calibration ID: J525AF30.M

Date Received: 05/18/00 Date Prepared:05/27/00 Date Analyzed:05/27/00

Concentration Units(mg/L or mg/Kg dry weight): ug/L

Surrogate	Recovery	Control Limits	Qualifier
1,2-Dichloroethane-d4 (surrogate)	92	62-139	
Bromofluorobenzene (surrogate)	92	75-125	
Dibromofluoromethane (surrogate)	86	75-125	
Toluene-d8 (surrogate)	97	75-125	

Internal Std.	Qualifier
1,4-Dichlorobenzene-d4	
Chlorobenzene-d5	
Fluorobenzene	

Comments:

AFCEE FORM O-2

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260 Preparatory Method:5030 AAB#: 052700W1

Lab Name: O'Brien & Gere Laboratories, Inc. Contract #: F41624-97-D-8018/0001

Field Sample ID: 59SW1WG1 Lab Sample ID: 04847 Matrix:Water

%Solids: Initial Calibration ID: J525AF30.M

Date Received: 05/18/00 Date Prepared:05/27/00 Date Analyzed:05/27/00

Concentration Units(mg/L or mg/Kg dry weight): ug/L

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
(m+p)-Xylene	.019	.6	.019	1		U
1,1,1,2-Tetrachloroethane	.017	.5	.017	1		U
1,1,1-Trichloroethane	.014	.8	.014	1		U
1,1,2,2-Tetrachloroethane	.09	.5	.09	1		U
1,1,2-Trichloroethane	.01	1.	.01	1		U
1,1-Dichloroethane	.009	.4	.009	1		U
1,1-Dichloroethene	.025	1.2	.025	1		U
1,1-Dichloropropene	.02	1.	.02	1		U
1,2,3-Trichlorobenzene	.05	.3	.05	1		U
1,2,3-Trichloropropane	.072	3.2	.072	1		U
1,2,4-Trichlorobenzene	.021	.4	.021	1		U
1,2,4-Trimethylbenzene	.011	1.3	.011	1		U
1,2-Dibromo-3-chloropropane	.205	2.6	.205	1		U
1,2-Dibromoethane	.053	.6	.053	1		U
1,2-Dichlorobenzene	.013	.3	.013	1		U
1,2-Dichloroethane	.012	.6	.012	1		U
1,2-Dichloropropane	.014	.4	.014	1		U
1,3,5-Trimethylbenzene	.012	.5	.012	1		U
1,3-Dichlorobenzene	.01	1.2	.01	1		U
1,3-Dichloropropane	.012	.4	.012	1		U
1,4-Dichlorobenzene	.014	.3	.014	1		U
1-Chlorohexane	.018	.5	.018	1		U
2,2-Dichloropropane	.013	3.5	.013	1		U
2-Chlorotoluene	.015	.4	.015	1		U
4-Chlorotoluene	.011	.6	.011	1		U
Benzene	.009	.4	.009	1		U
Bromobenzene	.037	.3	.037	1		U
Bromochloromethane	.014	.4	.014	1		U
Bromodichloromethane	.011	.8	.011	1		U
Bromoform	.042	1.2	.042	1		U
Bromomethane	.074	1.1	.074	1		U

Comments:

AFCEE FORM O-2

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260 Preparatory Method:5030 AAB#: 052700W1

Lab Name: O'Brien & Gere Laboratories, Inc. Contract #: F41624-97-D-8018/0001

Field Sample ID: 59SW1WG1 Lab Sample ID: 04847 Matrix:Water

%Solids: Initial Calibration ID: J525AF30.M

Date Received: 05/18/00 Date Prepared:05/27/00 Date Analyzed:05/27/00

Concentration Units(mg/L or mg/Kg dry weight): ug/L

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
Carbon tetrachloride	.007	2.1	.007	1		U
Chlorobenzene	.005	.4	.005	1		U
Chloroethane	.01	1.	.01	1		U
Chloroform	.011	.3	.011	1		U
Chloromethane	.046	1.3	.046	1		U
cis-1,2-Dichloroethene	.062	1.2	.062	1		U
cis-1,3-Dichloropropene	.01	1.	.01	1		U
Dibromochloromethane	.012	.5	.012	1		U
Dibromomethane	.04	2.4	.04	1		U
Dichlorodifluoromethane	.01	1.	.01	1		U
Ethylbenzene	.008	.6	.008	1		U
Hexachlorobutadiene	.031	1.1	.031	1		U
Isopropylbenzene	.015	.5	.015	1		U
Methylene chloride	.03	2.	.03	1		U
n-Butylbenzene	.015	1.1	.015	1		U
n-Propylbenzene	.016	.4	.016	1		U
Naphthalene	.04	1.	.04	1		U
o-Xylene	.012	1.1	.012	1		U
p-Isopropyltoluene	.031	1.2	.031	1		U
sec-Butylbenzene	.015	1.3	.015	1		U
Styrene	.015	.5	.015	1		U
tert-Butylbenzene	.016	1.4	.016	1		U
Tetrachloroethene	.008	1.4	.008	1		U
Toluene	.011	1.1	.011	1		U
trans-1,2-Dichloroethene	.077	.6	.077	1		U
trans-1,3-Dichloropropene	.02	1.	.02	1		U
Trichloroethene	.01	1.	.01	1		U
Trichlorofluoromethane	.01	.8	.01	1		U
Vinyl chloride	.013	1.1	.013	1		U
Xylene (total)	.019	1.1	.019	1		U

Comments:

AFCEE FORM O-2

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260 Preparatory Method:5030 AAB#: 052700W1

Lab Name: O'Brien & Gere Laboratories, Inc. Contract #: F41624-97-D-8018/0001

Field Sample ID: 59SW1WG1 Lab Sample ID: 04847 Matrix:Water

%Solids: Initial Calibration ID: J525AF30.M

Date Received: 05/18/00 Date Prepared:05/27/00 Date Analyzed:05/27/00

Concentration Units(mg/L or mg/Kg dry weight): ug/L

Surrogate	Recovery	Control Limits	Qualifier
1,2-Dichloroethane-d4 (surrogate)	92	62-139	
Bromofluorobenzene (surrogate)	92	75-125	
Dibromofluoromethane (surrogate)	86	75-125	
Toluene-d8 (surrogate)	96	75-125	

Internal Std.	Qualifier
1,4-Dichlorobenzene-d4	
Chlorobenzene-d5	
Fluorobenzene	

Comments:

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260 Preparatory Method:5030 AAB#: 052700W1

Lab Name: O'Brien & Gere Laboratories, Inc. Contract #: F41624-97-D-8018/0001

Field Sample ID: 59DW3WG1 Lab Sample ID: Q4848 Matrix:Water

%Solids: Initial Calibration ID: J525AF30.M

Date Received: 05/18/00 Date Prepared:05/27/00 Date Analyzed:05/27/00

Concentration Units(mg/L or mg/Kg dry weight): ug/L

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
(m+p)-Xylene	.019	.6	.019	1		U
1,1,1,2-Tetrachloroethane	.017	.5	.017	1		U
1,1,1-Trichloroethane	.014	.8	.014	1		U
1,1,2,2-Tetrachloroethane	.09	.5	.09	1		U
1,1,2-Trichloroethane	.01	1.	.01	1		U
1,1-Dichloroethane	.009	.4	.16	1		F
1,1-Dichloroethene	.025	1.2	.025	1		U
1,1-Dichloropropene	.02	1.	.02	1		U
1,2,3-Trichlorobenzene	.05	.3	.05	1		U
1,2,3-Trichloropropane	.072	3.2	.072	1		U
1,2,4-Trichlorobenzene	.021	.4	.021	1		U
1,2,4-Trimethylbenzene	.011	1.3	.011	1		U
1,2-Dibromo-3-chloropropane	.205	2.6	.205	1		U
1,2-Dibromoethane	.053	.6	.053	1		U
1,2-Dichlorobenzene	.013	.3	.013	1		U
1,2-Dichloroethane	.012	.6	.012	1		U
1,2-Dichloropropane	.014	.4	.014	1		U
1,3,5-Trimethylbenzene	.012	.5	.012	1		U
1,3-Dichlorobenzene	.01	1.2	.01	1		U
1,3-Dichloropropane	.012	.4	.012	1		U
1,4-Dichlorobenzene	.014	.3	.014	1		U
1-Chlorohexane	.018	.5	.018	1		U
2,2-Dichloropropane	.013	3.5	.013	1		U
2-Chlorotoluene	.015	.4	.015	1		U
4-Chlorotoluene	.011	.6	.011	1		U
Benzene	.009	.4	.009	1		U
Bromobenzene	.037	.3	.037	1		U
Bromochloromethane	.014	.4	.014	1		U
Bromodichloromethane	.011	.8	.011	1		U
Bromoform	.042	1.2	.042	1		U
Bromomethane	.074	1.1	.074	1		U

Comments:

AFCEE FORM O-2

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260 Preparatory Method:5030 AAB#: 052700W1

Lab Name: O'Brien & Gere Laboratories, Inc. Contract #: F41624-97-D-8018/0001

Field Sample ID: 59DW3WG1 Lab Sample ID: 04848 Matrix:Water

%Solids: Initial Calibration ID: J525AF30.M

Date Received: 05/18/00 Date Prepared:05/27/00 Date Analyzed:05/27/00

Concentration Units(mg/L or mg/Kg dry weight): ug/L

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
Carbon tetrachloride	.007	2.1	.007	1		U
Chlorobenzene	.005	.4	.005	1		U
Chloroethane	.01	1.	.01	1		U
Chloroform	.011	.3	.011	1		U
Chloromethane	.046	1.3	.046	1		U
cis-1,2-Dichloroethene	.062	1.2	24.98	1		
cis-1,3-Dichloropropene	.01	1.	.01	1		U
Dibromochloromethane	.012	.5	.012	1		U
Dibromomethane	.04	2.4	.04	1		U
Dichlorodifluoromethane	.01	1.	.01	1		U
Ethylbenzene	.008	.6	.008	1		U
Hexachlorobutadiene	.031	1.1	.031	1		U
Isopropylbenzene	.015	.5	.015	1		U
Methylene chloride	.03	2.	.03	1		U
n-Butylbenzene	.015	1.1	.015	1		U
n-Propylbenzene	.016	.4	.016	1		U
Naphthalene	.04	1.	.04	1		U
o-Xylene	.012	1.1	.012	1		U
p-Isopropyltoluene	.031	1.2	.031	1		U
sec-Butylbenzene	.015	1.3	.015	1		U
Styrene	.015	.5	.015	1		U
tert-Butylbenzene	.016	1.4	.016	1		U
Tetrachloroethene	.008	1.4	.008	1		U
Toluene	.011	1.1	.011	1		U
trans-1,2-Dichloroethene	.077	.6	.25	1		F
trans-1,3-Dichloropropene	.02	1.	.02	1		U
Trichloroethene	.01	1.	.01	1		U
Trichlorofluoromethane	.01	.8	.01	1		U
Vinyl chloride	.013	1.1	.013	1		U
Xylene (total)	.019	1.1	.019	1		U

Comments:

AFCEE FORM O-2

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260 Preparatory Method:5030 AAB#: 052700W1

Lab Name: O'Brien & Gere Laboratories, Inc. Contract #: F41624-97-D-8018/0001

Field Sample ID: 590W3WG1 Lab Sample ID: Q4848 Matrix:Water

%Solids: Initial Calibration ID: J525AF30.M

Date Received: 05/18/00 Date Prepared:05/27/00 Date Analyzed:05/27/00

Concentration Units(mg/L or mg/Kg dry weight): ug/L

Surrogate	Recovery	Control Limits	Qualifier
1,2-Dichloroethane-d4 (surrogate)	92	62-139	
Bromofluorobenzene (surrogate)	91	75-125	
Dibromofluoromethane (surrogate)	87	75-125	
Toluene-d8 (surrogate)	96	75-125	

Internal Std.	Qualifier
1,4-Dichlorobenzene-d4	
Chlorobenzene-d5	
Fluorobenzene	

Comments:

AFCEE FORM O-2

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260 Preparatory Method:5030 AAB#: 052700W1

Lab Name: O'Brien & Gere Laboratories, Inc. Contract #: F41624-97-D-8018/0001

Field Sample ID: 59SW3WG1 Lab Sample ID: 04849 Matrix:Water

%Solids: Initial Calibration ID: J525AF30.M

Date Received: 05/18/00 Date Prepared:05/27/00 Date Analyzed:05/27/00

Concentration Units(mg/L or mg/Kg dry weight): ug/L

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
(m+p)-Xylene	.019	.6	.019	1		U
1,1,1,2-Tetrachloroethane	.017	.5	.017	1		U
1,1,1-Trichloroethane	.014	.8	.69	1		F
1,1,2,2-Tetrachloroethane	.09	.5	.09	1		U
1,1,2-Trichloroethane	.01	1.	.01	1		U
1,1-Dichloroethane	.009	.4	.55	1		
1,1-Dichloroethene	.025	1.2	.025	1		U
1,1-Dichloropropene	.02	1.	.02	1		U
1,2,3-Trichlorobenzene	.05	.3	.05	1		U
1,2,3-Trichloropropane	.072	3.2	.072	1		U
1,2,4-Trichlorobenzene	.021	.4	.021	1		U
1,2,4-Trimethylbenzene	.011	1.3	.011	1		U
1,2-Dibromo-3-chloropropane	.205	2.6	.205	1		U
1,2-Dibromoethane	.053	.6	.053	1		U
1,2-Dichlorobenzene	.013	.3	.013	1		U
1,2-Dichloroethane	.012	.6	.012	1		U
1,2-Dichloropropane	.014	.4	.014	1		U
1,3,5-Trimethylbenzene	.012	.5	.012	1		U
1,3-Dichlorobenzene	.01	1.2	.01	1		U
1,3-Dichloropropane	.012	.4	.012	1		U
1,4-Dichlorobenzene	.014	.3	.014	1		U
1-Chlorohexane	.018	.5	.018	1		U
2,2-Dichloropropane	.013	3.5	.013	1		U
2-Chlorotoluene	.015	.4	.015	1		U
4-Chlorotoluene	.011	.6	.011	1		U
Benzene	.009	.4	.009	1		U
Bromobenzene	.037	.3	.037	1		U
Bromochloromethane	.014	.4	.014	1		U
Bromodichloromethane	.011	.8	.011	1		U
Bromoform	.042	1.2	.042	1		U
Bromomethane	.074	1.1	.074	1		U

Comments:

AFCEE FORM O-2

AFCEE

ORGANIC ANALYSES DATA SHEET 2

RESULTS

Analytical Method: 8260 Preparatory Method:5030 AAB#: 052700W1

Lab Name: O'Brien & Gere Laboratories, Inc. Contract #: F41624-97-D-8018/0001

Field Sample ID: 59SW3WG1 Lab Sample ID: Q4849 Matrix:Water

%Solids: Initial Calibration ID: J525AF30.M

Date Received: 05/18/00 Date Prepared:05/27/00 Date Analyzed:05/27/00

Concentration Units(mg/L or mg/Kg dry weight): ug/L

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
Carbon tetrachloride	.007	2.1	.007	1		U
Chlorobenzene	.005	.4	.005	1		U
Chloroethane	.01	1.	.01	1		U
Chloroform	.011	.3	.011	1		U
Chloromethane	.046	1.3	.046	1		U
cis-1,2-Dichloroethene	.062	1.2	1.29	1		
cis-1,3-Dichloropropene	.01	1.	.01	1		U
Dibromochloromethane	.012	.5	.012	1		U
Dibromomethane	.04	2.4	.04	1		U
Dichlorodifluoromethane	.01	1.	.01	1		U
Ethylbenzene	.008	.6	.008	1		U
Hexachlorobutadiene	.031	1.1	.031	1		U
Isopropylbenzene	.015	.5	.015	1		U
Methylene chloride	.03	2.	.03	1		U
n-Butylbenzene	.015	1.1	.015	1		U
n-Propylbenzene	.016	.4	.016	1		U
Naphthalene	.04	1.	.04	1		U
o-Xylene	.012	1.1	.012	1		U
p-Isopropyltoluene	.031	1.2	.031	1		U
sec-Butylbenzene	.015	1.3	.015	1		U
Styrene	.015	.5	.015	1		U
tert-Butylbenzene	.016	1.4	.016	1		U
Tetrachloroethene	.008	1.4	.008	1		U
Toluene	.011	1.1	.011	1		U
trans-1,2-Dichloroethene	.077	.6	.077	1		U
trans-1,3-Dichloropropene	.02	1.	.02	1		U
Trichloroethene	.01	1.	1.	1		
Trichlorofluoromethane	.01	.8	.01	1		U
Vinyl chloride	.013	1.1	.013	1		U
Xylene (total)	.019	1.1	.019	1		U

Comments:

AFCEE FORM O-2

AFCEE

ORGANIC ANALYSES DATA SHEET 2

RESULTS

Analytical Method: 8260 Preparatory Method:5030 AAB#: 052700W1

Lab Name: O'Brien & Gere Laboratories, Inc. Contract #: F41624-97-D-8018/0001

Field Sample ID: 59SW3WG1 Lab Sample ID: Q4849 Matrix:Water

%Solids: Initial Calibration ID: J525AF30.M

Date Received: 05/18/00 Date Prepared:05/27/00 Date Analyzed:05/27/00

Concentration Units(mg/L or mg/Kg dry weight): ug/L

Surrogate	Recovery	Control Limits	Qualifier
1,2-Dichloroethane-d4 (surrogate)	93	62-139	
Bromofluorobenzene (surrogate)	92	75-125	
Dibromofluoromethane (surrogate)	87	75-125	
Toluene-d8 (surrogate)	93	75-125	

Internal Std.	Qualifier
1,4-Dichlorobenzene-d4	
Chlorobenzene-d5	
Fluorobenzene	

Comments:

AFCEE FORM O-2

AFCEE

ORGANIC ANALYSES DATA SHEET 2

RESULTS

Analytical Method: 8260 Preparatory Method:5030 AAB#: 052700W1

Lab Name: O'Brien & Gere Laboratories, Inc. Contract #: F41624-97-D-8018/0001

Field Sample ID: 59SW4WG1 Lab Sample ID: Q4850 Matrix:Water

%Solids: Initial Calibration ID: J525AF30.M

Date Received: 05/18/00 Date Prepared:05/27/00 Date Analyzed:05/27/00

Concentration Units(mg/L or mg/Kg dry weight): ug/L

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
(m+p)-Xylene	.019	.6	.019	1		U
1,1,1,2-Tetrachloroethane	.017	.5	.017	1		U
1,1,1-Trichloroethane	.014	.8	2.83	1		
1,1,2,2-Tetrachloroethane	.09	.5	.09	1		U
1,1,2-Trichloroethane	.01	1.	.01	1		U
1,1-Dichloroethane	.009	.4	1.65	1		
1,1-Dichloroethene	.025	1.2	.2	1		F
1,1-Dichloropropene	.02	1.	.02	1		U
1,2,3-Trichlorobenzene	.05	.3	.05	1		U
1,2,3-Trichloropropane	.072	3.2	.072	1		U
1,2,4-Trichlorobenzene	.021	.4	.021	1		U
1,2,4-Trimethylbenzene	.011	1.3	.011	1		U
1,2-Dibromo-3-chloropropane	.205	2.6	.205	1		U
1,2-Dibromoethane	.053	.6	.053	1		U
1,2-Dichlorobenzene	.013	.3	.013	1		U
1,2-Dichloroethane	.012	.6	.012	1		U
1,2-Dichloropropane	.014	.4	.014	1		U
1,3,5-Trimethylbenzene	.012	.5	.012	1		U
1,3-Dichlorobenzene	.01	1.2	.01	1		U
1,3-Dichloropropane	.012	.4	.012	1		U
1,4-Dichlorobenzene	.014	.3	.014	1		U
1-Chlorohexane	.018	.5	.018	1		U
2,2-Dichloropropane	.013	3.5	.013	1		U
2-Chlorotoluene	.015	.4	.015	1		U
4-Chlorotoluene	.011	.6	.011	1		U
Benzene	.009	.4	.009	1		U
Bromobenzene	.037	.3	.037	1		U
Bromochloromethane	.014	.4	.014	1		U
Bromodichloromethane	.011	.8	.011	1		U
Bromoform	.042	1.2	.042	1		U
Bromomethane	.074	1.1	.074	1		U

Comments:

AFCEE FORM O-2

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260 Preparatory Method:5030 AAB#: 052700W1

Lab Name: O'Brien & Gere Laboratories, Inc. Contract #: F41624-97-D-8018/0001

Field Sample ID: 59SW4WG1 Lab Sample ID: 04850 Matrix:Water

%Solids: Initial Calibration ID: J525AF30.M

Date Received: 05/18/00 Date Prepared:05/27/00 Date Analyzed:05/27/00

Concentration Units(mg/L or mg/Kg dry weight): ug/L

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
Carbon tetrachloride	.007	2.1	.007	1		U
Chlorobenzene	.005	.4	.005	1		U
Chloroethane	.01	1.	.01	1		U
Chloroform	.011	.3	.011	1		U
Chloromethane	.046	1.3	.046	1		U
cis-1,2-Dichloroethene	.062	1.2	4.08	1		
cis-1,3-Dichloropropene	.01	1.	.01	1		U
Dibromochloromethane	.012	.5	.012	1		U
Dibromomethane	.04	2.4	.04	1		U
Dichlorodifluoromethane	.01	1.	.01	1		U
Ethylbenzene	.008	.6	.008	1		U
Hexachlorobutadiene	.031	1.1	.031	1		U
Isopropylbenzene	.015	.5	.015	1		U
Methylene chloride	.03	2.	.03	1		U
n-Butylbenzene	.015	1.1	.015	1		U
n-Propylbenzene	.016	.4	.016	1		U
Naphthalene	.04	1.	.04	1		U
o-Xylene	.012	1.1	.012	1		U
p-Isopropyltoluene	.031	1.2	.031	1		U
sec-Butylbenzene	.015	1.3	.015	1		U
Styrene	.015	.5	.015	1		U
tert-Butylbenzene	.016	1.4	.016	1		U
Tetrachloroethene	.008	1.4	.86	1		F
Toluene	.011	1.1	.011	1		U
trans-1,2-Dichloroethene	.077	.6	.49	1		F
trans-1,3-Dichloropropene	.02	1.	.02	1		U
Trichloroethene	.01	1.	7.9	1		
Trichlorofluoromethane	.01	.8	.53	1		F
Vinyl chloride	.013	1.1	.11	1		F
Xylene (total)	.019	1.1	.019	1		U

Comments:

AFCEE FORM O-2

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ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260 Preparatory Method:5030 AAB#: 052700W1

Lab Name: O'Brien & Gere Laboratories, Inc. Contract #: F41624-97-D-8018/0001

Field Sample ID: 59SW4WG1 Lab Sample ID: 04850 Matrix:Water

%Solids: Initial Calibration ID: J525AF30.M

Date Received: 05/18/00 Date Prepared:05/27/00 Date Analyzed:05/27/00

Concentration Units(mg/L or mg/Kg dry weight): ug/L

Surrogate	Recovery	Control Limits	Qualifier
1,2-Dichloroethane-d4 (surrogate)	95	62-139	
Bromofluorobenzene (surrogate)	89	75-125	
Dibromofluoromethane (surrogate)	89	75-125	
Toluene-d8 (surrogate)	87	75-125	

Internal Std.	Qualifier
1,4-Dichlorobenzene-d4	
Chlorobenzene-d5	
Fluorobenzene	

Comments:

AFCEE FORM O-2

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ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260 Preparatory Method:5030 AAB#: 052700W1

Lab Name: O'Brien & Gere Laboratories, Inc. Contract #: F41624-97-D-8018/0001

Field Sample ID: 59SW4WG9 Lab Sample ID: 04851 Matrix:Water

%Solids: Initial Calibration ID: J525AF30.M

Date Received: 05/18/00 Date Prepared:05/27/00 Date Analyzed:05/27/00

Concentration Units(mg/L or mg/Kg dry weight): ug/L

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
(m+p)-Xylene	.019	.6	.019	1		U
1,1,1,2-Tetrachloroethane	.017	.5	.017	1		U
1,1,1-Trichloroethane	.014	.8	2.88	1		
1,1,2,2-Tetrachloroethane	.09	.5	.09	1		U
1,1,2-Trichloroethane	.01	1.	.01	1		U
1,1-Dichloroethane	.009	.4	1.67	1		
1,1-Dichloroethene	.025	1.2	.21	1		F
1,1-Dichloropropene	.02	1.	.02	1		U
1,2,3-Trichlorobenzene	.05	.3	.05	1		U
1,2,3-Trichloropropane	.072	3.2	.072	1		U
1,2,4-Trichlorobenzene	.021	.4	.021	1		U
1,2,4-Trimethylbenzene	.011	1.3	.011	1		U
1,2-Dibromo-3-chloropropane	.205	2.6	.205	1		U
1,2-Dibromoethane	.053	.6	.053	1		U
1,2-Dichlorobenzene	.013	.3	.013	1		U
1,2-Dichloroethane	.012	.6	.012	1		U
1,2-Dichloropropane	.014	.4	.014	1		U
1,3,5-Trimethylbenzene	.012	.5	.012	1		U
1,3-Dichlorobenzene	.01	1.2	.01	1		U
1,3-Dichloropropane	.012	.4	.012	1		U
1,4-Dichlorobenzene	.014	.3	.014	1		U
1-Chlorohexane	.018	.5	.018	1		U
2,2-Dichloropropane	.013	3.5	.013	1		U
2-Chlorotoluene	.015	.4	.015	1		U
4-Chlorotoluene	.011	.6	.011	1		U
Benzene	.009	.4	.009	1		U
Bromobenzene	.037	.3	.037	1		U
Bromochloromethane	.014	.4	.014	1		U
Bromodichloromethane	.011	.8	.011	1		U
Bromoform	.042	1.2	.042	1		U
Bromomethane	.074	1.1	.074	1		U

Comments:

AFCEE FORM O-2

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260 Preparatory Method:5030 AAB#: 052700W1

Lab Name: O'Brien & Gere Laboratories, Inc. Contract #: F41624-97-D-8018/0001

Field Sample ID: 59SW4WG9 Lab Sample ID: Q4851 Matrix:Water

%Solids: Initial Calibration ID: J525AF30.M

Date Received: 05/18/00 Date Prepared:05/27/00 Date Analyzed:05/27/00

Concentration Units(mg/L or mg/Kg dry weight): ug/L

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
Carbon tetrachloride	.007	2.1	.007	1		U
Chlorobenzene	.005	.4	.005	1		U
Chloroethane	.01	1.	.01	1		U
Chloroform	.011	.3	.011	1		U
Chloromethane	.046	1.3	.046	1		U
cis-1,2-Dichloroethene	.062	1.2	4.3	1		
cis-1,3-Dichloropropene	.01	1.	.01	1		U
Dibromochloromethane	.012	.5	.012	1		U
Dibromomethane	.04	2.4	.04	1		U
Dichlorodifluoromethane	.01	1.	.01	1		U
Ethylbenzene	.008	.6	.008	1		U
Hexachlorobutadiene	.031	1.1	.031	1		U
Isopropylbenzene	.015	.5	.015	1		U
Methylene chloride	.03	2.	.03	1		U
n-Butylbenzene	.015	1.1	.015	1		U
n-Propylbenzene	.016	.4	.016	1		U
Naphthalene	.04	1.	.04	1		U
o-Xylene	.012	1.1	.012	1		U
p-Isopropyltoluene	.031	1.2	.031	1		U
sec-Butylbenzene	.015	1.3	.015	1		U
Styrene	.015	.5	.015	1		U
tert-Butylbenzene	.016	1.4	.016	1		U
Tetrachloroethene	.008	1.4	.91	1		F
Toluene	.011	1.1	.011	1		U
trans-1,2-Dichloroethene	.077	.6	.41	1		F
trans-1,3-Dichloropropene	.02	1.	.02	1		U
Trichloroethene	.01	1.	8.	1		
Trichlorofluoromethane	.01	.8	.54	1		F
Vinyl chloride	.013	1.1	.11	1		F
Xylene (total)	.019	1.1	.019	1		U

Comments:

AFCEE FORM O-2

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ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260 Preparatory Method:5030 AAB#: 052700W1

Lab Name: O'Brien & Gere Laboratories, Inc. Contract #: F41624-97-D-8018/0001

Field Sample ID: 59SW4WG9 Lab Sample ID: Q4851 Matrix:Water

%Solids: Initial Calibration ID: J525AF30.M

Date Received: 05/18/00 Date Prepared:05/27/00 Date Analyzed:05/27/00

Concentration Units(mg/L or mg/Kg dry weight): ug/L

Surrogate	Recovery	Control Limits	Qualifier
1,2-Dichloroethane-d4 (surrogate)	94	62-139	
Bromofluorobenzene (surrogate)	91	75-125	
Dibromofluoromethane (surrogate)	88	75-125	
Toluene-d8 (surrogate)	91	75-125	

Internal Std.	Qualifier
1,4-Dichlorobenzene-d4	
Chlorobenzene-d5	
Fluorobenzene	

Comments:

AFCEE

ORGANIC ANALYSES DATA SHEET 2

RESULTS

Analytical Method: 8260 Preparatory Method:5030 AAB#: 052700W1

Lab Name: O'Brien & Gere Laboratories, Inc. Contract #: F41624-97-D-8018/0001

Field Sample ID: 59SW7WG1 Lab Sample ID: Q4853 Matrix:Water

%Solids: Initial Calibration ID: J525AF30.M

Date Received: 05/18/00 Date Prepared:05/27/00 Date Analyzed:05/27/00

Concentration Units(mg/L or mg/Kg dry weight): ug/L

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
(m+p)-Xylene	.019	.6	.019	1		U
1,1,1,2-Tetrachloroethane	.017	.5	.017	1		U
1,1,1-Trichloroethane	.014	.8	.67	1		F
1,1,2,2-Tetrachloroethane	.09	.5	.09	1		U
1,1,2-Trichloroethane	.01	1.	.01	1		U
1,1-Dichloroethane	.009	.4	.71	1		
1,1-Dichloroethene	.025	1.2	.025	1		U
1,1-Dichloropropene	.02	1.	.02	1		U
1,2,3-Trichlorobenzene	.05	.3	.05	1		U
1,2,3-Trichloropropane	.072	3.2	.072	1		U
1,2,4-Trichlorobenzene	.021	.4	.021	1		U
1,2,4-Trimethylbenzene	.011	1.3	.011	1		U
1,2-Dibromo-3-chloropropane	.205	2.6	.205	1		U
1,2-Dibromoethane	.053	.6	.053	1		U
1,2-Dichlorobenzene	.013	.3	.013	1		U
1,2-Dichloroethane	.012	.6	.012	1		U
1,2-Dichloropropane	.014	.4	.014	1		U
1,3,5-Trimethylbenzene	.012	.5	.012	1		U
1,3-Dichlorobenzene	.01	1.2	.01	1		U
1,3-Dichloropropane	.012	.4	.012	1		U
1,4-Dichlorobenzene	.014	.3	.014	1		U
1-Chlorohexane	.018	.5	.018	1		U
2,2-Dichloropropane	.013	3.5	.013	1		U
2-Chlorotoluene	.015	.4	.015	1		U
4-Chlorotoluene	.011	.6	.011	1		U
Benzene	.009	.4	.009	1		U
Bromobenzene	.037	.3	.037	1		U
Bromochloromethane	.014	.4	.014	1		U
Bromodichloromethane	.011	.8	.011	1		U
Bromoform	.042	1.2	.042	1		U
Bromomethane	.074	1.1	.074	1		U

Comments:

AFCEE FORM O-2

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260 Preparatory Method:5030 AAB#: 052700W1

Lab Name: O'Brien & Gere Laboratories, Inc. Contract #: F41624-97-D-8018/0001

Field Sample ID: 59SW7WG1 Lab Sample ID: Q4853 Matrix:Water

%Solids: Initial Calibration ID: J525AF30,M

Date Received: 05/18/00 Date Prepared:05/27/00 Date Analyzed:05/27/00

Concentration Units(mg/L or mg/Kg dry weight): ug/L

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
Carbon tetrachloride	.007	2.1	.007	1		U
Chlorobenzene	.005	.4	.005	1		U
Chloroethane	.01	1.	.01	1		U
Chloroform	.011	.3	.011	1		U
Chloromethane	.046	1.3	.046	1		U
cis-1,2-Dichloroethene	.062	1.2	2.43	1		
cis-1,3-Dichloropropene	.01	1.	.01	1		U
Dibromochloromethane	.012	.5	.012	1		U
Dibromomethane	.04	2.4	.04	1		U
Dichlorodifluoromethane	.01	1.	.01	1		U
Ethylbenzene	.008	.6	.008	1		U
Hexachlorobutadiene	.031	1.1	.031	1		U
Isopropylbenzene	.015	.5	.015	1		U
Methylene chloride	.03	2.	.03	1		U
n-Butylbenzene	.015	1.1	.015	1		U
n-Propylbenzene	.016	.4	.016	1		U
Naphthalene	.04	1.	.04	1		U
o-Xylene	.012	1.1	.012	1		U
p-Isopropyltoluene	.031	1.2	.031	1		U
sec-Butylbenzene	.015	1.3	.015	1		U
Styrene	.015	.5	.015	1		U
tert-Butylbenzene	.016	1.4	.016	1		U
Tetrachloroethene	.008	1.4	.1	1		F
Toluene	.011	1.1	.011	1		U
trans-1,2-Dichloroethene	.077	.6	.12	1		F
trans-1,3-Dichloropropene	.02	1.	.02	1		U
Trichloroethene	.01	1.	1.5	1		
Trichlorofluoromethane	.01	.8	.01	1		U
Vinyl chloride	.013	1.1	.013	1		U
Xylene (total)	.019	1.1	.019	1		U

Comments:

AFCEE FORM O-2

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260 Preparatory Method:5030 AAB#: 052700W1

Lab Name: O'Brien & Gere Laboratories, Inc. Contract #: F41624-97-D-8018/0001

Field Sample ID: 59SW7WG1 Lab Sample ID: 04853 Matrix:Water

%Solids: Initial Calibration ID: J525AF30.M

Date Received: 05/18/00 Date Prepared:05/27/00 Date Analyzed:05/27/00

Concentration Units(mg/L or mg/Kg dry weight): ug/L

Surrogate	Recovery	Control Limits	Qualifier
1,2-Dichloroethane-d4 (surrogate)	91	62-139	
Bromofluorobenzene (surrogate)	89	75-125	
Dibromofluoromethane (surrogate)	88	75-125	
Toluene-d8 (surrogate)	93	75-125	

Internal Std.	Qualifier
1,4-Dichlorobenzene-d4	
Chlorobenzene-d5	
Fluorobenzene	

Comments:

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260 Preparatory Method:5030 AAB#: 052700W1

Lab Name: O'Brien & Gere Laboratories, Inc. Contract #: F41624-97-D-8018/0001

Field Sample ID: 59SW7WG1 Lab Sample ID: Q4853MS Matrix:Water

%Solids: Initial Calibration ID: J525AF30.M

Date Received: 05/18/00 Date Prepared:05/27/00 Date Analyzed:05/27/00

Concentration Units(mg/L or mg/Kg dry weight): ug/L

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
(m+p)-Xylene	.019	.6	17.531	1		
1,1,1,2-Tetrachloroethane	.017	.5	10.5449	1		
1,1,1-Trichloroethane	.014	.8	9.8242	1		
1,1,2,2-Tetrachloroethane	.09	.5	8.6723	1		
1,1,2-Trichloroethane	.01	1.	9.8767	1		
1,1-Dichloroethane	.009	.4	10.8539	1		
1,1-Dichloroethene	.025	1.2	9.749	1		
1,1-Dichloropropene	.02	1.	9.0423	1		
1,2,3-Trichlorobenzene	.05	.3	9.501	1		
1,2,3-Trichloropropane	.072	3.2	8.526	1		
1,2,4-Trichlorobenzene	.021	.4	9.6512	1		
1,2,4-Trimethylbenzene	.011	1.3	5.6723	1		M
1,2-Dibromo-3-chloropropane	.205	2.6	8.6256	1		
1,2-Dibromoethane	.053	.6	10.3032	1		
1,2-Dichlorobenzene	.013	.3	9.5469	1		
1,2-Dichloroethane	.012	.6	9.9477	1		
1,2-Dichloropropane	.014	.4	9.383	1		
1,3,5-Trimethylbenzene	.012	.5	6.5354	1		M
1,3-Dichlorobenzene	.01	1.2	9.5133	1		
1,3-Dichloropropane	.012	.4	9.9891	1		
1,4-Dichlorobenzene	.014	.3	9.3651	1		
1-Chlorohexane	.018	.5	9.4152	1		
2,2-Dichloropropane	.013	3.5	7.6243	1		
2-Chlorotoluene	.015	.4	9.1616	1		
4-Chlorotoluene	.011	.6	9.06	1		
Benzene	.009	.4	9.5727	1		
Bromobenzene	.037	.3	8.9851	1		
Bromochloromethane	.014	.4	10.6697	1		
Bromodichloromethane	.011	.8	9.391	1		
Bromoform	.042	1.2	8.1288	1		
Bromomethane	.074	1.1	10.2025	1		

Comments:

AFCEE FORM O-2

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260 Preparatory Method:5030 AAB#: 052700W1

Lab Name: O'Brien & Gere Laboratories, Inc. Contract #: F41624-97-D-8018/0001

Field Sample ID: 59SW7WG1 Lab Sample ID: Q4853MS Matrix:Water

%Solids: Initial Calibration ID: J525AF30.M

Date Received: 05/18/00 Date Prepared:05/27/00 Date Analyzed:05/27/00

Concentration Units(mg/L or mg/Kg dry weight): ug/L

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
Carbon tetrachloride	.007	2.1	9.1449	1		
Chlorobenzene	.005	.4	9.7819	1		
Chloroethane	.01	1.	10.0125	1		
Chloroform	.011	.3	9.8916	1		
Chloromethane	.046	1.3	9.8845	1		
cis-1,2-Dichloroethene	.062	1.2	12.9851	1		
cis-1,3-Dichloropropene	.01	1.	9.4593	1		
Dibromochloromethane	.012	.5	9.2539	1		
Dibromomethane	.04	2.4	9.6385	1		
Dichlorodifluoromethane	.01	1.	9.9903	1		
Ethylbenzene	.008	.6	9.3912	1		
Hexachlorobutadiene	.031	1.1	8.4816	1		
Isopropylbenzene	.015	.5	8.6131	1		
Methylene chloride	.03	2.	9.6695	1		
n-Butylbenzene	.015	1.1	9.4928	1		
n-Propylbenzene	.016	.4	8.8188	1		
Naphthalene	.04	1.	9.1847	1		
o-Xylene	.012	1.1	9.6724	1		
p-Isopropyltoluene	.031	1.2	8.6678	1		
sec-Butylbenzene	.015	1.3	8.8356	1		
Styrene	.015	.5	3.8793	1		M
tert-Butylbenzene	.016	1.4	9.2853	1		
Tetrachloroethene	.008	1.4	9.5763	1		
Toluene	.011	1.1	9.0741	1		
trans-1,2-Dichloroethene	.077	.6	9.9546	1		
trans-1,3-Dichloropropene	.02	1.	9.0485	1		
Trichloroethene	.01	1.	10.3758	1		
Trichlorofluoromethane	.01	.8	10.2006	1		
Vinyl chloride	.013	1.1	12.3849	1		
Xylene (total)	.019	1.1	27.2034	1		

Comments:

AFCEE FORM O-2

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260 Preparatory Method:5030 AAB#: 052700W1

Lab Name: O'Brien & Gere Laboratories, Inc. Contract #: F41624-97-D-8018/0001

Field Sample ID: 59SW7WG1 Lab Sample ID: 04853MS Matrix:Water

%Solids: Initial Calibration ID: J525AF30.M

Date Received: 05/18/00 Date Prepared:05/27/00 Date Analyzed:05/27/00

Concentration Units(mg/L or mg/Kg dry weight): ug/L

Surrogate	Recovery	Control Limits	Qualifier
1,2-Dichloroethane-d4 (surrogate)	103	62-139	
Bromofluorobenzene (surrogate)	98	75-125	
Dibromofluoromethane (surrogate)	105	75-125	
Toluene-d8 (surrogate)	92	75-125	

Internal Std.	Qualifier
1,4-Dichlorobenzene-d4	
Chlorobenzene-d5	
Fluorobenzene	

Comments:

AFCEE FORM O-2

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260 Preparatory Method:5030 AAB#: 052700W1

Lab Name: O'Brien & Gere Laboratories, Inc. Contract #: F41624-97-D-8018/0001

Field Sample ID: 59SW7WG1 Lab Sample ID: 04853MSD Matrix:Water

%Solids: Initial Calibration ID: J525AF30.M

Date Received: 05/18/00 Date Prepared:05/27/00 Date Analyzed:05/27/00

Concentration Units(mg/L or mg/Kg dry weight): ug/L

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
(m+p)-Xylene	.019	.6	17.8924	1		
1,1,1,2-Tetrachloroethane	.017	.5	10.4861	1		
1,1,1-Trichloroethane	.014	.8	9.8868	1		
1,1,2,2-Tetrachloroethane	.09	.5	8.6102	1		
1,1,2-Trichloroethane	.01	1.	9.7969	1		
1,1-Dichloroethane	.009	.4	10.7442	1		
1,1-Dichloroethene	.025	1.2	9.8376	1		
1,1-Dichloropropene	.02	1.	9.1773	1		
1,2,3-Trichlorobenzene	.05	.3	9.7182	1		
1,2,3-Trichloropropane	.072	3.2	8.5246	1		
1,2,4-Trichlorobenzene	.021	.4	9.835	1		
1,2,4-Trimethylbenzene	.011	1.3	6.22	1		M
1,2-Dibromo-3-chloropropane	.205	2.6	8.9428	1		
1,2-Dibromoethane	.053	.6	10.1456	1		
1,2-Dichlorobenzene	.013	.3	9.5277	1		
1,2-Dichloroethane	.012	.6	9.7822	1		
1,2-Dichloropropane	.014	.4	9.2063	1		
1,3,5-Trimethylbenzene	.012	.5	6.8695	1		M
1,3-Dichlorobenzene	.01	1.2	9.5931	1		
1,3-Dichloropropane	.012	.4	9.8005	1		
1,4-Dichlorobenzene	.014	.3	9.3446	1		
1-Chlorohexane	.018	.5	9.7874	1		
2,2-Dichloropropane	.013	3.5	7.5952	1		
2-Chlorotoluene	.015	.4	9.3459	1		
4-Chlorotoluene	.011	.6	9.1142	1		
Benzene	.009	.4	9.4477	1		
Bromobenzene	.037	.3	8.9821	1		
Bromochloromethane	.014	.4	10.2368	1		
Bromodichloromethane	.011	.8	9.1793	1		
Bromoform	.042	1.2	7.6805	1		
Bromomethane	.074	1.1	10.206	1		

Comments:

AFCEE

ORGANIC ANALYSES DATA SHEET 2

RESULTS

Analytical Method: 8260 Preparatory Method:5030 AAB#: 052700W1

Lab Name: O'Brien & Gere Laboratories, Inc. Contract #: F41624-97-D-8018/0001

Field Sample ID: 59SW7WG1 Lab Sample ID: Q4853MSD Matrix:Water

%Solids: Initial Calibration ID: J525AF30.M

Date Received: 05/18/00 Date Prepared:05/27/00 Date Analyzed:05/27/00

Concentration Units(mg/L or mg/Kg dry weight): ug/L

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
Carbon tetrachloride	.007	2.1	9.2693	1		
Chlorobenzene	.005	.4	9.7957	1		
Chloroethane	.01	1.	10.0508	1		
Chloroform	.011	.3	9.8261	1		
Chloromethane	.046	1.3	10.0021	1		
cis-1,2-Dichloroethene	.062	1.2	12.6618	1		
cis-1,3-Dichloropropene	.01	1.	9.3346	1		
Dibromochloromethane	.012	.5	8.7808	1		
Dibromomethane	.04	2.4	9.4182	1		
Dichlorodifluoromethane	.01	1.	10.4616	1		
Ethylbenzene	.008	.6	9.7275	1		
Hexachlorobutadiene	.031	1.1	9.0087	1		
Isopropylbenzene	.015	.5	8.9212	1		
Methylene chloride	.03	2.	9.5609	1		
n-Butylbenzene	.015	1.1	9.7293	1		
n-Propylbenzene	.016	.4	8.9814	1		
Naphthalene	.04	1.	9.7413	1		
o-Xylene	.012	1.1	9.7782	1		
p-Isopropyltoluene	.031	1.2	8.863	1		
sec-Butylbenzene	.015	1.3	8.9829	1		
Styrene	.015	.5	4.4041	1		M
tert-Butylbenzene	.016	1.4	9.4205	1		
Tetrachloroethene	.008	1.4	9.647	1		
Toluene	.011	1.1	9.2171	1		
trans-1,2-Dichloroethene	.077	.6	9.894	1		
trans-1,3-Dichloropropene	.02	1.	9.0365	1		
Trichloroethene	.01	1.	10.358	1		
Trichlorofluoromethane	.01	.8	10.29	1		
Vinyl chloride	.013	1.1	11.6247	1		
Xylene (total)	.019	1.1	27.6706	1		

Comments:

AFCEE FORM O-2

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260 Preparatory Method:5030 AAB#: 052700W1

Lab Name: O'Brien & Gere Laboratories, Inc. Contract #: F41624-97-D-8018/0001

Field Sample ID: 59SW7WG1 Lab Sample ID: Q4853MSD Matrix:Water

%Solids: Initial Calibration ID: J525AF30.M

Date Received: 05/18/00 Date Prepared:05/27/00 Date Analyzed:05/27/00

Concentration Units(mg/L or mg/Kg dry weight): ug/L

Surrogate	Recovery	Control Limits	Qualifier
1,2-Dichloroethane-d4 (surrogate)	102	62-139	
Bromofluorobenzene (surrogate)	99	75-125	
Dibromofluoromethane (surrogate)	103	75-125	
Toluene-d8 (surrogate)	94	75-125	

Internal Std.	Qualifier
1,4-Dichlorobenzene-d4	
Chlorobenzene-d5	
Fluorobenzene	

Comments:

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260 Preparatory Method:5030 AAB#: 052700W1

Lab Name: O'Brien & Gere Laboratories, Inc. Contract #: F41624-97-D-8018/0001

Field Sample ID: TB1051600 Lab Sample ID: 04854 Matrix:Water

%Solids: Initial Calibration ID: JA525AF30.M

Date Received: 05/18/00 Date Prepared:05/27/00 Date Analyzed:05/27/00

Concentration Units(mg/L or mg/Kg dry weight): ug/L

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
(m+p)-Xylene	.019	.6	.019	1		U
1,1,1,2-Tetrachloroethane	.017	.5	.017	1		U
1,1,1-Trichloroethane	.014	.8	.014	1		U
1,1,2,2-Tetrachloroethane	.09	.5	.09	1		U
1,1,2-Trichloroethane	.01	1.	.01	1		U
1,1-Dichloroethane	.009	.4	.009	1		U
1,1-Dichloroethene	.025	1.2	.025	1		U
1,1-Dichloropropene	.02	1.	.02	1		U
1,2,3-Trichlorobenzene	.05	.3	.05	1		U
1,2,3-Trichloropropane	.072	3.2	.072	1		U
1,2,4-Trichlorobenzene	.021	.4	.021	1		U
1,2,4-Trimethylbenzene	.011	1.3	.011	1		U
1,2-Dibromo-3-chloropropane	.205	2.6	.205	1		U
1,2-Dibromoethane	.053	.6	.053	1		U
1,2-Dichlorobenzene	.013	.3	.013	1		U
1,2-Dichloroethane	.012	.6	.012	1		U
1,2-Dichloropropane	.014	.4	.014	1		U
1,3,5-Trimethylbenzene	.012	.5	.012	1		U
1,3-Dichlorobenzene	.01	1.2	.01	1		U
1,3-Dichloropropane	.012	.4	.012	1		U
1,4-Dichlorobenzene	.014	.3	.014	1		U
1-Chlorohexane	.018	.5	.018	1		U
2,2-Dichloropropane	.013	3.5	.013	1		U
2-Chlorotoluene	.015	.4	.015	1		U
4-Chlorotoluene	.011	.6	.011	1		U
Benzene	.009	.4	.009	1		U
Bromobenzene	.037	.3	.037	1		U
Bromochloromethane	.014	.4	.014	1		U
Bromodichloromethane	.011	.8	.011	1		U
Bromoform	.042	1.2	.042	1		U
Bromomethane	.074	1.1	.074	1		U

Comments:

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260 Preparatory Method:5030 AAB#: 052700W1

Lab Name: O'Brien & Gere Laboratories, Inc. Contract #: F41624-97-D-8018/0001

Field Sample ID: TB1051600 Lab Sample ID: Q4854 Matrix:Water

%Solids: Initial Calibration ID: J525AF30.M

Date Received: 05/18/00 Date Prepared:05/27/00 Date Analyzed:05/27/00

Concentration Units(mg/L or mg/Kg dry weight): ug/L

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
Carbon tetrachloride	.007	2.1	.007	1		U
Chlorobenzene	.005	.4	.005	1		U
Chloroethane	.01	1.	.01	1		U
Chloroform	.011	.3	.011	1		U
Chloromethane	.046	1.3	.046	1		U
cis-1,2-Dichloroethene	.062	1.2	.062	1		U
cis-1,3-Dichloropropene	.01	1.	.01	1		U
Dibromochloromethane	.012	.5	.012	1		U
Dibromomethane	.04	2.4	.04	1		U
Dichlorodifluoromethane	.01	1.	.01	1		U
Ethylbenzene	.008	.6	.008	1		U
Hexachlorobutadiene	.031	1.1	.031	1		U
Isopropylbenzene	.015	.5	.015	1		U
Methylene chloride	.03	2.	.03	1		U
n-Butylbenzene	.015	1.1	.015	1		U
n-Propylbenzene	.016	.4	.016	1		U
Naphthalene	.04	1.	.04	1		U
o-Xylene	.012	1.1	.012	1		U
p-Isopropyltoluene	.031	1.2	.031	1		U
sec-Butylbenzene	.015	1.3	.015	1		U
Styrene	.015	.5	.015	1		U
tert-Butylbenzene	.016	1.4	.016	1		U
Tetrachloroethene	.008	1.4	.008	1		U
Toluene	.011	1.1	.011	1		U
trans-1,2-Dichloroethene	.077	.6	.077	1		U
trans-1,3-Dichloropropene	.02	1.	.02	1		U
Trichloroethene	.01	1.	.01	1		U
Trichlorofluoromethane	.01	.8	.01	1		U
Vinyl chloride	.013	1.1	.013	1		U
Xylene (total)	.019	1.1	.019	1		U

Comments:

AFCEE FORM O-2

AFCEE

ORGANIC ANALYSES DATA SHEET 2

RESULTS

Analytical Method: 8260 Preparatory Method:5030 AAB#: 052700W1

Lab Name: O'Brien & Gere Laboratories, Inc. Contract #: F41624-97-D-8018/0001

Field Sample ID: TB1051600 Lab Sample ID: Q4854 Matrix:Water

%Solids: Initial Calibration ID: J525AF30.M

Date Received: 05/18/00 Date Prepared:05/27/00 Date Analyzed:05/27/00

Concentration Units(mg/L or mg/Kg dry weight): ug/L

Surrogate	Recovery	Control Limits	Qualifier
1,2-Dichloroethane-d4 (surrogate)	88	62-139	
Bromofluorobenzene (surrogate)	93	75-125	
Dibromofluoromethane (surrogate)	80	75-125	
Toluene-d8 (surrogate)	94	75-125	

Internal Std.	Qualifier
1,4-Dichlorobenzene-d4	
Chlorobenzene-d5	
Fluorobenzene	

Comments:

AFCEE FORM O-2

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260 Preparatory Method:5030 AAB#: 052700W1

Lab Name: O'Brien & Gere Laboratories, Inc. Contract #: F41624-97-D-8018/0001

Field Sample ID: AB1051700 Lab Sample ID: 04852 Matrix:Water

%Solids: Initial Calibration ID: J525AF30.M

Date Received: 05/18/00 Date Prepared:05/27/00 Date Analyzed:05/27/00

Concentration Units(mg/L or mg/Kg dry weight): ug/L

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
(m+p)-Xylene	.019	.6	.019	1		U
1,1,1,2-Tetrachloroethane	.017	.5	.017	1		U
1,1,1-Trichloroethane	.014	.8	.014	1		U
1,1,2,2-Tetrachloroethane	.09	.5	.09	1		U
1,1,2-Trichloroethane	.01	1.	.01	1		U
1,1-Dichloroethane	.009	.4	.009	1		U
1,1-Dichloroethene	.025	1.2	.025	1		U
1,1-Dichloropropene	.02	1.	.02	1		U
1,2,3-Trichlorobenzene	.05	.3	.05	1		U
1,2,3-Trichloropropane	.072	3.2	.072	1		U
1,2,4-Trichlorobenzene	.021	.4	.021	1		U
1,2,4-Trimethylbenzene	.011	1.3	.011	1		U
1,2-Dibromo-3-chloropropane	.205	2.6	.205	1		U
1,2-Dibromoethane	.053	.6	.053	1		U
1,2-Dichlorobenzene	.013	.3	.013	1		U
1,2-Dichloroethane	.012	.6	.012	1		U
1,2-Dichloropropane	.014	.4	.014	1		U
1,3,5-Trimethylbenzene	.012	.5	.012	1		U
1,3-Dichlorobenzene	.01	1.2	.01	1		U
1,3-Dichloropropane	.012	.4	.012	1		U
1,4-Dichlorobenzene	.014	.3	.014	1		U
1-Chlorohexane	.018	.5	.018	1		U
2,2-Dichloropropane	.013	3.5	.013	1		U
2-Chlorotoluene	.015	.4	.015	1		U
4-Chlorotoluene	.011	.6	.011	1		U
Benzene	.009	.4	.12	1		F
Bromobenzene	.037	.3	.037	1		U
Bromochloromethane	.014	.4	.014	1		U
Bromodichloromethane	.011	.8	.011	1		U
Bromoform	.042	1.2	.042	1		U
Bromomethane	.074	1.1	.074	1		U

Comments:

AFCEE FORM O-2

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260 Preparatory Method:5030 AAB#: 052700W1

Lab Name: O'Brien & Gere Laboratories, Inc. Contract #: F41624-97-D-8018/0001

Field Sample ID: AB1051700 Lab Sample ID: Q4852 Matrix:Water

%Solids: Initial Calibration ID: J525AF30.M

Date Received: 05/18/00 Date Prepared:05/27/00 Date Analyzed:05/27/00

Concentration Units(mg/L or mg/Kg dry weight): ug/L

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
Carbon tetrachloride	.007	2.1	.007	1		U
Chlorobenzene	.005	.4	.005	1		U
Chloroethane	.01	1.	.01	1		U
Chloroform	.011	.3	.7	1		
Chloromethane	.046	1.3	.046	1		U
cis-1,2-Dichloroethene	.062	1.2	.062	1		U
cis-1,3-Dichloropropene	.01	1.	.01	1		U
Dibromochloromethane	.012	.5	.012	1		U
Dibromomethane	.04	2.4	.04	1		U
Dichlorodifluoromethane	.01	1.	.01	1		U
Ethylbenzene	.008	.6	.008	1		U
Hexachlorobutadiene	.031	1.1	.031	1		U
Isopropylbenzene	.015	.5	.015	1		U
Methylene chloride	.03	2.	.03	1		U
n-Butylbenzene	.015	1.1	.015	1		U
n-Propylbenzene	.016	.4	.016	1		U
Naphthalene	.04	1.	.04	1		U
o-Xylene	.012	1.1	.012	1		U
p-Isopropyltoluene	.031	1.2	.031	1		U
sec-Butylbenzene	.015	1.3	.015	1		U
Styrene	.015	.5	.015	1		U
tert-Butylbenzene	.016	1.4	.016	1		U
Tetrachloroethene	.008	1.4	.008	1		U
Toluene	.011	1.1	.011	1		U
trans-1,2-Dichloroethene	.077	.6	.077	1		U
trans-1,3-Dichloropropene	.02	1.	.02	1		U
Trichloroethene	.01	1.	.01	1		U
Trichlorofluoromethane	.01	.8	.01	1		U
Vinyl chloride	.013	1.1	.013	1		U
Xylene (total)	.019	1.1	.019	1		U

Comments:

AFCEE FORM O-2

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260 Preparatory Method:5030 AAB#: 052700W1

Lab Name: O'Brien & Gere Laboratories, Inc. Contract #: F41624-97-D-8018/0001

Field Sample ID: AB1051700 Lab Sample ID: Q4852 Matrix:Water

%Solids: Initial Calibration ID: J525AF30.M

Date Received: 05/18/00 Date Prepared:05/27/00 Date Analyzed:05/27/00

Concentration Units(mg/L or mg/Kg dry weight): ug/L

Surrogate	Recovery	Control Limits	Qualifier
1,2-Dichloroethane-d4 (surrogate)	90	62-139	
Bromofluorobenzene (surrogate)	92	75-125	
Dibromofluoromethane (surrogate)	82	75-125	
Toluene-d8 (surrogate)	97	75-125	

Internal Std.	Qualifier
1,4-Dichlorobenzene-d4	
Chlorobenzene-d5	
Fluorobenzene	

Comments:

AFCEE FORM O-2