FINAL

GROUNDWATER MONITORING REPORT

for the November 1998 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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February 1999

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PREFACE

This *Final Groundwater Monitoring Report* was prepared by Earth Tech to describe field and laboratory operations conducted as part of the 1998/1999 semiannual groundwater monitoring at Air Force Plant 59 (AFP 59), Johnson City, New York. Field work 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 0003. The groundwater monitoring is being conducted to accomplish the following objectives:

1. To collect and analyze groundwater samples from select monitoring wells to characterize the extent of volatile organic compounds (VOCs) in site groundwater, and

2. To evaluate the direction of groundwater flow beneath AFP 59 in the shallow and deep zones of the aquifer.

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This document is the *Final Groundwater Monitoring Report for the November 1998 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 objectives: to collect and analyze groundwater samples from select monitoring wells to characterize the extent of volatile organic compounds in site groundwater, and to evaluate the direction of groundwater flow beneath AFP 59 in the shallow and deep zones of the aquifer.

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LIST OF ACRONYMS AND ABBREVIATIONS

AFCEE	Air Force Center for Environmental Excellence
AFP 59	Air Force Plant 59
AOC	Area of Concern
bgs	Below Ground Surface
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
DCB	Dichlorobenzene
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

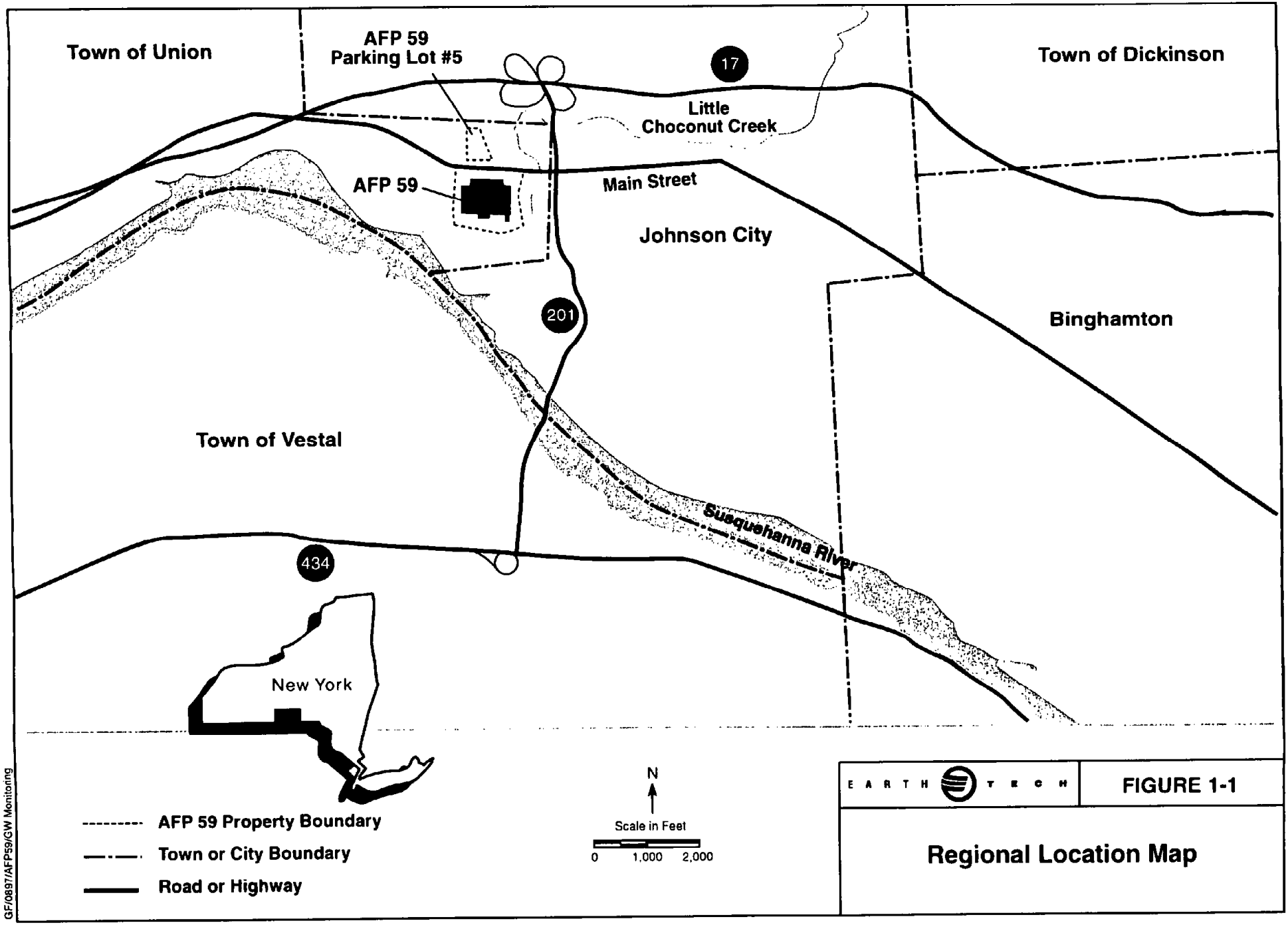
1.0 INTRODUCTION

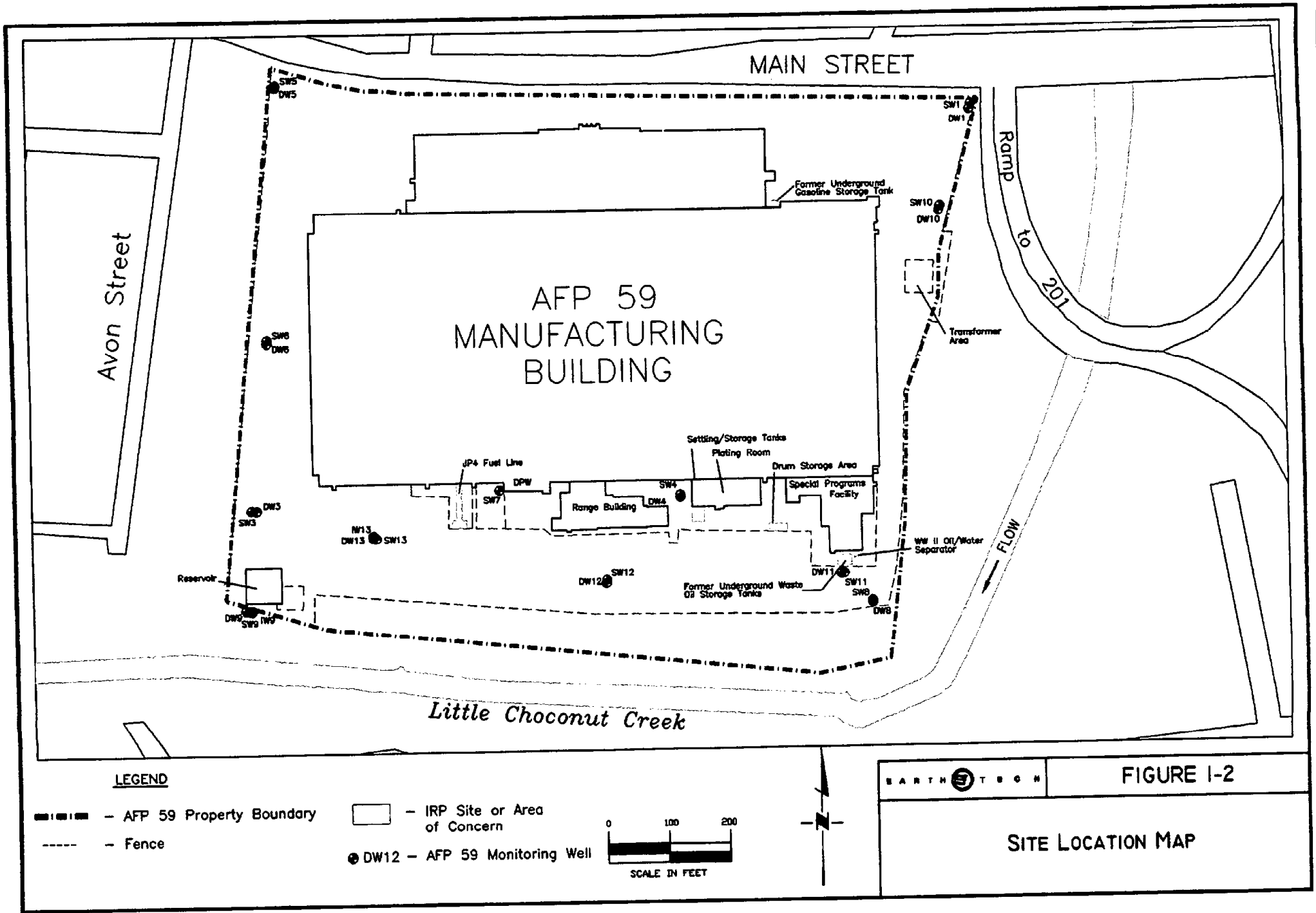
This *Final Groundwater Monitoring Report* was prepared by Earth Tech to describe field and laboratory operations conducted as part of the 1998/1999 semiannual groundwater monitoring at Air Force Plant 59 (AFP 59), Johnson City, New York. Earth Tech was contracted by the Air Force Center for Environmental 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, monitoring wells, Installation Restoration Program (IRP) sites, and areas of concern (AOCs) at AFP 59. The groundwater monitoring was conducted to accomplish the following objectives:

- To collect and analyze groundwater samples from select monitoring wells to characterize the extent of volatile organic compounds (VOCs) in site groundwater, and
- To evaluate the direction of groundwater flow beneath AFP 59 in the shallow and deep zones of the aquifer.

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 November 1998 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/08897/AFP59/GW Monitoring


MAIN STREET
Avon Street
Ramp to 201
AFP 59
MANUFACTURING
BUILDING
Former Underground Gasoline Storage Tank
Transformer Area
Settling/Storage Tanks
Plating Room
Drum Storage Area
Special Programs Facility
JP4 Fuel Line
DPW
Range Building
WW II Oil/Water Separator
Former Underground Waste Oil Storage Tanks
Reservoir
FLOW
Little Choconut Creek
SW1
DW1
SW2
DW2
SW3
DW3
SW4
DW4
SW5
DW5
SW6
DW6
SW7
SW8
DW8
SW9
DW9
SW10
DW10
SW11
DW11
SW12
DW12
SW13
DW13
LEGEND
– AFP 59 Property Boundary
– Fence
– IRP Site or Area of Concern
DW12 – AFP 59 Monitoring Well
0
100
200
SCALE IN FEET
EARTH TECH
FIGURE 1-2
SITE LOCATION MAP

2.0 PROJECT ACTIVITIES

This section summarizes activities conducted during the November 1998 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, 1996a) and recommendations made by the New York State Department of Environmental Conservation (NYSDEC), it was determined that VOCs represent the only chemicals of potential concern in groundwater at AFP 59. As a result, groundwater samples were collected in December 1995 and analyzed for VOCs by USEPA Method SW8260; the results of the December 1995 sampling are presented in the *Final Remedial Investigation Report Addendum* (Earth Tech, 1996b). Because VOCs are the only chemicals of potential concern in groundwater at AFP 59, groundwater samples collected during the November 1998 sampling event (and the upcoming May 1999 sampling event) were also 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 November 1998 sampling event, and Figure 2.1-1 shows the locations of the on-site monitoring wells sampled during the November 1998 sampling event.

As presented in the *Final Work Plan for Groundwater Monitoring at AFP 59* (Earth Tech, 1998), the same monitoring wells that were sampled during the December 1995 sampling event were supposed to be sampled during the November 1998 and May 1999 sampling events. However, it was not possible to collect a sample from monitoring well SW13 because the depth to water and the total depth of the monitoring well were both measured at 18.10 feet below ground surface (bgs). The total depth recorded in November 1998 was 10.6 feet shallower than the depth of 28.70 feet bgs measured in December 1995, and the bottom of the monitoring well contained sand (as noted in the bottom of a bailer). Consequently, it is assumed that the screened interval cracked at some point in time between December 1995 and November 1998, allowing 10.6 feet of sand (presumably from both the monitoring well filter pack and the aquifer) to flow into the well.

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	9	0(1)	1	2	1	13

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

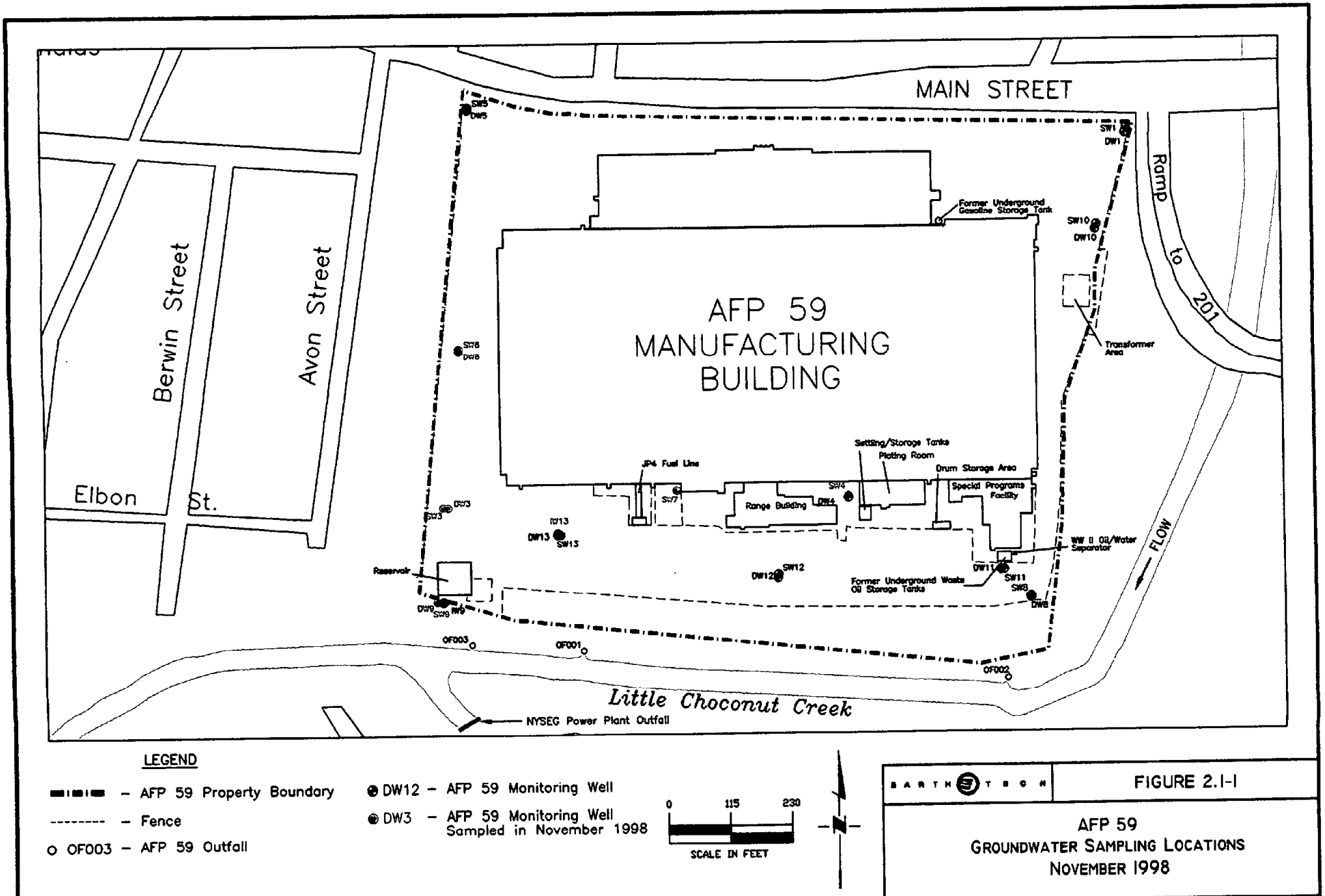


FIGURE 2.1-1

AFP 59
GROUNDWATER SAMPLING LOCATIONS
NOVEMBER 1998

Although it was not possible to sample monitoring well SW13, monitoring well IW13, which is screened at the base of the shallow zone of the aquifer, was sampled in November 1998. Because the chemicals of potential concern are dense VOCs that tend to sink through an aquifer, groundwater samples collected from monitoring well IW13 will better characterize groundwater quality than groundwater samples collected from monitoring well SW13. Therefore, groundwater samples collected from monitoring well IW13 will be used to characterize groundwater quality in the area of the monitoring well cluster.

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 nine 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 groundwater sampling event was to provide an additional round of analytical data to characterize the extent of VOCs in site groundwater (including both the shallow and deep zones of the aquifer).

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 (e.g., the

sand in the bottom of monitoring well SW13) 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 November 1998 sampling event at AFP 59 are summarized in this section. Section 3.1 summarizes the analytical results; 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 November 1998 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 November 1998 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.

- **J** The analyte was positively identified, but the quantitation is an estimation.
- U The analyte was analyzed for, but not detected. The associated numerical value is at or below the MDL.
- **F** The analyte was positively identified, but the associated numerical value is below the RL.
- **R** The data are unusable due to deficiencies in the ability to analyze the sample and meet quality control criteria.
- **M** A matrix effect was present.

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	0.031	µg/L	0.5	µg/L
SW8260B	1,1,1-TCA	0.034	µg/L	0.8	µg/L
	1,1,2,2-Tetrachloroethane	0.033	µg/L	0.5	µg/L
	1,1,2-TCA	0.034	µg/L	1.0	µg/L
	1,1-DCA	0.020	µg/L	0.4	µg/L
	1,1-DCE	0.023	µg/L	1.2	µg/L
	1,1-Dichloropropene	0.021	µg/L	1.0	µg/L
	1,2,3-Trichlorobenzene	0.045	µg/L	0.3	µg/L
	1,2,3-Trichloropropane	0.040	µg/L	3.2	µg/L
	1,2,4-Trichlorobenzene	0.044	µg/L	0.4	µg/L
	1,2,4-Trimethylbenzene	0.031	µg/L	1.3	µg/L
	1,2-DCA	0.034	µg/L	0.6	µg/L
	1,2-DCB	0.038	µg/L	0.3	µg/L
	trans-1,2-Dichloroethene	0.034	µg/L	0.6	µg/L
	1,2-Dibromo-3-chloropropane	0.027	µg/L	2.6	µg/L
	1,2-Dibromoethane	0.033	µg/L	0.6	µg/L
	1,2-Dichloropropane	0.031	µg/L	0.4	µg/L
	1,3,5-Trimethylbenzene	0.035	µg/L	0.5	µg/L
	1,3-DCB	0.034	µg/L	1.2	µg/L
	1,3-Dichloropropane	0.032	µg/L	0.4	µg/L
	1,4-DCB	0.035	µg/L	0.3	µg/L
	2,2-Dichloropropane	0.033	µg/L	3.5	µg/L
	2-Chlorotoluene	0.031	µg/L	0.4	µg/L
	4-Chlorotoluene	0.031	µg/L	0.6	µg/L
	Benzene	0.032	µg/L	0.4	µg/L
	Bromobenzene	0.039	µg/L	0.3	µg/L
	Bromochloromethane	0.031	µg/L	0.4	µg/L
	Bromodichloromethane	0.031	µg/L	0.8	µg/L
	Bromoform	0.031	µg/L	1.2	µg/L
	Bromomethane	0.030	µg/L	1.1	µg/L
	n-Butylbenzene	0.032	µg/L	1.1	µg/L
	sec-Butylbenzene	0.031	µg/L	1.3	µg/L
	tert-Butylbenzene	0.031	µg/L	1.4	µg/L
	Carbon tetrachloride	0.032	µg/L	2.1	µg/L
	Chlorobenzene	0.049	µg/L	0.4	µg/L
	Chloroethane	0.042	µg/L	1.0	µg/L
	Chloroform	0.016	µg/L	0.3	µg/L
	Chloromethane	0.045	µg/L	1.3	µg/L
	cis-1,2-DCE	0.042	µg/L	1.2	µg/L
	cis-1,3-Dichloropropene	0.031	µg/L	1.0	µg/L
	Dibromochloromethane	0.020	µg/L	0.5	µg/L
	Dibromomethane	0.031	µg/L	2.4	µg/L
	Dichlorodifluoromethane	0.018	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	0.032	µg/L	1.0	µg/L
	Ethylbenzene	0.035	µg/L	0.6	µg/L
	Hexachlorobutadiene	0.035	µg/L	1.1	µg/L
	Isopropylbenzene	0.038	µg/L	0.5	µg/L
	p-Isopropyltoluene	0.031	µg/L	1.2	µg/L
	Methlene Chloride	0.031	µg/L	0.3	µg/L
	Naphthalene	0.042	µg/L	1.0	µg/L
	n-Propylbenzene	0.022	µg/L	0.4	µg/L
	Styrene	0.049	µg/L	0.5	µg/L
	Tetrachloroethene	0.049	µg/L	1.4	µg/L
	Trichloroethene	0.046	µg/L	1.0	µg/L
	Trichlorofluoromethane	0.033	µg/L	0.8	µg/L
	Toluene	0.036	µg/L	1.1	µg/L
	Vinyl Chloride	0.035	µg/L	1.1	µg/L
	(m&p)-Xylenes	0.082	µg/L	0.6	µg/L
	o-Xylene	0.044	µg/L	1.1	µg/L

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 November 1998 sampling event.

The following monitoring wells were sampled:

- Shallow monitoring wells SW3, SW4, SW6, SW7, and SW9;
- Intermediate monitoring well IW13; and
- Deep monitoring wells DW3, DW6, and DW9.

3.1.3 VOCs Detected in Groundwater Samples

This section discusses the VOCs that were detected in the groundwater samples. No background monitoring wells were sampled during the November 1998 groundwater sampling event; therefore, only site detections are presented. The analytical results for groundwater samples collected from monitoring wells installed in the shallow and deep zones of the aquifer are discussed separately below. Results for the groundwater sample collected from intermediate monitoring well IW13 are discussed with the data from the shallow monitoring wells. The analytical results for all groundwater samples collected during the November 1998 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 all groundwater samples collected from monitoring wells screened in the shallow zone of the aquifer (including monitoring well IW13). The majority of the VOCs detected were chlorinated hydrocarbons, although trace levels (i.e., concentrations below the laboratory RLs) of the following compounds were also detected: toluene at monitoring well SW4, and bromoform at monitoring well SW6. The maximum concentrations of chlorinated hydrocarbons were generally detected in groundwater samples collected from monitoring wells at SW4 and SW7.

The following maximum concentrations were detected in the groundwater samples (including the duplicate sample) collected from monitoring well SW4: trichloroethene (TCE) at 46 micrograms per liter (µg/L); 1,1,1-trichloroethane (1,1,1-TCA) at 8.0 µg/L; 1,1-dichloroethene (1,1-DCE) at

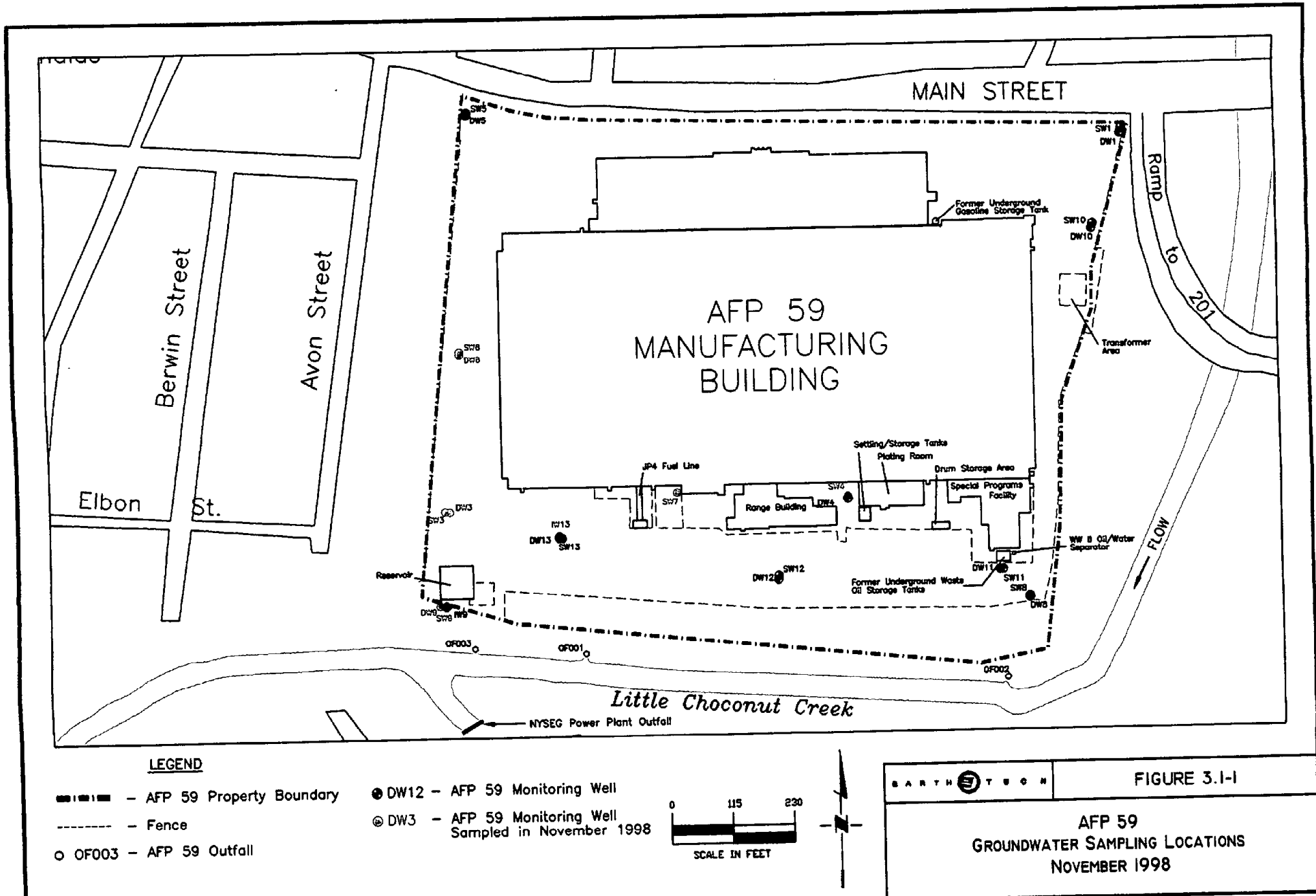

MAIN STREET
Berwin Street
Avon Street
Elbon St.
Ramp to 201
AFP 59
MANUFACTURING
BUILDING
Former Underground Gasoline Storage Tank
Transformer Area
Setting/Storage Tanks
Plating Room
Drum Storage Area
Special Programs Facility
JP4 Fuel Line
Range Building
WW II Oil/Water Separator
Former Underground Waste Oil Storage Tanks
Reservoir
FLOW
Little Choconut Creek
NYSEG Power Plant Outfall
SW1
DW1
SW3
DW3
SW5
DW5
SW6
DW6
SW7
SW8
DW8
SW9
DW9
SW10
DW10
SW11
DW11
SW12
DW12
SW13
DW13
OF001
OF002
OF003
LEGEND
– AFP 59 Property Boundary
– Fence
OF003 – AFP 59 Outfall
DW12 – AFP 59 Monitoring Well
DW3 – AFP 59 Monitoring Well Sampled in November 1998
0
115
230
SCALE IN FEET
EARTH TECH
FIGURE 3.1-1
AFP 59
GROUNDWATER SAMPLING LOCATIONS
NOVEMBER 1998

Table 3.1-2. Groundwater Data Summary for VOCs

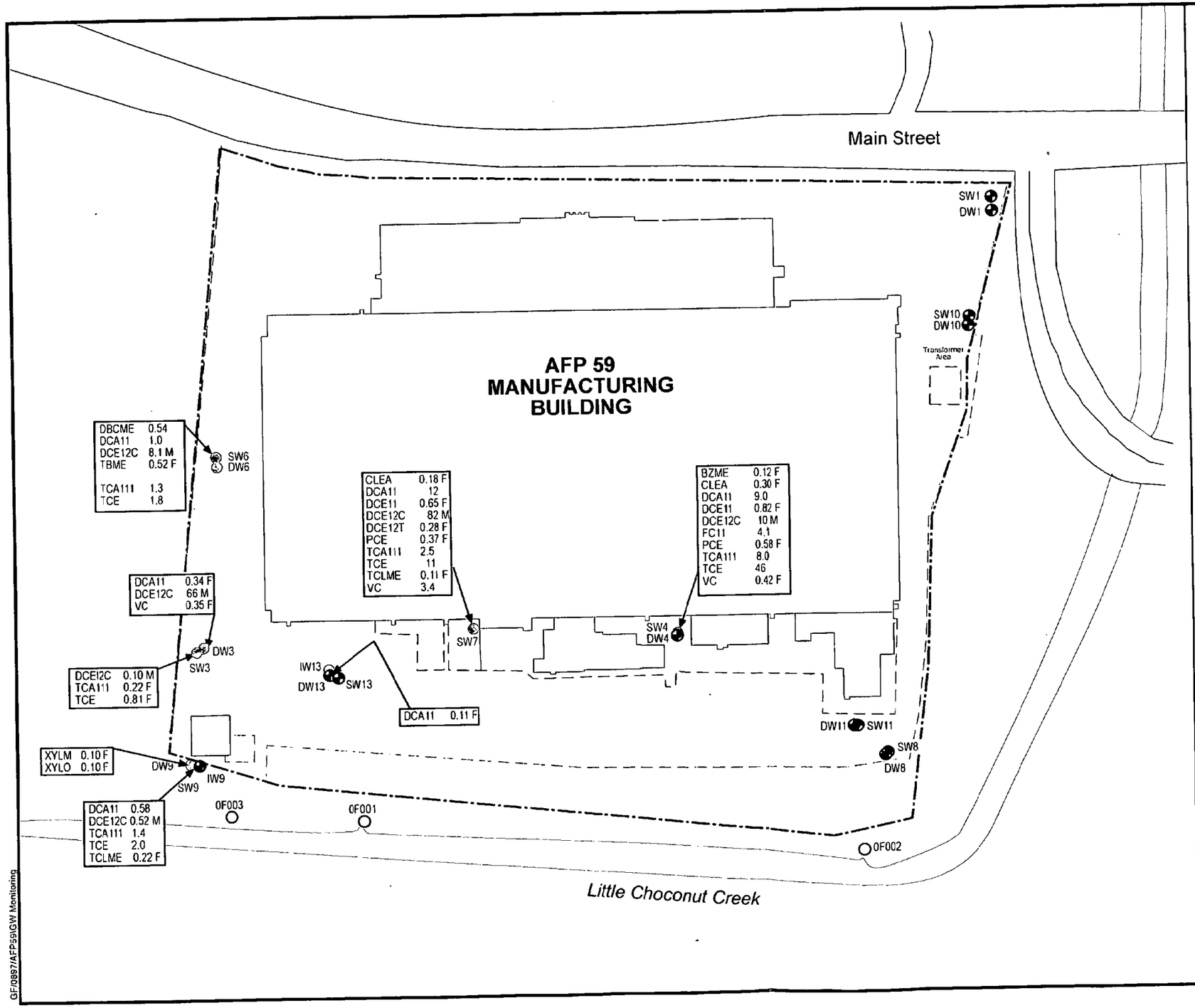
Parameters	Action Levels*	59SW3WG1	59DW3WG1	59SW4WG1	59SW4WG9	59SW6WG1
1,1,1-Trichloroethane	5	0.22F	--	**8.0**	**7.8**	1.3
Trichloroethene	5	0.81F	--	**46**	**46**	1.8
Vinyl Chloride	2	--	0.35F	0.42F	0.42F	--
1,1-Dichloroethene	5	--	--	0.82F	0.78F	--
cis-1,2-Dichloroethene	5	0.10M	**66M**	**10M**	**9.9M**	**8.1M**
trans-1,2-Dichloroethene	5	--	--	--	--	--
1,1-Dichloroethane	5	--	0.34F	**9.0**	**8.8**	1.0
Chloroethane	5	--	--	0.30F	--	--
Trichlorofluoromethane	5	--	--	4.0	4.1	--
Tetrachloroethene	5	--	--	0.58F	0.56F	--
Toluene	5	--	--	--	0.12F	--
Dibromochloromethane	5	--	--	--	--	0.54
Bromoform	5	--	--	--	--	0.52F
Chloroform	5	--	--	--	--	--
o-Xylene	5	--	--	--	--	--
(m&p)-Xylenes	5	--	--	--	--	--

Parameters	Action Levels*	59DW6WG1	59SW7WG1	59SW9WG1	59DW9WG1	59IW13WG1
1,1,1-Trichloroethane	5	--	2.5	1.4	--	--
Trichloroethene	5	--	**11**	2.0	--	--
Vinyl Chloride	2	--	**3.4**	--	--	--
1,1-Dichloroethene	5	--	0.65F	--	--	--
cis-1,2-Dichloroethene	5	--	**82M**	0.52M	--	--
trans-1,2-Dichloroethene	5	--	0.28F	--	--	--
1,1-Dichloroethane	5	--	**12**	0.58	--	0.11F
Chloroethane	5	--	0.18F	--	--	--
Trichlorofluoromethane	5	--	--	--	--	--
Tetrachloroethene	5	--	0.37F	--	--	--
Toluene	5	--	--	--	--	--
Dibromochloromethane	5	--	--	--	--	--
Bromoform	5	--	--	--	--	--
Chloroform	5	--	0.11F	0.22F	--	--
o-Xylene	5	--	--	--	0.10F	--
(m&p)-Xylenes	5	--	--	--	0.10F	--

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

Qualifiers: F = *Analyte detected between RL and MDL.*
M = Matrix effect present.

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 1998

AFP 59 Outfall

BZME = toluene
CLEA = chloroethane
DBCME = dibromochloromethane
DCA11 = 1,1-dichloroethane
DCE11 = 1,1-dichloroethene
DCE12C = cis-1,2-dichloroethene
DCE12T = trans-1,2-dichloroethene
FC11 = trichlorofluoromethane
PCE = tetrachloroethene
TBME = bromoform
TCA111 = 1,1,1-trichloroethane
TCE = trichloroethene
TCLME = chloroform
VC = vinyl chloride
XYLM = m&p-xylenes
XYLO = o-xylene

F = Analyte detected between RL and MDL
J = Estimated
M = Matrix effect present

Notes:

Concentrations are reported in µg/L.

If no data are presented at a monitoring well location, no VOCs were detected in the groundwater sample.

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

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	6 of 7	0.22	8.0	SW4
1,1-Dichloroethane	6 of 7	0.58	12	SW7
1,1-Dichloroethene	3 of 7	0.65	0.82	SW4
Chloroethane	2 of 7	0.18	0.30	SW4
cis-1,2-Dichloroethene	6 of 7	0.10	82	SW7
Tetrachloroethene	3 of 7	0.37	0.58	SW4
trans-1,2-Dichloroethene	1 of 7	0.28	0.28	SW7
Trichloroethene	6 of 7	0.81	46	SW4
Trichlorofluoromethane	2 of 7	4.0	4.1*	SW4
Chloroform	2 of 7	0.11	0.22	SW9
Vinyl Chloride	3 of 7	0.42	3.4	SW7

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

* Trichlorofluoromethane was only detected at monitoring well SW4; the maximum concentration was detected in the duplicate sample.

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

0.82 µg/L; tetrachloroethene (PCE) at 0.58 µg/L; chloroethane at 0.30 µg/L; trichlorofluoromethane at 4.1 µg/L; and toluene at 0.12 µg/L. The following maximum concentrations were detected in the groundwater sample collected from monitoring well SW7: cis-1,2-dichloroethene (cis-1,2-DCE) at 82 µg/L; 1,1-dichloroethane (1,1-DCA) at 12 µg/L; vinyl chloride at 3.4 µg/L; and trans-1,2-dichloroethene (trans-1,2-DCE) at 0.28 µg/L.

The concentrations of chlorinated hydrocarbons decrease downgradient of monitoring wells SW4 and SW7 along the western border of the plant. Maximum concentrations of TCE and 1,1,1-TCA along the western border were 2.0 µg/L and 1.4 µg/L, respectively, at monitoring well SW9. The chlorinated hydrocarbons most frequently detected in the shallow zone of the aquifer were TCE and its breakdown products and 1,1,1-TCA and its breakdown products.

Deep Zone of the Aquifer. Fewer VOCs were detected in groundwater samples from the deep monitoring wells than in groundwater samples 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.

Five VOCs were detected in the groundwater samples collected from the deep monitoring wells, with each VOC being detected in only one monitoring well. Three chlorinated hydrocarbons were detected in the groundwater sample collected from monitoring well DW3, including cis-1,2-DCE at 66 µg/L, 1,1-DCA at 0.34 µg/L, and vinyl chloride at 0.35 µg/L. Two petroleum hydrocarbons were detected at trace levels (i.e., concentrations below the laboratory RLs) in the groundwater sample collected from monitoring well DW9, including m&p-xylenes at 0.1 µg/L and o-xylene at 0.1 µg/L. No VOCs were detected in the groundwater sample collected from monitoring well DW6.

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 two or more times are included in the table. In the groundwater samples collected from the shallow monitoring wells during the November 1998 sampling event, concentrations of the chlorinated hydrocarbons decreased relative to the previous sampling event in monitoring wells SW9 and IW13. Concentrations of the chlorinated hydrocarbons remained relatively constant in monitoring well SW3, although trace levels of 1,1,1-TCA and cis-1,2-DCE, which were not detected during the previous sampling event, were detected. Concentrations of the chlorinated hydrocarbons varied in monitoring well SW4; concentrations of 1,1,1-TCA, TCE, and cis-1,2-DCE decreased, while vinyl chloride was detected for the first time and concentrations of 1,1-DCE and 1,1-DCA increased. Concentrations of the chlorinated hydrocarbons increased in monitoring wells SW6 and SW7.

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 3	66	66	DW3
1,1-Dichloroethane	1 of 3	0.34	0.34	DW3
Vinyl Chloride	1 of 3	0.35	0.35	DW3
m&p-Xylenes	1 of 3	0.1	0.1	DW9
o-Xylene	1 of 3	0.1	0.1	DW9

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

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

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]	--	--	--	--	--	--
DW1	Jan. 1992[2]	0.6	--	--	--	--	--
	Dec. 1994[3]	--	--	--	--	1.8 (c)	--
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)	--
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. 1993[3]	--	--	0.35	--	66 (c)	0.34
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
DW4	Jan. 1992[3]	0.9	0.2	--	--	--	--
	Dec. 1994[3]	--	1.2	--	--	0.28 (c)	--
	July 1997[4]	--	--	--	--	--	--

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
SW5	Jan. 1992[2]	0.3	--	--	--	--	--
	Dec. 1994[3]	--	--	--	--	--	--
DW5	Jan. 1992[2]	2	--	--	--	--	--
	Dec. 1994[3]	--	--	--	--	--	--
SW6	Jan. 1992[2]	1	1	--	--	--	0.2
	Dec. 1994[3]	2.3	1.8	--	--	--	1.6
	Dec. 1995[3]	0.82	1.2	--	--	3.0 (c)	0.55
	Nov. 1998[3]	1.3	1.8	--	--	8.1 (c)	1.0
DW6	Jan. 1992[2]	--	--	--	--	--	--
	Dec. 1994[3]	--	--	--	--	--	--
	Dec. 1995[3]	--	--	--	--	--	--
	Nov. 1998[3]	--	--	--	--	--	--
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
DW7	Sept. 1986[1]	9	11	--	--	66 (t)	16
	Jan. 1992[2]	3	7	--	--	--	3
	Dec. 1994[3]	1.2	4	--	--	--	2.4
SW8	Jan. 1992[2]	--	1.3	--	--	--	--
	Dec. 1994[3]	--	0.65	--	--	8.84 (c)	--
DW8	Jan. 1992[2]	0.6	--	--	--	--	--
	Dec. 1994[3]	--	--	--	--	--	--
SW9	Jan. 1992[2]	15.2	10	--	--	--	2
	Dec. 1994[3]	1.8	2.4	--	--	0.67 (c)	0.62
	Dec. 1995[3]	11	12	--	--	4.2 (c)	8
	Nov. 1998[3]	1.4	2.0	--	--	0.52 (c)	0.58

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
DW9	Jan. 1992[2]	0.2	--	--	--	--	--
	Dec. 1994[3]	--	--	--	--	--	--
	Dec. 1995[3]	--	--	--	--	--	--
	Nov. 1998[3]	--	--	--	--	--	--
SW13	Dec. 1994[3]	--	--	--	--	--	--
	Dec. 1995[3]	--	--	--	--	--	--
IW13	Dec. 1994[3]	--	--	--	--	--	--
	Dec. 1995[3]	--	0.73	--	--	0.77 (c)	--
	Nov. 1998[3]	--	--	--	--	--	0.11

Key:

µg/L	=	Micrograms per liter
(c)	=	cis-1,2-Dichloroethene
(t)	=	trans-1,2-Dichloroethene
TCA	=	1,1,1-Trichloroethane
TCE	=	Trichloroethene
VC	=	Vinyl Chloride
11DCE	=	*1,1-Dichloroethene*
12DCE	=	1,2-Dichloroethene
11DCA	=	*1,1-Dichloroethane*
(1)	=	*Fred C. Hart Associates*
(2)	=	Argonne National Laboratories
(3)	=	Earth Tech
(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.

In the groundwater samples collected from the deep monitoring wells during the November 1998 sampling event, concentrations of the chlorinated hydrocarbons remained constant in monitoring wells DW6 and DW9, where none of the chlorinated hydrocarbons were detected. Concentrations of the chlorinated hydrocarbons increased in monitoring wells DW3.

4.0 CONCLUSIONS

This section provides conclusions from analytical and hydrogeological data generated as a result of the November 1998 sampling event. The conclusions address each of the objectives of the investigation. Section 4.1 discusses the significance of the analytical results; Section 4.2 evaluates groundwater flow directions at AFP 59 based on November 1998 groundwater level measurements.

4.1 Analytical Results

The following objective was defined in Section 1.0 for the analytical data generated during the November 1998 sampling event: to collect and analyze groundwater samples from select monitoring wells to characterize the extent of VOCs in site groundwater. This section evaluates the analytical results for VOCs and assesses the extent of VOCs at AFP 59.

The VOCs that were detected in groundwater samples collected from monitoring wells screened in the shallow and deep zones of the aquifer during the November 1998 sampling event are similar to the VOCs that have been detected during previous investigations. Chlorinated hydrocarbons were the most commonly detected VOCs in site groundwater, with TCE, 1,1,1-TCA, 1,1-DCA, and cis-1,2-DCE being the most commonly detected chlorinated hydrocarbons. VOC concentrations detected in groundwater samples from monitoring wells screened in the shallow zone of the aquifer were consistently higher than VOC concentrations detected in groundwater samples from monitoring wells screened in the deep zone of the aquifer; the one exception was the detection of cis-1,2-DCE (66 µg/L) in monitoring well DW3.

The highest concentrations of VOCs were generally detected in groundwater samples collected from monitoring wells SW4 and SW7, which are along the south-central edge of the plant and downgradient of the Plating Room (the suspected source of VOCs in groundwater). Although there were elevated concentrations of VOCs in the shallow zone of the aquifer at AFP 59, the concentrations of the VOCs decreased rapidly downgradient in the direction of the Camden Street Wellfield. In the short distance downgradient from monitoring wells SW4 and SW7 to the monitoring wells along the western boundary of AFP 59, the maximum concentrations of TCE (46 µg/L at SW4), 1,1,1-TCA (8.0 µg/L at SW4), 1,1-DCA (12 µg/L at SW7), and cis-1,2-DCE (82 µg/L at SW7) decreased to 2.0 µg/L at SW9, 1.4 µg/L at SW9, 1.0 µg/L at SW6, and 8.1 µg/L at SW6, respectively. Monitoring well SW6 was the only shallow well sampled along the western boundary that had a detection above New York State drinking water standards (8.1 µg/L of cis-1,2-DCE exceeded the New York State drinking water standard of 5 µg/L). Additionally, there was only one VOC detected in the groundwater sample collected from monitoring well IW13, which is located downgradient of the Plating Room and is screened in the shallow zone of the aquifer. Therefore, with the exception of the cis-1,2-DCE detection in the groundwater sample collected from monitoring well SW6, groundwater in the shallow zone of the aquifer that

migrates off site toward the Camden Street Wellfield complies with New York State drinking water standards.

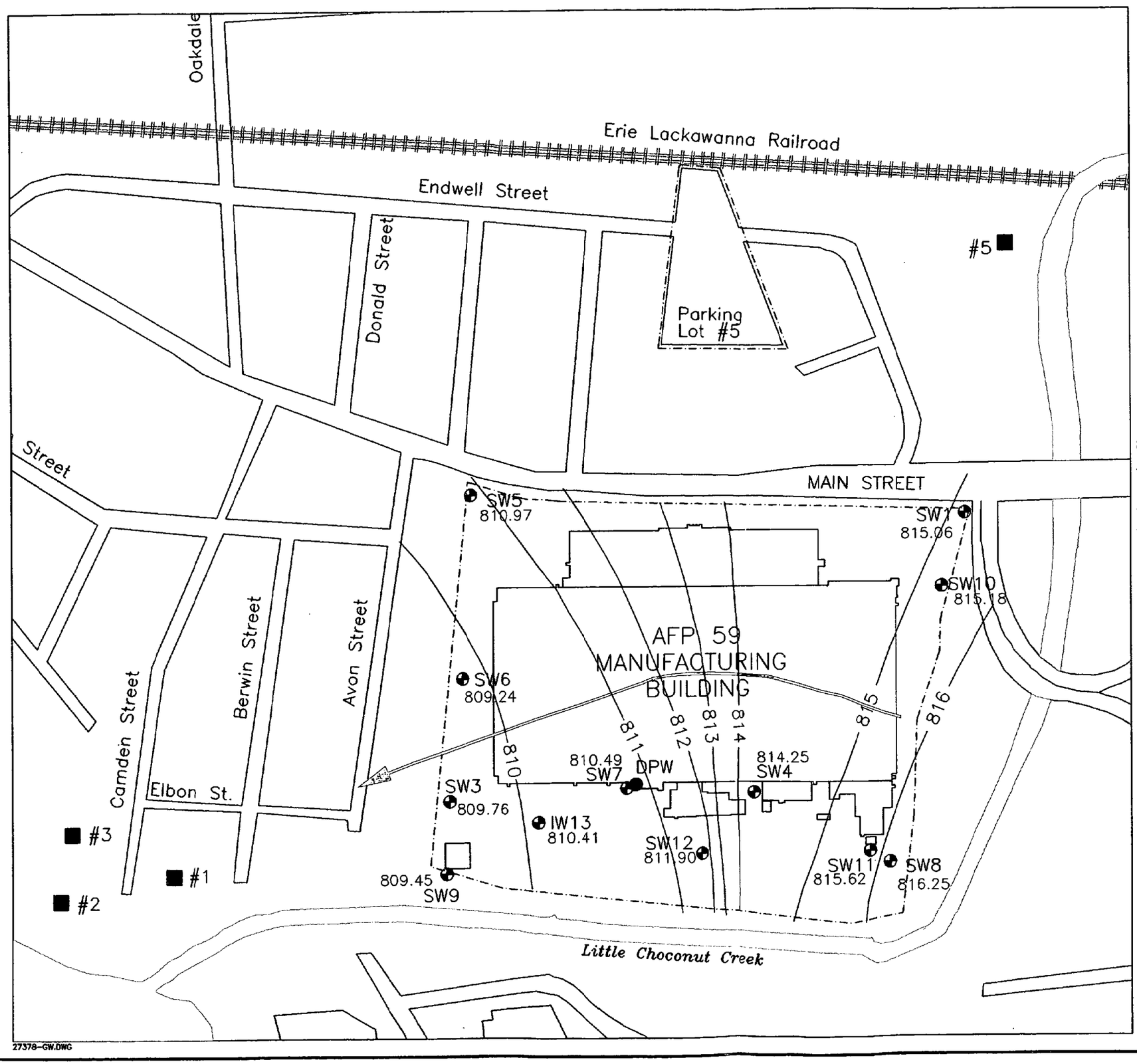
Five VOCs were detected in groundwater samples collected from the deep monitoring wells, including three chlorinated hydrocarbons (cis-1,2-DCE, 1,1-DCA, and vinyl chloride) and two petroleum hydrocarbons (o-xylene and m&p-xylenes). Although the cis-1,2-DCE detection (66 µg/L in DW3) exceeded the New York State drinking water standard of 5 µg/L, it did not exceed the Federal maximum contaminant level (MCL) of 70 µg/L. The 1,1-DCA and vinyl chloride detections did not exceed their respective New York State drinking water standards. The petroleum hydrocarbons o-xylene and m&p-xylenes were both detected in the groundwater sample collected from monitoring well DW9 at a concentration of 0.1 µg/L; these concentrations did not exceed their respective New York State drinking water standards. Therefore, with the exception of the cis-1,2-DCE detection in the groundwater sample collected from monitoring well DW3, groundwater in the deep zone of the aquifer that migrates off site toward the Camden Street Wellfield complies with New York State drinking water standards.

A trend analysis of chlorinated hydrocarbon levels over time at AFP 59 is presented in Section 3.1.4. The analysis indicates that levels are generally decreasing in monitoring well SW4 and increasing in monitoring well SW7 (see Table 3.1-5).

4.2 Hydrogeological Results

Prior to groundwater sampling, groundwater level measurements were collected from all on-site monitoring wells to evaluate the direction of groundwater flow beneath AFP 59 in the shallow and deep zones of the aquifer. Depths to groundwater (static water levels) were measured in the 12 shallow monitoring wells, 2 intermediate monitoring wells, and 11 deep monitoring wells located at AFP 59. Groundwater elevations were then calculated and used to create the potentiometric surface maps illustrated in Figures 4.2-1 and 4.2-2.

Figures 4.2-1 and 4.2-2 illustrate groundwater contours and flow directions in the shallow and deep zones of the aquifer, respectively, on November 3, 1998. The general groundwater flow direction in both zones of the aquifer beneath AFP 59 is westerly to southwesterly toward the Camden Street Wellfield. This groundwater flow direction coincides with groundwater flow directions reported in the *Final Remedial Investigation Report* (Earth Tech, 1996a) and the *Final Remedial Investigation Report Addendum* (Earth Tech, 1996b).

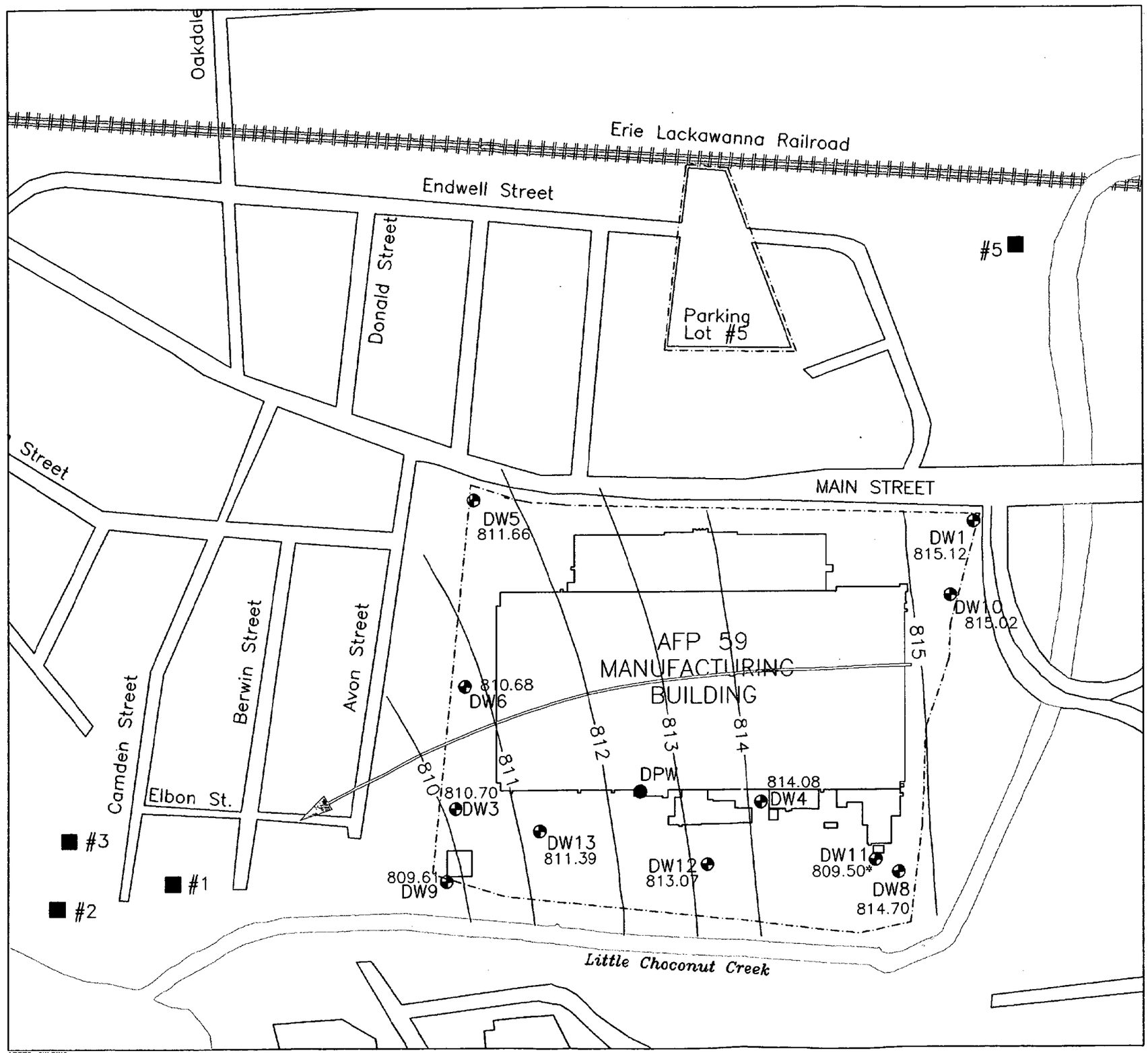


27378-GW.DWG

EARTH TECH

FIGURE 4.2-1

POTENTIOMETRIC SURFACE AND GROUNDWATER FLOW AT AFP 59 (SHALLOW WELLS) NOVEMBER 1998



LEGEND

DW4	AFP 59 MONITORING WELL
DPW	AFP 59 INDUSTRIAL PRODUCTION WELL
#2	JOHNSON CITY WATER SUPPLY WELL
814.08	GROUNDWATER ELEVATION (FEET MSL)
	GROUNDWATER ELEVATION CONTOUR (FEET MSL)
	GROUNDWATER FLOW DIRECTION
	AFP 59 BOUNDARY

CONTOUR INTERVAL = 1FT.

* NOTE: THE GROUNDWATER ELEVATION CALCULATED FOR MONITORING WELL DW11 WAS NOT CONSIDERED DURING THE EVALUATION OF GROUNDWATER ELEVATIONS. THE LOW ELEVATION IS LIKELY THE RESULT OF A FIELD MEASUREMENT ERROR.

0 125 250
SCALE IN FEET

EARTH TECH

FIGURE 4.2-2

POTENTIOMETRIC SURFACE AND GROUNDWATER FLOW AT AFP 59 (DEEP WELLS) NOVEMBER 1998

APPENDIX A. REFERENCES

APPENDIX A. REFERENCES

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

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

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Earth Tech, 1998. *Final Work Plan for Groundwater Monitoring at Air Force Plant 59.*

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.*

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 LEVEL MEASUREMENT FORM

Project Name: AFP59 Groundwater Monitoring	Project Number: 27378
Date: ~~~~~~~~~~	Measurements Taken By: John L. Schroeder

Date (M/D/YR)	Time	Well Number	Reference Point	Depth to Water	Well Depth	Recorded By	Comments
11/2/96	1418	DW9		21.70	93.00	JCS	
	1420	SW9		21.93	21.58	JCS	
↓	1422	IW9		21.25		JCS	
11/3/96	0814	SW1		19.42		JCS	
	0816	DW1		19.45		JCS	
	0826	SW10		15.40		JCS	
	0826	DW10		15.55		JCS	
	0844	DW8		15.00		JCS	
	0846	SW8		13.60		JCS	
	0908	SW11		13.05		JCS	
	0906	DW11		19.40		JCS	
	0920	DW4		14.70		JCS	
	0925	SW4		14.60	29.00	JCS	
	0937	SW12		17.24		JCS	
	0935	DW12		16.10		JCS	
	0951	SW7		21.40	26.50	JCS	
	1051	DW13		17.03		JCS	
	1047	SW13		16.10	28.70	JCS	
	1049	IW13		17.95	35.60	JCS	
	1003	DW3		18.34	88.00	JCS	
	1000	SW3		21.21	30.81	JCS	
	1015	SW6		19.25	24.00	JCS	
	1012	DW6		17.83	66.50	JCS	
	1028	DW5		24.31		JCS	
↓	1024	SW5		24.87		JCS	

0461.FIG

GROUNDWATER PURGING AND SAMPLING RECORD

Date: 11/4/98 Well ID: SW3 Sample Number: 595W3W61 Recorded By: [illegible]
Project Name: AFP59 Well Location: AFP59 Duplicate Number: — Checked By:
Project Number: 27378-08-02

EQUIPMENT

pH/Conductivity/Temperature Meter #: 5152 Hazco Purging Equipment: Grundfos Ready Flo
PID #: 13273 Hazco Sampling Equipment: Disposable Bailer
Electric Sounder #: WDC 311C

WELL DATA

Elevation:
Well Diameter: 2" Water Column in Well: 9.60' Total Vol. Extr.: 75.3 gal
Well Depth: 30.81' Borehole Diameter: 9" Ambient PID: 0.0 ppm
Depth to Well Water: 21.21' Water Column in Borehole: 9.60' Well Mouth PID: 0.0 ppm
Standing Water Vol.: 25.1 gal
Ground Condition of Well:
Remarks:

	PURGING				~~SAMPLING~~	
	1	2	3	4	5	6
Time 0941	0946	0951	0956	1001	1006	1011
Rate (gal/min) 2.5	2.5	2.5	2.5	2.5	2.5	2.5
Temperature °C 16.2	15.7	15.9	15.8	16.0	16.0	15.9
pH 7.39	7.24	7.26	7.28	7.28	7.27	7.27
Conductivity (mS/cm) 1.11	1.04	1.05	1.06	1.07	1.07	1.07
Vol. Purged (gal.) 0	12.6	25.1	37.7	50.2	62.8	75.3
~~Remarks~~ Turb (NTU) 433	29	10	3	1	1	1

COLLECTED SAMPLES

	1	2	3	4	5	6
Sample Time	1016					
Analytical Param	VOCs (SW8260)					
Volume Required	3 40mL vials					
Preservation	HCl, 4°C					
Field Filtered	No					
Time						

GROUNDWATER PURGING AND SAMPLING RECORD

Date: 11/4/98	Well ID: DW3	Sample Number: 54DW3WG1	Recorded By: jld
Project Name: AFP54	Well Location: AFP54	Duplicate Number: ——	Checked By:
Project Number: 27378-08-02			

EQUIPMENT

pH/Conductivity/Temperature Meter #:	5152 Hazco	Purging Equipment:	Grundfos Ready Flo
PID #:	13273 Hazco	Sampling Equipment:	Disposable Bailer
Electric Sounder #:	WDC 311C		

WELL DATA

Elevation:		Water Column in Well:	69.66'	Total Vol. Extr.:	306.9 gal
Well Diameter:	4"	Borehole Diameter:	6"	Ambient PID:	0.0 ppm
Well Depth:	88.00'	Water Column in Borehole:	69.66'	Well Mouth PID:	1.5 ppm
Depth to Well Water:	18.34'	Standing Water Vol.:	102.3 gal		

Ground Condition of Well:
Remarks:

	PURGING				~~SAMPLING~~	
	1	2	3	4	5	6
Time 0830	0838	0845	0853	0900	0908	0915
Rate (gal/min) 6.7	6.7	6.7	6.7	6.7	6.7	6.7
Temperature °C 11.6	12.0	12.1	12.2	12.2	12.2	12.2
pH 11.44	8.18	7.43	7.43	7.39	7.42	7.42
Conductivity (mS/cm) 1.09	1.39	1.41	1.41	1.42	1.40	1.41
Vol. Purged (gal.) 0	51.2	102.3	153.5	204.6	255.8	306.9
~~Remarks~~ Turb (NTU) 4	1	4	2	1	2	1

COLLECTED SAMPLES

	1	2	3	4	5	6
Sample Time	0920					
Analytical Param	VOCs (SW8260)					
Volume Required	3 40mL vials					
Preservation	HCl, 4°C					
Field Filtered	No					
Time						

GROUNDWATER PURGING AND SAMPLING RECORD

Date: 11/3/98 Well ID: SW4 Sample Number: 595W4WG1 Recorded By: JCL
Project Name: AFP59 Well Location: AFP59 Duplicate Number: 595W4WG9 Checked By:
Project Number: 27378-08-02

EQUIPMENT

pH/Conductivity/Temperature Meter #: 5152 Hazco Purging Equipment: Grundfos Ready Flo
PID #: 13273 Hazco Sampling Equipment: Disposable Bailer
Electric Sounder #: WDC 311C

WELL DATA

Elevation:
Well Diameter: 2" Water Column in Well: 14.40' Total Vol. Extr.: 112.8 gal
Well Depth: 29.00' Borehole Diameter: 8" Ambient PID: 0.0 ppm
Depth to Well Water: 14.60' Water Column in Borehole: 14.40' Well Mouth PID: 0.5 ppm
Standing Water Vol.: 37.6 gal

Ground Condition of Well:
Remarks:

	PURGING				~~SAMPLING~~	
	1	2	3	4	5	6
Time 1440	1450	1500	1510	1520	1530	1540
Rate (gal/min)	1.9	1.9	1.9	1.9	~~1.9~~ 1.9	1.9
Temperature °C 16.8	17.5 ~~16.8~~	17.8	18.0	18.1	18.2	18.2
pH 7.22	7.00 ~~7.22~~	6.98	6.98	6.98	6.99	6.99
Conductivity (mS/cm) 1.15	1.11 ~~1.1~~	1.08	1.06	1.04	1.03	1.02
Vol. Purged (gal) 0	18.8	37.6	56.4	75.2	94.0	112.8
~~Remarks~~ Turb (NTU) 15	7	7	5	2	2	2

COLLECTED SAMPLES

	1	2	3	4	5	6
Sample Time	1545	1550				
Analytical Param	VOCs (SW8260)	VOCs (SW8260)				
Volume Required	3 40mL vials	3 40mL vials				
Preservation	HCl, 4°C	HCl, 4°C				
Field Filtered	No	No				
Time						

Duplicate

GROUNDWATER PURGING AND SAMPLING RECORD

Date: 11/4/98 Well ID: SW6 Sample Number: 595W6WG1 Recorded By: JES

Project Name: AFP54 Well Location: AFP54 Duplicate Number: — Checked By:

Project Number: 27378-08-02

EQUIPMENT

pH/Conductivity/Temperature Meter #: 5152 Hazco Purging Equipment: Grundfos Ready Flo

PID #: 13273 Hazco Sampling Equipment: Disposable Bailer

Electric Sounder #: WDC 3110

WELL DATA

Elevation: Water Column in Well: 9.75' Total Vol. Extr.: 76.2 gal

Well Diameter: 2" Borehole Diameter: 8" Ambient PID: 0.0 ppm

Well Depth: 29.00' Water Column in Borehole: 9.75' Well Mouth PID: 0.0 ppm

Depth to Well Water: 19.25' Standing Water Vol.: 25.4 gal

Ground Condition of Well:

Remarks:

	PURGING				~~SAMPLING~~	
1113	1	2	3	4	5	6
Time	1118	1123	1128	1133	1138	1143
Rate (gal/min) 2.5	2.5	2.5	2.5	2.5	2.5	2.5
Temperature °C 11.9	13.2	13.1	13.1	13.0	13.1	13.2
pH 7.09	7.12	7.14	7.14	7.13	7.15	7.15
Conductivity (mS/cm) 13.9	1.52	1.52	1.51	1.53	1.52	1.52
Vol. Purged (gal) 0	12.7	25.4	38.1	50.8	63.5	76.2
~~Remarks~~ Turb (NTU) 891	135	27	10	3	2	1

COLLECTED SAMPLES

	1	2	3	4	5	6
Sample Time	1148					
Analytical Param	VOCs (SW8260)					
Volume Required	3 40mL vials					
Preservation	HCl, 4°C					
Field Filtered	No					
Time						

GROUNDWATER PURGING AND SAMPLING RECORD

Date: 11/4/98 Well ID: DW6 Sample Number: 598W6W61 Recorded By: JRL
Project Name: AFP59 Well Location: AFP59 Duplicate Number: — Checked By:
Project Number: 27378-08-02

EQUIPMENT

pH/Conductivity/Temperature Meter #: 5152 Hazco Purging Equipment: Grundfos Ready Flo
PID #: 13273 Hazco Sampling Equipment: Disposable Bailer
Electric Sounder #: WOL 3116

WELL DATA

Elevation: Water Column in Well: 49.67' Total Vol. Extr.: 214.5 gal
Well Diameter: 4" Borehole Diameter: 6" Ambient PID: 0.0 ppm
Well Depth: 66.50' Water Column in Borehole: 48.67' Well Mouth PID: 0.0 ppm
Depth to Well Water: 17.83' Standing Water Vol.: 71.5 gal

Ground Condition of Well:
Remarks:

	PURGING				~~SAMPLING~~	
	1	2	3	4	5	6
Time 1328	1419	1510	1550	1604		
Rate (gal/min) 0.7	0.7 →	0.9 →	0.9	well		
Temperature °C 6.1	9.2	10.3	10.5	purges		
pH 7.30	7.49	7.81	7.78	dry.		
Conductivity (mS/cm) 1.89	1.34	1.27	1.21			
Vol. Purged (gal.) 0	35.8	71.5	107.3	~~143.0~~ 119.9 gal	~~178.8~~	~~214.5~~ — gal
~~Remarks~~ Turb (NTU) 0	186	94	98			

COLLECTED SAMPLES

	1	2	3	4	5	6
Sample Time	1624					
Analytical Param	VOCs (SW8260)					
Volume Required	3 40mL vials					
Preservation	HCl, 4°C					
Field Filtered	No					
Time						

GROUNDWATER PURGING AND SAMPLING RECORD

Date: 11/5/98 Well ID: SW7 Sample Number: 545W7WG1 Recorded By: GCL
Project Name: AFP54 Well Location: AFP54 Duplicate Number: —— Checked By:
Project Number: 27378-08-02

EQUIPMENT

pH/Conductivity/Temperature Meter #: 5152 Hazco Purging Equipment: Grundfos Ready Flo
PID #: 13273 Hazco Sampling Equipment: Disposable Bailer
Electric Sounder #: WOL 311C

WELL DATA

Elevation: Water Column in Well: 5.10' Total Vol. Extr.: 34.9 gal
Well Diameter: 2" Borehole Diameter: 8" Ambient PID: 0.0 ppm
Well Depth: 26.50' Water Column in Borehole: 5.10' Well Mouth PID: 0.0 ppm
Depth to Well Water: 21.40' Standing Water Vol.: 13.3 gal

Ground Condition of Well:
Remarks:

	PURGING				~~SAMPLING~~	
	1	2	3	4	5	6
Time 1025	1031	1036	1042	1047	1053	1058
Rate (gal/min) 1.2	1.2	1.2	1.2	1.2	1.2	1.2
Temperature °C 10.0	12.9	13.0	13.2	13.3	13.4	13.4
pH 7.32	7.23	7.25	7.29	7.27	7.27	7.27
Conductivity (mS/cm) 1.69	1.53	1.56	1.55	1.55	1.54	1.54
Vol. Purged (gal) 0	6.7	13.3	20.0	26.6	33.3	34.9
~~Remarks~~ Turb (NTU) 398	60	9	0	0	0	0

COLLECTED SAMPLES

	1	2	3	4	5	6
Sample Time	1105	1105	1105			
Analytical Param	VOCs (SW8260)	VOCs (SW8260)	VOCs (SW8260)			
Volume Required	3 40mL vials	3 40mL vials	3 40mL vials			
Preservation	HCl, 4°C	HCl, 4°C	HCl, 4°C			
Field Filtered	No	No	No			
Time						
		MS	MSD			

GROUNDWATER PURGING AND SAMPLING RECORD

Date: 11/3/98 Well ID: SW9 Sample Number: 595W4W61 Recorded By: JCL
Project Name: AFP54 Well Location: AFP54 Duplicate Number: — Checked By:
Project Number: 27378-08-02

EQUIPMENT

pH/Conductivity/Temperature Meter #: 5152 Hazco Purging Equipment: Grundfos Ready Flo
PID #: 13273 Hazco Sampling Equipment: Disposable Bailer
Electric Sounder #: WDC 3ilC

WELL DATA

Elevation: Water Column in Well: 5.65' Total Vol. Extr.: 44.1 gal
Well Diameter: 2" Borehole Diameter: 8" Ambient PID: 0.0 ppm
Well Depth: 27.58' Water Column in Borehole: 5.65' Well Mouth PID: 0.0 ppm
Depth to Well Water: 21.93' Standing Water Vol.: 14.7 gal

Ground Condition of Well:
Remarks:

	PURGING				~~SAMPLING~~	
	1	2	3	4	5	6
Time 1148	1153	1158	1203	1208	1213	1218
Rate (gal/min)	1.5	1.5	1.5	1.5	1.5	1.5
Temperature °C 15.1	13.9	16.2	16.4	16.4	16.4	16.5
pH 7.67	7.68	7.60	7.59	7.57	7.55	7.54
Conductivity (mS/cm) 1.20	1.14	1.05	1.04	1.03	1.02	1.00
Vol. Purged (gal) 0	7.4	14.7	22.1	29.4	36.8	44.1
~~Remarks~~ Turb (NTU) 65	2	0	0	0	0	0

COLLECTED SAMPLES

	1	2	3	4	5	6
Sample Time	1223					
Analytical Param	VOCs (SW8260)					
Volume Required	3 40mL vials					
Preservation	HCl, 4°C					
Field Filtered	No					
Time						

GROUNDWATER PURGING AND SAMPLING RECORD

Date: 11/2/98 Well ID: 0w9 Sample Number: 54DW9W6 Recorded By: GCL
Project Name: AFP54 Well Location: AFP54 Duplicate Number: —— Checked By:
Project Number: 27378-08-02

EQUIPMENT

pH/Conductivity/Temperature Meter #: 5152 Hazco Purging Equipment: Grundfos Redy-Flo 2
PID #: 13273 Hazco Sampling Equipment: Disposable Bailer
Electric Sounder #: WDC 311C

WELL DATA

Elevation: Water Column in Well: 71.3 Total Vol. Extr.:
Well Diameter: 4" Borehole Diameter: 6" Ambient PID: 0.0 ppm
Well Depth: 93.00 Water Column in Borehole: 71.3 Well Mouth PID: 0.0 ppm
Depth to Well Water: 21.70 Standing Water Vol.: 105 gal
Ground Condition of Well:
Remarks:

	PURGING				SAMPLING	
	1	2	3	4	5	6
Time 1522	1540	1550	1609	1617	1632	1645
Rate (gal/min)	3.8	3.8	3.8	3.8	3.8	3.8
Temperature	11.6 °C	11.9	11.7	11.7	11.7	11.8
pH	10.31	7.47	7.36	7.40	7.36	7.37
Conductivity (mS/cm)	1.03 mS/cm	1.28	1.30	1.30	1.30	1.30
Vol. Purged (gal) 0	70	105	160	210	265	315
~~Remarks~~ Turb. (NTU)	24	12	1	1	0	0

COLLECTED SAMPLES

	1	2	3	4	5	6
Sample Time	1645					
Analytical Param	VOCs (SW8260)					
Volume Required	3 40 mL vials					
Preservation	HCl 4°C					
Field Filtered	No					
Time						

0461.FIG

D:d not sample. Sand in well up to 18.10' below toc.

GROUNDWATER PURGING AND SAMPLING RECORD

Date:	Well ID: SW13	Sample Number: 593W13WG1	Recorded By:
Project Name: AFP59	Well Location: AFP59	Duplicate Number: —	Checked By:
Project Number: 27378-08-02			

EQUIPMENT

pH/Conductivity/Temperature Meter #:	5152 Hazco	Purging Equipment:	Grundfos Ready Flo
PID #:	13273 Hazco	Sampling Equipment:	Disposable Bailer
Electric Sounder #:	WDC 3ilC		

WELL DATA

Elevation:		Water Column in Well:	10.60'	Total Vol. Extr.:	83.1 gal
Well Diameter:	2"	Borehole Diameter:	8"	Ambient PID:	
Well Depth:	29.70'	Water Column in Borehole:	10.60'	Well Mouth PID:	0.0 ppm
Depth to Well Water:	18.10'	Standing Water Vol.:	27.7 gal		

Ground Condition of Well:
Remarks:

	PURGING				~~SAMPLING~~	
	1	2	3	4	5	6
Time						
Rate (gal/min)						
Temperature °C						
pH						
Conductivity (mS/cm)						
Vol. Purged (gal) 0	13.9	27.7	41.6	55.4	69.3	83.1
~~Remarks~~ Turb (NTU)						

COLLECTED SAMPLES

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

GROUNDWATER PURGING AND SAMPLING RECORD

Date: 11/5/98 Well ID: IW13 Sample Number: 591W13WG1 Recorded By: JCS
Project Name: AFP59 Well Location: AFP59 Duplicate Number: —— Checked By:
Project Number: 27378-08-02

EQUIPMENT

pH/Conductivity/Temperature Meter #: 5152 Hazco Purging Equipment: Grundfos Ready Flo
PID #: 13273 Hazco Sampling Equipment: Disposable Bailer
Electric Sounder #: WOL 311C

WELL DATA

Elevation: Water Column in Well: 17.85' Total Vol. Extr.: 139.8 gal
Well Diameter: 2" Borehole Diameter: 8" Ambient PID: 0.0 ppm
Well Depth: 35.80' Water Column in Borehole: 17.85' Well Mouth PID: 0.0 ppm
Depth to Well Water: 17.95' Standing Water Vol.: 46.6 gal
Ground Condition of Well:
Remarks:

	PURGING				~~SAMPLING~~	
0830	1	2	3	4	5	6
Time	0836	0842	0848	0855	0901	0907
Rate (gal/min) 3.8	3.8	3.8	3.8	3.8	3.8	3.8
Temperature °C 7.7	8.7	7.4	9.8	9.6	9.2	10.2
pH 6.85	6.88	6.93	6.90	6.90	6.85	6.84
Conductivity (mS/cm) 9.2	2.34	2.37	2.31	2.29	2.30	2.31
Vol. Purged (gal) 0	23.3	46.6	69.9	93.2	116.5	139.8
~~Remarks~~ Turb (NTU) 24	2	2	1	0	0	0

COLLECTED SAMPLES

	1	2	3	4	5	6
Sample Time	0912					
Analytical Param	VOCs (SW8260)					
Volume Required	3 40mL vials					
Preservation	HCl, 4°C					
Field Filtered	No					
Time						

APPENDIX C. CHAIN-OF-CUSTODY FORMS

O'Brien & Gere Laboratories, Inc.

5000 Brittonfield Parkway
East Syracuse, New York 13057
(315) 437-0200

Chain of Custody
#01

Client: Earth Tech
Project: AFP 59 Groundwater Monitoring #27378
Sampled by: John C. Schroeder
Client Contact: Dave Parse Phone # 703.549.8728

Sample Description

Sample Location	Date Collected	Time Collected	Sample Matrix	Comp. or Grab	No. of Containers	VOCs (SW8260)							Comments
59DW9WG1	11/2/98	1645	WG	G	3	X							
TB110298	11/2/98	1620	WQ	G	3	X							
59SW9WG1	11/3/98	1223	WG	G	3	X							
59SW4WG1	11/3/98	1545	WG	G	3	X							
59SW4WG9	11/3/98	15[illegible]	WG	G	3	X							

John C. Schroeder

Relinquished by: John C. Schroeder	Date: 11/3/98	Time:	Received by: [signature]	Date: 11/3/98	Time: 1930
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received by Lab:	Date:	Time.
Shipment Method: Fed Ex			Airbill Number: 8089 4884 4780		

Turnaround Time Required:
Routine ✓
Rush (Specify)

Comments:

Cooler Temperature: < 4°C

Original-Laboratory Copy-Client

O'Brien & Gere Laboratories, Inc.

5000 Brittonfield Parkway
East Syracuse, New York 13057
(315) 437-0200

Chain of Custody

3

Client: Earth Tech

Project: AFP 59 Groundwater Monitoring + Tank Investigation #27378

Sampled by: John C. Schroeder

Client Contact: Dave Parse Phone # 703.549.8728

Sample Description

Sample Location	Date Collected	Time Collected	Sample Matrix	Comp. or Grab	No. of Containers	VOCs (SW8260)	SVOCs (SW8270)	MTBE					Comments
TB1110498	11/4/98	0840	WQ	G	2	X							
59DW3WG1	11/4/98	0920	WG	G	3	X							
59SW3WG1	11/4/98	1016	WG	G	3	X							
59SW6WG1	11/4/98	1148	WG	G	3	X							
59DW6WG1	11/4/98	1624	WG	G	3	X							
59USTS01	11/4/98	1505	SO	G	2	X	X	X					
59IW13WG1	11/5/98	0912	WG	G	3	X							
AB1110598	11/5/98	1013	WQ	G	3	X							
59SW7WG1	11/5/98	1105	WG	G	9	X							MS/MSD
AB2110598	11/5/98	1505	WQ	G	3	X							
EB1110598	11/5/98	1540	WQ	G	5	X	X						
59UST1-1-501	11/5/98	1120	SO	G	2	X	X	X					

Analysis/Method

Relinquished by: [signature]	Date: 11/5/98	Time: 1730	Received by: [signature] Date: 11/5/98 Time: 1730
Relinquished by:	Date:	Time:	Received by: Date: Time:
Relinquished by:	Date:	Time:	Received by Lab: Date: Time:

Shipment Method: Fed Ex. Airbill Number: 808948844780

Turnaround Time Required:
Routine ✓
Rush (Specify)

Comments: 1 cooler total

Cooler Temperature: <4°C

Original-Laboratory Copy-Client

O'Brien & Gere Laboratories, Inc.

5000 Brittonfield Parkway
East Syracuse, New York 13057
(315) 437-0200

Chain of Custody

Client: Earth Tech

Project: AFP59 Groundwater Sampling & Tank Investigation #27378

Sampled by: Dave Parse

Client Contact: Dave Parse Phone # 703.549.8728

Sample Description

Sample Location	Date Collected	Time Collected	Sample Matrix	Comp. or Grab	No. of Containers	Analysis/Method: VOCs (SW8260)	SVOCs (SW8270)	MTBE					Comments
59UST1-2-501	11/5/98	1130	SO	G	2	X	X	X					
59UST1-3-501	11/5/98	1205	SO	G	2	X	X	X					
59UST1-4-501	11/5/98	1210	SO	G	2	X	X	X					
59UST2-1-501	11/5/98	1510	SO	G	2	X	X	X					
59UST2-2-501	11/5/98	1515	SO	G	2	X	X	X					
59UST2-3-501	11/5/98	1519	SO	G	2	X	X	X					

Relinquished by: John C. Schmidt	Date: 11/5/98	Time: 1730	Received by:	Date: 11/5/98	Time: 1730
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received by Lab:	Date:	Time.
Shipment Method: Fed Ex			Airbill Number: 808949844780		

Turnaround Time Required:
Routine ✓
Rush (Specify)_____

Comments: 1 cooler total

Cooler Temperature:_____

Original-Laboratory Copy-Client

APPENDIX D. DATA QUALITY REVIEW SUMMARY AND GROUNDWATER ANALYTICAL DATA

Data Quality Review

Air Force Plant 59

Volatile Organic Analysis by Method SW8260B

This data quality review pertains to 14 groundwater samples collected between November 2 and November 5, 1998 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. Recommendations for quality control limits and data flagging criteria were taken from the AFCEE *Quality Assurance Project Plan, Version 3.0* (USAF, 1998). During the field effort at AFP 59 in Johnson City, New York, a total of thirty groundwater and soil samples were collected; however, this data quality review will only deal with the analyses conducted on the 14 groundwater samples. The analyses were performed at O'Brien & Gere Laboratories, Inc. (O'Brien & Gere) in Syracuse, New York.

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	Field Sample ID	Lab Sample ID
59DW9WG1	J9054	59SW3WG1	J9300
59SW9WG1	J9055	59SW6WG1	J9301
59SW4WG1	J9056	59DW6WG1	J9302
59SW4WG9	J9057	59IW13WG1	J9303
TB1110298	J9058	AB1110598	J9304
TB1110498	J9298	59SW7WG1	J9305
59DW3WG1	J9299	AB2110598	J9306

All of the above samples were reviewed to ensure appropriate AFCEE flags were applied to the data at the laboratory. A summary of AFCEE 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 (equipment, ambient, and trip blanks), matrix spike/matrix spike duplicates, surrogate recoveries, and field duplicates. Changes to the data are reflected on the Form I's in Appendix D.

Table DQR-2: AFCEE Data Qualifiers

Qualifier	Description
R	The data are unusable due to deficiencies in the ability to analyze the sample and meet quality control criteria.
M	A matrix effect was present.
F	The analyte was positively identified but the associated numerical value is below the RL.
J	The analyte was positively identified, the quantitation is an estimation.
B	The analyte was found in an associated blank, as well as in the sample.
U	The analyte was analyzed for, but not detected. The associated numerical value is at or below the MDL.

Holding Times.
All of the groundwater samples were analyzed for volatile organic compounds within the recommended holding time of 14 days. Qualification of the data was not necessary.

Calibration Criteria
Initial calibration criteria were met for all samples. Standards were run at 2.0, 5.0, 20, 50, 100, and 200 µg/L. Continuing calibration verifications were performed at the required frequency and reporting factors (RFs) for target analytes were within 20 percent of the expected value. Dichlorodifluoromethane was recovered above quality control criteria for one of the laboratory control samples (LCS). Dichlorodifluoromethane was qualified **R** in all samples. Samples 59SW4WG1, 59SW4WG9, 59DW3WG1, and 59SW7WG1 contained analytes above the established linear range of the initial calibration and required dilution. A combination of diluted and undiluted results was used in reporting these samples.

Blanks
One preparation blank was run for the groundwater samples. No analytes were detected above the RL. Qualification of the data was not necessary.

One of the trip blanks (TB1110298) was found to be contaminated with methylene chloride at a concentration of 0.14 µg/L. Methylene chloride was also present in the two ambient blanks, AB1110598 and AB2110598, at 0.13 µg/L and 0.17 µg/L, respectively. In the samples associated with these blanks, methylene chloride was not detected above the RL. Qualification of the data was not necessary.

Matrix Spike/Matrix Spike Duplicate
The percent recovery of diclorodifluoromethane in the matrix spike and matrix spike duplicate of sample 59SW7WG1 was above the established recovery percentage criteria (140%). However, the dichlorodifluoromethane results were already qualified **R** because of LCS results so further qualification was not necessary. In the matrix spike duplicate, recovery for cis-1,2-dichloroethene was below quality control limits (58%). The

associated results for cis-1,2-dichloroethene were qualified **M**. No other data required qualification.

Surrogate Recovery
Six surrogates were used for the monitoring of volatiles in all samples. All surrogates were recovered within quality control limits. Qualification of the data was not necessary.

Field Duplicates
A field duplicate was collected at 59SW4WG1 for quality control purposes. A comparison of the sample and its duplicate, 59SW4WG9, is presented in Table DQR-3. There is no qualification necessary based on field duplicates.

Table DQR-3: Field Duplicate Comparison

Analyte	Reporting Limit (RL)	59SW4WG1	59SW4WG9	Relative Percent Difference (RPD)
Vinyl Chloride	1.1	0.42	0.42	0%
Chloroethane	1.0	0.30	0.34	13%
Trichlorofluoromethane	0.8	4.0	4.1	2.5%
1,1-Dichloroethene	1.2	0.82	0.78	5.0%
1,1-Dichloroethane	0.4	9.0	8.8	2.2%
Cis-1,2-Dichloroethene	1.2	10	9.9	1.0%
1,1,1-Trichloroethane	0.8	8.0	7.8	2.5%
Trichloroethene	1.0	46	43	6.7%
Tetrachloroethene	1.4	0.58	0.56	3.5%
Toluene	1.1	1.1U	0.12	NA

Summary
The data completeness is 98%. All of the data points for the volatile analysis of groundwater samples are useable with the appropriate qualifiers.

O'Brien & Gere Laboratories, Inc.

Analytical Results Method: 8260

Client: Earth Tech Inc.
Project: Air Force Plant 59 #27378
Proj. Desc: Johnson City, NY

Job No.: 6780.004.517
Certification NY No.: 10155

Sample: J9300
Samp. Description: 59SW3WG1
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 65

Collected: 11/04/98
Received: 11/06/98
Prepared: 11/15/98

Matrix: Water
QC Batch: 111598W2
%Solids:
Purge volume: 25 mL

Parameter	Result	Qual	Surrog Limits	Dilution	Analyzed	Notes
Dichlorodifluoromethane	<1.0	R		1	11/15/98	
Chloromethane	<1.3	U		1	11/15/98	
Vinyl chloride	<1.1	U		1	11/15/98	
Bromomethane	<1.1	U		1	11/15/98	
Chloroethane	<1.0	U		1	11/15/98	
Trichlorofluoromethane	<.80	U		1	11/15/98	
1,1-Dichloroethene	<1.2	U		1	11/15/98	
Methylene chloride	<.30	U		1	11/15/98	
trans-1,2-Dichloroethene	<.60	U		1	11/15/98	
1,1-Dichloroethane	<.40	U		1	11/15/98	
cis-1,2-Dichloroethene	J .10	P M	CMT 1/5/99	1	11/15/98	
Bromochloromethane	<.40	U		1	11/15/98	
Chloroform	<.30	U		1	11/15/98	
2,2-Dichloropropane	<3.5	U		1	11/15/98	
1,2-Dichloroethane	<.60	U		1	11/15/98	
1,1,1-Trichloroethane	J .22	F		1	11/15/98	
1,1-Dichloropropene	<1.0	U		1	11/15/98	
Carbon tetrachloride	<2.1	U		1	11/15/98	
Benzene	<.40	U		1	11/15/98	
Dibromomethane	<2.4	U		1	11/15/98	
1,2-Dichloropropane	<.40	U		1	11/15/98	
Trichloroethene	J .81	F		1	11/15/98	
Bromodichloromethane	<.80	U		1	11/15/98	
cis-1,3-Dichloropropene	<1.0	U		1	11/15/98	
trans-1,3-Dichloropropene	<1.0	U		1	11/15/98	
1,1,2-Trichloroethane	<1.0	U		1	11/15/98	
Toluene	<1.1	U		1	11/15/98	
1,3-Dichloropropane	<.40	U		1	11/15/98	
Dibromochloromethane	<.50	U		1	11/15/98	

- Outside control limits J-Estimated value

Authorized: Monika Santucci
Date: December 7,1998 Monika Santucci

O'Brien & Gere Laboratories, Inc.

Analytical Results
Method: 8260

Client: Earth Tech Inc.
Project: Air Force Plant 59 #27378
Proj. Desc: Johnson City, NY

Job No.: 6780.004.517
Certification NY No.: 10155

Sample: J9300
Samp. Description: 59SW3WG1
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 65

Collected: 11/04/98
Received: 11/06/98
Prepared: 11/15/98

Matrix: Water
QC Batch: 111598W2
%Solids:
Purge volume: 25 mL

Parameter	Result	Qual	Surrog Limits	Dilution	Analyzed	Note
1,2-Dibromoethane	<.60	U		1	11/15/98	
Tetrachloroethene	<1.4	U		1	11/15/98	
1,1,1,2-Tetrachloroethane	<.50	U		1	11/15/98	
Chlorobenzene	<.40	U		1	11/15/98	
1-Chlorohexane	<.50	U		1	11/15/98	
Ethylbenzene	<.60	U		1	11/15/98	
Bromoform	<1.2	U		1	11/15/98	
o-Xylene	<1.1	U		1	11/15/98	
(m+p)-Xylene	<.60	U		1	11/15/98	
Xylene (total)	<1.1	U		1	11/15/98	
Styrene	<.50	U		1	11/15/98	
1,1,2,2-Tetrachloroethane	<.50	U		1	11/15/98	
1,2,3-Trichloropropane	<3.2	U		1	11/15/98	
Isopropylbenzene	<.50	U		1	11/15/98	
Bromobenzene	<.30	U		1	11/15/98	
n-Propylbenzene	<.40	U		1	11/15/98	
2-Chlorotoluene	<.40	U		1	11/15/98	
4-Chlorotoluene	<.60	U		1	11/15/98	
1,3,5-Trimethylbenzene	<.50	U		1	11/15/98	
tert-Butylbenzene	<1.4	U		1	11/15/98	
n-Butylbenzene	<1.1	U		1	11/15/98	
1,2,4-Trimethylbenzene	<1.3	U		1	11/15/98	
sec-Butylbenzene	<1.3	U		1	11/15/98	
1,3-Dichlorobenzene	<1.2	U		1	11/15/98	
1,4-Dichlorobenzene	<.30	U		1	11/15/98	
p-Isopropyltoluene	<1.2	U		1	11/15/98	
1,2-Dichlorobenzene	<.30	U		1	11/15/98	
1,2-Dibromo-3-chloropropane	<2.6	U		1	11/15/98	
1,2,4-Trichlorobenzene	<.40	U		1	11/15/98	
Naphthalene	<1.0	U		1	11/15/98	
Hexachlorobutadiene	<1.1	U		1	11/15/98	

- Outside control limits J-Estimated value

Authorized: Monika Santucci
Date: December 7,1998 Monika Santucci

5000 Brittonfield Parkway / Suite 300, Box 4942 / Syracuse, NY 13221 / (315) 437-0200

O'Brien & Gere Laboratories, Inc.

Analytical Results Method: 8260

Client: Earth Tech Inc.
Project: Air Force Plant 59 #27378
Proj. Desc: Johnson City, NY

Job No.: 6780.004.517
Certification NY No.: 10155

Sample: J9300
Samp. Description: 59SW3WG1
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 65

Collected: 11/04/98
Received: 11/06/98
Prepared: 11/15/98

Matrix: Water
QC Batch: 111598W2
%Solids:
Purge volume: 25 mL

Parameter	Result	Qual	Surrog Limits	Dilution	Analyzed	Notes
1,2,3-Trichlorobenzene	<.30	U		1	11/15/98	
1,2-Dichloroethane-d4 (surrogate)	103.%		62-139	1	11/15/98	
Dibromofluoromethane (surrogate)	111.%		75-125	1	11/15/98	
Toluene-d8 (surrogate)	105.%		75-125	1	11/15/98	
Bromofluorobenzene (surrogate)	100.%		75-125	1	11/15/98	

Notes:

- Outside control limits J-Estimated value

Authorized: Monika Santucci
Date: December 7,1998 Monika Santucci

5000 Brittonfield Parkway / Suite 300, Box 4942 / Syracuse, NY 13221 / (315) 437-0200

O'Brien & Gere Laboratories, Inc.

Analytical Results Method: 8260

Client: Earth Tech Inc.
Project: Air Force Plant 59 #27378
Proj. Desc: Johnson City, NY

Job No.: 6780.004.517
Certification NY No.: 10155

Sample: J9299
Samp. Description: 59DW3WG1
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 65

Collected: 11/04/98
Received: 11/06/98
Prepared: 11/15/98

Matrix: Water
QC Batch: 111598W2
%Solids:
Purge volume: 25 mL

Parameter	Result	Qual	Surrog Limits	Dilution	Analyzed	Note:
Dichlorodifluoromethane	<1.0	R		1	11/15/98	
Chloromethane	<1.3	U		1	11/15/98	
Vinyl chloride	J .35	F		1	11/15/98	
Bromomethane	<1.1	U		1	11/15/98	
Chloroethane	<1.0	U		1	11/15/98	
Trichlorofluoromethane	<.80	U		1	11/15/98	
1,1-Dichloroethene	<1.2	U		1	11/15/98	
Methylene chloride	<.30	U		1	11/15/98	
trans-1,2-Dichloroethene	<.60	U		1	11/15/98	
1,1-Dichloroethane	J .34	F		1	11/15/98	
cis-1,2-Dichloroethene	66 ~~67~~.	M	CMT 1/5/99	1	11/15/98	
Bromochloromethane	<.40	U		1	11/15/98	
Chloroform	<.30	U		1	11/15/98	
2,2-Dichloropropane	<3.5	U		1	11/15/98	
1,2-Dichloroethane	<.60	U		1	11/15/98	
1,1,1-Trichloroethane	<.80	U		1	11/15/98	
1,1-Dichloropropene	<1.0	U		1	11/15/98	
Carbon tetrachloride	<2.1	U		1	11/15/98	
Benzene	<.40	U		1	11/15/98	
Dibromomethane	<2.4	U		1	11/15/98	
1,2-Dichloropropane	<.40	U		1	11/15/98	
Trichloroethene	<1.0	U		1	11/15/98	
Bromodichloromethane	<.80	U		1	11/15/98	
cis-1,3-Dichloropropene	<1.0	U		1	11/15/98	
trans-1,3-Dichloropropene	<1.0	U		1	11/15/98	
1,1,2-Trichloroethane	<1.0	U		1	11/15/98	
Toluene	<1.1	U		1	11/15/98	
1,3-Dichloropropane	<.40	U		1	11/15/98	
Dibromochloromethane	<.50	U		1	11/15/98	

CMT 1/5/99

- Outside control limits J-Estimated value

Authorized: Monika Santucci
Date: December 7,1998 Monika Santucci

O'Brien & Gere Laboratories, Inc.

Analytical Results Method: 8260

Client: Earth Tech Inc.
Project: Air Force Plant 59 #27378
Proj. Desc: Johnson City, NY

Job No.: 6780.004.517
Certification NY No.: 10155

Sample: J9299
Samp. Description: 59DW3WG1
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 65

Collected: 11/04/98
Received: 11/06/98
Prepared: 11/15/98

Matrix: Water
QC Batch: 111598W2
%Solids:
Purge volume: 25 mL

Parameter	Result	Qual	Surrog Limits	Dilution	Analyzed	Note
1,2-Dibromoethane	<.60	U		1	11/15/98	
Tetrachloroethene	<1.4	U		1	11/15/98	
1,1,1,2-Tetrachloroethane	<.50	U		1	11/15/98	
Chlorobenzene	<.40	U		1	11/15/98	
1-Chlorohexane	<.50	U		1	11/15/98	
Ethylbenzene	<.60	U		1	11/15/98	
Bromoform	<1.2	U		1	11/15/98	
o-Xylene	<1.1	U		1	11/15/98	
(m+p)-Xylene	<.60	U		1	11/15/98	
Xylene (total)	<1.1	U		1	11/15/98	
Styrene	<.50	U		1	11/15/98	
1,1,2,2-Tetrachloroethane	<.50	U		1	11/15/98	
1,2,3-Trichloropropane	<3.2	U		1	11/15/98	
Isopropylbenzene	<.50	U		1	11/15/98	
Bromobenzene	<.30	U		1	11/15/98	
n-Propylbenzene	<.40	U		1	11/15/98	
2-Chlorotoluene	<.40	U		1	11/15/98	
4-Chlorotoluene	<.60	U		1	11/15/98	
1,3,5-Trimethylbenzene	<.50	U		1	11/15/98	
tert-Butylbenzene	<1.4	U		1	11/15/98	
n-Butylbenzene	<1.1	U		1	11/15/98	
1,2,4-Trimethylbenzene	<1.3	U		1	11/15/98	
sec-Butylbenzene	<1.3	U		1	11/15/98	
1,3-Dichlorobenzene	<1.2	U		1	11/15/98	
1,4-Dichlorobenzene	<.30	U		1	11/15/98	
p-Isopropyltoluene	<1.2	U		1	11/15/98	
1,2-Dichlorobenzene	<.30	U		1	11/15/98	
1,2-Dibromo-3-chloropropane	<2.6	U		1	11/15/98	
1,2,4-Trichlorobenzene	<.40	U		1	11/15/98	
Naphthalene	<1.0	U		1	11/15/98	
Hexachlorobutadiene	<1.1	U		1	11/15/98	

- Outside control limits J-Estimated value

Authorized: Monika Santucci
Date: December 7,1998 Monika Santucci

O'Brien & Gere Laboratories,Inc.

Analytical Results Method: 8260

Client: Earth Tech Inc.
Project: Air Force Plant 59 #27378
Proj. Desc: Johnson City, NY

Job No.: 6780.004.517
Certification NY No.: 10155

Sample: J9299
Samp. Description: 59DW3WG1
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 65

Collected: 11/04/98
Received: 11/06/98
Prepared: 11/15/98

Matrix: Water
QC Batch: 111598W2
%Solids:
Purge volume: 25 mL

Parameter	Result	Qual	Surrog Limits	Dilution	Analyzed	Note
1,2,3-Trichlorobenzene	<.30	U		1	11/15/98	
1,2-Dichloroethane-d4 (surrogate)	102.%		62-139	1	11/15/98	
Dibromofluoromethane (surrogate)	109.%		75-125	1	11/15/98	
Toluene-d8 (surrogate)	105.%		75-125	1	11/15/98	
Bromofluorobenzene (surrogate)	100.%		75-125	1	11/15/98	

Notes:

- Outside control limits J-Estimated value

Authorized: Monika Santucci
Date: December 7,1998 Monika Santucci

O'Brien & Gere Laboratories, Inc.

Analytical Results Method: 8260

Client: Earth Tech Inc.
Project: Air Force Plant 59 #27378
Proj. Desc: Johnson City, NY

Job No.: 6780.004.517
Certification NY No.: 10155

Sample: J9299DL
Samp. Description: 59DW3WG1
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 65

Collected: 11/04/98
Received: 11/06/98
Prepared: 11/13/98

Matrix: Water
QC Batch: 111398W2
%Solids:
Purge volume: 25 mL

Parameter	Result	Qual	Surrog Limits	Dilution	Analyzed	Note:
Dichlorodifluoromethane	<5.0	R		5	11/13/98	
Chloromethane	<6.5	U		5	11/13/98	
Vinyl chloride	<5.5	U		5	11/13/98	
Bromomethane	<5.5	U		5	11/13/98	
Chloroethane	<5.0	U		5	11/13/98	
Trichlorofluoromethane	<4.0	U		5	11/13/98	
1,1-Dichloroethene	<6.0	U		5	11/13/98	
Methylene chloride	J .65	F		5	11/13/98	
trans-1,2-Dichloroethene	<3.0	U		5	11/13/98	
1,1-Dichloroethane	<2.0	U		5	11/13/98	
cis-1,2-Dichloroethene	66.	M	CMT 1/5/99	5	11/13/98	
Bromochloromethane	<2.0	U		5	11/13/98	
Chloroform	<1.5	U		5	11/13/98	
2,2-Dichloropropane	<18.	U		5	11/13/98	
1,2-Dichloroethane	<3.0	U		5	11/13/98	
1,1,1-Trichloroethane	<4.0	U		5	11/13/98	
1,1-Dichloropropene	<5.0	U		5	11/13/98	
Carbon tetrachloride	<10.	U		5	11/13/98	
Benzene	<2.0	U		5	11/13/98	
Dibromomethane	<12.	U		5	11/13/98	
1,2-Dichloropropane	<2.0	U		5	11/13/98	
Trichloroethene	<5.0	U		5	11/13/98	
Bromodichloromethane	<4.0	U		5	11/13/98	
cis-1,3-Dichloropropene	<5.0	U		5	11/13/98	
trans-1,3-Dichloropropene	<5.0	U		5	11/13/98	
1,1,2-Trichloroethane	<5.0	U		5	11/13/98	
Toluene	<5.5	U		5	11/13/98	
1,3-Dichloropropane	<2.0	U		5	11/13/98	
Dibromochloromethane	<2.5	U		5	11/13/98	

Do Not Use CMT 1/5/99

- Outside control limits J-Estimated value

Authorized: Monika Santucci
Date: December 7,1998 Monika Santucci

O'Brien & Gere Laboratories, Inc.

Analytical Results Method: 8260

Client: Earth Tech Inc.
Project: Air Force Plant 59 #27378
Proj. Desc: Johnson City, NY

Job No.: 6780.004.517
Certification NY No.: 10155

Sample: J9299DL
Samp. Description: 59DW3WG1
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 65

Collected: 11/04/98
Received: 11/06/98
Prepared: 11/13/98

Matrix: Water
QC Batch: 111398W2
%Solids:
Purge volume: 25 mL

Parameter	Result	Qual	Surrog Limits	Dilution	Analyzed	Note
1,2-Dibromoethane	<3.0	U		5	11/13/98	
Tetrachloroethene	<7.0	U		5	11/13/98	
1,1,1,2-Tetrachloroethane	<2.5	U		5	11/13/98	
Chlorobenzene	<2.0	U		5	11/13/98	
1-Chlorohexane	<2.5	U		5	11/13/98	
Ethylbenzene	<3.0	U		5	11/13/98	
Bromoform	<6.0	U		5	11/13/98	
o-Xylene	<5.5	U		5	11/13/98	
(m+p)-Xylene	<3.0	U		5	11/13/98	
Xylene (total)	<5.5	U		5	11/13/98	
Styrene	<2.5	U		5	11/13/98	
1,1,2,2-Tetrachloroethane	<2.5	U		5	11/13/98	
1,2,3-Trichloropropane	<16.	U		5	11/13/98	
Isopropylbenzene	<2.5	U		5	11/13/98	
Bromobenzene	<1.5	U		5	11/13/98	
n-Propylbenzene	<2.0	U		5	11/13/98	
2-Chlorotoluene	<2.0	U		5	11/13/98	
4-Chlorotoluene	<3.0	U		5	11/13/98	
1,3,5-Trimethylbenzene	<2.5	U		5	11/13/98	
tert-Butylbenzene	<7.0	U		5	11/13/98	
n-Butylbenzene	<5.5	U		5	11/13/98	
1,2,4-Trimethylbenzene	<6.5	U		5	11/13/98	
sec-Butylbenzene	<6.5	U		5	11/13/98	
1,3-Dichlorobenzene	<6.0	U		5	11/13/98	
1,4-Dichlorobenzene	<1.5	U		5	11/13/98	
p-Isopropyltoluene	<6.0	U		5	11/13/98	
1,2-Dichlorobenzene	<1.5	U		5	11/13/98	
1,2-Dibromo-3-chloropropane	<13.	U		5	11/13/98	
1,2,4-Trichlorobenzene	<2.0	U		5	11/13/98	
Naphthalene	<5.0	U		5	11/13/98	
Hexachlorobutadiene	<5.5	U		5	11/13/98	

CMT 1/5/99 Do Not USE

- Outside control limits J-Estimated value

Authorized: Monika Santucci
Date: December 7, 1998 Monika Santucci

O'Brien & Gere Laboratories, Inc.

Analytical Results Method: 8260

Job No.: 6780.004.517
Certification NY No.: 10155

Client: Earth Tech Inc.
Project: Air Force Plant 59 #27378
Proj. Desc: Johnson City, NY

Sample: J9299DL
Samp. Description: 59DW3WG1
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 65

Collected: 11/04/98
Received: 11/06/98
Prepared: 11/13/98

Matrix: Water
QC Batch: 111398W2
%Solids:
Purge volume: 25 mL

Parameter	Result	Qual	Surrog Limits	Dilution	Analyzed	Notes
1,2,3-Trichlorobenzene	<1.5	U		5	11/13/98	
1,2-Dichloroethane-d4 (surrogate)	108.%		62-139	5	11/13/98	
Dibromofluoromethane (surrogate)	109.%		75-125	5	11/13/98	
Toluene-d8 (surrogate)	102.%		75-125	5	11/13/98	
Bromofluorobenzene (surrogate)	104.%		75-125	5	11/13/98	

Notes:

CMT 1/5/99 Do Not Use

- Outside control limits J-Estimated value

Authorized: Monika Santucci
Date: December 7,1998 Monika Santucci

O'Brien & Gere Laboratories, Inc.

Analytical Results Method: 8260

Client: Earth Tech Inc.
Project: Air Force Plant 59 #27378
Proj. Desc: Johnson City, NY

Job No.: 6780.004.517
Certification NY No.: 10155

Sample: J9056
Samp. Description: 59SW4WG1
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 65

Collected: 11/03/98
Received: 11/03/98
Prepared: 11/13/98

Matrix: Water
QC Batch: 111398W2
%Solids:
Purge volume: 25 mL

Parameter	Result	Qual	Surrog Limits	Dilution	Analyzed	Note:
Dichlorodifluoromethane	1.3	R		1	11/13/98	
Chloromethane	<1.3	U		1	11/13/98	
Vinyl chloride	J .42	F		1	11/13/98	
Bromomethane	<1.1	U		1	11/13/98	
Chloroethane	J .30	F		1	11/13/98	
Trichlorofluoromethane	4.0			1	11/13/98	
1,1-Dichloroethene	J .82	F		1	11/13/98	
Methylene chloride	<.30	U		1	11/13/98	
trans-1,2-Dichloroethene	<.60	U		1	11/13/98	
1,1-Dichloroethane	9.0			1	11/13/98	
cis-1,2-Dichloroethene	10.	M	CMT 1/5/99	1	11/13/98	
Bromochloromethane	<.40	U		1	11/13/98	
Chloroform	<.30	U		1	11/13/98	
2,2-Dichloropropane	<3.5	U		1	11/13/98	
1,2-Dichloroethane	<.60	U		1	11/13/98	
1,1,1-Trichloroethane	8.0			1	11/13/98	
1,1-Dichloropropene	<1.0	U		1	11/13/98	
Carbon tetrachloride	<2.1	U		1	11/13/98	
Benzene	<.40	U		1	11/13/98	
Dibromomethane	<2.4	U		1	11/13/98	
1,2-Dichloropropane	<.40	U		1	11/13/98	
Trichloroethene	46.			1	11/13/98	
Bromodichloromethane	<.80	U		1	11/13/98	
cis-1,3-Dichloropropene	<1.0	U		1	11/13/98	
trans-1,3-Dichloropropene	<1.0	U		1	11/13/98	
1,1,2-Trichloroethane	<1.0	U		1	11/13/98	
Toluene	<1.1	U		1	11/13/98	
1,3-Dichloropropane	<.40	U		1	11/13/98	
Dibromochloromethane	<.50	U		1	11/13/98	

- Outside control limits J-Estimated value

Authorized: Monika Santucci
Date: December 7,1998 Monika Santucci

O'Brien & Gere Laboratories,Inc.

Analytical Results Method: 8260

Client: Earth Tech Inc.
Project: Air Force Plant 59 #27378
Proj. Desc: Johnson City, NY

Job No.: 6780.004.517
Certification NY No.: 10155

Sample: J9056
Samp. Description: 59SW4WG1
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 65

Collected: 11/03/98
Received: 11/03/98
Prepared: 11/13/98

Matrix: Water
QC Batch: 111398W2
%Solids:
Purge volume: 25 mL

Parameter	Result	Qual	Surrog Limits	Dilution	Analyzed	Note
1,2-Dibromoethane	<.60	U		1	11/13/98	
Tetrachloroethene	J .58	F		1	11/13/98	
1,1,1,2-Tetrachloroethane	<.50	U		1	11/13/98	
Chlorobenzene	<.40	U		1	11/13/98	
1-Chlorohexane	<.50	U		1	11/13/98	
Ethylbenzene	<.60	U		1	11/13/98	
Bromoform	<1.2	U		1	11/13/98	
o-Xylene	<1.1	U		1	11/13/98	
(m+p)-Xylene	<.60	U		1	11/13/98	
Xylene (total)	<1.1	U		1	11/13/98	
Styrene	<.50	U		1	11/13/98	
1,1,2,2-Tetrachloroethane	<.50	U		1	11/13/98	
1,2,3-Trichloropropane	<3.2	U		1	11/13/98	
Isopropylbenzene	<.50	U		1	11/13/98	
Bromobenzene	<.30	U		1	11/13/98	
n-Propylbenzene	<.40	U		1	11/13/98	
2-Chlorotoluene	<.40	U		1	11/13/98	
4-Chlorotoluene	<.60	U		1	11/13/98	
1,3,5-Trimethylbenzene	<.50	U		1	11/13/98	
tert-Butylbenzene	<1.4	U		1	11/13/98	
n-Butylbenzene	<1.1	U		1	11/13/98	
1,2,4-Trimethylbenzene	<1.3	U		1	11/13/98	
sec-Butylbenzene	<1.3	U		1	11/13/98	
1,3-Dichlorobenzene	<1.2	U		1	11/13/98	
1,4-Dichlorobenzene	<.30	U		1	11/13/98	
p-Isopropyltoluene	<1.2	U		1	11/13/98	
1,2-Dichlorobenzene	<.30	U		1	11/13/98	
1,2-Dibromo-3-chloropropane	<2.6	U		1	11/13/98	
1,2,4-Trichlorobenzene	<.40	U		1	11/13/98	
Naphthalene	<1.0	U		1	11/13/98	
Hexachlorobutadiene	<1.1	U		1	11/13/98	

- Outside control limits J-Estimated value

Authorized: Monika Santucci
Date: December 7,1998 Monika Santucci

O'Brien & Gere Laboratories, Inc.

Analytical Results Method: 8260

Client: Earth Tech Inc.
Project: Air Force Plant 59 #27378
Proj. Desc: Johnson City, NY

Job No.: 6780.004.517
Certification NY No.: 10155

Sample: J9056
Samp. Description: 59SW4WG1
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 65

Collected: 11/03/98
Received: 11/03/98
Prepared: 11/13/98

Matrix: Water
QC Batch: 111398W2
%Solids:
Purge volume: 25 mL

Parameter	Result	Qual	Surrog Limits	Dilution	Analyzed	Notes
1,2,3-Trichlorobenzene	<.30	U		1	11/13/98	
1,2-Dichloroethane-d4 (surrogate)	105.%		62-139	1	11/13/98	
Dibromofluoromethane (surrogate)	111.%		75-125	1	11/13/98	
Toluene-d8 (surrogate)	105.%		75-125	1	11/13/98	
Bromofluorobenzene (surrogate)	100.%		75-125	1	11/13/98	

Notes:

! - Outside control limits J-Estimated value

Authorized: Monika Santucci
Date: December 7,1998 Monika Santucci

5000 Brittonfield Parkway / Suite 300, Box 4942 / Syracuse, NY 13221 / (315) 437-0200

O'Brien & Gere Laboratories,Inc.

Analytical Results Method: 8260

Client: Earth Tech Inc.
Project: Air Force Plant 59 #27378
Proj. Desc: Johnson City, NY

Job No.: 6780.004.517
Certification NY No.: 10155

Sample: J9056DL
Samp. Description: 59SW4WG1
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 65

Collected: 11/03/98
Received: 11/03/98
Prepared: 11/12/98

Matrix: Water
QC Batch: 111298W2
%Solids:
Purge volume: 25 mL

Parameter	Result	Qual	Surrog Limits	Dilution	Analyzed
Dichlorodifluoromethane	J 1.4	R		5	11/12/98
Chloromethane	<6.5	U		5	11/12/98
Vinyl chloride	<5.5	U		5	11/12/98
Bromomethane	<5.5	U		5	11/12/98
Chloroethane	<5.0	U		5	11/12/98
Trichlorofluoromethane	4.0			5	11/12/98
1,1-Dichloroethene	J .85	F		5	11/12/98
Methylene chloride	<1.5	U		5	11/12/98
trans-1,2-Dichloroethene	<3.0	U		5	11/12/98
1,1-Dichloroethane	8.8			5	11/12/98
cis-1,2-Dichloroethene	10.	M	CMT 1/5/99	5	11/12/98
Bromochloromethane	<2.0	U		5	11/12/98
Chloroform	<1.5	U		5	11/12/98
2,2-Dichloropropane	<18.	U		5	11/12/98
1,2-Dichloroethane	<3.0	U		5	11/12/98
1,1,1-Trichloroethane	7.6			5	11/12/98
1,1-Dichloropropene	<5.0	U		5	11/12/98
Carbon tetrachloride	<10.	U		5	11/12/98
Benzene	<2.0	U		5	11/12/98
Dibromomethane	<12.	U		5	11/12/98
1,2-Dichloropropane	<2.0	U		5	11/12/98
Trichloroethene	46.			5	11/12/98
Bromodichloromethane	<4.0	U		5	11/12/98
cis-1,3-Dichloropropene	<5.0	U		5	11/12/98
trans-1,3-Dichloropropene	<5.0	U		5	11/12/98
1,1,2-Trichloroethane	<5.0	U		5	11/12/98
Toluene	<5.5	U		5	11/12/98
1,3-Dichloropropane	<2.0	U		5	11/12/98
Dibromochloromethane	<2.5	U		5	11/12/98

CMT 1/5/99 DO NOT USE

- Outside control limits J-Estimated value

Authorized: Monika Santucci
Date: December 7,1998 Monika Santucci

5000 Brittonfield Parkway / Suite 300, Box 4942 / Syracuse, NY 13221 / (315) 437-0200

O'Brien & Gere Laboratories, Inc.

Analytical Results Method: 8260

Client: Earth Tech Inc.
Project: Air Force Plant 59 #27378
Proj. Desc: Johnson City, NY

Job No.: 6780.004.517
Certification NY No.: 10155

Sample: J9056DL
Samp. Description: 59SW4WG1
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 65

Collected: 11/03/98
Received: 11/03/98
Prepared: 11/12/98

Matrix: Water
QC Batch: 111298W2
%Solids:
Purge volume: 25 mL

Parameter	Result	Qual	Surrog Limits	Dilution	Analyzed	Note
1,2-Dibromoethane	<3.0	U		5	11/12/98	
Tetrachloroethene	J .65	F		5	11/12/98	
1,1,1,2-Tetrachloroethane	<2.5	U		5	11/12/98	
Chlorobenzene	<2.0	U		5	11/12/98	
1-Chlorohexane	<2.5	U		5	11/12/98	
Ethylbenzene	<3.0	U		5	11/12/98	
Bromoform	<8.0	U		5	11/12/98	
o-Xylene	<5.5	U		5	11/12/98	
(m+p)-Xylene	<3.0	U		5	11/12/98	
Xylene (total)	<5.5	U		5	11/12/98	
Styrene	<2.5	U		5	11/12/98	
1,1,2,2-Tetrachloroethane	<2.5	U		5	11/12/98	
1,2,3-Trichloropropane	<16.	U		5	11/12/98	
Isopropylbenzene	<2.5	U		5	11/12/98	
Bromobenzene	<1.5	U		5	11/12/98	
n-Propylbenzene	<2.0	U		5	11/12/98	
2-Chlorotoluene	<2.0	U		5	11/12/98	
4-Chlorotoluene	<3.0	U		5	11/12/98	
1,3,5-Trimethylbenzene	<2.5	U		5	11/12/98	
tert-Butylbenzene	<7.0	U		5	11/12/98	
n-Butylbenzene	<5.5	U		5	11/12/98	
1,2,4-Trimethylbenzene	<6.5	U		5	11/12/98	
sec-Butylbenzene	<6.5	U		5	11/12/98	
1,3-Dichlorobenzene	<6.0	U		5	11/12/98	
1,4-Dichlorobenzene	<1.5	U		5	11/12/98	
p-Isopropyltoluene	<6.0	U		5	11/12/98	
1,2-Dichlorobenzene	<1.5	U		5	11/12/98	
1,2-Dibromo-3-chloropropane	<13.	U		5	11/12/98	
1,2,4-Trichlorobenzene	<2.0	U		5	11/12/98	
Naphthalene	<5.0	U		5	11/12/98	
Hexachlorobutadiene	<5.5	U		5	11/12/98	

CNIT 1/5/99 DO NOT USE

- Outside control limits J-Estimated value

Authorized: Monika Santucci
Date: December 7,1998 Monika Santucci

5000 Brittonfield Parkway / Suite 300, Box 4942 / Syracuse, NY 13221 / (315) 437-0200

O'Brien & Gere Laboratories, Inc.

Analytical Results Method: 8260

Client: Earth Tech Inc.
Project: Air Force Plant 59 #27378
Proj. Desc: Johnson City, NY

Job No.: 6780.004.517
Certification NY No.: 10155

Sample: J9056DL
Samp. Description: 59SW4WG1
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 65

Collected: 11/03/98
Received: 11/03/98
Prepared: 11/12/98

Matrix: Water
QC Batch: 111298W2
%Solids:
Purge volume: 25 mL

Parameter	Result	Qual	Surrog Limits	Dilution	Analyzed	Note
1,2,3-Trichlorobenzene	<1.5	U		5	11/12/98	
1,2-Dichloroethane-d4 (surrogate)	102.%		62-139	5	11/12/98	
Dibromofluoromethane (surrogate)	109.%		75-125	5	11/12/98	
Toluene-d8 (surrogate)	104.%		75-125	5	11/12/98	
Bromofluorobenzene (surrogate)	100.%		75-125	5	11/12/98	

Notes:

CMT 1/5/99 Do Not Use

- Outside control limits J-Estimated value

Authorized: Monika Santucci
Date: December 7,1998 Monika Santucci

5000 Brittonfield Parkway / Suite 300, Box 4942 / Syracuse, NY 13221 / (315) 437-0200

O'Brien & Gere Laboratories, Inc.

Analytical Results Method: 8260

Client: Earth Tech Inc.
Project: Air Force Plant 59 #27378
Proj. Desc: Johnson City, NY

Job No.: 6780.004.517
Certification NY No.: 10155

Sample: J9057
Samp. Description: 59SW4WG9
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 65

Collected: 11/03/98
Received: 11/03/98
Prepared: 11/13/98

Matrix: Water
QC Batch: 111398W2
%Solids:
Purge volume: 25 mL

Parameter	Result	Qual	Surrog Limits	Dilution	Analyzed	Notes
Dichlorodifluoromethane	1.4	R		1	11/13/98	
Chloromethane	<1.3	U		1	11/13/98	
Vinyl chloride	J .42	F		1	11/13/98	
Bromomethane	<1.1	U		1	11/13/98	
Chloroethane	J .34	F		1	11/13/98	
Trichlorofluoromethane	4.1			1	11/13/98	
1,1-Dichloroethene	J .78	F		1	11/13/98	
Methylene chloride	<.30	U		1	11/13/98	
trans-1,2-Dichloroethene	<.60	U		1	11/13/98	
1,1-Dichloroethane	8.8			1	11/13/98	
cis-1,2-Dichloroethene	9.9	M	(MT 1/5/99	1	11/13/98	
Bromochloromethane	<.40	U		1	11/13/98	
Chloroform	<.30	U		1	11/13/98	
2,2-Dichloropropane	<3.5	U		1	11/13/98	
1,2-Dichloroethane	<.60	U		1	11/13/98	
1,1,1-Trichloroethane	7.8			1	11/13/98	
1,1-Dichloropropene	<1.0	U		1	11/13/98	
Carbon tetrachloride	<2.1	U		1	11/13/98	
Benzene	<.40	U		1	11/13/98	
Dibromomethane	<2.4	U		1	11/13/98	
1,2-Dichloropropane	<.40	U		1	11/13/98	
Trichloroethene	46 #3.			1	11/13/98	
Bromodichloromethane	<.80	U		1	11/13/98	
cis-1,3-Dichloropropene	<1.0	U		1	11/13/98	
trans-1,3-Dichloropropene	<1.0	U		1	11/13/98	
1,1,2-Trichloroethane	<1.0	U		1	11/13/98	
Toluene	J .12	F		1	11/13/98	
1,3-Dichloropropane	<.40	U		1	11/13/98	
Dibromochloromethane	<.50	U		1	11/13/98	

CMT 1/5/99

- Outside control limits J-Estimated value

Authorized: Monika Santucci
Date: December 7,1998 Monika Santucci

O'Brien & Gere Laboratories, Inc.

Analytical Results Method: 8260

Client: Earth Tech Inc.
Project: Air Force Plant 59 #27378
Proj. Desc: Johnson City, NY

Job No.: 6780.004.517
Certification NY No.: 10155

Sample: J9057
Samp. Description: 59SW4WG9
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 65

Collected: 11/03/98
Received: 11/03/98
Prepared: 11/13/98

Matrix: Water
QC Batch: 111398W2
%Solids:
Purge volume: 25 mL

Parameter	Result	Qual	Surrog Limits	Dilution	Analyzed	Notes
1,2-Dibromoethane	<.60	U		1	11/13/98	
Tetrachloroethene	J .56	F		1	11/13/98	
1,1,1,2-Tetrachloroethane	<.50	U		1	11/13/98	
Chlorobenzene	<.40	U		1	11/13/98	
1-Chlorohexane	<.50	U		1	11/13/98	
Ethylbenzene	<.60	U		1	11/13/98	
Bromoform	<1.2	U		1	11/13/98	
o-Xylene	<1.1	U		1	11/13/98	
(m+p)-Xylene	<.60	U		1	11/13/98	
Xylene (total)	<1.1	U		1	11/13/98	
Styrene	<.50	U		1	11/13/98	
1,1,2,2-Tetrachloroethane	<.50	U		1	11/13/98	
1,2,3-Trichloropropane	<3.2	U		1	11/13/98	
Isopropylbenzene	<.50	U		1	11/13/98	
Bromobenzene	<.30	U		1	11/13/98	
n-Propylbenzene	<.40	U		1	11/13/98	
2-Chlorotoluene	<.40	U		1	11/13/98	
4-Chlorotoluene	<.60	U		1	11/13/98	
1,3,5-Trimethylbenzene	<.50	U		1	11/13/98	
tert-Butylbenzene	<1.4	U		1	11/13/98	
n-Butylbenzene	<1.1	U		1	11/13/98	
1,2,4-Trimethylbenzene	<1.3	U		1	11/13/98	
sec-Butylbenzene	<1.3	U		1	11/13/98	
1,3-Dichlorobenzene	<1.2	U		1	11/13/98	
1,4-Dichlorobenzene	<.30	U		1	11/13/98	
p-Isopropyltoluene	<1.2	U		1	11/13/98	
1,2-Dichlorobenzene	<.30	U		1	11/13/98	
1,2-Dibromo-3-chloropropane	<2.6	U		1	11/13/98	
1,2,4-Trichlorobenzene	<.40	U		1	11/13/98	
Naphthalene	<1.0	U		1	11/13/98	
Hexachlorobutadiene	<1.1	U		1	11/13/98	

- Outside control limits J-Estimated value

Authorized: Monika Santucci
Date: December 7,1998 Monika Santucci

O'Brien & Gere Laboratories, Inc.

Analytical Results Method: 8260

Client: Earth Tech Inc.
Project: Air Force Plant 59 #27378
Proj. Desc: Johnson City, NY

Job No.: 6780.004.517
Certification NY No.: 10155

Sample: J9057
Samp. Description: 59SW4WG9
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 65

Collected: 11/03/98
Received: 11/03/98
Prepared: 11/13/98

Matrix: Water
QC Batch: 111398W2
%Solids:
Purge volume: 25 mL

Parameter	Result	Qual	Surrog Limits	Dilution	Analyzed	Note
1,2,3-Trichlorobenzene	<.30	U		1	11/13/98	
1,2-Dichloroethane-d4 (surrogate)	100.%		62-139	1	11/13/98	
Dibromofluoromethane (surrogate)	122.%		75-125	1	11/13/98	
Toluene-d8 (surrogate)	103.%		75-125	1	11/13/98	
Bromofluorobenzene (surrogate)	98.%		75-125	1	11/13/98	

Notes:

- Outside control limits J-Estimated value

Authorized: Monika Santucci
Date: December 7,1998 Monika Santucci

5000 Brittonfield Parkway / Suite 300, Box 4942 / Syracuse, NY 13221 / (315) 437-0200

O'Brien & Gere Laboratories,Inc.

Analytical Results Method: 8260

Client: Earth Tech Inc.
Project: Air Force Plant 59 #27378
Proj. Desc: Johnson City, NY

Job No.: 6780.004.517
Certification NY No.: 10155

Sample: J9057DL
Samp. Description: 59SW4WG9
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 65

Collected: 11/03/98
Received: 11/03/98
Prepared: 11/12/98

Matrix: Water
QC Batch: 111298W2
%Solids:
Purge volume: 25 mL

Parameter	Result	Qual	Surrog Limits	Dilution	Analyzed	Note
Dichlorodifluoromethane	J 1.3	B		5	11/12/98	
Chloromethane	<6.5	U		5	11/12/98	
Vinyl chloride	<5.5	U		5	11/12/98	
Bromomethane	<5.5	U		5	11/12/98	
Chloroethane	<5.0	U		5	11/12/98	
Trichlorofluoromethane	J 3.8	F		5	11/12/98	
1,1-Dichloroethene	J .80	F		5	11/12/98	
Methylene chloride	<1.5	U		5	11/12/98	
trans-1,2-Dichloroethene	<3.0	U		5	11/12/98	
1,1-Dichloroethane	8.4			5	11/12/98	
cis-1,2-Dichloroethene	9.6	M	CMT 1/5/99	5	11/12/98	
Bromochloromethane	<2.0	U		5	11/12/98	
Chloroform	<1.5	U		5	11/12/98	
2,2-Dichloropropane	<18.	U		5	11/12/98	
1,2-Dichloroethane	<3.0	U		5	11/12/98	
1,1,1-Trichloroethane	7.4			5	11/12/98	
1,1-Dichloropropene	<5.0	U		5	11/12/98	
Carbon tetrachloride	<10.	U		5	11/12/98	
Benzene	<2.0	U		5	11/12/98	
Dibromomethane	<12.	U		5	11/12/98	
1,2-Dichloropropane	<2.0	U		5	11/12/98	
Trichloroethene	46.			5	11/12/98	
Bromodichloromethane	<4.0	U		5	11/12/98	
cis-1,3-Dichloropropene	<5.0	U		5	11/12/98	
trans-1,3-Dichloropropene	<5.0	U		5	11/12/98	
1,1,2-Trichloroethane	<5.0	U		5	11/12/98	
Toluene	<5.5	U		5	11/12/98	
1,3-Dichloropropane	<2.0	U		5	11/12/98	
Dibromochloromethane	<2.5	U		5	11/12/98	

CMT 1/5/99 Do Not Use

- Outside control limits J-Estimated value

Authorized: Monika Santucci
Date: December 7,1998 Monika Santucci

O'Brien & Gere Laboratories, Inc.

Analytical Results Method: 8260

Client: Earth Tech Inc.
Project: Air Force Plant 59 #27378
Proj. Desc: Johnson City, NY

Job No.: 6780.004.517
Certification NY No.: 10155

Sample: J9057DL
Samp. Description: 59SW4WG9
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 65

Collected: 11/03/98
Received: 11/03/98
Prepared: 11/12/98

Matrix: Water
QC Batch: 111298W2
%Solids:
Purge volume: 25 mL

Parameter	Result	Qual	Surrog Limits	Dilution	Analyzed	Note
1,2-Dibromoethane	<3.0	U		5	11/12/98	
Tetrachloroethene	J .50	F		5	11/12/98	
1,1,1,2-Tetrachloroethane	<2.5	U		5	11/12/98	
Chlorobenzene	<2.0	U		5	11/12/98	
1-Chlorohexane	<2.5	U		5	11/12/98	
Ethylbenzene	<3.0	U		5	11/12/98	
Bromoform	<6.0	U		5	11/12/98	
o-Xylene	<5.5	U		5	11/12/98	
(m+p)-Xylene	<3.0	U		5	11/12/98	
Xylene (total)	<5.5	U		5	11/12/98	
Styrene	<2.5	U		5	11/12/98	
1,1,2,2-Tetrachloroethane	<2.5	U		5	11/12/98	
1,2,3-Trichloropropane	<16.	U		5	11/12/98	
Isopropylbenzene	<2.5	U		5	11/12/98	
Bromobenzene	<1.5	U		5	11/12/98	
n-Propylbenzene	<2.0	U		5	11/12/98	
2-Chlorotoluene	<2.0	U		5	11/12/98	
4-Chlorotoluene	<3.0	U		5	11/12/98	
1,3,5-Trimethylbenzene	<2.5	U		5	11/12/98	
tert-Butylbenzene	<7.0	U		5	11/12/98	
n-Butylbenzene	<5.5	U		5	11/12/98	
1,2,4-Trimethylbenzene	<6.5	U		5	11/12/98	
sec-Butylbenzene	<6.5	U		5	11/12/98	
1,3-Dichlorobenzene	<6.0	U		5	11/12/98	
1,4-Dichlorobenzene	<1.5	U		5	11/12/98	
p-Isopropyltoluene	<6.0	U		5	11/12/98	
1,2-Dichlorobenzene	<1.5	U		5	11/12/98	
1,2-Dibromo-3-chloropropane	<13.	U		5	11/12/98	
1,2,4-Trichlorobenzene	<2.0	U		5	11/12/98	
Naphthalene	<5.0	U		5	11/12/98	
Hexachlorobutadiene	<5.5	U		5	11/12/98	

CVCL 1/5/99 Do Not Use

- Outside control limits J-Estimated value

Authorized: Monika Santucci
Date: December 7,1998 Monika Santucci

O'Brien & Gere Laboratories, Inc.

Analytical Results Method: 8260

Client: Earth Tech Inc.
Project: Air Force Plant 59 #27378
Proj. Desc: Johnson City, NY

Job No.: 6780.004.517
Certification NY No.: 10155

Sample: J9057DL
Samp. Description: 59SW4WG9
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 65

Collected: 11/03/98
Received: 11/03/98
Prepared: 11/12/98

Matrix: Water
QC Batch: 111298W2
%Solids:
Purge volume: 25 mL

Parameter	Result	Qual	Surrog Limits	Dilution	Analyzed	Notes
1,2,3-Trichlorobenzene	<1.5	U		5	11/12/98	
1,2-Dichloroethane-d4 (surrogate)	107.%		62-139	5	11/12/98	
Dibromofluoromethane (surrogate)	111.%		75-125	5	11/12/98	
Toluene-d8 (surrogate)	106.%		75-125	5	11/12/98	
Bromofluorobenzene (surrogate)	98.%		75-125	5	11/12/98	

Notes:

CMC 1/5/99 Do Not Use

- Outside control limits J-Estimated value

Authorized: Monika Santucci
Date: December 7,1998 Monika Santucci

O'Brien & Gere Laboratories, Inc.

Analytical Results Method: 8260

Client: Earth Tech Inc.
Project: Air Force Plant 59 #27378
Proj. Desc: Johnson City, NY

Job No.: 6780.004.517
Certification NY No.: 10155

Sample: J9301
Samp. Description: 59SW6WG1
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 65

Collected: 11/04/98
Received: 11/06/98
Prepared: 11/15/98

Matrix: Water
QC Batch: 111598W2
%Solids:
Purge volume: 25 mL

Parameter	Result	Qual	Surrog Limits	Dilution	Analyzed	Notes
Dichlorodifluoromethane	<1.0	R		1	11/15/98	
Chloromethane	<1.3	U		1	11/15/98	
Vinyl chloride	<1.1	U		1	11/15/98	
Bromomethane	<1.1	U		1	11/15/98	
Chloroethane	<1.0	U		1	11/15/98	
Trichlorofluoromethane	<.80	U		1	11/15/98	
1,1-Dichloroethene	<1.2	U		1	11/15/98	
Methylene chloride	<.30	U		1	11/15/98	
trans-1,2-Dichloroethene	<.60	U		1	11/15/98	
1,1-Dichloroethane	1.0			1	11/15/98	
cis-1,2-Dichloroethene	8.1	M	CMT 11/5/99	1	11/15/98	
Bromochloromethane	<.40	U		1	11/15/98	
Chloroform	<.30	U		1	11/15/98	
2,2-Dichloropropane	<3.5	U		1	11/15/98	
1,2-Dichloroethane	<.60	U		1	11/15/98	
1,1,1-Trichloroethane	1.3			1	11/15/98	
1,1-Dichloropropene	<1.0	U		1	11/15/98	
Carbon tetrachloride	<2.1	U		1	11/15/98	
Benzene	<.40	U		1	11/15/98	
Dibromomethane	<2.4	U		1	11/15/98	
1,2-Dichloropropane	<.40	U		1	11/15/98	
Trichloroethene	1.8			1	11/15/98	
Bromodichloromethane	<.80	U		1	11/15/98	
cis-1,3-Dichloropropene	<1.0	U		1	11/15/98	
trans-1,3-Dichloropropene	<1.0	U		1	11/15/98	
1,1,2-Trichloroethane	<1.0	U		1	11/15/98	
Toluene	<1.1	U		1	11/15/98	
1,3-Dichloropropane	<.40	U		1	11/15/98	
Dibromochloromethane	.54			1	11/15/98	

- Outside control limits J-Estimated value

Authorized: Monika Sanfucci
Date: December 7,1998 Monika Sanfucci

5000 Brittonfield Parkway / Suite 300, Box 4942 / Syracuse, NY 13221 / (315) 437-0200

O'Brien & Gere Laboratories, Inc.

Analytical Results Method: 8260

Client: Earth Tech Inc.
Project: Air Force Plant 59 #27378
Proj. Desc: Johnson City, NY

Job No.: 6780.004.517
Certification NY No.: 10155

Sample: J9301
Samp. Description: 59SW6WG1
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 65

Collected: 11/04/98
Received: 11/06/98
Prepared: 11/15/98

Matrix: Water
QC Batch: 111598W2
%Solids:
Purge volume: 25 mL

Parameter	Result	Qual	Surrog Limits	Dilution	Analyzed	Note:
1,2-Dibromoethane	<.60	U		1	11/15/98	
Tetrachloroethene	<1.4	U		1	11/15/98	
1,1,1,2-Tetrachloroethane	<.50	U		1	11/15/98	
Chlorobenzene	<.40	U		1	11/15/98	
1-Chlorohexane	<.50	U		1	11/15/98	
Ethylbenzene	<.60	U		1	11/15/98	
Bromoform	J .52	F		1	11/15/98	
o-Xylene	<1.1	U		1	11/15/98	
(m+p)-Xylene	<.60	U		1	11/15/98	
Xylene (total)	<1.1	U		1	11/15/98	
Styrene	<.50	U		1	11/15/98	
1,1,2,2-Tetrachloroethane	<.50	U		1	11/15/98	
1,2,3-Trichloropropane	<3.2	U		1	11/15/98	
Isopropylbenzene	<.50	U		1	11/15/98	
Bromobenzene	<.30	U		1	11/15/98	
n-Propylbenzene	<.40	U		1	11/15/98	
2-Chlorotoluene	<.40	U		1	11/15/98	
4-Chlorotoluene	<.60	U		1	11/15/98	
1,3,5-Trimethylbenzene	<.50	U		1	11/15/98	
tert-Butylbenzene	<1.4	U		1	11/15/98	
n-Butylbenzene	<1.1	U		1	11/15/98	
1,2,4-Trimethylbenzene	<1.3	U		1	11/15/98	
sec-Butylbenzene	<1.3	U		1	11/15/98	
1,3-Dichlorobenzene	<1.2	U		1	11/15/98	
1,4-Dichlorobenzene	<.30	U		1	11/15/98	
p-Isopropyltoluene	<1.2	U		1	11/15/98	
1,2-Dichlorobenzene	<.30	U		1	11/15/98	
1,2-Dibromo-3-chloropropane	<2.6	U		1	11/15/98	
1,2,4-Trichlorobenzene	<.40	U		1	11/15/98	
Naphthalene	<1.0	U		1	11/15/98	
Hexachlorobutadiene	<1.1	U		1	11/15/98	

- Outside control limits J-Estimated value

Authorized: Monika Santucci
Date: December 7,1998 Monika Santucci

O'Brien & Gere Laboratories,Inc.

Analytical Results Method: 8260

Client: Earth Tech Inc.
Project: Air Force Plant 59 #27378
Proj. Desc: Johnson City, NY

Job No.: 6780.004.517
Certification NY No.: 10155

Sample: J9301
Samp. Description: 59SW6WG1
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 65

Collected: 11/04/98
Received: 11/06/98
Prepared: 11/15/98

Matrix: Water
QC Batch: 111598W2
%Solids:
Purge volume: 25 mL

Parameter	Result	Qual	Surrog Limits	Dilution	Analyzed	Notes
1,2,3-Trichlorobenzene	<.30	U		1	11/15/98	
1,2-Dichloroethane-d4 (surrogate)	101.%		62-139	1	11/15/98	
Dibromofluoromethane (surrogate)	121.%		75-125	1	11/15/98	
Toluene-d8 (surrogate)	105.%		75-125	1	11/15/98	
Bromofluorobenzene (surrogate)	104.%		75-125	1	11/15/98	

Notes:

- Outside control limits J-Estimated value

Authorized: Monika Sannucci
Date: December 7,1998 Monika Sannucci

5000 Brittonfield Parkway / Suite 300, Box 4942 / Syracuse, NY 13221 / (315) 437-0200

O'Brien & Gere Laboratories,Inc.

Analytical Results Method: 8260

Client: Earth Tech Inc.
Project: Air Force Plant 59 #27378
Proj. Desc: Johnson City, NY

Job No.: 6780.004.517
Certification NY No.: 10155

Sample: J9302
Samp. Description: 59DW6WG1
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 65

Collected: 11/04/98
Received: 11/06/98
Prepared: 11/15/98

Matrix: Water
QC Batch: 111598W2
%Solids:
Purge volume: 25 mL

Parameter	Result	Qual	Surrog Limits	Dilution	Analyzed	Note
Dichlorodifluoromethane	<1.0	R		1	11/15/98	
Chloromethane	<1.3	U		1	11/15/98	
Vinyl chloride	<1.1	U		1	11/15/98	
Bromomethane	<1.1	U		1	11/15/98	
Chloroethane	<1.0	U		1	11/15/98	
Trichlorofluoromethane	<.80	U		1	11/15/98	
1,1-Dichloroethene	<1.2	U		1	11/15/98	
Methylene chloride	<.30	U		1	11/15/98	
trans-1,2-Dichloroethene	<.60	U		1	11/15/98	
1,1-Dichloroethane	<.40	U		1	11/15/98	
cis-1,2-Dichloroethene	<1.2	U		1	11/15/98	
Bromochloromethane	<.40	U		1	11/15/98	
Chloroform	<.30	U		1	11/15/98	
2,2-Dichloropropane	<3.5	U		1	11/15/98	
1,2-Dichloroethane	<.60	U		1	11/15/98	
1,1,1-Trichloroethane	<.80	U		1	11/15/98	
1,1-Dichloropropene	<1.0	U		1	11/15/98	
Carbon tetrachloride	<2.1	U		1	11/15/98	
Benzene	<.40	U		1	11/15/98	
Dibromomethane	<2.4	U		1	11/15/98	
1,2-Dichloropropane	<.40	U		1	11/15/98	
Trichloroethene	<1.0	U		1	11/15/98	
Bromodichloromethane	<.80	U		1	11/15/98	
cis-1,3-Dichloropropene	<1.0	U		1	11/15/98	
trans-1,3-Dichloropropene	<1.0	U		1	11/15/98	
1,1,2-Trichloroethane	<1.0	U		1	11/15/98	
Toluene	<1.1	U		1	11/15/98	
1,3-Dichloropropane	<.40	U		1	11/15/98	
Dibromochloromethane	<.50	U		1	11/15/98	

- Outside control limits J-Estimated value

Authorized: Monika Sannucci
Date: December 7,1998 Monika Sannucci

O'Brien & Gere Laboratories, Inc.

Analytical Results Method: 8260

Client: Earth Tech Inc.
Project: Air Force Plant 59 #27378
Proj. Desc: Johnson City, NY

Job No.: 6780.004.517
Certification NY No.: 10155

Sample: J9302
Samp. Description: 59DW6WG1
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 65

Collected: 11/04/98
Received: 11/06/98
Prepared: 11/15/98

Matrix: Water
QC Batch: 111598W2
%Solids:
Purge volume: 25 mL

Parameter	Result	Qual	Surrog Limits	Dilution	Analyzed	Note
1,2-Dibromoethane	<.60	U		1	11/15/98	
Tetrachloroethene	<1.4	U		1	11/15/98	
1,1,1,2-Tetrachloroethane	<.50	U		1	11/15/98	
Chlorobenzene	<.40	U		1	11/15/98	
1-Chlorohexane	<.50	U		1	11/15/98	
Ethylbenzene	<.60	U		1	11/15/98	
Bromoform	<1.2	U		1	11/15/98	
o-Xylene	<1.1	U		1	11/15/98	
(m+p)-Xylene	<.60	U		1	11/15/98	
Xylene (total)	<1.1	U		1	11/15/98	
Styrene	<.50	U		1	11/15/98	
1,1,2,2-Tetrachloroethane	<.50	U		1	11/15/98	
1,2,3-Trichloropropane	<3.2	U		1	11/15/98	
Isopropylbenzene	<.50	U		1	11/15/98	
Bromobenzene	<.30	U		1	11/15/98	
n-Propylbenzene	<.40	U		1	11/15/98	
2-Chlorotoluene	<.40	U		1	11/15/98	
4-Chlorotoluene	<.60	U		1	11/15/98	
1,3,5-Trimethylbenzene	<.50	U		1	11/15/98	
tert-Butylbenzene	<1.4	U		1	11/15/98	
n-Butylbenzene	<1.1	U		1	11/15/98	
1,2,4-Trimethylbenzene	<1.3	U		1	11/15/98	
sec-Butylbenzene	<1.3	U		1	11/15/98	
1,3-Dichlorobenzene	<1.2	U		1	11/15/98	
1,4-Dichlorobenzene	<.30	U		1	11/15/98	
p-Isopropyltoluene	<1.2	U		1	11/15/98	
1,2-Dichlorobenzene	<.30	U		1	11/15/98	
1,2-Dibromo-3-chloropropane	<2.6	U		1	11/15/98	
1,2,4-Trichlorobenzene	<.40	U		1	11/15/98	
Naphthalene	<1.0	U		1	11/15/98	
Hexachlorobutadiene	<1.1	U		1	11/15/98	

- Outside control limits J-Estimated value

Authorized: Monika Santucci
Date: December 7,1998 Monika Santucci

O'Brien & Gere Laboratories, Inc.

Analytical Results Method: 8260

Client: Earth Tech Inc.
Project: Air Force Plant 59 #27378
Proj. Desc: Johnson City, NY

Job No.: 6780.004.517
Certification NY No.: 10155

Sample: J9302
Samp. Description: 59DW6WG1
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 65

Collected: 11/04/98
Received: 11/06/98
Prepared: 11/15/98

Matrix: Water
QC Batch: 111598W2
%Solids:
Purge volume: 25 mL

Parameter	Result	Qual	Surrog Limits	Dilution	Analyzed	Notes
1,2,3-Trichlorobenzene	<.30	U		1	11/15/98	
1,2-Dichloroethane-d4 (surrogate)	106.%		62-139	1	11/15/98	
Dibromofluoromethane (surrogate)	112.%		75-125	1	11/15/98	
Toluene-d8 (surrogate)	105.%		75-125	1	11/15/98	
Bromofluorobenzene (surrogate)	98.%		75-125	1	11/15/98	

Notes:

- Outside control limits J-Estimated value

Authorized: Monika Santucci
Date: December 7,1998 Monika Santucci

O'Brien & Gere Laboratories, Inc.

Analytical Results Method: 8260

Client: Earth Tech Inc.
Project: Air Force Plant 59 #27378
Proj. Desc: Johnson City, NY

Job No.: 6780.004.517
Certification NY No.: 10155

Sample: J9305
Samp. Description: 59SW7WG1
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 65

Collected: 11/05/98
Received: 11/06/98
Prepared: 11/12/98

Matrix: Water
QC Batch: 111298W2
%Solids:
Purge volume: 25 mL

Parameter	Result	Qual	Surrog Limits	Dilution	Analyzed	Note
Dichlorodifluoromethane	<1.0	R		1	11/12/98	
Chloromethane	<1.3	U		1	11/12/98	
Vinyl chloride	3.4			1	11/12/98	
Bromomethane	<1.1	U		1	11/12/98	
Chloroethane	J .18	F		1	11/12/98	
Trichlorofluoromethane	<.80	U		1	11/12/98	
1,1-Dichloroethene	J .65	F		1	11/12/98	
Methylene chloride	<.30	U		1	11/12/98	
trans-1,2-Dichloroethene	J .28	F		1	11/12/98	
1,1-Dichloroethane	12.			1	11/12/98	
cis-1,2-Dichloroethene	82 ~~84.~~	M	CMT 1/5/99	1	11/12/98	
Bromochloromethane	<.40	U		1	11/12/98	
Chloroform	J .11	F		1	11/12/98	
2,2-Dichloropropane	<3.5	U		1	11/12/98	
1,2-Dichloroethane	<.60	U		1	11/12/98	
1,1,1-Trichloroethane	2.5			1	11/12/98	
1,1-Dichloropropene	<1.0	U		1	11/12/98	
Carbon tetrachloride	<2.1	U		1	11/12/98	
Benzene	<.40	U		1	11/12/98	
Dibromomethane	<2.4	U		1	11/12/98	
1,2-Dichloropropane	<.40	U		1	11/12/98	
Trichloroethene	11.			1	11/12/98	
Bromodichloromethane	<.80	U		1	11/12/98	
cis-1,3-Dichloropropene	<1.0	U		1	11/12/98	
trans-1,3-Dichloropropene	<1.0	U		1	11/12/98	
1,1,2-Trichloroethane	<1.0	U		1	11/12/98	
Toluene	<1.1	U		1	11/12/98	
1,3-Dichloropropane	<.40	U		1	11/12/98	
Dibromochloromethane	<.50	U		1	11/12/98	

CMT 1/5/99

CMT 1/5/99

- Outside control limits J-Estimated value

Authorized: Monika Santucci
Date: December 7,1998 Monika Santucci

O'Brien & Gere Laboratories, Inc.

Analytical Results Method: 8260

Client: Earth Tech Inc.
Project: Air Force Plant 59 #27378
Proj. Desc: Johnson City, NY

Job No.: 6780.004.517
Certification NY No.: 10155

Sample: J9305
Samp. Description: 59SW7WG1
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 65

Collected: 11/05/98
Received: 11/06/98
Prepared: 11/12/98

Matrix: Water
QC Batch: 111298W2
%Solids:
Purge volume: 25 mL

Parameter	Result	Qual	Surrog Limits	Dilution	Analyzed	Note
1,2-Dibromoethane	<.60	U		1	11/12/98	
Tetrachloroethene	J .37	F		1	11/12/98	
1,1,1,2-Tetrachloroethane	<.50	U		1	11/12/98	
Chlorobenzene	<.40	U		1	11/12/98	
1-Chlorohexane	<.50	U		1	11/12/98	
Ethylbenzene	<.60	U		1	11/12/98	
Bromoform	<1.2	U		1	11/12/98	
o-Xylene	<1.1	U		1	11/12/98	
(m+p)-Xylene	<.60	U		1	11/12/98	
Xylene (total)	<1.1	U		1	11/12/98	
Styrene	<.50	U		1	11/12/98	
1,1,2,2-Tetrachloroethane	<.50	U		1	11/12/98	
1,2,3-Trichloropropane	<3.2	U		1	11/12/98	
Isopropylbenzene	<.50	U		1	11/12/98	
Bromobenzene	<.30	U		1	11/12/98	
n-Propylbenzene	<.40	U		1	11/12/98	
2-Chlorotoluene	<.40	U		1	11/12/98	
4-Chlorotoluene	<.60	U		1	11/12/98	
1,3,5-Trimethylbenzene	<.50	U		1	11/12/98	
tert-Butylbenzene	<1.4	U		1	11/12/98	
n-Butylbenzene	<1.1	U		1	11/12/98	
1,2,4-Trimethylbenzene	<1.3	U		1	11/12/98	
sec-Butylbenzene	<1.3	U		1	11/12/98	
1,3-Dichlorobenzene	<1.2	U		1	11/12/98	
1,4-Dichlorobenzene	<.30	U		1	11/12/98	
p-Isopropyltoluene	<1.2	U		1	11/12/98	
1,2-Dichlorobenzene	<.30	U		1	11/12/98	
1,2-Dibromo-3-chloropropane	<2.6	U		1	11/12/98	
1,2,4-Trichlorobenzene	<.40	U		1	11/12/98	
Naphthalene	<1.0	U		1	11/12/98	
Hexachlorobutadiene	<1.1	U		1	11/12/98	

- Outside control limits J-Estimated value

Authorized: Monika Santucci
Date: December 7, 1998 Monika Santucci

5000 Brittonfield Parkway / Suite 300, Box 4942 / Syracuse, NY 13221 / (315) 437-0200

O'Brien & Gere Laboratories, Inc.

Analytical Results Method: 8260

Client: Earth Tech Inc.
Project: Air Force Plant 59 #27378
Proj. Desc: Johnson City, NY

Job No.: 6780.004.517
Certification NY No.: 10155

Sample: J9305
Samp. Description: 59SW7WG1
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 65

Collected: 11/05/98
Received: 11/06/98
Prepared: 11/12/98

Matrix: Water
QC Batch: 111298W2
%Solids:
Purge volume: 25 mL

Parameter	Result	Qual	Surrog Limits	Dilution	Analyzed	Note
1,2,3-Trichlorobenzene	<.30	U		1	11/12/98	
1,2-Dichloroethane-d4 (surrogate)	94.%		62-139	1	11/12/98	
Dibromofluoromethane (surrogate)	105.%		75-125	1	11/12/98	
Toluene-d8 (surrogate)	106.%		75-125	1	11/12/98	
Bromofluorobenzene (surrogate)	98.%		75-125	1	11/12/98	

Notes:

- Outside control limits J-Estimated value

Authorized: Monika Santucci
Date: December 7,1998 Monika Santucci

O'Brien & Gere Laboratories, Inc.

Analytical Results Method: 8260

Client: Earth Tech Inc.
Project: Air Force Plant 59 #27378
Proj. Desc: Johnson City, NY

Job No.: 6780.004.517
Certification NY No.: 10155

Sample: J9305DL
Samp. Description: 59SW7WG1
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 65

Collected: 11/05/98
Received: 11/06/98
Prepared: 11/13/98

Matrix: Water
QC Batch: 111298W2
%Solids:
Purge volume: 25 mL

Parameter	Result	Qual	Surrog Limits	Dilution	Analyzed	Notes
Dichlorodifluoromethane	<10.	R		10	11/13/98	
Chloromethane	<13.	U		10	11/13/98	
Vinyl chloride	J 2.7	F		10	11/13/98	
Bromomethane	<11.	U		10	11/13/98	
Chloroethane	<10.	U		10	11/13/98	
Trichlorofluoromethane	<8.0	U		10	11/13/98	
1,1-Dichloroethene	<12.	U		10	11/13/98	
Methylene chloride	<3.0	U		10	11/13/98	
trans-1,2-Dichloroethene	<6.0	U		10	11/13/98	
1,1-Dichloroethane	10.			10	11/13/98	
cis-1,2-Dichloroethene	82.	M	CMT 1/5/99	10	11/13/98	
Bromochloromethane	<4.0	U		10	11/13/98	
Chloroform	<3.0	U		10	11/13/98	
2,2-Dichloropropane	<35.	U		10	11/13/98	
1,2-Dichloroethane	<6.0	U		10	11/13/98	
1,1,1-Trichloroethane	J 2.1	F		10	11/13/98	
1,1-Dichloropropene	<10.	U		10	11/13/98	
Carbon tetrachloride	<21.	U		10	11/13/98	
Benzene	<4.0	U		10	11/13/98	
Dibromomethane	<24.	U		10	11/13/98	
1,2-Dichloropropane	<4.0	U		10	11/13/98	
Trichloroethene	10.			10	11/13/98	
Bromodichloromethane	<8.0	U		10	11/13/98	
cis-1,3-Dichloropropene	<10.	U		10	11/13/98	
trans-1,3-Dichloropropene	<10.	U		10	11/13/98	
1,1,2-Trichloroethane	<10.	U		10	11/13/98	
Toluene	<11.	U		10	11/13/98	
1,3-Dichloropropane	<4.0	U		10	11/13/98	
Dibromochloromethane	<5.0	U		10	11/13/98	

Do Not USE CMT 1/5/99

- Outside control limits J-Estimated value

Authorized: Monika Santucci
Date: December 7, 1998 Monika Santucci

O'Brien & Gere Laboratories,Inc.

Analytical Results Method: 8260

Client: Earth Tech Inc.
Project: Air Force Plant 59 #27378
Proj. Desc: Johnson City, NY

Job No.: 6780.004.517
Certification NY No.: 10155

Sample: J9305DL
Samp. Description: 59SW7WG1
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 65

Collected: 11/05/98
Received: 11/06/98
Prepared: 11/13/98

Matrix: Water
QC Batch: 111298W2
%Solids:
Purge volume: 25 mL

Parameter	Result	Qual	Surrog Limits	Dilution	Analyzed	Note
1,2-Dibromoethane	<6.0	U		10	11/13/98	
Tetrachloroethene	<14.	U		10	11/13/98	
1,1,1,2-Tetrachloroethane	<5.0	U		10	11/13/98	
Chlorobenzene	<4.0	U		10	11/13/98	
1-Chlorohexane	<5.0	U		10	11/13/98	
Ethylbenzene	<6.0	U		10	11/13/98	
Bromoform	<12.	U		10	11/13/98	
o-Xylene	<11.	U		10	11/13/98	
(m+p)-Xylene	<6.0	U		10	11/13/98	
Xylene (total)	<11.	U		10	11/13/98	
Styrene	<5.0	U		10	11/13/98	
1,1,2,2-Tetrachloroethane	<5.0	U		10	11/13/98	
1,2,3-Trichloropropane	<32.	U		10	11/13/98	
Isopropylbenzene	<5.0	U		10	11/13/98	
Bromobenzene	<3.0	U		10	11/13/98	
n-Propylbenzene	<4.0	U		10	11/13/98	
2-Chlorotoluene	<4.0	U		10	11/13/98	
4-Chlorotoluene	<6.0	U		10	11/13/98	
1,3,5-Trimethylbenzene	<5.0	U		10	11/13/98	
tert-Butylbenzene	<14.	U		10	11/13/98	
n-Butylbenzene	<11.	U		10	11/13/98	
1,2,4-Trimethylbenzene	<13.	U		10	11/13/98	
sec-Butylbenzene	<13.	U		10	11/13/98	
1,3-Dichlorobenzene	<12.	U		10	11/13/98	
1,4-Dichlorobenzene	<3.0	U		10	11/13/98	
p-Isopropyltoluene	<12.	U		10	11/13/98	
1,2-Dichlorobenzene	<3.0	U		10	11/13/98	
1,2-Dibromo-3-chloropropane	<26.	U		10	11/13/98	
1,2,4-Trichlorobenzene	<4.0	U		10	11/13/98	
Naphthalene	<10.	U		10	11/13/98	
Hexachlorobutadiene	<11.	U		10	11/13/98	

CMT 1/5/99 DO NOT USE

- Outside control limits J-Estimated value

Authorized: Monika Sanfucci
Date: December 7,1998 Monika Sanfucci

O'Brien & Gere Laboratories,Inc.

Analytical Results Method: 8260

Client: Earth Tech Inc.
Project: Air Force Plant 59 #27378
Proj. Desc: Johnson City, NY

Job No.: 6780.004.517
Certification NY No.: 10155

Sample: J9305DL
Samp. Description: 59SW7WG1
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 65

Collected: 11/05/98
Received: 11/06/98
Prepared: 11/13/98

Matrix: Water
QC Batch: 111298W2
%Solids:
Purge volume: 25 mL

Parameter	Result	Qual	Surrog Limits	Dilution	Analyzed	Note
1,2,3-Trichlorobenzene	<3.0	U		10	11/13/98	
1,2-Dichloroethane-d4 (surrogate)	101.%		62-139	10	11/13/98	
Dibromofluoromethane (surrogate)	110.%		75-125	10	11/13/98	
Toluene-d8 (surrogate)	105.%		75-125	10	11/13/98	
Bromofluorobenzene (surrogate)	99.%		75-125	10	11/13/98	

Notes:

Do Not USE
CMT 1/5/99

- Outside control limits J-Estimated value

Authorized: Monika Santucci
Date: December 7,1998 Monika Santucci

O'Brien & Gere Laboratories, Inc.

Analytical Results Method: 8260

Client: Earth Tech Inc.
Project: Air Force Plant 59 #27378
Proj. Desc: Johnson City, NY

Job No.: 6780.004.517
Certification NY No.: 10155

Sample: J9055
Samp. Description: 59SW9WG1
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 65

Collected: 11/03/98
Received: 11/03/98
Prepared: 11/13/98

Matrix: Water
QC Batch: 111398W2
%Solids:
Purge volume: 25 mL

Parameter	Result	Qual	Surrog Limits	Dilution	Analyzed	Note
Dichlorodifluoromethane	<1.0	R		1	11/13/98	
Chloromethane	<1.3	U		1	11/13/98	
Vinyl chloride	<1.1	U		1	11/13/98	
Bromomethane	<1.1	U		1	11/13/98	
Chloroethane	<1.0	U		1	11/13/98	
Trichlorofluoromethane	<.80	U		1	11/13/98	
1,1-Dichloroethene	<1.2	U		1	11/13/98	
Methylene chloride	<.30	U		1	11/13/98	
trans-1,2-Dichloroethene	<.60	U		1	11/13/98	
1,1-Dichloroethane	.58			1	11/13/98	
cis-1,2-Dichloroethene	J .52	~~F~~ M (MT 1/15/99)		1	11/13/98	
Bromochloromethane	<.40	U		1	11/13/98	
Chloroform	J .22	F		1	11/13/98	
2,2-Dichloropropane	<3.5	U		1	11/13/98	
1,2-Dichloroethane	<.60	U		1	11/13/98	
1,1,1-Trichloroethane	1.4			1	11/13/98	
1,1-Dichloropropene	<1.0	U		1	11/13/98	
Carbon tetrachloride	<2.1	U		1	11/13/98	
Benzene	<.40	U		1	11/13/98	
Dibromomethane	<2.4	U		1	11/13/98	
1,2-Dichloropropane	<.40	U		1	11/13/98	
Trichloroethene	2.0			1	11/13/98	
Bromodichloromethane	<.80	U		1	11/13/98	
cis-1,3-Dichloropropene	<1.0	U		1	11/13/98	
trans-1,3-Dichloropropene	<1.0	U		1	11/13/98	
1,1,2-Trichloroethane	<1.0	U		1	11/13/98	
Toluene	<1.1	U		1	11/13/98	
1,3-Dichloropropane	<.40	U		1	11/13/98	
Dibromochloromethane	<.50	U		1	11/13/98	

- Outside control limits J-Estimated value

Authorized: Monika Sanfucci
Date: December 7,1998 Monika Sanfucci

O'Brien & Gere Laboratories, Inc.

Analytical Results Method: 8260

Client: Earth Tech Inc.
Project: Air Force Plant 59 #27378
Proj. Desc: Johnson City, NY

Job No.: 6780.004.517
Certification NY No.: 10155

Sample: J9055
Samp. Description: 59SW9WG1
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 65

Collected: 11/03/98
Received: 11/03/98
Prepared: 11/13/98

Matrix: Water
QC Batch: 111398W2
%Solids:
Purge volume: 25 mL

Parameter	Result	Qual	Surrog Limits	Dilution	Analyzed	Notes
1,2-Dibromoethane	<.60	U		1	11/13/98	
Tetrachloroethene	<1.4	U		1	11/13/98	
1,1,1,2-Tetrachloroethane	<.50	U		1	11/13/98	
Chlorobenzene	<.40	U		1	11/13/98	
1-Chlorohexane	<.50	U		1	11/13/98	
Ethylbenzene	<.60	U		1	11/13/98	
Bromoform	<1.2	U		1	11/13/98	
o-Xylene	<1.1	U		1	11/13/98	
(m+p)-Xylene	<.60	U		1	11/13/98	
Xylene (total)	<1.1	U		1	11/13/98	
Styrene	<.50	U		1	11/13/98	
1,1,2,2-Tetrachloroethane	<.50	U		1	11/13/98	
1,2,3-Trichloropropane	<3.2	U		1	11/13/98	
Isopropylbenzene	<.50	U		1	11/13/98	
Bromobenzene	<.30	U		1	11/13/98	
n-Propylbenzene	<.40	U		1	11/13/98	
2-Chlorotoluene	<.40	U		1	11/13/98	
4-Chlorotoluene	<.60	U		1	11/13/98	
1,3,5-Trimethylbenzene	<.50	U		1	11/13/98	
tert-Butylbenzene	<1.4	U		1	11/13/98	
n-Butylbenzene	<1.1	U		1	11/13/98	
1,2,4-Trimethylbenzene	<1.3	U		1	11/13/98	
sec-Butylbenzene	<1.3	U		1	11/13/98	
1,3-Dichlorobenzene	<1.2	U		1	11/13/98	
1,4-Dichlorobenzene	<.30	U		1	11/13/98	
p-Isopropyltoluene	<1.2	U		1	11/13/98	
1,2-Dichlorobenzene	<.30	U		1	11/13/98	
1,2-Dibromo-3-chloropropane	<2.6	U		1	11/13/98	
1,2,4-Trichlorobenzene	<.40	U		1	11/13/98	
Naphthalene	<1.0	U		1	11/13/98	
Hexachlorobutadiene	<1.1	U		1	11/13/98	

- Outside control limits J-Estimated value

Authorized: Monika Santucci
Date: December 7, 1998 Monika Santucci

O'Brien & Gere Laboratories, Inc.

Analytical Results Method: 8260

Client: Earth Tech Inc.
Project: Air Force Plant 59 #27378
Proj. Desc: Johnson City, NY

Job No.: 6780.004.517
Certification NY No.: 10155

Sample: J9055
Samp. Description: 59SW9WG1
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 65

Collected: 11/03/98
Received: 11/03/98
Prepared: 11/13/98

Matrix: Water
QC Batch: 111398W2
%Solids:
Purge volume: 25 mL

Parameter	Result	Qual	Surrog Limits	Dilution	Analyzed	Notes
1,2,3-Trichlorobenzene	<.30	U		1	11/13/98	
1,2-Dichloroethane-d4 (surrogate)	105.%		62-139	1	11/13/98	
Dibromofluoromethane (surrogate)	114.%		75-125	1	11/13/98	
Toluene-d8 (surrogate)	105.%		75-125	1	11/13/98	
Bromofluorobenzene (surrogate)	99.%		75-125	1	11/13/98	

Notes:

' - Outside control limits J-Estimated value

Authorized: Monika Santucci
Date: December 7,1998 Monika Santucci

5000 Brittonfield Parkway / Suite 300, Box 4942 / Syracuse, NY 13221 / (315) 437-0200

O'Brien & Gere Laboratories,Inc.

Analytical Results Method: 8260

Client: Earth Tech Inc.
Project: Air Force Plant 59 #27378
Proj. Desc: Johnson City, NY

Job No.: 6780.004.517
Certification NY No.: 10155

Sample: J9054
Samp. Description: 59DW9WG1
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 65

Collected: 11/02/98
Received: 11/03/98
Prepared: 11/12/98

Matrix: Water
QC Batch: 111298W2
%Solids:
Purge volume: 25 mL

Parameter	Result	Qual	Surrog Limits	Dilution	Analyzed	Note
Dichlorodifluoromethane	<1.0	R		1	11/12/98	
Chloromethane	<1.3	U		1	11/12/98	
Vinyl chloride	<1.1	U		1	11/12/98	
Bromomethane	<1.1	U		1	11/12/98	
Chloroethane	<1.0	U		1	11/12/98	
Trichlorofluoromethane	<.80	U		1	11/12/98	
1,1-Dichloroethene	<1.2	U		1	11/12/98	
Methylene chloride	<.30	U		1	11/12/98	
trans-1,2-Dichloroethene	<.60	U		1	11/12/98	
1,1-Dichloroethane	<.40	U		1	11/12/98	
cis-1,2-Dichloroethene	<1.2	U		1	11/12/98	
Bromochloromethane	<.40	U		1	11/12/98	
Chloroform	<.30	U		1	11/12/98	
2,2-Dichloropropane	<3.5	U		1	11/12/98	
1,2-Dichloroethane	<.60	U		1	11/12/98	
1,1,1-Trichloroethane	<.80	U		1	11/12/98	
1,1-Dichloropropene	<1.0	U		1	11/12/98	
Carbon tetrachloride	<2.1	U		1	11/12/98	
Benzene	<.40	U		1	11/12/98	
Dibromomethane	<2.4	U		1	11/12/98	
1,2-Dichloropropane	<.40	U		1	11/12/98	
Trichloroethene	<1.0	U		1	11/12/98	
Bromodichloromethane	<.80	U		1	11/12/98	
cis-1,3-Dichloropropene	<1.0	U		1	11/12/98	
trans-1,3-Dichloropropene	<1.0	U		1	11/12/98	
1,1,2-Trichloroethane	<1.0	U		1	11/12/98	
Toluene	<1.1	U		1	11/12/98	
1,3-Dichloropropane	<.40	U		1	11/12/98	
Dibromochloromethane	<.50	U		1	11/12/98	

- Outside control limits J-Estimated value

Authorized: Monika Santucci
Date: December 7,1998 Monika Santucci

O'Brien & Gere Laboratories, Inc.

Analytical Results Method: 8260

Client: Earth Tech Inc.
Project: Air Force Plant 59 #27378
Proj. Desc: Johnson City, NY

Job No.: 6780.004.517
Certification NY No.: 10155

Sample: J9054
Samp. Description: 59DW9WG1
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 65

Collected: 11/02/98
Received: 11/03/98
Prepared: 11/12/98

Matrix: Water
QC Batch: 111298W2
%Solids:
Purge volume: 25 mL

Parameter	Result	Qual	Surrog Limits	Dilution	Analyzed	Note
1,2-Dibromoethane	<.60	U		1	11/12/98	
Tetrachloroethene	<1.4	U		1	11/12/98	
1,1,1,2-Tetrachloroethane	<.50	U		1	11/12/98	
Chlorobenzene	<.40	U		1	11/12/98	
1-Chlorohexane	<.50	U		1	11/12/98	
Ethylbenzene	<.60	U		1	11/12/98	
Bromoform	<1.2	U		1	11/12/98	
o-Xylene	J .10	F		1	11/12/98	
(m+p)-Xylene	J .10	F		1	11/12/98	
Xylene (total)	J .20	F		1	11/12/98	
Styrene	<.50	U		1	11/12/98	
1,1,2,2-Tetrachloroethane	<.50	U		1	11/12/98	
1,2,3-Trichloropropane	<3.2	U		1	11/12/98	
Isopropylbenzene	<.50	U		1	11/12/98	
Bromobenzene	<.30	U		1	11/12/98	
n-Propylbenzene	<.40	U		1	11/12/98	
2-Chlorotoluene	<.40	U		1	11/12/98	
4-Chlorotoluene	<.60	U		1	11/12/98	
1,3,5-Trimethylbenzene	<.50	U		1	11/12/98	
tert-Butylbenzene	<1.4	U		1	11/12/98	
n-Butylbenzene	<1.1	U		1	11/12/98	
1,2,4-Trimethylbenzene	<1.3	U		1	11/12/98	
sec-Butylbenzene	<1.3	U		1	11/12/98	
1,3-Dichlorobenzene	<1.2	U		1	11/12/98	
1,4-Dichlorobenzene	<.30	U		1	11/12/98	
p-Isopropyltoluene	<1.2	U		1	11/12/98	
1,2-Dichlorobenzene	<.30	U		1	11/12/98	
1,2-Dibromo-3-chloropropane	<2.6	U		1	11/12/98	
1,2,4-Trichlorobenzene	<.40	U		1	11/12/98	
Naphthalene	<1.0	U		1	11/12/98	
Hexachlorobutadiene	<1.1	U		1	11/12/98	

- Outside control limits J-Estimated value

Authorized: Monika Sannucci
Date: December 7,1998 Monika Sannucci

O'Brien & Gere Laboratories, Inc.

Analytical Results Method: 8260

Client: Earth Tech Inc.
Project: Air Force Plant 59 #27378
Proj. Desc: Johnson City, NY

Job No.: 6780.004.517
Certification NY No.: 10155

Sample: J9054
Samp. Description: 59DW9WG1
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 65

Collected: 11/02/98
Received: 11/03/98
Prepared: 11/12/98

Matrix: Water
QC Batch: 111298W2
%Solids:
Purge volume: 25 mL

Parameter	Result	Qual	Surrog Limits	Dilution	Analyzed	Note
1,2,3-Trichlorobenzene	<.30	U		1	11/12/98	
1,2-Dichloroethane-d4 (surrogate)	103.%		62-139	1	11/12/98	
Dibromofluoromethane (surrogate)	112.%		75-125	1	11/12/98	
Toluene-d8 (surrogate)	107.%		75-125	1	11/12/98	
Bromofluorobenzene (surrogate)	98.%		75-125	1	11/12/98	

Notes:

- Outside control limits J-Estimated value

Authorized: Monika Santucci
Date: December 7,1998 Monika Santucci

5000 Brittonfield Parkway / Suite 300, Box 4942 / Syracuse, NY 13221 / (315) 437-0200

O'Brien & Gere Laboratories, Inc.

Analytical Results Method: 8260

Client: Earth Tech Inc.
Project: Air Force Plant 59 #27378
Proj. Desc: Johnson City, NY

Job No.: 6780.004.517
Certification NY No.: 10155

Sample: J9303
Samp. Description: 59IW13WG1
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 65

Collected: 11/05/98
Received: 11/06/98
Prepared: 11/12/98

Matrix: Water
QC Batch: 111298W2
%Solids:
Purge volume: 25 mL

Parameter	Result	Qual	Surrog Limits	Dilution	Analyzed	Notes
Dichlorodifluoromethane	<1.0	R		1	11/12/98	
Chloromethane	<1.3	U		1	11/12/98	
Vinyl chloride	<1.1	U		1	11/12/98	
Bromomethane	<1.1	U		1	11/12/98	
Chloroethane	<1.0	U		1	11/12/98	
Trichlorofluoromethane	<.80	U		1	11/12/98	
1,1-Dichloroethene	<1.2	U		1	11/12/98	
Methylene chloride	<.30	U		1	11/12/98	
trans-1,2-Dichloroethene	<.60	U		1	11/12/98	
1,1-Dichloroethane	J .11	F		1	11/12/98	
cis-1,2-Dichloroethene	<1.2	U		1	11/12/98	
Bromochloromethane	<.40	U		1	11/12/98	
Chloroform	<.30	U		1	11/12/98	
2,2-Dichloropropane	<3.5	U		1	11/12/98	
1,2-Dichloroethane	<.60	U		1	11/12/98	
1,1,1-Trichloroethane	<.80	U		1	11/12/98	
1,1-Dichloropropene	<1.0	U		1	11/12/98	
Carbon tetrachloride	<2.1	U		1	11/12/98	
Benzene	<.40	U		1	11/12/98	
Dibromomethane	<2.4	U		1	11/12/98	
1,2-Dichloropropane	<.40	U		1	11/12/98	
Trichloroethene	<1.0	U		1	11/12/98	
Bromodichloromethane	<.80	U		1	11/12/98	
cis-1,3-Dichloropropene	<1.0	U		1	11/12/98	
trans-1,3-Dichloropropene	<1.0	U		1	11/12/98	
1,1,2-Trichloroethane	<1.0	U		1	11/12/98	
Toluene	<1.1	U		1	11/12/98	
1,3-Dichloropropane	<.40	U		1	11/12/98	
Dibromochloromethane	<.50	U		1	11/12/98	

- Outside control limits J-Estimated value

Authorized: Monika Santucci
Date: December 7,1998 Monika Santucci

O'Brien & Gere Laboratories, Inc.

Analytical Results Method: 8260

Client: Earth Tech Inc.
Project: Air Force Plant 59 #27378
Proj. Desc: Johnson City, NY

Job No.: 6780.004.517
Certification NY No.: 10155

Sample: J9303
Samp. Description: 59IW13WG1
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 65

Collected: 11/05/98
Received: 11/06/98
Prepared: 11/12/98

Matrix: Water
QC Batch: 111298W2
%Solids:
Purge volume: 25 mL

Parameter	Result	Qual	Surrog Limits	Dilution	Analyzed	Note
1,2-Dibromoethane	<.60	U		1	11/12/98	
Tetrachloroethene	<1.4	U		1	11/12/98	
1,1,1,2-Tetrachloroethane	<.50	U		1	11/12/98	
Chlorobenzene	<.40	U		1	11/12/98	
1-Chlorohexane	<.50	U		1	11/12/98	
Ethylbenzene	<.60	U		1	11/12/98	
Bromoform	<1.2	U		1	11/12/98	
o-Xylene	<1.1	U		1	11/12/98	
(m+p)-Xylene	<.60	U		1	11/12/98	
Xylene (total)	<1.1	U		1	11/12/98	
Styrene	<.50	U		1	11/12/98	
1,1,2,2-Tetrachloroethane	<.50	U		1	11/12/98	
1,2,3-Trichloropropane	<3.2	U		1	11/12/98	
Isopropylbenzene	<.50	U		1	11/12/98	
Bromobenzene	<.30	U		1	11/12/98	
n-Propylbenzene	<.40	U		1	11/12/98	
2-Chlorotoluene	<.40	U		1	11/12/98	
4-Chlorotoluene	<.60	U		1	11/12/98	
1,3,5-Trimethylbenzene	<.50	U		1	11/12/98	
tert-Butylbenzene	<1.4	U		1	11/12/98	
n-Butylbenzene	<1.1	U		1	11/12/98	
1,2,4-Trimethylbenzene	<1.3	U		1	11/12/98	
sec-Butylbenzene	<1.3	U		1	11/12/98	
1,3-Dichlorobenzene	<1.2	U		1	11/12/98	
1,4-Dichlorobenzene	<.30	U		1	11/12/98	
p-Isopropyltoluene	<1.2	U		1	11/12/98	
1,2-Dichlorobenzene	<.30	U		1	11/12/98	
1,2-Dibromo-3-chloropropane	<2.6	U		1	11/12/98	
1,2,4-Trichlorobenzene	<.40	U		1	11/12/98	
Naphthalene	<1.0	U		1	11/12/98	
Hexachlorobutadiene	<1.1	U		1	11/12/98	

- Outside control limits J-Estimated value

Authorized: Monika Santucci
Date: December 7, 1998 Monika Santucci

O'Brien & Gere Laboratories, Inc.

Analytical Results Method: 8260

Client: Earth Tech Inc.
Project: Air Force Plant 59 #27378
Proj. Desc: Johnson City, NY

Job No.: 6780.004.517
Certification NY No.: 10155

Sample: J9303
Samp. Description: 59IW13WG1
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 65

Collected: 11/05/98
Received: 11/06/98
Prepared: 11/12/98

Matrix: Water
QC Batch: 111298W2
%Solids:
Purge volume: 25 mL

Parameter	Result	Qual	Surrog Limits	Dilution	Analyzed	Notes
1,2,3-Trichlorobenzene	<.30	U		1	11/12/98	
1,2-Dichloroethane-d4 (surrogate)	101.%		62-139	1	11/12/98	
Dibromofluoromethane (surrogate)	111.%		75-125	1	11/12/98	
Toluene-d8 (surrogate)	105.%		75-125	1	11/12/98	
Bromofluorobenzene (surrogate)	98.%		75-125	1	11/12/98	

Notes:

- Outside control limits J-Estimated value

Authorized: Monika Santucci
Date: December 7,1998 Monika Santucci

O'Brien & Gere Laboratories, Inc.

Analytical Results Method: 8260

Client: Earth Tech Inc.
Project: Air Force Plant 59 #27378
Proj. Desc: Johnson City, NY

Job No.: 6780.004.517
Certification NY No.: 10155

Sample: J9058
Samp. Description: TB1110298
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 65

Collected:
Received: 11/03/98
Prepared: 11/13/98

Matrix: Water
QC Batch: 111398W2
%Solids:
Purge volume: 25 mL

Parameter	Result	Qual	Surrog Limits	Dilution	Analyzed	Notes
Dichlorodifluoromethane	<1.0	R		1	11/13/98	
Chloromethane	<1.3	U		1	11/13/98	
Vinyl chloride	<1.1	U		1	11/13/98	
Bromomethane	<1.1	U		1	11/13/98	
Chloroethane	<1.0	U		1	11/13/98	
Trichlorofluoromethane	<.80	U		1	11/13/98	
1,1-Dichloroethene	<1.2	U		1	11/13/98	
Methylene chloride	J .14	F		1	11/13/98	
trans-1,2-Dichloroethene	<.60	U		1	11/13/98	
1,1-Dichloroethane	<.40	U		1	11/13/98	
cis-1,2-Dichloroethene	<1.2	U		1	11/13/98	
Bromochloromethane	<.40	U		1	11/13/98	
Chloroform	<.30	U		1	11/13/98	
2,2-Dichloropropane	<3.5	U		1	11/13/98	
1,2-Dichloroethane	<.60	U		1	11/13/98	
1,1,1-Trichloroethane	<.80	U		1	11/13/98	
1,1-Dichloropropene	<1.0	U		1	11/13/98	
Carbon tetrachloride	<2.1	U		1	11/13/98	
Benzene	<.40	U		1	11/13/98	
Dibromomethane	<2.4	U		1	11/13/98	
1,2-Dichloropropane	<.40	U		1	11/13/98	
Trichloroethene	<1.0	U		1	11/13/98	
Bromodichloromethane	<.80	U		1	11/13/98	
cis-1,3-Dichloropropene	<1.0	U		1	11/13/98	
trans-1,3-Dichloropropene	<1.0	U		1	11/13/98	
1,1,2-Trichloroethane	<1.0	U		1	11/13/98	
Toluene	<1.1	U		1	11/13/98	
1,3-Dichloropropane	<.40	U		1	11/13/98	
Dibromochloromethane	<.50	U		1	11/13/98	

- Outside control limits J-Estimated value

Authorized: Monika Santucci
Date: December 7,1998 Monika Santucci

O'Brien & Gere Laboratories, Inc.

Analytical Results Method: 8260

Client: Earth Tech Inc.
Project: Air Force Plant 59 #27378
Proj. Desc: Johnson City, NY

Job No.: 6780.004.517
Certification NY No.: 10155

Sample: J9058
Samp. Description: TB1110298
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 65

Collected:
Received: 11/03/98
Prepared: 11/13/98

Matrix: Water
QC Batch: 111398W2
%Solids:
Purge volume: 25 mL

Parameter	Result	Qual	Surrog Limits	Dilution	Analyzed	Notes
1,2-Dibromoethane	<.60	U		1	11/13/98	
Tetrachloroethene	<1.4	U		1	11/13/98	
1,1,1,2-Tetrachloroethane	<.50	U		1	11/13/98	
Chlorobenzene	<.40	U		1	11/13/98	
1-Chlorohexane	<.50	U		1	11/13/98	
Ethylbenzene	<.60	U		1	11/13/98	
Bromoform	<1.2	U		1	11/13/98	
o-Xylene	<1.1	U		1	11/13/98	
(m+p)-Xylene	<.60	U		1	11/13/98	
Xylene (total)	<1.1	U		1	11/13/98	
Styrene	<.50	U		1	11/13/98	
1,1,2,2-Tetrachloroethane	<.50	U		1	11/13/98	
1,2,3-Trichloropropane	<3.2	U		1	11/13/98	
Isopropylbenzene	<.50	U		1	11/13/98	
Bromobenzene	<.30	U		1	11/13/98	
n-Propylbenzene	<.40	U		1	11/13/98	
2-Chlorotoluene	<.40	U		1	11/13/98	
4-Chlorotoluene	<.60	U		1	11/13/98	
1,3,5-Trimethylbenzene	<.50	U		1	11/13/98	
tert-Butylbenzene	<1.4	U		1	11/13/98	
n-Butylbenzene	<1.1	U		1	11/13/98	
1,2,4-Trimethylbenzene	<1.3	U		1	11/13/98	
sec-Butylbenzene	<1.3	U		1	11/13/98	
1,3-Dichlorobenzene	<1.2	U		1	11/13/98	
1,4-Dichlorobenzene	<.30	U		1	11/13/98	
p-Isopropyltoluene	<1.2	U		1	11/13/98	
1,2-Dichlorobenzene	<.30	U		1	11/13/98	
1,2-Dibromo-3-chloropropane	<2.6	U		1	11/13/98	
1,2,4-Trichlorobenzene	<.40	U		1	11/13/98	
Naphthalene	<1.0	U		1	11/13/98	
Hexachlorobutadiene	<1.1	U		1	11/13/98	

- Outside control limits J-Estimated value

Authorized: Monika Santucci
Date: December 7,1998 Monika Santucci

5000 Brittonfield Parkway / Suite 300, Box 4942 / Syracuse, NY 13221 / (315) 437-0200

O'Brien & Gere Laboratories, Inc.

Analytical Results Method: 8260

Client: Earth Tech Inc.
Project: Air Force Plant 59 #27378
Proj. Desc: Johnson City, NY

Job No.: 6780.004.517
Certification NY No.: 10155

Sample: J9058
Samp. Description: TB1110298
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 65

Collected:
Received: 11/03/98
Prepared: 11/13/98

Matrix: Water
QC Batch: 111398W2
%Solids:
Purge volume: 25 mL

Parameter	Result	Qual	Surrog Limits	Dilution	Analyzed	Notes
1,2,3-Trichlorobenzene	<.30	U		1	11/13/98	
1,2-Dichloroethane-d4 (surrogate)	104.%		62-139	1	11/13/98	
Dibromofluoromethane (surrogate)	115.%		75-125	1	11/13/98	
Toluene-d8 (surrogate)	103.%		75-125	1	11/13/98	
Bromofluorobenzene (surrogate)	99.%		75-125	1	11/13/98	

Notes:

- Outside control limits J-Estimated value

Authorized: Monika Santucci
Date: December 7,1998 Monika Santucci

O'Brien & Gere Laboratories,Inc.

Analytical Results Method: 8260

Client: Earth Tech Inc.
Project: Air Force Plant 59 #27378
Proj. Desc: Johnson City, NY

Job No.: 6780.004.517
Certification NY No.: 10155

Sample: J9298
Samp. Description: TB1110498
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 65

Collected: 11/04/98
Received: 11/06/98
Prepared: 11/12/98

Matrix: Water
QC Batch: 111298W2
%Solids:
Purge volume: 25 mL

Parameter	Result	Qual	Surrog Limits	Dilution	Analyzed	Notes
Dichlorodifluoromethane	<1.0	R		1	11/12/98	
Chloromethane	<1.3	U		1	11/12/98	
Vinyl chloride	<1.1	U		1	11/12/98	
Bromomethane	<1.1	U		1	11/12/98	
Chloroethane	<1.0	U		1	11/12/98	
Trichlorofluoromethane	<.80	U		1	11/12/98	
1,1-Dichloroethene	<1.2	U		1	11/12/98	
Methylene chloride	<.30	U		1	11/12/98	
trans-1,2-Dichloroethene	<.60	U		1	11/12/98	
1,1-Dichloroethane	<.40	U		1	11/12/98	
cis-1,2-Dichloroethene	<1.2	U		1	11/12/98	
Bromochloromethane	<.40	U		1	11/12/98	
Chloroform	<.30	U		1	11/12/98	
2,2-Dichloropropane	<3.5	U		1	11/12/98	
1,2-Dichloroethane	<.60	U		1	11/12/98	
1,1,1-Trichloroethane	<.80	U		1	11/12/98	
1,1-Dichloropropene	<1.0	U		1	11/12/98	
Carbon tetrachloride	<2.1	U		1	11/12/98	
Benzene	<.40	U		1	11/12/98	
Dibromomethane	<2.4	U		1	11/12/98	
1,2-Dichloropropane	<.40	U		1	11/12/98	
Trichloroethene	<1.0	U		1	11/12/98	
Bromodichloromethane	<.80	U		1	11/12/98	
cis-1,3-Dichloropropene	<1.0	U		1	11/12/98	
trans-1,3-Dichloropropene	<1.0	U		1	11/12/98	
1,1,2-Trichloroethane	<1.0	U		1	11/12/98	
Toluene	<1.1	U		1	11/12/98	
1,3-Dichloropropane	<.40	U		1	11/12/98	
Dibromochloromethane	<.50	U		1	11/12/98	

- Outside control limits J-Estimated value

Authorized: Monika Santucci
Date: December 7,1998 Monika Santucci

5000 Brittonfield Parkway / Suite 300, Box 4942 / Syracuse, NY 13221 / (315) 437-0200

O'Brien & Gere Laboratories,Inc.

Analytical Results Method: 8260

Client: Earth Tech Inc.
Project: Air Force Plant 59 #27378
Proj. Desc: Johnson City, NY

Job No.: 6780.004.517
Certification NY No.: 10155

Sample: J9298
Samp. Description: TB1110498
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 65

Collected: 11/04/98
Received: 11/06/98
Prepared: 11/12/98

Matrix: Water
QC Batch: 111298W2
%Solids:
Purge volume: 25 mL

Parameter	Result	Qual	Surrog Limits	Dilution	Analyzed	Note
1,2-Dibromoethane	<.60	U		1	11/12/98	
Tetrachloroethene	<1.4	U		1	11/12/98	
1,1,1,2-Tetrachloroethane	<.50	U		1	11/12/98	
Chlorobenzene	<.40	U		1	11/12/98	
1-Chlorohexane	<.50	U		1	11/12/98	
Ethylbenzene	<.60	U		1	11/12/98	
Bromoform	<1.2	U		1	11/12/98	
o-Xylene	<1.1	U		1	11/12/98	
(m+p)-Xylene	<.60	U		1	11/12/98	
Xylene (total)	<1.1	U		1	11/12/98	
Styrene	<.50	U		1	11/12/98	
1,1,2,2-Tetrachloroethane	<.50	U		1	11/12/98	
1,2,3-Trichloropropane	<3.2	U		1	11/12/98	
Isopropylbenzene	<.50	U		1	11/12/98	
Bromobenzene	<.30	U		1	11/12/98	
n-Propylbenzene	<.40	U		1	11/12/98	
2-Chlorotoluene	<.40	U		1	11/12/98	
4-Chlorotoluene	<.60	U		1	11/12/98	
1,3,5-Trimethylbenzene	<.50	U		1	11/12/98	
tert-Butylbenzene	<1.4	U		1	11/12/98	
n-Butylbenzene	<1.1	U		1	11/12/98	
1,2,4-Trimethylbenzene	<1.3	U		1	11/12/98	
sec-Butylbenzene	<1.3	U		1	11/12/98	
1,3-Dichlorobenzene	<1.2	U		1	11/12/98	
1,4-Dichlorobenzene	<.30	U		1	11/12/98	
p-Isopropyltoluene	<1.2	U		1	11/12/98	
1,2-Dichlorobenzene	<.30	U		1	11/12/98	
1,2-Dibromo-3-chloropropane	<2.6	U		1	11/12/98	
1,2,4-Trichlorobenzene	<.40	U		1	11/12/98	
Naphthalene	<1.0	U		1	11/12/98	
Hexachlorobutadiene	<1.1	U		1	11/12/98	

- Outside control limits J-Estimated value

Authorized: Monika Santucci
Date: December 7,1998 Monika Santucci

O'Brien & Gere Laboratories, Inc.

Analytical Results Method: 8260

Client: Earth Tech Inc.
Project: Air Force Plant 59 #27378
Proj. Desc: Johnson City, NY

Job No.: 6780.004.517
Certification NY No.: 10155

Sample: J9298
Samp. Description: TB1110498
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 65

Collected: 11/04/98
Received: 11/06/98
Prepared: 11/12/98

Matrix: Water
QC Batch: 111298W2
%Solids:
Purge volume: 25 mL

Parameter	Result	Qual	Surrog Limits	Dilution	Analyzed	Notes
1,2,3-Trichlorobenzene	<.30	U		1	11/12/98	
1,2-Dichloroethane-d4 (surrogate)	103.%		62-139	1	11/12/98	
Dibromofluoromethane (surrogate)	121.%		75-125	1	11/12/98	
Toluene-d8 (surrogate)	106.%		75-125	1	11/12/98	
Bromofluorobenzene (surrogate)	100.%		75-125	1	11/12/98	

Notes:

- Outside control limits J-Estimated value

Authorized: Monika Santucci
Date: December 7,1998 Monika Santucci

5000 Brittonfield Parkway / Suite 300, Box 4942 / Syracuse, NY 13221 / (315) 437-0200

O'Brien & Gere Laboratories, Inc.

Analytical Results Method: 8260

Client: Earth Tech Inc.
Project: Air Force Plant 59 #27378
Proj. Desc: Johnson City, NY

Job No.: 6780.004.517
Certification NY No.: 10155

Sample: J9304
Samp. Description: AB1110598
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 65

Collected: 11/05/98
Received: 11/06/98
Prepared: 11/12/98

Matrix: Water
QC Batch: 111298W2
%Solids:
Purge volume: 25 mL

Parameter	Result	Qual	Surrog Limits	Dilution	Analyzed	Note
Dichlorodifluoromethane	<1.0	R		1	11/12/98	
Chloromethane	J .56	F		1	11/12/98	
Vinyl chloride	<1.1	U		1	11/12/98	
Bromomethane	<1.1	U		1	11/12/98	
Chloroethane	<1.0	U		1	11/12/98	
Trichlorofluoromethane	<.80	U		1	11/12/98	
1,1-Dichloroethene	<1.2	U		1	11/12/98	
Methylene chloride	J .13	F		1	11/12/98	
trans-1,2-Dichloroethene	<.60	U		1	11/12/98	
1,1-Dichloroethane	<.40	U		1	11/12/98	
cis-1,2-Dichloroethene	<1.2	U		1	11/12/98	
Bromochloromethane	<.40	U		1	11/12/98	
Chloroform	<.30	U		1	11/12/98	
2,2-Dichloropropane	<3.5	U		1	11/12/98	
1,2-Dichloroethane	<.60	U		1	11/12/98	
1,1,1-Trichloroethane	<.80	U		1	11/12/98	
1,1-Dichloropropene	<1.0	U		1	11/12/98	
Carbon tetrachloride	<2.1	U		1	11/12/98	
Benzene	<.40	U		1	11/12/98	
Dibromomethane	<2.4	U		1	11/12/98	
1,2-Dichloropropane	<.40	U		1	11/12/98	
Trichloroethene	<1.0	U		1	11/12/98	
Bromodichloromethane	<.80	U		1	11/12/98	
cis-1,3-Dichloropropene	<1.0	U		1	11/12/98	
trans-1,3-Dichloropropene	<1.0	U		1	11/12/98	
1,1,2-Trichloroethane	<1.0	U		1	11/12/98	
Toluene	J .41	F		1	11/12/98	
1,3-Dichloropropane	<.40	U		1	11/12/98	
Dibromochloromethane	<.50	U		1	11/12/98	

- Outside control limits J-Estimated value

Authorized: Monika Santucci
Date: December 7,1998 Monika Santucci

O'Brien & Gere Laboratories,Inc.

Analytical Results Method: 8260

Client: Earth Tech Inc.
Project: Air Force Plant 59 #27378
Proj. Desc: Johnson City, NY

Job No.: 6780.004.517
Certification NY No.: 10155

Sample: J9304
Samp. Description: AB1110598
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 65

Collected: 11/05/98
Received: 11/06/98
Prepared: 11/12/98

Matrix: Water
QC Batch: 111298W2
%Solids:
Purge volume: 25 mL

Parameter	Result	Qual	Surrog Limits	Dilution	Analyzed	Note:
1,2-Dibromoethane	<.60	U		1	11/12/98	
Tetrachloroethene	<1.4	U		1	11/12/98	
1,1,1,2-Tetrachloroethane	<.50	U		1	11/12/98	
Chlorobenzene	<.40	U		1	11/12/98	
1-Chlorohexane	<.50	U		1	11/12/98	
Ethylbenzene	<.60	U		1	11/12/98	
Bromoform	<1.2	U		1	11/12/98	
o-Xylene	<1.1	U		1	11/12/98	
(m+p)-Xylene	<.60	U		1	11/12/98	
Xylene (total)	<1.1	U		1	11/12/98	
Styrene	<.50	U		1	11/12/98	
1,1,2,2-Tetrachloroethane	<.50	U		1	11/12/98	
1,2,3-Trichloropropane	<3.2	U		1	11/12/98	
Isopropylbenzene	<.50	U		1	11/12/98	
Bromobenzene	<.30	U		1	11/12/98	
n-Propylbenzene	<.40	U		1	11/12/98	
2-Chlorotoluene	<.40	U		1	11/12/98	
4-Chlorotoluene	<.60	U		1	11/12/98	
1,3,5-Trimethylbenzene	<.50	U		1	11/12/98	
tert-Butylbenzene	<1.4	U		1	11/12/98	
n-Butylbenzene	<1.1	U		1	11/12/98	
1,2,4-Trimethylbenzene	<1.3	U		1	11/12/98	
sec-Butylbenzene	<1.3	U		1	11/12/98	
1,3-Dichlorobenzene	<1.2	U		1	11/12/98	
1,4-Dichlorobenzene	J .13	F		1	11/12/98	
p-Isopropyltoluene	<1.2	U		1	11/12/98	
1,2-Dichlorobenzene	<.30	U		1	11/12/98	
1,2-Dibromo-3-chloropropane	<2.6	U		1	11/12/98	
1,2,4-Trichlorobenzene	<.40	U		1	11/12/98	
Naphthalene	<1.0	U		1	11/12/98	
Hexachlorobutadiene	<1.1	U		1	11/12/98	

- Outside control limits J-Estimated value

Authorized: Monika Santucci
Date: December 7,1998 Monika Santucci

O'Brien & Gere Laboratories,Inc.

Analytical Results Method: 8260

Client: Earth Tech Inc.
Project: Air Force Plant 59 #27378
Proj. Desc: Johnson City, NY

Job No.: 6780.004.517
Certification NY No.: 10155

Sample: J9304
Samp. Description: AB1110598
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 65

Collected: 11/05/98
Received: 11/06/98
Prepared: 11/12/98

Matrix: Water
QC Batch: 111298W2
%Solids:
Purge volume: 25 mL

Parameter	Result	Qual	Surrog Limits	Dilution	Analyzed	Notes
1,2,3-Trichlorobenzene	<.30	U		1	11/12/98	
1,2-Dichloroethane-d4 (surrogate)	104.%		62-139	1	11/12/98	
Dibromofluoromethane (surrogate)	107.%		75-125	1	11/12/98	
Toluene-d8 (surrogate)	105.%		75-125	1	11/12/98	
Bromofluorobenzene (surrogate)	99.%		75-125	1	11/12/98	

Notes:

- Outside control limits J-Estimated value

Authorized: Monika Santucci
Date: December 7,1998 Monika Santucci

5000 Brittonfield Parkway / Suite 300, Box 4942 / Syracuse, NY 13221 / (315) 437-0200

O'Brien & Gere Laboratories,Inc.

Analytical Results Method: 8260

Client: Earth Tech Inc.
Project: Air Force Plant 59 #27378
Proj. Desc: Johnson City, NY

Job No.: 6780.004.517
Certification NY No.: 10155

Sample: J9307
Samp. Description: EB1110598
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 65

Collected: 11/05/98
Received: 11/06/98
Prepared: 11/12/98

Matrix: Water
QC Batch: 111298W2
%Solids:
Purge volume: 25 mL

Parameter	Result	Qual	Surrog Limits	Dilution	Analyzed	Note
Dichlorodifluoromethane	<1.0	R		1	11/12/98	
Chloromethane	<1.3	U		1	11/12/98	
Vinyl chloride	<1.1	U		1	11/12/98	
Bromomethane	<1.1	U		1	11/12/98	
Chloroethane	<1.0	U		1	11/12/98	
Trichlorofluoromethane	<.80	U		1	11/12/98	
1,1-Dichloroethene	<1.2	U		1	11/12/98	
Methylene chloride	J .12	F		1	11/12/98	
trans-1,2-Dichloroethene	<.60	U		1	11/12/98	
1,1-Dichloroethane	<.40	U		1	11/12/98	
cis-1,2-Dichloroethene	<1.2	U		1	11/12/98	
Bromochloromethane	<.40	U		1	11/12/98	
Chloroform	<.30	U		1	11/12/98	
2,2-Dichloropropane	<3.5	U		1	11/12/98	
1,2-Dichloroethane	<.60	U		1	11/12/98	
1,1,1-Trichloroethane	<.80	U		1	11/12/98	
1,1-Dichloropropene	<1.0	U		1	11/12/98	
Carbon tetrachloride	<2.1	U		1	11/12/98	
Benzene	<.40	U		1	11/12/98	
Dibromomethane	<2.4	U		1	11/12/98	
1,2-Dichloropropane	<.40	U		1	11/12/98	
Trichloroethene	<1.0	U		1	11/12/98	
Bromodichloromethane	<.80	U		1	11/12/98	
cis-1,3-Dichloropropene	<1.0	U		1	11/12/98	
trans-1,3-Dichloropropene	<1.0	U		1	11/12/98	
1,1,2-Trichloroethane	<1.0	U		1	11/12/98	
Toluene	<1.1	U		1	11/12/98	
1,3-Dichloropropane	<.40	U		1	11/12/98	
Dibromochloromethane	<.50	U		1	11/12/98	

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O'Brien & Gere Laboratories, Inc.

Analytical Results Method: 8260

Client: Earth Tech Inc.
Project: Air Force Plant 59 #27378
Proj. Desc: Johnson City, NY

Job No.: 6780.004.517
Certification NY No.: 10155

Sample: J930[illegible]
Samp. Description: EB1110598
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 65

Collected: 11/05/98
Received: 11/06/98
Prepared: 11/12/98

Matrix: Water
QC Batch: 111298W2
%Solids:
Purge volume: 25 mL

Parameter	Result	Qual	Surrog Limits	Dilution	Analyzed	Notes
1,2-Dibromoethane	<.60	U		1	11/12/98	
Tetrachloroethene	<1.4	U		1	11/12/98	
1,1,1,2-Tetrachloroethane	<.50	U		1	11/12/98	
Chlorobenzene	<.40	U		1	11/12/98	
1-Chlorohexane	<.50	U		1	11/12/98	
Ethylbenzene	<.60	U		1	11/12/98	
Bromoform	<1.2	U		1	11/12/98	
o-Xylene	<1.1	U		1	11/12/98	
(m+p)-Xylene	<.60	U		1	11/12/98	
Xylene (total)	<1.1	U		1	11/12/98	
Styrene	<.50	U		1	11/12/98	
1,1,2,2-Tetrachloroethane	<.50	U		1	11/12/98	
1,2,3-Trichloropropane	<3.2	U		1	11/12/98	
Isopropylbenzene	<.50	U		1	11/12/98	
Bromobenzene	<.30	U		1	11/12/98	
n-Propylbenzene	<.40	U		1	11/12/98	
2-Chlorotoluene	<.40	U		1	11/12/98	
4-Chlorotoluene	<.60	U		1	11/12/98	
1,3,5-Trimethylbenzene	<.50	U		1	11/12/98	
tert-Butylbenzene	<1.4	U		1	11/12/98	
n-Butylbenzene	<1.1	U		1	11/12/98	
1,2,4-Trimethylbenzene	<1.3	U		1	11/12/98	
sec-Butylbenzene	<1.3	U		1	11/12/98	
1,3-Dichlorobenzene	<1.2	U		1	11/12/98	
1,4-Dichlorobenzene	<.30	U		1	11/12/98	
p-Isopropyltoluene	<1.2	U		1	11/12/98	
1,2-Dichlorobenzene	<.30	U		1	11/12/98	
1,2-Dibromo-3-chloropropane	<2.6	U		1	11/12/98	
1,2,4-Trichlorobenzene	<.40	U		1	11/12/98	
Naphthalene	<1.0	U		1	11/12/98	
Hexachlorobutadiene	<1.1	U		1	11/12/98	

- Outside control limits J-Estimated value

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O'Brien & Gere Laboratories, Inc.

Analytical Results Method: 8260

Client: Earth Tech Inc.
Project: Air Force Plant 59 #27378
Proj. Desc: Johnson City, NY

Job No.: 6780.004.517
Certification NY No.: 10155

Sample: J9307
Samp. Description: EB1110598
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 65

Collected: 11/05/98
Received: 11/06/98
Prepared: 11/12/98

Matrix: Water
QC Batch: 111298W2
%Solids:
Purge volume: 25 mL

Parameter	Result	Qual	Surrog Limits	Dilution	Analyzed	Note
1,2,3-Trichlorobenzene	<.30	U		1	11/12/98	
1,2-Dichloroethane-d4 (surrogate)	107.%		62-139	1	11/12/98	
Dibromofluoromethane (surrogate)	111.%		75-125	1	11/12/98	
Toluene-d8 (surrogate)	96.%		75-125	1	11/12/98	
Bromofluorobenzene (surrogate)	99.%		75-125	1	11/12/98	

Notes:

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