FINAL

GROUNDWATER MONITORING REPORT

for the April 1999 Sampling Event
at Air Force Plant 59

Prepared for:

Air Force Center for Environmental Excellence
and
Aeronautical Systems Center

Prepared by:

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Contract No. F41624-97-D-8018
Delivery Order No. 0003

June 1999

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PREFACE

This *Final Groundwater Monitoring Report for the April 1999 Sampling Event* 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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13. ABSTRACT *(Maximum 200 words)*

This document is the *Final Groundwater Monitoring Report for the April 1999 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

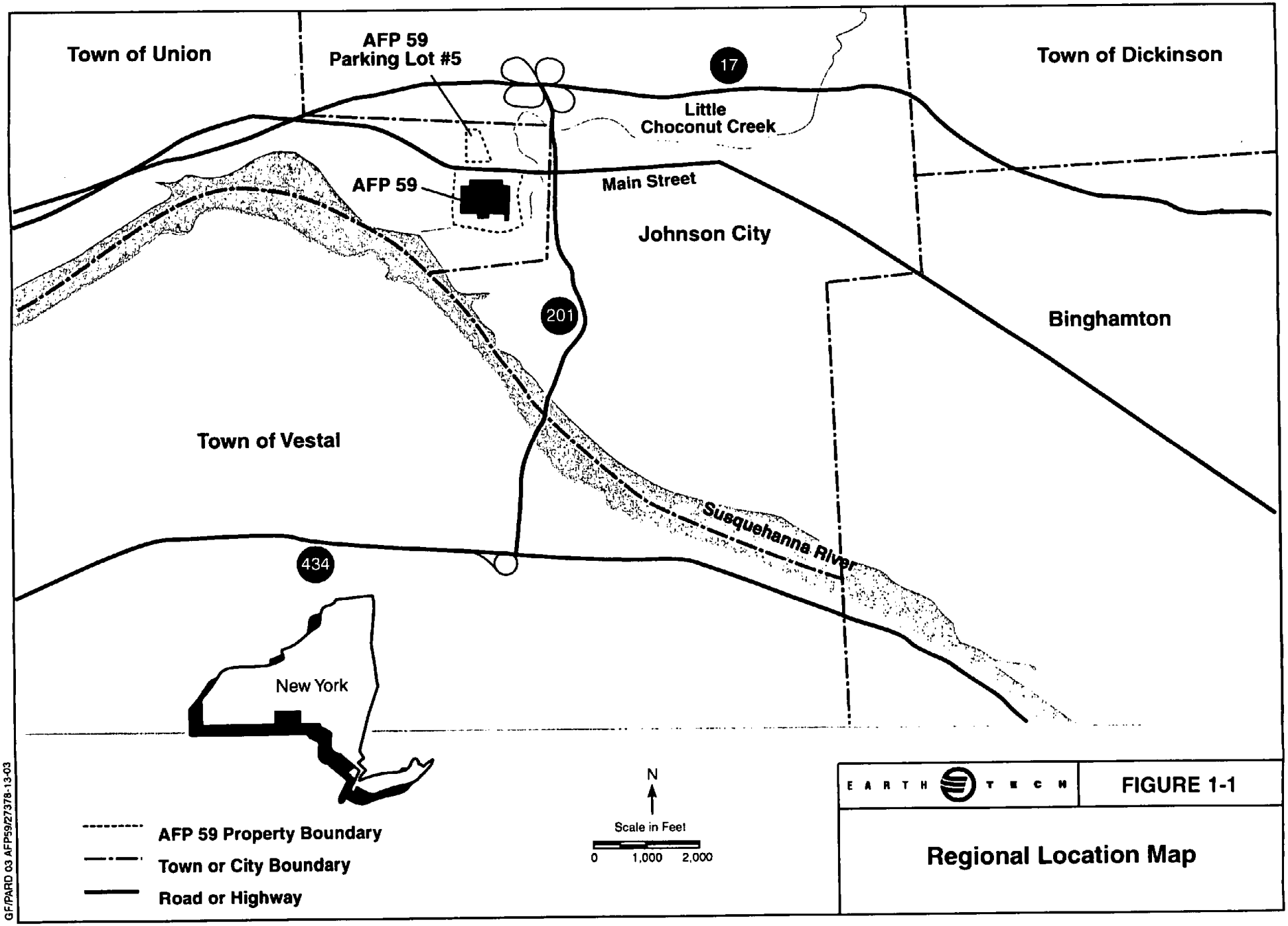
This *Final Groundwater Monitoring Report for the April 1999 Sampling Event* was prepared by Earth Tech to describe field and laboratory operations during the April 1999 groundwater sampling event. The April 1999 sampling event was conducted as part of the 1998/1999 semiannual groundwater monitoring 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. The results of the November 1998 groundwater sampling event are provided in the *Final Groundwater Monitoring Report for the November 1998 Sampling Event* (Earth Tech, 1999). 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:

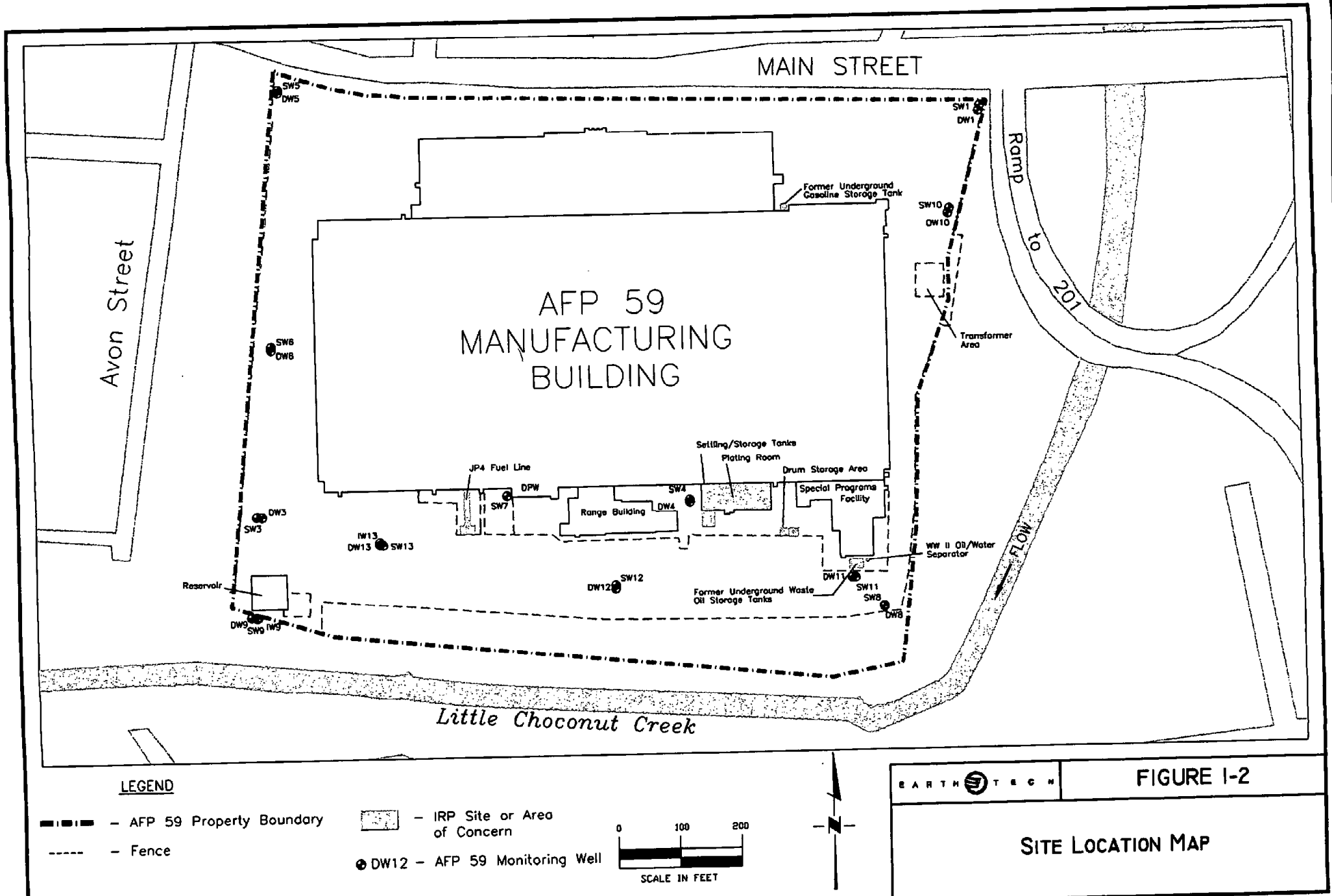
- To collect and analyze groundwater samples from select monitoring wells to characterize the extent of volatile organic compounds (VOCs) in site groundwater, and

- 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 April 1999 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/PARD 03 AFP59/27378-13-03



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2.0 PROJECT ACTIVITIES

This section summarizes activities conducted during the April 1999 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

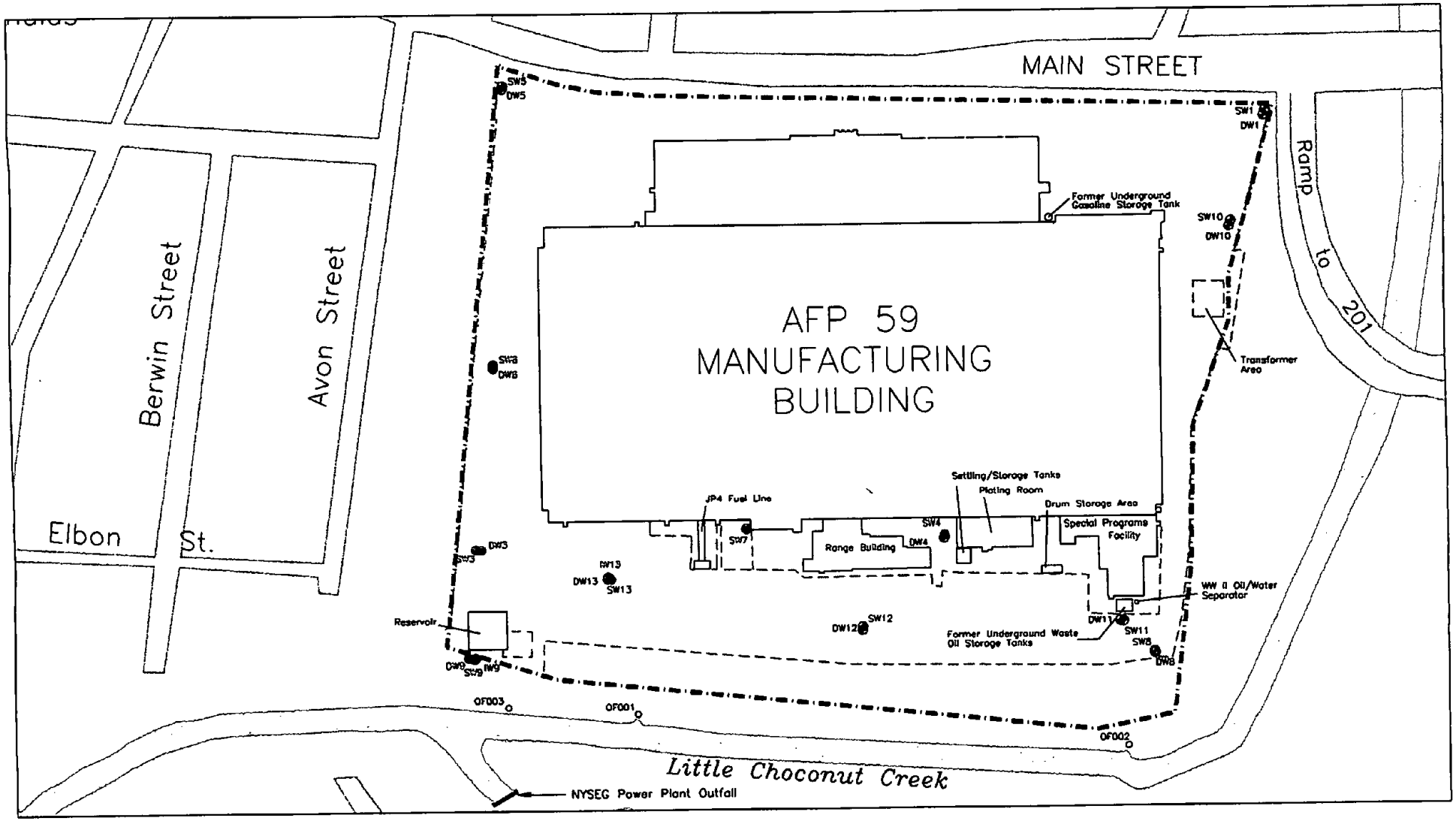
On the basis of conclusions presented in the *Final Remedial Investigation Report* (Earth Tech, 1996a) and recommendations made by the New York State Department of Environmental Conservation (NYSDEC), it was determined that VOCs represent the only chemicals of potential concern in groundwater at AFP 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 and April 1999 sampling events 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 April 1999 sampling event, and Figure 2.1-1 shows the locations of the on-site monitoring wells sampled during the April 1999 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 April 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 were used during groundwater sampling.



LEGEND

- ▬·▬·▬ – AFP 59 Property Boundary
- -------- – Fence
- ○ OF003 – AFP 59 Outfall
- ⊕ DW12 – AFP 59 Monitoring Well
- ● DW3 – AFP 59 Monitoring Well Sampled in April 1999

0 115 230

SCALE IN FEET

EARTH TECH

FIGURE 2.1-1

AFP 59
GROUNDWATER SAMPLING LOCATIONS
APRIL 1999

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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 and April 1999. 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 April 1999 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 April 1999 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 April 1999 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.

- **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.

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	0.01	µg/L	0.5	µg/L
SW8260B	1,1,1-TCA	0.01	µg/L	0.8	µg/L
	1,1,2,2-Tetrachloroethane	0.01	µg/L	0.5	µg/L
	1,1,2-TCA	0.02	µg/L	1.0	µg/L
	1,1-DCA	0.01	µg/L	0.4	µg/L
	1,1-DCE	0.01	µg/L	1.2	µg/L
	1,1-Dichloropropene	0.01	µg/L	1.0	µg/L
	1,2,3-Trichlorobenzene	0.01	µg/L	0.3	µg/L
	1,2,3-Trichloropropane	0.01	µg/L	3.2	µg/L
	1,2,4-Trichlorobenzene	0.02	µg/L	0.4	µg/L
	1,2,4-Trimethylbenzene	0.01	µg/L	1.3	µg/L
	1,2-DCA	0.01	µg/L	0.6	µg/L
	1,2-DCB	0.01	µg/L	0.3	µg/L
	trans-1,2-Dichloroethene	0.01	µg/L	0.6	µg/L
	1,2-Dibromo-3-chloropropane	0.03	µg/L	2.6	µg/L
	1,2-Dibromoethane	0.01	µg/L	0.6	µg/L
	1,2-Dichloropropane	0.01	µg/L	0.4	µg/L
	1,3,5-Trimethylbenzene	0.01	µg/L	0.5	µg/L
	1,3-DCB	0.01	µg/L	1.2	µg/L
	1,3-Dichloropropane	0.01	µg/L	0.4	µg/L
	1,4-DCB	0.01	µg/L	0.3	µg/L
	2,2-Dichloropropane	0.01	µg/L	3.5	µg/L
	2-Chlorotoluene	0.01	µg/L	0.4	µg/L
	4-Chlorotoluene	0.02	µg/L	0.6	µg/L
	Benzene	0.004	µg/L	0.4	µg/L
	Bromobenzene	0.01	µg/L	0.3	µg/L
	Bromochloromethane	0.01	µg/L	0.4	µg/L
	Bromodichloromethane	0.02	µg/L	0.8	µg/L
	Bromoform	0.01	µg/L	1.2	µg/L
	Bromomethane	0.02	µg/L	1.1	µg/L
	n-Butylbenzene	0.01	µg/L	1.1	µg/L
	sec-Butylbenzene	0.01	µg/L	1.3	µg/L
	tert-Butylbenzene	0.01	µg/L	1.4	µg/L
	Carbon tetrachloride	0.01	µg/L	2.1	µg/L
	Chlorobenzene	0.01	µg/L	0.4	µg/L
	Chloroethane	0.01	µg/L	1.0	µg/L
	Chloroform	0.01	µg/L	0.3	µg/L
	Chloromethane	0.01	µg/L	1.3	µg/L
	cis-1,2-DCE	0.01	µg/L	1.2	µg/L
	cis-1,3-Dichloropropene	0.01	µg/L	1.0	µg/L
	Dibromochloromethane	0.01	µg/L	0.5	µg/L
	Dibromomethane	0.01	µg/L	2.4	µg/L
	Dichlorodifluoromethane	0.004	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	0.01	µg/L	1.0	µg/L
	Ethylbenzene	0.004	µg/L	0.6	µg/L
	Hexachlorobutadiene	0.03	µg/L	1.1	µg/L
	Isopropylbenzene	0.004	µg/L	0.5	µg/L
	p-Isopropyltoluene	0.01	µg/L	1.2	µg/L
	Methylene Chloride	0.02	µg/L	0.3	µg/L
	Naphthalene	0.02	µg/L	1.0	µg/L
	n-Propylbenzene	0.01	µg/L	0.4	µg/L
	Styrene	0.01	µg/L	0.5	µg/L
	Tetrachloroethene	0.01	µg/L	1.4	µg/L
	Trichloroethene	0.01	µg/L	1.0	µg/L
	Trichlorofluoromethane	0.003	µg/L	0.8	µg/L
	Toluene	0.01	µg/L	1.1	µg/L
	Vinyl Chloride	0.02	µg/L	1.1	µg/L
	(m&p)-Xylenes	0.01	µg/L	0.6	µg/L
	o-Xylene	0.01	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 April 1999 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.

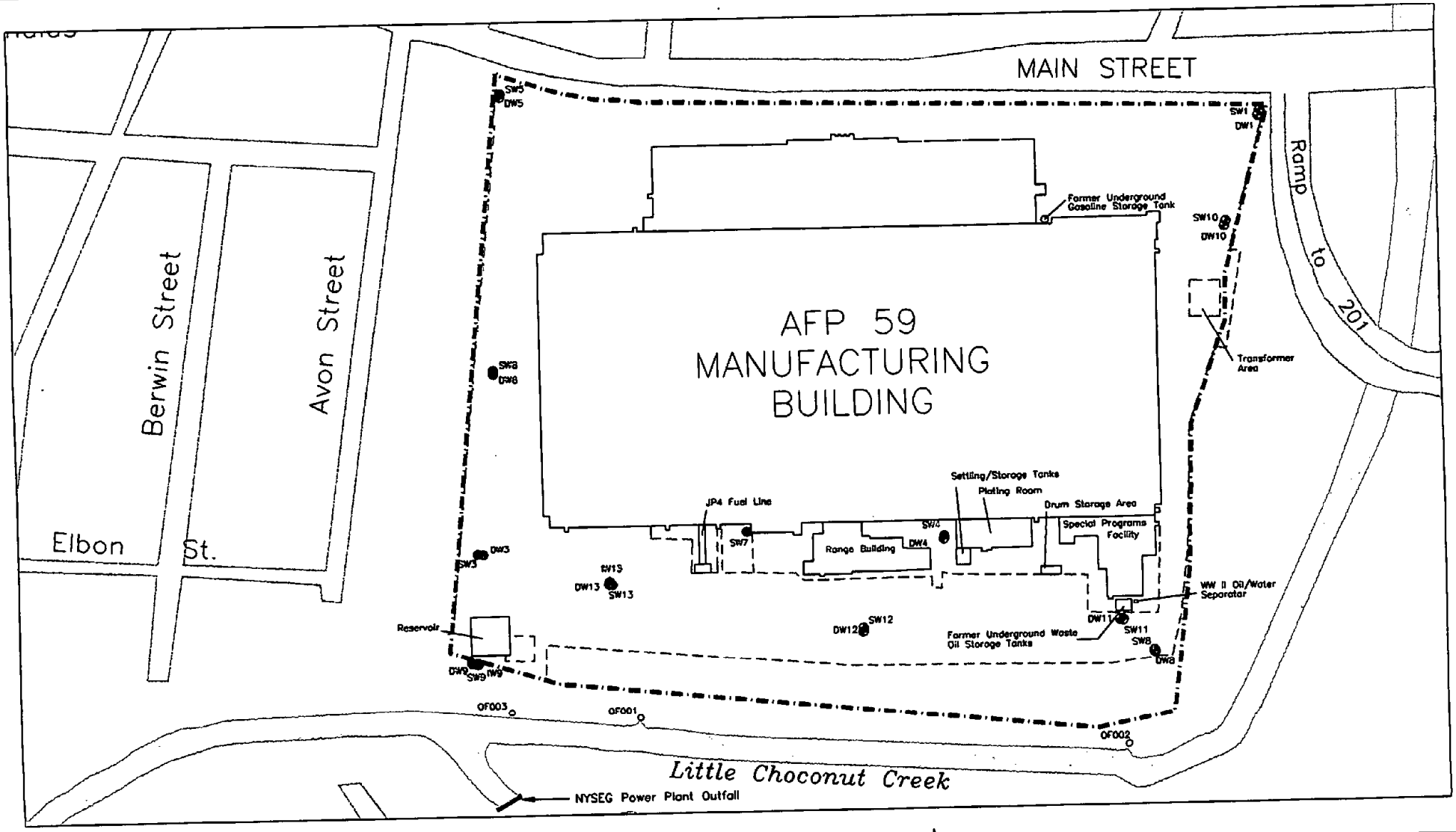
3.1.3 VOCs Detected in Groundwater Samples

This section discusses the VOCs that were detected in the groundwater samples. No background monitoring wells were sampled during the April 1999 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 April 1999 sampling event are summarized in Table 3.1-2. Appendix D provides a complete listing of all groundwater analytical results.

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

VOCs were detected in the groundwater samples collected from monitoring wells SW3, SW4, SW6, SW7, and SW9; no VOCs were detected in the groundwater sample collected from monitoring well IW13. The majority of the VOCs detected were chlorinated hydrocarbons, although trace levels (i.e., concentrations below the laboratory RLs) of toluene were detected in the duplicate groundwater sample collected from monitoring well SW4 (toluene was not detected in the normal groundwater sample).

The following maximum concentrations were detected in the groundwater samples (including the duplicate sample): trichloroethene (TCE) at 18.6 micrograms per liter (µg/L) in monitoring well SW9; 1,1,1-trichloroethane (1,1,1-TCA) at 12.32 µg/L in monitoring well SW9; cis-1,2-dichloroethene (cis-1,2-DCE) at 8.42 µg/L in monitoring well SW6; 1,1-dichloroethane (1,1-DCA) at 3.62 µg/L in monitoring well SW9; trichlorofluoromethane at 0.21 µg/L in monitoring well SW4; tetrachloroethene (PCE) at 0.76 µg/L in monitoring well SW4; chloroform at 0.47 µg/L in monitoring well SW9; and toluene at 0.13 µg/L in monitoring well SW4.



LEGEND

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

0 115 230

SCALE IN FEET

EARTH TECH

FIGURE 3.1-1

AFP 59
GROUNDWATER SAMPLING LOCATIONS
APRIL 1999

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Table 3.1-2. Groundwater Data Summary for VOCs

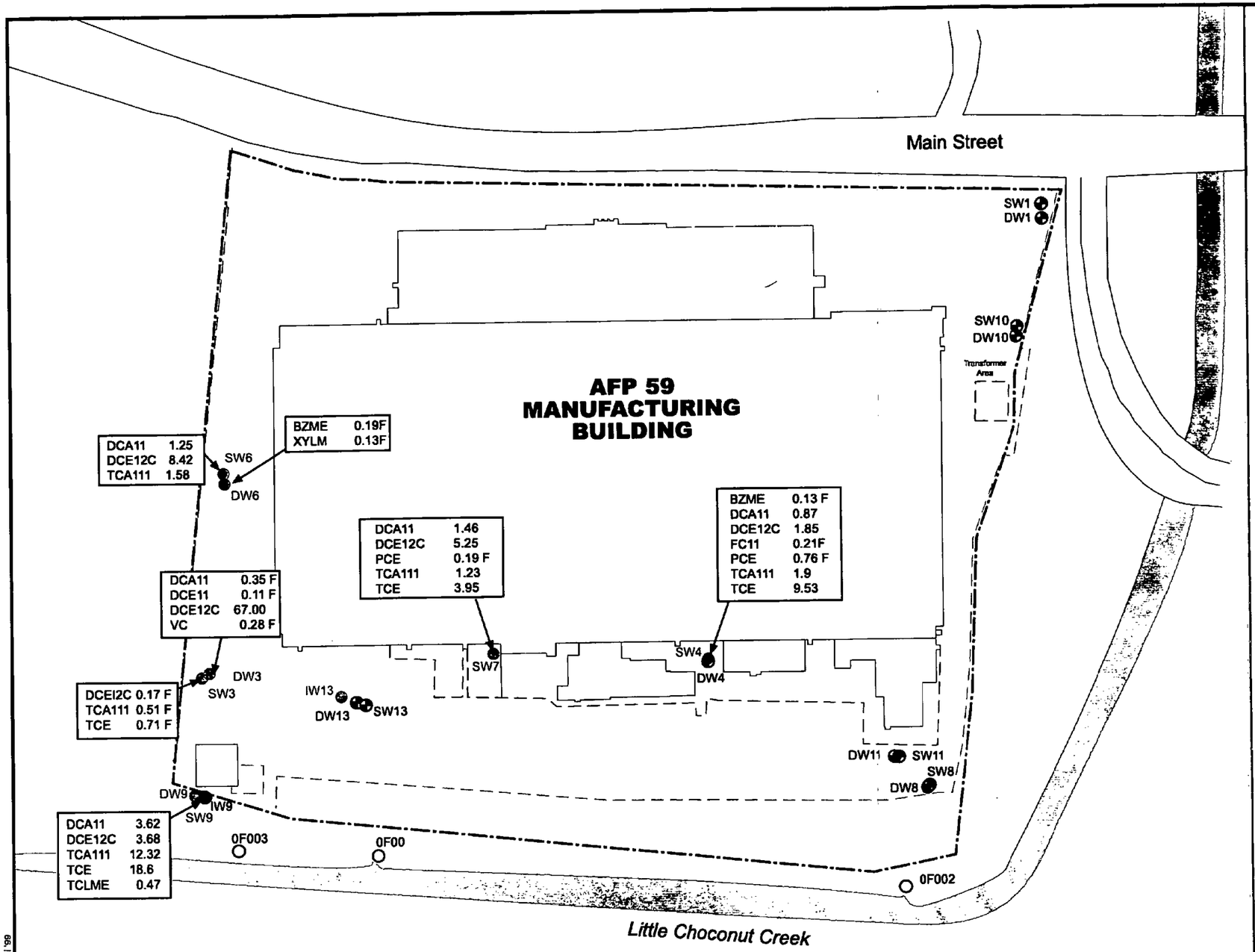
Parameters	Action Levels*	59SW3WG1	59DW3WG1	59SW4WG1	59SW4WG9	59SW6WG1
1,1,1-Trichloroethane	5	0.51F	--	1.9	1.82	1.58
Trichloroethene	5	0.71F	--	**9.53**	**8.21**	--
Vinyl Chloride	2	--	0.28F	--	--	--
1,1-Dichloroethene	5	--	0.11F	--	--	--
cis-1,2-Dichloroethene	5	0.17F	**67.00**	1.85	1.75	**8.42**
1,1-Dichloroethane	5	--	0.35F	0.87	0.81	1.25
Trichlorofluoromethane	5	--	--	0.21F	0.19F	--
Tetrachloroethene	5	--	--	0.76F	0.71F	--
Toluene	5	--	--	--	0.13F	--
Chloroform	7	--	--	--	--	--
(m&p)-Xylenes	5	--	--	--	--	--

Parameters	Action Levels*	59DW6WG1	59SW7WG1	59SW9WG1	59DW9WG1	591W13WG1
1,1,1-Trichloroethane	5	--	1.23	**12.32**	--	--
Trichloroethene	5	--	3.95	**18.6**	--	--
Vinyl Chloride	2	--	--	--	--	--
1,1-Dichloroethene	5	--	--	--	--	--
cis-1,2-Dichloroethene	5	--	**5.25**	3.68	--	--
1,1-Dichloroethane	5	--	1.46	3.62	--	--
Trichlorofluoromethane	5	--	--	--	--	--
Tetrachloroethene	5	--	0.19F	--	--	--
Toluene	5	0.19F	--	--	--	--
Chloroform	7	--	--	0.47	--	--
(m&p)-Xylenes	5	0.13F	--	--	--	--

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

Qualifiers: F = Analyte detected between RL and MDL.

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 April 1999

AFP 59 Outfall

BZME	=	toluene
DCA11	=	1,1-dichloroethane
DCE11	=	1,1-dichloroethene
DCE12C	=	cis-1,2-dichloroethene
FC11	=	trichlorofluoromethane
PCE	=	tetrachloroethene
TCA111	=	1,1,1-trichloroethane
TCE	=	trichloroethene
TCLME	=	chloroform
VC	=	vinyl chloride
XYLM	=	m&p-xylenes

F = Analyte detected between RL and MDL

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 April 1999

GF/27378.13.03/April '99

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	0.51	12.32	SW9
1,1-Dichloroethane	5 of 7	0.81	3.62	SW9
cis-1,2-Dichloroethene	6 of 7	0.17	8.42	SW6
Tetrachloroethene	3 of 7	0.19	0.76	SW4
Trichloroethene	5 of 7	0.71	18.6	SW9
Trichlorofluoromethane	2 of 7	0.19	0.21*	SW4
Chloroform	1 of 7	0.47	0.47	SW9
Toluene	1 of 7	0.13	0.13	SW4**

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 normal sample.

** Toluene was only detected in the duplicate sample collected at monitoring well SW4.

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

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

Six VOCs were detected in the groundwater samples collected from the deep monitoring wells, with each VOC being detected in only one monitoring well. Four chlorinated hydrocarbons were detected in the groundwater sample collected from monitoring well DW3, including cis-1,2-DCE at 67 µg/L, 1,1-DCA at 0.35 µg/L, vinyl chloride at 0.28 µg/L, and 1,1-DCE at 0.11 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 DW6, including toluene at 0.19 µg/L and m&p-xylenes at 0.13 µg/L. No VOCs were detected in the groundwater sample collected from monitoring well DW9.

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 April 1999 sampling event, concentrations of the chlorinated hydrocarbons decreased relative to the previous sampling event in monitoring wells SW4 and SW7 (historically the monitoring wells with the highest concentrations). Concentrations of the chlorinated hydrocarbons remained relatively constant in monitoring wells SW3, SW6, and IW13, and concentrations of the chlorinated hydrocarbons increased in monitoring well SW9.

In the groundwater samples collected from the deep monitoring wells during the April 1999 sampling event, concentrations of the chlorinated hydrocarbons remained relatively constant in all three monitoring wells (i.e., DW3, DW6, and DW9).

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	
1,1-Dichloroethane	1 of 3	0.35	0.35	DW3
1,1-Dichloroethene	1 of 3	0.11	0.11	DW3
cis-1,2-Dichloroethene	1 of 3	67.00	67.00	DW3
Vinyl Chloride	1 of 3	0.28	0.28	DW3
Toluene	1 of 3	0.19	0.19	DW6
m&p-Xylenes	1 of 3	0.13	0.13	DW6

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)	--
	Apr. 1999[3]	0.51	0.71	--	--	0.17 (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. 1998[3]	--	--	0.35	--	66 (c)	0.34
	Apr. 1999[3]	--	--	0.28	0.11	67.00 (c)	0.35
SW4	Jan. 1992[2]	2	97	--	0.3	--	0.6
	Dec. 1994[3]	20	370	--	2.1	19 (c)	8.5
	Dec. 1995[3]	34	1200	--	4.9	2.1 (t) 34 (c)	6.9
	April 1997[4]	--	--	--	--	71 (c)	7.1
	July 1997[4]	23	290	--	--	15 (c)	--
	Nov. 1998[3]	8.0	46	0.42	0.82	10 (c)	9.0
	Apr. 1999[3]	1.9	9.53	--	--	1.85 (c)	0.87
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
	Apr. 1999[3]	1.58	--	--	--	8.42 (c)	1.25
DW6	Jan. 1992[2]	--	--	--	--	--	--
	Dec. 1994[3]	--	--	--	--	--	--
	Dec. 1995[3]	--	--	--	--	--	--
	Nov. 1998[3]	--	--	--	--	--	--
	Apr. 1999[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
	Apr. 1999[3]	1.23	3.95	--	--	5.25 (c)	1.46
DPW	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]	--	--	--	--	--	--

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
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
	Apr. 1999[3]	12.32	18.6	--	--	3.68 (c)	3.62
DW9	Jan. 1992[2]	0.2	--	--	--	--	--
	Dec. 1994[3]	--	--	--	--	--	--
	Dec. 1995[3]	--	--	--	--	--	--
	Nov. 1998[3]	--	--	--	--	--	--
	Apr. 1999[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
	Apr. 1999[3]	--	--	--	--	--	--

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
DPW	=	Deep production well
(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.

4.0 CONCLUSIONS

This section provides conclusions from analytical and hydrogeological data generated as a result of the April 1999 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 April 1999 groundwater level measurements.

4.1 Analytical Results

The following objective was defined in Section 1.0 for the analytical data generated during the April 1999 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 April 1999 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 (67.00 µg/L) in monitoring well DW3.

Historically, the highest concentrations of VOCs at AFP 59 have been detected in groundwater samples collected from monitoring wells SW4 and SW7, which are located immediately downgradient of the Plating Room (the suspected source of VOCs in groundwater). In April 1999, concentrations at SW4 and SW7 decreased substantially and the highest concentrations of VOCs were generally detected in the groundwater sample collected from monitoring well SW9, which is located in the southwestern corner of the plant. However, only two of the detections at monitoring well SW9 were above New York State drinking water standards (18.6 µg/L of TCE and 12.32 µg/L of 1,1,1-TCA exceeded the New York State drinking water standard of 5 µg/L for both compounds). The following detections also exceeded the New York State drinking water standard of 5 µg/L: 9.53 µg/L (normal sample) and 8.21 µg/L (duplicate sample) of TCE at SW4, 8.42 µg/L of cis-1,2-DCE at SW6, and 5.25 µg/L of cis-1,2-DCE at SW7. Therefore, with the exception of the cis-1,2-DCE detection at monitoring well SW6 and the TCE and 1,1,1-TCA detections at monitoring well SW9, 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.

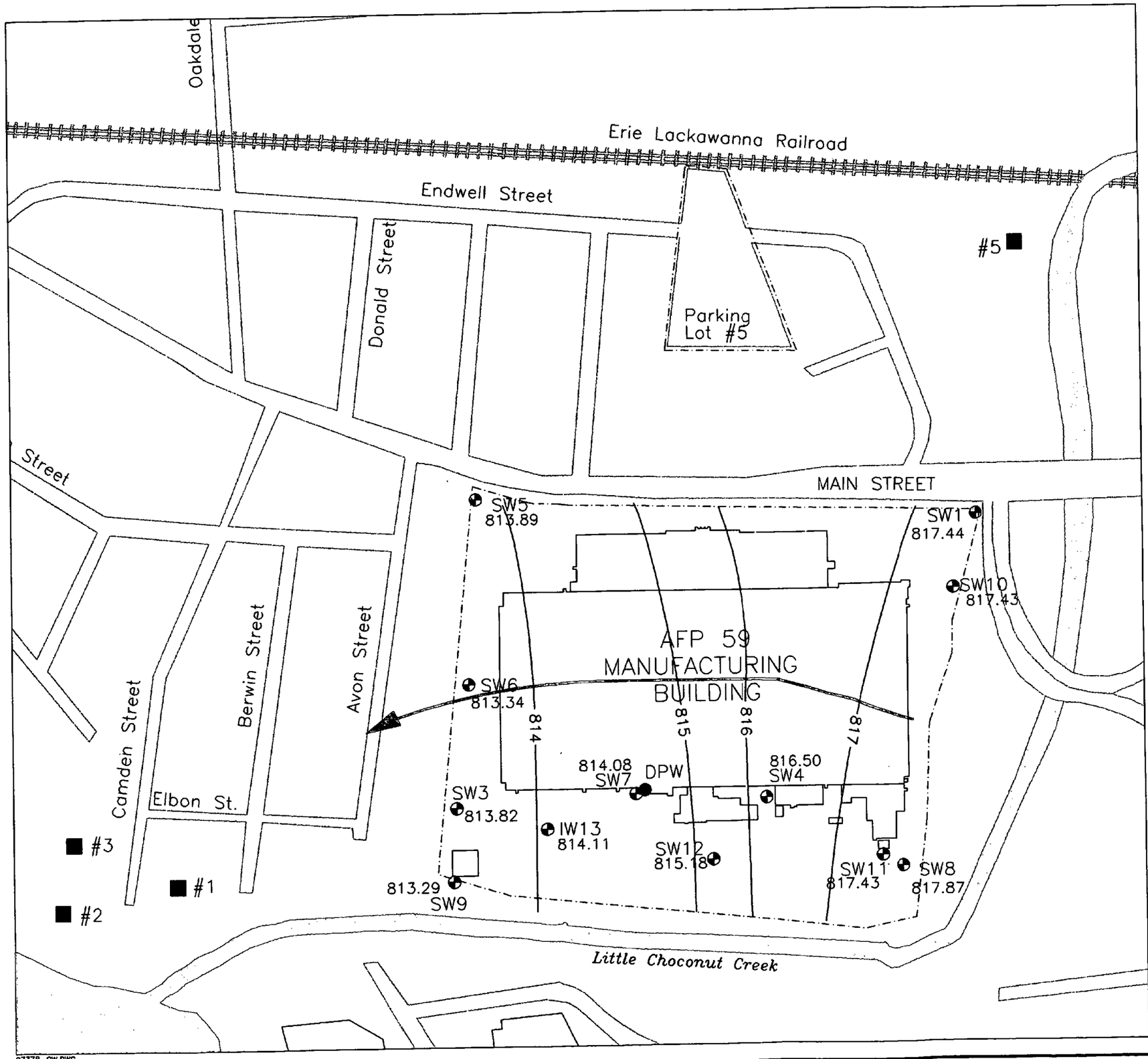
Six VOCs were detected in groundwater samples collected from the deep monitoring wells, including four chlorinated hydrocarbons (cis-1,2-DCE, 1,1-DCA, vinyl chloride, and 1,1-DCE) and two petroleum hydrocarbons (toluene and m&p-xylenes). Although the cis-1,2-DCE detection (67.00 µg/L in DW3) exceeded 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, vinyl chloride, and 1,1-DCE detections did not exceed their respective New York State drinking water standards. The petroleum hydrocarbons toluene and m&p-xylenes were both detected in the groundwater sample collected from monitoring well DW6 at concentrations below 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 have generally decreased in monitoring wells SW4 and SW7, remained constant in monitoring wells SW3, DW3, SW6, DW6, DW9, and IW13, and increased in monitoring well SW9 (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 April 26, 1999. 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), the *Final Remedial Investigation Report Addendum* (Earth Tech, 1996b), and the *Final Groundwater Monitoring Report for the November 1998 Sampling Event* (Earth Tech, 1999).



LEGEND

SW4	AFP 59 MONITORING WELL
DPW	AFP 59 INDUSTRIAL PRODUCTION WELL
#2	JOHNSON CITY WATER SUPPLY WELL
813.82	GROUNDWATER ELEVATION (FEET MSL)
	GROUNDWATER ELEVATION CONTOUR (FEET MSL)
	GROUNDWATER FLOW DIRECTION
	AFP 59 BOUNDARY

CONTOUR INTERVAL = 1FT.

0 125 250

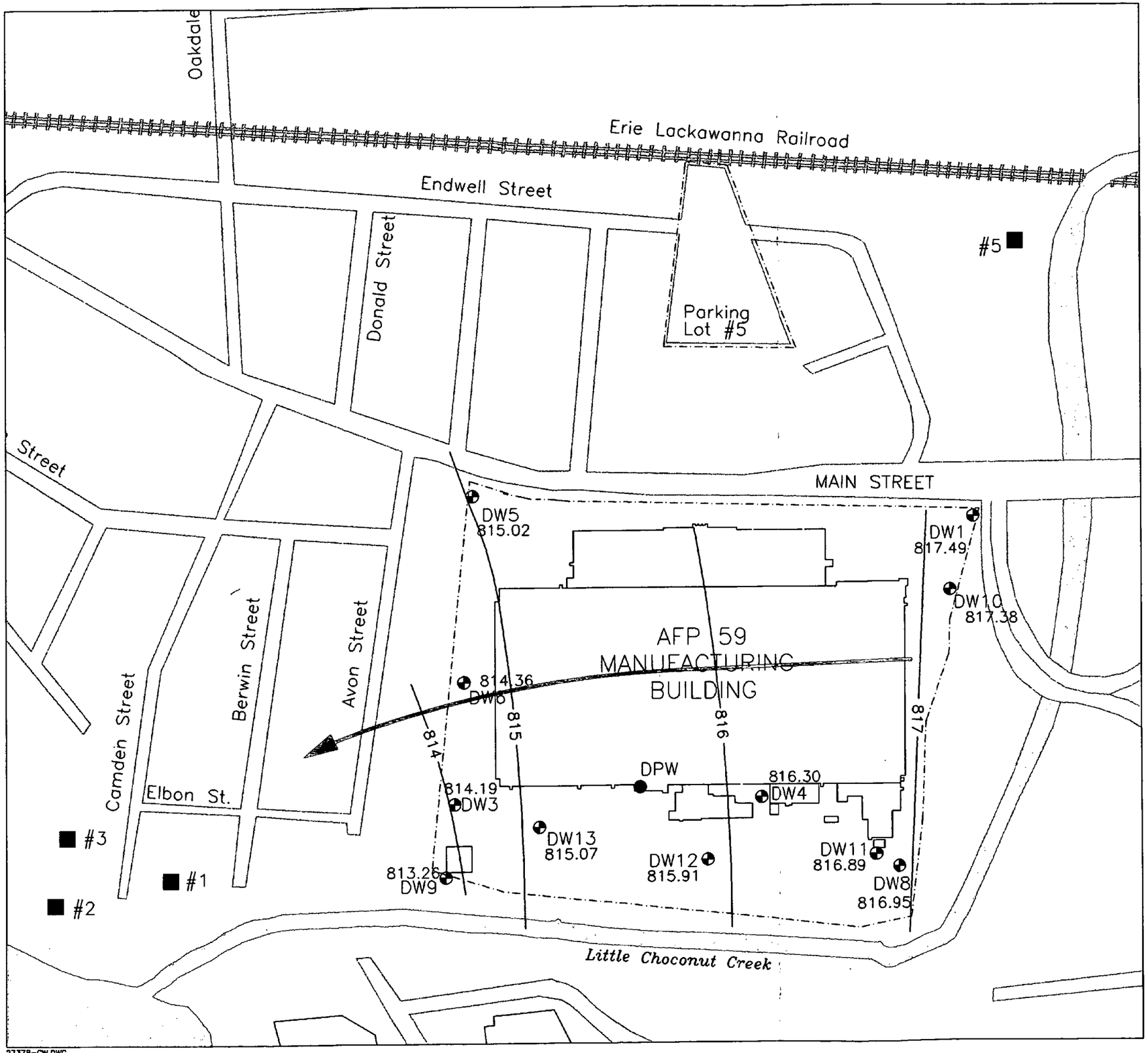
SCALE IN FEET

EARTH TECH

FIGURE 4.2-1

POTENTIOMETRIC SURFACE AND GROUNDWATER FLOW AT AFP 59 (SHALLOW WELLS) APRIL 1999

27378-GW.DWG



LEGEND

DW4	AFP 59 MONITORING WELL
DPW	AFP 59 INDUSTRIAL PRODUCTION WELL
#2	JOHNSON CITY WATER SUPPLY WELL
817.49	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) APRIL 1999

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.*

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

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

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

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

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

APPENDIX B. FIELD DATA

MONITOR WELL STATIC WATER LEVEL FORM

PROJECT NAME: AFP 59 GW Sampling DATE: 4/26/99

WATER LEVEL INDICATOR ID # _____ FIELD BOOK # _____

LOCATION: _____ PAGE # _____

Monitor Well Number	Total Well Depth	Well Screen Length	Measuring Point Elev.	Time	Depth to Static Water Level	Sounding	Explosimeter Reading (above background)	PID Reading (above background)
DW1				1422	17.08			
SW1				1425	17.04			
DW10				1432	13.19			
SW10				1434	13.15			
SW6				1502	15.15			
DW6				1504	14.15			
SW3				1510	17.15			
DW3				1512	14.85			
DW9				1516	18.05			
SW9				1518	18.09			
DW9				1519	17.92			
SW13				1525	14.25			
DW13				1527	13.35			
SW7				1533	17.81			
SW8				1542	11.98			
DW8				1544	12.75			

Note: Total well depth to be measured at time of gauging.

Comments: _____

_____

_____

Sampler Alex Cedro Observer Rebecca White

AFCEE FORM WL.11

MONITOR WELL STATIC WATER LEVEL FORM

PROJECT NAME: AFP 59 DATE: 4/26/99

WATER LEVEL INDICATOR ID # _____ FIELD BOOK # _____

LOCATION: Alex Cedro PAGE # _____

Monitor Well Number	Total Well Depth	Well Screen Length	Measuring Point Elev.	Time	Depth to Static Water Level	Sounding	Explosimeter Reading (above background)	PID Reading (above background)
SW11				1548	11.24'			
DW11				1550	12.01'			
SW12				1600	13.96'			
DW12				1602	13.26'			
4/27/99 SW4				1226	12.35'			
DW4				1228	12.48'			
4/28/99 DW5				0740	20.95'			
SW5				0742	21.95'			

Note: Total well depth to be measured at time of gauging.

Comments: _____

_____

_____

Sampler Alex Cedro / Rebecca White Observer _____

AFCEE FORM WL.11

GROUNDWATER PURGING AND SAMPLING RECORD

Date: 4/28/99 Well ID: SW3 Sample Number: 99SW3WG1 Recorded By: AC/ZW
Project Name: AFP 59 Well Location: AFP 59 Duplicate Number: ——— Checked By:
Project Number: 27378.08.02

EQUIPMENT

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

WELL DATA

Elevation:
Well Diameter: 2" Water Column in Well: 13.66' Total Vol. Extr.: 106.96 gal
Well Depth: 30.81' Borehole Diameter: 8" Ambient PID: ———
Depth to Well Water: 17.15' Water Column in Borehole: 13.66' Well Mouth PID: ———
Standing Water Vol.: 35.65 gal
Ground Condition of Well:
Remarks:

	PURGING				SAMPLING	
	1	2	3	4	1	2
Time 0825	0882	0839	0846	0853	0900	
Rate (gal/min) 2.5	3.0	3.0	3.0	3.0	3.0	
Temperature °C 10.9	9.1	8.8	8.7	8.6	8.7	
pH 7.52	7.25	7.23	7.16	7.13	7.11	
Conductivity (mS/cm) 0.854	0.986	1.11	1.11	1.11	1.11	
Vol. Purged (gal) 0	20	40	60	80	108	
~~Remarks~~ Turb (NTU) 19	6	4	0	0	0	

COLLECTED SAMPLES

	1	2	3	4	5	6
Sample Time	0905					
Analytical Param	VOCs (SW8260)					
Volume Required	340 mL vials					
Preservation	HCl, 4°C					
Field Filtered	No					
Time						

GROUNDWATER PURGING AND SAMPLING RECORD

Date: 4/27/99 Well ID: DW3 Sample Number: 59DWBWG1 Recorded By: AC/ZW
Project Name: AFP 59 Well Location: AFP 59 Duplicate Number: —— Checked By:
Project Number: 27378.08.02

EQUIPMENT

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

WELL DATA

Elevation: Water Column in Well: 73.15' Total Vol. Extr.: 322.59 gal
Well Diameter: 4" Borehole Diameter: 6" Ambient PID: ——
Well Depth: 88.00' Water Column in Borehole: 73.15' Well Mouth PID: ——
Depth to Well Water: 14.85' Standing Water Vol.: 107.53 gal

Ground Condition of Well:
Remarks:

	PURGING				SAMPLING	
	1	2	3	4	1	2
Time 1756 ~~1550~~	1825	1865	1925	1955		
Rate (gal/min) 1.7	2.0	2.0	2.0	2.0		
Temperature °C ~~16.0~~ 13.8	12.9	12.7	12.8	12.7		
pH 8.11	7.68	7.77	7.91	7.97		
Conductivity (mS/cm) ~~1.33~~ 1.92	1.82	1.82	1.32	1.82		
Vol. Purged (gal) 0	60	120	180	230		
~~Remarks~~ Turb (NTU) ~~113~~ 13	1	0	0	0		

COLLECTED SAMPLES

	1	2	3	4	5	6
Sample Time	2000					
Analytical Param	VOCs (SW826)					
Volume Required	340 mL vials					
Preservation	HCl, 4°C					
Field Filtered	No					
Time						

0461.FIG

GROUNDWATER PURGING AND SAMPLING RECORD

Date: 4/29/99 Well ID: SW 4 Sample Number: 595W4W01 Recorded By: AC/ZW
Project Name: AFP 59 Well Location: AFP 59 Duplicate Number: ——— Checked By:
Project Number: 27378.08.02

EQUIPMENT

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

WELL DATA

Elevation: Water Column in Well: 16.65' Total Vol. Extr.: 130.38 gal
Well Diameter: 2" Borehole Diameter: 8" Ambient PID: ———
Well Depth: 29.00' Water Column in Borehole: 16.65' Well Mouth PID: ———
Depth to Well Water: 12.35' Standing Water Vol.: 43.46 gal
Ground Condition of Well:
Remarks:

	PURGING				SAMPLING	
	1	2	3	4	1	2
Time 1640	1654	1706	1718	1730	1742	
Rate (gal/min) 2.3 (1657 Hz)	2.3	2.3	2.3	2.3	2.3	
Temperature °C 17.6	17.0	16.7	16.7	16.7	16.6	
pH 6.99	6.85	6.83	6.79	6.83	6.79	
Conductivity (mS/cm) 1.34	1.40	1.40	1.43	1.40	1.40	
Vol. Purged (gal) 0	26	52	78	104	138	
~~Remarks~~ Turb (NTU) 150	475	119	117	105	89	

COLLECTED SAMPLES

	1	2	3	4	5	6
Sample Time	1745	1750				
Analytical Param	VOCs (SW8260)	VOCs (SW8260)				
Volume Required	340 mL vials	340 mL vials				
Preservation	HCl, 4°C	HCl, 4°C				
Field Filtered	No	No				
Time						

Duplicates

0461.FIG

GROUNDWATER PURGING AND SAMPLING RECORD

Date: 4/28/99 Well ID: SW6 Sample Number: 59SW6WG1 Recorded By: AC/ZW
Project Name: AFP 59 Well Location: AFP 59 Duplicate Number: ——— Checked By:
Project Number: 27378.08.02

EQUIPMENT

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

WELL DATA

Elevation: Water Column in Well: 13.85' Total Vol. Extr.: 108.45 gal
Well Diameter: 2" Borehole Diameter: 8" Ambient PID: ———
Well Depth: 29.00' Water Column in Borehole: 13.85' Well Mouth PID: ———
Depth to Well Water: 15.15' Standing Water Vol.: 36.15 gal

Ground Condition of Well:
Remarks:

	PURGING				SAMPLING	
	1 (165 Hz)	2	3	4	1	2
Time	1610 / 1615	1624	1633	1642		
Rate (gal/min)	3.0	3.0	3.0	3.0		
Temperature °C	15.6 / 15.1	15.2	14.6	14.4		
pH	7.22 / 7.04	7.04	7.01	7.04		
Conductivity (mS/cm)	1.33 / 1.34	1.33	1.33	1.34		
Vol. Purged (gal)	0 / 25	50	75	108		
~~Remarks~~ Turb (NTU)	120 / 13	2	0	0		

COLLECTED SAMPLES

	1	2	3	4	5	6
Sample Time	1645					
Analytical Param	VOCs (SW8260)					
Volume Required	340 mL vials					
Preservation	HCl, 4°C					
Field Filtered	No					
Time						

0461.FIO

GROUNDWATER PURGING AND SAMPLING RECORD

Date: 4/28/99 Well ID: DW6 Sample Number: 59DW6WG1 Recorded By: AC/ZW
Project Name: AFP 59 Well Location: AFP 59 Duplicate Number: —— Checked By:
Project Number: 27378.08.02

EQUIPMENT

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

WELL DATA

Elevation: Water Column in Well: 52.35' Total Vol. Extr.: 230.86 gal
Well Diameter: 4" Borehole Diameter: 6" Ambient PID: ——
Well Depth: 66.50' Water Column in Borehole: 52.35 Well Mouth PID: ——
Depth to Well Water: 14.15' Standing Water Vol.: 76.95 gal

Ground Condition of Well:
Remarks:

	PURGING				SAMPLING	
	1	2	3	4	1	2
Time 0755	0855	0955	1040	1120	1125	
Rate (gal/min) 0.2	0.2	0.5	1.0	1.3	Well	
Temperature °C 11.1	AC 13.7	AC ~~13.7~~ 14.8	14.5	14.3	Purges	
pH 10.64	7.41	7.39	7.93	7.82	Dry	
Conductivity (mS/cm) 1.36	0.98	0.98	1.01	0.99	0.99	
Vol. Purged (gal) 0	20	45	70	110	114	
~~Remarks~~ Turb (NTU) 103	33	109	90	41	38	

COLLECTED SAMPLES

	1	2	3	4	5	6
Sample Time	1130					
Analytical Param	VOCs (SW8260)					
Volume Required	340 mL vials					
Preservation	HCl, 4°C					
Field Filtered	No					
Time						

0461.FIG

GROUNDWATER PURGING AND SAMPLING RECORD

Date: 4/29/99 Well ID: SW7 Sample Number: 59SW7WG1 Recorded By: AC/ZW
Project Name: AFP 59 Well Location: AFP 59 Duplicate Number: —— Checked By:
Project Number: 27378.08.02

EQUIPMENT

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

WELL DATA

Elevation: Water Column in Well: 8.69' Total Vol. Extr.: 68.04 gal
Well Diameter: 2" Borehole Diameter: 8" Ambient PID: ——
Well Depth: 26.50' Water Column in Borehole: 8.69' Well Mouth PID: ——
Depth to Well Water: 17.81' Standing Water Vol.: 22.68 gal

Ground Condition of Well:
Remarks:

	PURGING				SAMPLING	
	1	2	3	4	1	2
Time 1815	1820	1827	1832	1835	1839	
Rate (gal/min) 2.5	2.5	3.5	4.5	5.0	5.0	
Temperature °C 15.2	14.~~15.0~~	14.0	13.9	13.7	13.7	
pH 7.09	7.00	6.99	7.02	7.00	7.00	
Conductivity (mS/cm) 1.31	1.38	1.37	1.37	1.36	1.36	
Vol. Purged (gal) 0	13	26	39	52	65	
~~Remarks~~ Turb (NTU) 148	54	58	120	118	100	

COLLECTED SAMPLES

	1	2	3	4	5	6
Sample Time	1845	1850	1855			
Analytical Param	VOCs (SW8260)	VOCs (SW8260)	VOCs (SW8260)			
Volume Required	340 mL vials	340 mL vials	3 40mL vials			
Preservation	HCl, 4°C	HCl, 4°C	HCl, 4°C			
Field Filtered	No	No	No			
Time						

MS MSD

0461.FIG

GROUNDWATER PURGING AND SAMPLING RECORD

Date: 4/28/99 Well ID: SW9 Sample Number: 595W9W61 Recorded By: AC/ZW
Project Name: AFP 59 Well Location: AFP 59 Duplicate Number: — Checked By:
Project Number: 27378.08.02

EQUIPMENT

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

WELL DATA

Elevation: Water Column in Well: 9.49' Total Vol. Extr.: 74.31 gal
Well Diameter: 2" Borehole Diameter: 8" Ambient PID: —
Well Depth: 27.58' Water Column in Borehole: 9.49' Well Mouth PID: —
Depth to Well Water: 18.09' Standing Water Vol.: 24.77 gal

Ground Condition of Well:
Remarks:

	PURGING				SAMPLING	
	1	2	3	4	1	2
Time 1110	1115	1121	1127	1133	1139	
Rate (gal/min) 2.7	2.7	2.7	2.7	2.7	2.7	
Temperature °C 13.7	13.1	12.2	12.2	12.2	12.1	
pH 7.47	7.43	7.39	7.40	7.40	7.40	
Conductivity (mS/cm) 1.07	1.07	1.06	1.06	1.06	1.05	
Vol. Purged (gal) 0	15	30	45	60	74	
~~Remarks~~ Turb (NTU) 196	41	65	38	19	20	

COLLECTED SAMPLES

	1	2	3	4	5	6
Sample Time	1140					
Analytical Param	VOCs (SW8260)					
Volume Required	340 mL vials					
Preservation	HCl, 4°C					
Field Filtered	No					
Time						

0461.FIG

GROUNDWATER PURGING AND SAMPLING RECORD

Date: 4/28/99 Well ID: DW9 Sample Number: 59DW9W61 Recorded By: AC/RW
Project Name: AFP 59 Well Location: AFP 59 Duplicate Number: — Checked By: —
Project Number: 27378.08.02

EQUIPMENT

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

WELL DATA

Elevation:
Water Column in Well: 74.95' Total Vol. Extr.: 330.53 gal
Well Diameter: 4" Borehole Diameter: 6" Ambient PID: —
Well Depth: 93.00' Water Column in Borehole: 74.95' Well Mouth PID: —
Depth to Well Water: 18.05' Standing Water Vol.: 110.18 gal

Ground Condition of Well:
Remarks:

	PURGING				SAMPLING	
	1	2	3	4	1	2
Time 0940	0955	1011	1027	1043	1059	
Rate (gal/min) 4.0	4.0	4.0	4.0	4.0	4.0	
Temperature °C 13.6	13.6	14.0	14.8	14.3	13.9	
pH 8.03	7.21	7.10	7.13	7.08	7.10	
Conductivity (mS/cm) 0.797	1.16	1.16	1.15	1.15	1.14	
Vol. Purged (gal) 0	65	130	195	260	330	
~~Remarks~~ Turb (NTU) 0	0	1	1	0	0	

COLLECTED SAMPLES

	1	2	3	4	5	6
Sample Time	1300					
Analytical Param	VOCs (SW8260)					
Volume Required	340 mL vials					
Preservation	HCl, 4°C					
Field Filtered	No					
Time						

0461.FIG

Sand in well. No water.

GROUNDWATER PURGING AND SAMPLING RECORD

Date:	Well ID: SW13	Sample Number:	Recorded By: AC/RW
Project Name: AFP 59	Well Location: AFP 59	Duplicate Number:	Checked By:
Project Number: 27378.08.02			

EQUIPMENT

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

WELL DATA

Elevation:	Water Column in Well:	Total Vol. Extr.:
Well Diameter: 2"	Borehole Diameter: 8"	Ambient PID:
Well Depth: 28.70'	Water Column in Borehole:	Well Mouth PID:
Depth to Well Water:	Standing Water Vol.:	

Ground Condition of Well:
Remarks:

	PURGING				SAMPLING	
	1	2	3	4	1	2
Time						
Rate (gal/min)						
Temperature °C						
pH						
Conductivity (mS/cm)						
Vol. Purged (gal)						
~~Remarks~~ Turb (NTU)						

COLLECTED SAMPLES

	1	2	3	4	5	6
Sample Time						
Analytical Param	VOCs (SW8260)					
Volume Required	340 mL vials					
Preservative	HCl, 4°C					
Field Filtered	No					
Time						

0461.FIG

GROUNDWATER PURGING AND SAMPLING RECORD

Date: 4/28/99 Well ID: IW13 Sample Number: 59IW13W61 Recorded By: AC/RW
Project Name: AFP 59 Well Location: AFP 59 Duplicate Number: ——— Checked By:
Project Number: 27378.08.02

EQUIPMENT

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

WELL DATA

Elevation: ——— Water Column in Well: 21.55' Total Vol. Extr.: 168.74 gal
Well Diameter: 2" Borehole Diameter: 8" Ambient PID: ———
Well Depth: 35.80' Water Column in Borehole: 21.55' Well Mouth PID: ———
Depth to Well Water: 14.25' Standing Water Vol.: 56.25 gal

Ground Condition of Well:
Remarks:

	PURGING				SAMPLING	
	1	2	3	4	1	2
Time 1345	1357	1404	1411	1418	1425	
Rate (gal/min) 4.5	5.0	5.0	5.0	5.0	5.0	
Temperature °C 16.7	14.0	13.0	12.8	12.6	12.4	
pH 6.78	6.65	6.60	6.54	6.52	6.53	
Conductivity (mS/cm) 1.62	1.52	1.54	1.55	1.54	1.56	
Vol. Purged (gal) 0	34	68	102	136	169	
~~Remarks~~ Turb (NTU) 68	78	7	2	109	109	

COLLECTED SAMPLES

	1	2	3	4	5	6
Sample Time	1430					
Analytical Param	VOCs (SW8260)					
Volume Required	340 mL vials					
Preservation	HCl, 4°C					
Field Filtered	No					
Time						

0461.FIG

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: AFP59 Groundwater Monitoring #27378

Sampled by: Alex Colvo / Rebecca White

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: VOC, (SW8260)							Comments
59SW3WG1	4/25/99	0905	WG	G	3	X							
59JW13WG1	4/26/99	1430	WG	G	3	X							
59SW9WG1	4/28/99	1140	WG	G	3	X							
59DW9WG1	4/28/99	1100	WG	G	3	X							
59DW3WG1	4/27/99	2000	WG	G	3	X							
59SW6WG1	4/28/99	1645	WG	G	3	X							
TB1042899	4/28/99	1930	WQ	G	3	X							

Relinquished by: Rebecca H. White	Date: 4/28/99	Time: 1915	Received by:
Relinquished by:	Date:	Time:	Received by:
Relinquished by:	Date:	Time:	Received by Lab:
Shipment Method:			Airbill Number:

Turnaround Time Required:
Routine
Rush (Specify)

Comments:

Cooler Temperature:

Original-Laboratory Copy-Client

O'Brien & Gere Laboratories, Inc.

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

Chain of Custody

02

Client: Earth Tech

Project: AFP 59 Groundwater Monitoring # 27378.02.08

Sampled by: Alex Cedro / Rebecca White

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)							Comments
59DWGWG1	4/29/99	1130	WG	G	3	X							
595W4WG1	4/29/99	1745	WG	G	3	X							
59SW4WG9	4/29/99	1750	WQ	G	3	X							
AB1042999	4/29/99	1845	WQ	G	3	X							
59SW7WG1	4/29/99	1850	WG	G	9 3 MS	X							MS/MSD
TB1042999	4/29/99	1135	WQ	G	3	X							

Alex Cedro

Relinquished by: Rebecca H. White	Date: 4/30/99	Time: 1015	Received by: Brenda Melmoth	Date: 4/30	Time: 1015
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received by Lab:	Date:	Time:
Shipment Method:			Airbill Number:		

Turnaround Time Required:
Routine
Rush (Specify)

Comments:

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 9 groundwater samples and one groundwater duplicate collected between April 27 and April 29, 1999 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). 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
59SW3WG1	M1000	59DW6WG1	M1341
59IW13WG1	M1001	59SW4WG1	M1342
59SW9WG1	M1002	59SW4WG9	M1343
59DW9WG1	M1003	AB1042999	M1344
59DW3WG1	M1004	59SW7WG1	M1345
59SW6WG1	M1005	TB1042999	M1346
TB1042799	M1006		

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 (preparation, 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
F	The analyte was positively identified but the associated numerical value is below the RL.
U	The analyte was analyzed for, but not detected. The associated numerical value is at or below the MDL.

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 0.20, 0.50, 1.0, 2.0, 10, 20, and 40 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. Bromobenzene, 1,1,2,2-tetrachloroethane, 1,2,3-trichloropropane, 1,3,5-trimethylbenzene, and naphthalene were recovered above quality control criteria in laboratory control samples. However, none were detected in associated samples; qualification of the data was not necessary. In sample 59DW3WG1, the result for cis-1,2-dichloroethene was above the established linear range of the initial calibration. Therefore, the sample required dilution and the diluted result was used in reporting this sample.

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

Two trip blanks and one ambient blank were collected and analyzed for volatile organic compounds. No analytes were detected above the RL. Qualification of the data was not necessary.

Matrix Spike/Matrix Spike Duplicate
The percent recoveries of 1,3,5-trimethylbenzene and n-butylbenzene in the matrix spike and matrix spike duplicate of sample 59SW7WG1 were above the established recovery percentage criteria, 112% and 125%, respectively. However, neither were detected in associated samples. Therefore, qualification of the data was not necessary.

Surrogate Recovery
Four 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)
Trichlorofluoromethane	0.8	0.21F	0.19F	10%
1,1-Dichloroethane	0.4	0.87	0.81	7.1%
Cis-1,2-Dichloroethene	1.2	1.85	1.75	5.6%
1,1,1-Trichloroethane	0.8	1.9	1.82	4.3%
Trichloroethene	1.0	9.53	8.21	15%
Tetrachloroethene	1.4	0.76F	0.71F	6.8%
Toluene	1.1	1.1U	0.13F	NA

Summary

The data completeness is 100%. 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: M1000
Samp. Description: 59SW3WG1
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 61

Collected: 04/28/99
Received: 04/29/99
Prepared: 04/29/99

Matrix: Water
QC Batch: 042999W2
%Solids:
Purge volume: 25 mL

Parameter	Result	Qual	MDL	RL	Dilution	Analyzed	Notes
Dichlorodifluoromethane	<.004	U	.004	1.	1	04/29/99	
Chloromethane	<.01	U	.01	1.3	1	04/29/99	
Vinyl chloride	<.02	U	.02	1.1	1	04/29/99	
Bromomethane	<.02	U	.02	1.1	1	04/29/99	
Chloroethane	<.01	U	.01	1.	1	04/29/99	
Trichlorofluoromethane	<.003	U	.003	.8	1	04/29/99	
1,1-Dichloroethene	<.01	U	.01	1.2	1	04/29/99	
Methylene chloride	<.02	U	.02	.3	1	04/29/99	
trans-1,2-Dichloroethene	<.01	U	.01	.6	1	04/29/99	
1,1-Dichloroethane	<.01	U	.01	.4	1	04/29/99	
cis-1,2-Dichloroethene	.17	F	.01	1.2	1	04/29/99	
Bromochloromethane	<.01	U	.01	.4	1	04/29/99	
Chloroform	<.01	U	.01	.3	1	04/29/99	
2,2-Dichloropropane	<.01	U	.01	3.5	1	04/29/99	
1,2-Dichloroethane	<.01	U	.01	.6	1	04/29/99	
1,1,1-Trichloroethane	.51	F	.01	.8	1	04/29/99	
1,1-Dichloropropene	<.01	U	.01	1.	1	04/29/99	
Carbon tetrachloride	<.01	U	.01	2.1	1	04/29/99	
Benzene	<.004	U	.004	.4	1	04/29/99	
Dibromomethane	<.01	U	.01	2.4	1	04/29/99	
1,2-Dichloropropane	<.01	U	.01	.4	1	04/29/99	
Trichloroethene	.71	F	.01	1.	1	04/29/99	
Bromodichloromethane	<.02	U	.02	.8	1	04/29/99	
cis-1,3-Dichloropropene	<.01	U	.01	1.	1	04/29/99	
trans-1,3-Dichloropropene	<.01	U	.01	1.	1	04/29/99	
1,1,2-Trichloroethane	<.02	U	.02	1.	1	04/29/99	
Toluene	<.01	U	.01	1.1	1	04/29/99	
1,3-Dichloropropane	<.01	U	.01	.4	1	04/29/99	
Dibromochloromethane	<.01	U	.01	.5	1	04/29/99	
1,2-Dibromoethane	<.01	U	.01	.6	1	04/29/99	

- Outside control limits U - Undetected at the reported level.
J - reported value is estimated.
E - concentration exceeded the calibration range and is estimated.

Authorized: Monika Sannucci
Date: May 19,1999 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: M1000
Samp. Description: 59SW3WG1
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 61

Collected: 04/28/99
Received: 04/29/99
Prepared: 04/29/99

Matrix: Water
QC Batch: 042999W2
%Solids:
Purge volume: 25 mL

Parameter	Result	Qual	MDL	RL	Dilution	Analyzed	Notes
Tetrachloroethene	<.01	U	.01	1.4	1	04/29/99	
1,1,1,2-Tetrachloroethane	<.01	U	.01	.5	1	04/29/99	
Chlorobenzene	<.01	U	.01	.4	1	04/29/99	
1-Chlorohexane	<.01	U	.01	.5	1	04/29/99	
Ethylbenzene	<.004	U	.004	.6	1	04/29/99	
Bromoform	<.01	U	.01	1.2	1	04/29/99	
o-Xylene	<.01	U	.01	1.1	1	04/29/99	
(m+p)-Xylene	<.01	U	.01	.6	1	04/29/99	
Xylene (total)	<.01	U	.01	1.1	1	04/29/99	
Styrene	<.01	U	.01	.5	1	04/29/99	
1,1,2,2-Tetrachloroethane	<.01	U	.01	.5	1	04/29/99	
1,2,3-Trichloropropane	<.01	U	.01	3.2	1	04/29/99	
Isopropylbenzene	<.004	U	.004	.5	1	04/29/99	
Bromobenzene	<.01	U	.01	.3	1	04/29/99	
n-Propylbenzene	<.01	U	.01	.4	1	04/29/99	
2-Chlorotoluene	<.01	U	.01	.4	1	04/29/99	
4-Chlorotoluene	<.02	U	.02	.6	1	04/29/99	
1,3,5-Trimethylbenzene	<.01	U	.01	.5	1	04/29/99	
tert-Butylbenzene	<.01	U	.01	1.4	1	04/29/99	
n-Butylbenzene	<.01	U	.01	1.1	1	04/29/99	
1,2,4-Trimethylbenzene	<.01	U	.01	1.3	1	04/29/99	
sec-Butylbenzene	<.01	U	.01	1.3	1	04/29/99	
1,3-Dichlorobenzene	<.01	U	.01	1.2	1	04/29/99	
1,4-Dichlorobenzene	<.01	U	.01	.3	1	04/29/99	
p-Isopropyltoluene	<.01	U	.01	1.2	1	04/29/99	
1,2-Dichlorobenzene	<.01	U	.01	.3	1	04/29/99	
1,2-Dibromo-3-chloropropane	<.03	U	.03	2.6	1	04/29/99	
1,2,4-Trichlorobenzene	<.02	U	.02	.4	1	04/29/99	
Naphthalene	<.02	U	.02	1.	1	04/29/99	
Hexachlorobutadiene	<.03	U	.03	1.1	1	04/29/99	
1,2,3-Trichlorobenzene	<.01	U	.01	.3	1	04/29/99	

- Outside control limits U - Undetected at the reported level.
J - reported value is estimated.
E - concentration exceeded the calibration range and is estimated.

Authorized: Monika Santucci
Date: May 19,1999 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: M1000
Samp. Description: 59SW3WG1
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 61

Collected: 04/28/99
Received: 04/29/99
Prepared: 04/29/99

Matrix: Water
QC Batch: 042999W2
%Solids:
Purge volume: 25 mL

Surrogate	Result	Qual	Limits	Dilution	Analyzed
Dibromofluoromethane (surrogate)	111.%		75-125	1	04/29/99
1,2-Dichloroethane-d4 (surrogate)	106.%		62-139	1	04/29/99
Toluene-d8 (surrogate)	109.%		75-125	1	04/29/99
Bromofluorobenzene (surrogate)	107.%		75-125	1	04/29/99

Notes:

- Outside control limits U - Undetected at the reported level.
J - reported value is estimated.
E - concentration exceeded the calibration range and is estimated.

Authorized: Monika Santucci
Date: May 19,1999 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: M1004
Samp. Description: 59DW3WG1
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 61

Collected: 04/27/99
Received: 04/29/99
Prepared: 04/29/99

Matrix: Water
QC Batch: 042999W2
%Solids:
Purge volume: 25 mL

Parameter	Result	Qual	MDL	RL	Dilution	Analyzed	Notes
Dichlorodifluoromethane	<.004	U	.004	1.	1	04/29/99	
Chloromethane	<.01	U	.01	1.3	1	04/29/99	
Vinyl chloride	.28	F	.02	1.1	1	04/29/99	
Bromomethane	<.02	U	.02	1.1	1	04/29/99	
Chloroethane	<.01	U	.01	1.	1	04/29/99	
Trichlorofluoromethane	<.003	U	.003	.8	1	04/29/99	
1,1-Dichloroethene	.11	F	.01	1.2	1	04/29/99	
Methylene chloride	<.02	U	.02	.3	1	04/29/99	
trans-1,2-Dichloroethene	<.01	U	.01	.6	1	04/29/99	
1,1-Dichloroethane	.35	F	.01	.4	1	04/29/99	
cis-1,2-Dichloroethene	67.00 ~~69.00~~		.01	1.2	1	04/29/99	
Bromochloromethane	<.01	U	.01	.4	1	04/29/99	
Chloroform	<.01	U	.01	.3	1	04/29/99	
2,2-Dichloropropane	<.01	U	.01	3.5	1	04/29/99	
1,2-Dichloroethane	<.01	U	.01	.6	1	04/29/99	
1,1,1-Trichloroethane	<.01	U	.01	.8	1	04/29/99	
1,1-Dichloropropene	<.01	U	.01	1.	1	04/29/99	
Carbon tetrachloride	<.01	U	.01	2.1	1	04/29/99	
Benzene	<.004	U	.004	.4	1	04/29/99	
Dibromomethane	<.01	U	.01	2.4	1	04/29/99	
1,2-Dichloropropane	<.01	U	.01	.4	1	04/29/99	
Trichloroethene	<.01	U	.01	1.	1	04/29/99	
Bromodichloromethane	<.02	U	.02	.8	1	04/29/99	
cis-1,3-Dichloropropene	<.01	U	.01	1.	1	04/29/99	
trans-1,3-Dichloropropene	<.01	U	.01	1.	1	04/29/99	
1,1,2-Trichloroethane	<.02	U	.02	1.	1	04/29/99	
Toluene	<.01	U	.01	1.1	1	04/29/99	
1,3-Dichloropropane	<.01	U	.01	.4	1	04/29/99	
Dibromochloromethane	<.01	U	.01	.5	1	04/29/99	
1,2-Dibromoethane	<.01	U	.01	.6	1	04/29/99	

- Outside control limits U - Undetected at the reported level.
J - reported value is estimated.
E - concentration exceeded the calibration range and is estimated.

Authorized: Monika Santucci
Date: May 19,1999 Monika Santucci

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CMT 4/16/99

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: M1004
Samp. Description: 59DW3WG1
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 61

Collected: 04/27/99
Received: 04/29/99
Prepared: 04/29/99

Matrix: Water
QC Batch: 042999W2
%Solids:
Purge volume: 25 mL

Parameter	Result	Qual	MDL	RL	Dilution	Analyzed	Notes
Tetrachloroethene	<.01	U	.01	1.4	1	04/29/99	
1,1,1,2-Tetrachloroethane	<.01	U	.01	.5	1	04/29/99	
Chlorobenzene	<.01	U	.01	.4	1	04/29/99	
1-Chlorohexane	<.01	U	.01	.5	1	04/29/99	
Ethylbenzene	<.004	U	.004	.6	1	04/29/99	
Bromoform	<.01	U	.01	1.2	1	04/29/99	
o-Xylene	<.01	U	.01	1.1	1	04/29/99	
(m+p)-Xylene	<.01	U	.01	.6	1	04/29/99	
Xylene (total)	<.01	U	.01	1.1	1	04/29/99	
Styrene	<.01	U	.01	.5	1	04/29/99	
1,1,2,2-Tetrachloroethane	<.01	U	.01	.5	1	04/29/99	
1,2,3-Trichloropropane	<.01	U	.01	3.2	1	04/29/99	
Isopropylbenzene	<.004	U	.004	.5	1	04/29/99	
Bromobenzene	<.01	U	.01	.3	1	04/29/99	
n-Propylbenzene	<.01	U	.01	.4	1	04/29/99	
2-Chlorotoluene	<.01	U	.01	.4	1	04/29/99	
4-Chlorotoluene	<.02	U	.02	.6	1	04/29/99	
1,3,5-Trimethylbenzene	<.01	U	.01	.5	1	04/29/99	
tert-Butylbenzene	<.01	U	.01	1.4	1	04/29/99	
n-Butylbenzene	<.01	U	.01	1.1	1	04/29/99	
1,2,4-Trimethylbenzene	<.01	U	.01	1.3	1	04/29/99	
sec-Butylbenzene	<.01	U	.01	1.3	1	04/29/99	
1,3-Dichlorobenzene	<.01	U	.01	1.2	1	04/29/99	
1,4-Dichlorobenzene	<.01	U	.01	.3	1	04/29/99	
p-Isopropyltoluene	<.01	U	.01	1.2	1	04/29/99	
1,2-Dichlorobenzene	<.01	U	.01	.3	1	04/29/99	
1,2-Dibromo-3-chloropropane	<.03	U	.03	2.6	1	04/29/99	
1,2,4-Trichlorobenzene	<.02	U	.02	.4	1	04/29/99	
Naphthalene	<.02	U	.02	1.	1	04/29/99	
Hexachlorobutadiene	<.03	U	.03	1.1	1	04/29/99	
1,2,3-Trichlorobenzene	<.01	U	.01	.3	1	04/29/99	

- Outside control limits U - Undetected at the reported level.
J - reported value is estimated.
E - concentration exceeded the calibration range and is estimated.

Authorized: Monika J Santucci
Date: May 19,1999 Monika Santucci

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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: M1004
Samp. Description: 59DW3WG1
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 61

Collected: 04/27/99
Received: 04/29/99
Prepared: 04/29/99

Matrix: Water
QC Batch: 042999W2
%Solids:
Purge volume: 25 mL

Surrogate	Result	Qual	Limits	Dilution	Analyzed
Dibromofluoromethane (surrogate)	110.%		75-125	1	04/29/99
1,2-Dichloroethane-d4 (surrogate)	107.%		62-139	1	04/29/99
Toluene-d8 (surrogate)	108.%		75-125	1	04/29/99
Bromofluorobenzene (surrogate)	106.%		75-125	1	04/29/99

Notes:

- Outside control limits U - Undetected at the reported level.
J - reported value is estimated.
E - concentration exceeded the calibration range and is estimated.

Authorized: Monika Santucci
Date: May 19,1999 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: M1004DL
Samp. Description: 59DW3WG1
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 61

Collected: 04/27/99
Received: 04/29/99
Prepared: 04/29/99

Matrix: Water
QC Batch: 042999W2
%Solids:
Purge volume: 25 mL

Parameter	Result	Qual	MDL	RL	Dilution	Analyzed	Notes
Dichlorodifluoromethane	<.02	U	.02	5.	5	04/29/99	
Chloromethane	<.06	U	.06	6.5	5	04/29/99	
Vinyl chloride	<.08	U	.08	5.5	5	04/29/99	
Bromomethane	<.08	U	.08	5.5	5	04/29/99	
Chloroethane	<.1	U	.1	5.	5	04/29/99	
Trichlorofluoromethane	<.02	U	.02	4.0	5	04/29/99	
1,1-Dichloroethene	<.05	U	.05	6.0	5	04/29/99	
Methylene chloride	<.1	U	.1	1.5	5	04/29/99	
trans-1,2-Dichloroethene	<.04	U	.04	3.0	5	04/29/99	
1,1-Dichloroethane	<.03	U	.03	2.0	5	04/29/99	
cis-1,2-Dichloroethene	67.00		.05	6.0	5	04/29/99	
Bromochloromethane	<.05	U	.05	2.0	5	04/29/99	
Chloroform	<.05	U	.05	1.5	5	04/29/99	
2,2-Dichloropropane	<.04	U	.04	17.5	5	04/29/99	
1,2-Dichloroethane	<.06	U	.06	3.0	5	04/29/99	
1,1,1-Trichloroethane	<.05	U	.05	4.0	5	04/29/99	
1,1-Dichloropropene	<.03	U	.03	5.	5	04/29/99	
Carbon tetrachloride	<.03	U	.03	10.5	5	04/29/99	
Benzene	<.02	U	.02	2.0	5	04/29/99	
Dibromomethane	<.04	U	.04	12.0	5	04/29/99	
1,2-Dichloropropane	<.04	U	.04	2.0	5	04/29/99	
Trichloroethene	<.05	U	.05	5.	5	04/29/99	
Bromodichloromethane	<.08	U	.08	4.0	5	04/29/99	
cis-1,3-Dichloropropene	<.04	U	.04	5.	5	04/29/99	
trans-1,3-Dichloropropene	<.03	U	.03	5.	5	04/29/99	
1,1,2-Trichloroethane	<.1	U	.1	5.	5	04/29/99	
Toluene	<.03	U	.03	5.5	5	04/29/99	
1,3-Dichloropropane	<.06	U	.06	2.0	5	04/29/99	
Dibromochloromethane	<.03	U	.03	2.5	5	04/29/99	
1,2-Dibromoethane	<.03	U	.03	3.0	5	04/29/99	

Do Not Use conf 6/14/99

- Outside control limits U - Undetected at the reported level.
J - reported value is estimated.
E - concentration exceeded the calibration range and is estimated.

Authorized: Monika Santucci
Date: May 19,1999

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: M1004DL
Samp. Description: 59DW3WG1
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 61

Collected: 04/27/99
Received: 04/29/99
Prepared: 04/29/99

Matrix: Water
QC Batch: 042999W2
%Solids:
Purge volume: 25 mL

Parameter	Result	Qual	MDL	RL	Dilution	Analyzed	Notes
Tetrachloroethene	<.04	U	.04	7.0	5	04/29/99	
1,1,1,2-Tetrachloroethane	<.06	U	.06	2.5	5	04/29/99	
Chlorobenzene	<.03	U	.03	2.0	5	04/29/99	
1-Chlorohexane	<.04	U	.04	2.5	5	04/29/99	
Ethylbenzene	<.02	U	.02	3.0	5	04/29/99	
Bromoform	<.07	U	.07	6.0	5	04/29/99	
o-Xylene	<.07	U	.07	5.5	5	04/29/99	
(m+p)-Xylene	<.05	U	.05	3.0	5	04/29/99	
Xylene (total)	<.07	U	.07	5.5	5	04/29/99	
Styrene	<.03	U	.03	2.5	5	04/29/99	
1,1,2,2-Tetrachloroethane	<.07	U	.07	2.5	5	04/29/99	
1,2,3-Trichloropropane	<.07	U	.07	16.0	5	04/29/99	
Isopropylbenzene	<.02	U	.02	2.5	5	04/29/99	
Bromobenzene	<.04	U	.04	1.5	5	04/29/99	
n-Propylbenzene	<.06	U	.06	2.0	5	04/29/99	
2-Chlorotoluene	<.06	U	.06	2.0	5	04/29/99	
4-Chlorotoluene	<.08	U	.08	3.0	5	04/29/99	
1,3,5-Trimethylbenzene	<.04	U	.04	2.5	5	04/29/99	
tert-Butylbenzene	<.04	U	.04	7.0	5	04/29/99	
n-Butylbenzene	<.06	U	.06	5.5	5	04/29/99	
1,2,4-Trimethylbenzene	<.06	U	.06	6.5	5	04/29/99	
sec-Butylbenzene	<.06	U	.06	6.5	5	04/29/99	
1,3-Dichlorobenzene	<.04	U	.04	6.0	5	04/29/99	
1,4-Dichlorobenzene	<.04	U	.04	1.5	5	04/29/99	
p-Isopropyltoluene	<.04	U	.04	6.0	5	04/29/99	
1,2-Dichlorobenzene	<.06	U	.06	1.5	5	04/29/99	
1,2-Dibromo-3-chloropropane	<.13	U	.13	13.0	5	04/29/99	
1,2,4-Trichlorobenzene	<.08	U	.08	2.0	5	04/29/99	
Naphthalene	<.1	U	.1	5.	5	04/29/99	
Hexachlorobutadiene	<.13	U	.13	5.5	5	04/29/99	
1,2,3-Trichlorobenzene	<.07	U	.07	1.5	5	04/29/99	

Do Not use cont 6/16/99

- Outside control limits U - Undetected at the reported level.
J - reported value is estimated.
E - concentration exceeded the calibration range and is estimated.

Authorized: Monika Santucci
Date: May 19,1999 Monika Santucci

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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: M1004DL
Samp. Description: 59DW3WG1
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 61

Collected: 04/27/99
Received: 04/29/99
Prepared: 04/29/99

Matrix: Water
QC Batch: 042999W2
%Solids:
Purge volume: 25 mL

Surrogate	Result	Qual	Limits	Dilution	Analyzed
Dibromofluoromethane (surrogate)	111.%		75-125	5	04/29/99
1,2-Dichloroethane-d4 (surrogate)	108.%		62-139	5	04/29/99
Toluene-d8 (surrogate)	108.%		75-125	5	04/29/99
Bromofluorobenzene (surrogate)	109.%		75-125	5	04/29/99

Notes:

Do Not Use
emit 6/16/99

- Outside control limits U - Undetected at the reported level.
J - reported value is estimated.
E - concentration exceeded the calibration range and is estimated.

Authorized: Monika Santucci
Date: May 19,1999 Monika Santucci

6000 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: M1342
Samp. Description: 59SW4WG1
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 61

Collected: 04/29/99
Received: 05/01/99
Prepared: 05/05/99

Matrix: Water
QC Batch: 050599W2
%Solids:
Purge volume: 25 mL

Parameter	Result	Qual	MDL	RL	Dilution	Analyzed	Notes
Dichlorodifluoromethane	<.004	U	.004	1.	1	05/05/99	
Chloromethane	<.01	U	.01	1.3	1	05/05/99	
Vinyl chloride	<.02	U	.02	1.1	1	05/05/99	
Bromomethane	<.02	U	.02	1.1	1	05/05/99	
Chloroethane	<.01	U	.01	1.	1	05/05/99	
Trichlorofluoromethane	.21	F	.003	.8	1	05/05/99	
1,1-Dichloroethene	<.01	U	.01	1.2	1	05/05/99	
Methylene chloride	<.02	U	.02	.3	1	05/05/99	
trans-1,2-Dichloroethene	<.01	U	.01	.6	1	05/05/99	
1,1-Dichloroethane	.87		.01	.4	1	05/05/99	
cis-1,2-Dichloroethene	1.85		.01	1.2	1	05/05/99	
Bromochloromethane	<.01	U	.01	.4	1	05/05/99	
Chloroform	<.01	U	.01	.3	1	05/05/99	
2,2-Dichloropropane	<.01	U	.01	3.5	1	05/05/99	
1,2-Dichloroethane	<.01	U	.01	.6	1	05/05/99	
1,1,1-Trichloroethane	1.9		.01	.8	1	05/05/99	
1,1-Dichloropropene	<.01	U	.01	1.	1	05/05/99	
Carbon tetrachloride	<.01	U	.01	2.1	1	05/05/99	
Benzene	<.004	U	.004	.4	1	05/05/99	
Dibromomethane	<.01	U	.01	2.4	1	05/05/99	
1,2-Dichloropropane	<.01	U	.01	.4	1	05/05/99	
Trichloroethene	9.53		.01	1.	1	05/05/99	
Bromodichloromethane	<.02	U	.02	.8	1	05/05/99	
cis-1,3-Dichloropropene	<.01	U	.01	1.	1	05/05/99	
trans-1,3-Dichloropropene	<.01	U	.01	1.	1	05/05/99	
1,1,2-Trichloroethane	<.02	U	.02	1.	1	05/05/99	
Toluene	<.01	U	.01	1.1	1	05/05/99	
1,3-Dichloropropane	<.01	U	.01	.4	1	05/05/99	
Dibromochloromethane	<.01	U	.01	.5	1	05/05/99	
1,2-Dibromoethane	<.01	U	.01	.6	1	05/05/99	

- Outside control limits U - Undetected at the reported level.
J - reported value is estimated.
E - concentration exceeded the calibration range and is estimated.

Authorized: Monika Santucci
Date: May 19,1999 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: M1342
Samp. Description: 59SW4WG1
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 61

Collected: 04/29/99
Received: 05/01/99
Prepared: 05/05/99

Matrix: Water
QC Batch: 050599W2
%Solids:
Purge volume: 25 mL

Parameter	Result	Qual	MDL	RL	Dilution	Analyzed	Notes
Tetrachloroethene	.76	F	.01	1.4	1	05/05/99	
1,1,1,2-Tetrachloroethane	<.01	U	.01	.5	1	05/05/99	
Chlorobenzene	<.01	U	.01	.4	1	05/05/99	
1-Chlorohexane	<.01	U	.01	.5	1	05/05/99	
Ethylbenzene	<.004	U	.004	.6	1	05/05/99	
Bromoform	<.01	U	.01	1.2	1	05/05/99	
o-Xylene	<.01	U	.01	1.1	1	05/05/99	
(m+p)-Xylene	<.01	U	.01	.6	1	05/05/99	
Xylene (total)	<.01	U	.01	1.1	1	05/05/99	
Styrene	<.01	U	.01	.5	1	05/05/99	
1,1,2,2-Tetrachloroethane	<.01	U	.01	.5	1	05/05/99	
1,2,3-Trichloropropane	<.01	U	.01	3.2	1	05/05/99	
Isopropylbenzene	<.004	U	.004	.5	1	05/05/99	
Bromobenzene	<.01	U	.01	.3	1	05/05/99	
n-Propylbenzene	<.01	U	.01	.4	1	05/05/99	
2-Chlorotoluene	<.01	U	.01	.4	1	05/05/99	
4-Chlorotoluene	<.02	U	.02	.6	1	05/05/99	
1,3,5-Trimethylbenzene	<.01	U	.01	.5	1	05/05/99	
tert-Butylbenzene	<.01	U	.01	1.4	1	05/05/99	
n-Butylbenzene	<.01	U	.01	1.1	1	05/05/99	
1,2,4-Trimethylbenzene	<.01	U	.01	1.3	1	05/05/99	
sec-Butylbenzene	<.01	U	.01	1.3	1	05/05/99	
1,3-Dichlorobenzene	<.01	U	.01	1.2	1	05/05/99	
1,4-Dichlorobenzene	<.01	U	.01	.3	1	05/05/99	
p-Isopropyltoluene	<.01	U	.01	1.2	1	05/05/99	
1,2-Dichlorobenzene	<.01	U	.01	.3	1	05/05/99	
1,2-Dibromo-3-chloropropane	<.03	U	.03	2.6	1	05/05/99	
1,2,4-Trichlorobenzene	<.02	U	.02	.4	1	05/05/99	
Naphthalene	<.02	U	.02	1.	1	05/05/99	
Hexachlorobutadiene	<.03	U	.03	1.1	1	05/05/99	
1,2,3-Trichlorobenzene	<.01	U	.01	.3	1	05/05/99	

- Outside control limits U - Undetected at the reported level.
J - reported value is estimated.
E - concentration exceeded the calibration range and is estimated.

Authorized: Monika Santucci
Date: May 19,1999 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: M1342
Samp. Description: 59SW4WG1
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 61

Collected: 04/29/99
Received: 05/01/99
Prepared: 05/05/99

Matrix: Water
QC Batch: 050599W2
%Solids:
Purge volume: 25 mL

Surrogate	Result	Qual	Limits	Dilution	Analyzed
Dibromofluoromethane (surrogate)	108.%		75-125	1	05/05/99
1,2-Dichloroethane-d4 (surrogate)	108.%		62-139	1	05/05/99
Toluene-d8 (surrogate)	105.%		75-125	1	05/05/99
Bromofluorobenzene (surrogate)	111.%		75-125	1	05/05/99

Notes:

- Outside control limits U - Undetected at the reported level.
J - reported value is estimated.
E - concentration exceeded the calibration range and is estimated.

Authorized: Monika Santucci
Date: May 19, 1999 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: M1343
Samp. Description: 59SW4WG9
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 61

Collected: 04/29/99
Received: 05/01/99
Prepared: 05/05/99

Matrix: Water
QC Batch: 050599W2
%Solids:
Purge volume: 25 mL

Parameter	Result	Qual	MDL	RL	Dilution	Analyzed	Notes
Dichlorodifluoromethane	<.004	U	.004	1.	1	05/05/99	
Chloromethane	<.01	U	.01	1.3	1	05/05/99	
Vinyl chloride	<.02	U	.02	1.1	1	05/05/99	
Bromomethane	<.02	U	.02	1.1	1	05/05/99	
Chloroethane	<.01	U	.01	1.	1	05/05/99	
Trichlorofluoromethane	.19	F	.003	.8	1	05/05/99	
1,1-Dichloroethene	<.01	U	.01	1.2	1	05/05/99	
Methylene chloride	<.02	U	.02	.3	1	05/05/99	
trans-1,2-Dichloroethene	<.01	U	.01	.6	1	05/05/99	
1,1-Dichloroethane	.81		.01	.4	1	05/05/99	
cis-1,2-Dichloroethene	1.75		.01	1.2	1	05/05/99	
Bromochloromethane	<.01	U	.01	.4	1	05/05/99	
Chloroform	<.01	U	.01	.3	1	05/05/99	
2,2-Dichloropropane	<.01	U	.01	3.5	1	05/05/99	
1,2-Dichloroethane	<.01	U	.01	.6	1	05/05/99	
1,1,1-Trichloroethane	1.82		.01	.8	1	05/05/99	
1,1-Dichloropropene	<.01	U	.01	1.	1	05/05/99	
Carbon tetrachloride	<.01	U	.01	2.1	1	05/05/99	
Benzene	<.004	U	.004	.4	1	05/05/99	
Dibromomethane	<.01	U	.01	2.4	1	05/05/99	
1,2-Dichloropropane	<.01	U	.01	.4	1	05/05/99	
Trichloroethene	8.21		.01	1.	1	05/05/99	
Bromodichloromethane	<.02	U	.02	.8	1	05/05/99	
cis-1,3-Dichloropropene	<.01	U	.01	1.	1	05/05/99	
trans-1,3-Dichloropropene	<.01	U	.01	1.	1	05/05/99	
1,1,2-Trichloroethane	<.02	U	.02	1.	1	05/05/99	
Toluene	.13	F	.01	1.1	1	05/05/99	
1,3-Dichloropropane	<.01	U	.01	.4	1	05/05/99	
Dibromochloromethane	<.01	U	.01	.5	1	05/05/99	
1,2-Dibromoethane	<.01	U	.01	.6	1	05/05/99	

- Outside control limits U - Undetected at the reported level.
J - reported value is estimated.
E - concentration exceeded the calibration range and is estimated.

Authorized: Monika Santucci
Date: May 19,1999 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: M1343
Samp. Description: 59SW4WG9
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 61

Collected: 04/29/99
Received: 05/01/99
Prepared: 05/05/99

Matrix: Water
QC Batch: 050599W2
%Solids:
Purge volume: 25 mL

Parameter	Result	Qual	MDL	RL	Dilution	Analyzed	Notes
Tetrachloroethene	.71	F	.01	1.4	1	05/05/99	
1,1,1,2-Tetrachloroethane	<.01	U	.01	.5	1	05/05/99	
Chlorobenzene	<.01	U	.01	.4	1	05/05/99	
1-Chlorohexane	<.01	U	.01	.5	1	05/05/99	
Ethylbenzene	<.004	U	.004	.6	1	05/05/99	
Bromoform	<.01	U	.01	1.2	1	05/05/99	
o-Xylene	<.01	U	.01	1.1	1	05/05/99	
(m+p)-Xylene	<.01	U	.01	.6	1	05/05/99	
Xylene (total)	<.01	U	.01	1.1	1	05/05/99	
Styrene	<.01	U	.01	.5	1	05/05/99	
1,1,2,2-Tetrachloroethane	<.01	U	.01	.5	1	05/05/99	
1,2,3-Trichloropropane	<.01	U	.01	3.2	1	05/05/99	
Isopropylbenzene	<.004	U	.004	.5	1	05/05/99	
Bromobenzene	<.01	U	.01	.3	1	05/05/99	
n-Propylbenzene	<.01	U	.01	.4	1	05/05/99	
2-Chlorotoluene	<.01	U	.01	.4	1	05/05/99	
4-Chlorotoluene	<.02	U	.02	.6	1	05/05/99	
1,3,5-Trimethylbenzene	<.01	U	.01	.5	1	05/05/99	
tert-Butylbenzene	<.01	U	.01	1.4	1	05/05/99	
n-Butylbenzene	<.01	U	.01	1.1	1	05/05/99	
1,2,4-Trimethylbenzene	<.01	U	.01	1.3	1	05/05/99	
sec-Butylbenzene	<.01	U	.01	1.3	1	05/05/99	
1,3-Dichlorobenzene	<.01	U	.01	1.2	1	05/05/99	
1,4-Dichlorobenzene	<.01	U	.01	.3	1	05/05/99	
p-Isopropyltoluene	<.01	U	.01	1.2	1	05/05/99	
1,2-Dichlorobenzene	<.01	U	.01	.3	1	05/05/99	
1,2-Dibromo-3-chloropropane	<.03	U	.03	2.6	1	05/05/99	
1,2,4-Trichlorobenzene	<.02	U	.02	.4	1	05/05/99	
Naphthalene	<.02	U	.02	1.	1	05/05/99	
Hexachlorobutadiene	<.03	U	.03	1.1	1	05/05/99	
1,2,3-Trichlorobenzene	<.01	U	.01	.3	1	05/05/99	

- Outside control limits U - Undetected at the reported level.
J - reported value is estimated.
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Authorized: Monika Santucci
Date: May 19,1999 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: M1343
Samp. Description: 59SW4WG9
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 61

Collected: 04/29/99
Received: 05/01/99
Prepared: 05/05/99

Matrix: Water
QC Batch: 050599W2
%Solids:
Purge volume: 25 mL

Surrogate	Result	Qual	Limits	Dilution	Analyzed
Dibromofluoromethane (surrogate)	107.%		75-125	1	05/05/99
1,2-Dichloroethane-d4 (surrogate)	104.%		62-139	1	05/05/99
Toluene-d8 (surrogate)	106.%		75-125	1	05/05/99
Bromofluorobenzene (surrogate)	108.%		75-125	1	05/05/99

Notes:

- Outside control limits U - Undetected at the reported level.
J - reported value is estimated.
E - concentration exceeded the calibration range and is estimated.

Authorized: Monika Santucci
Date: May 19,1999 Monika Santucci

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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: M1005
Samp. Description: 59SW6WG1
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 61

Collected: 04/28/99
Received: 04/29/99
Prepared: 04/29/99

Matrix: Water
QC Batch: 042999W2
%Solids:
Purge volume: 25 mL

Parameter	Result	Qual	MDL	RL	Dilution	Analyzed	Notes
Dichlorodifluoromethane	<.004	U	.004	1.	1	04/29/99	
Chloromethane	<.01	U	.01	1.3	1	04/29/99	
Vinyl chloride	<.02	U	.02	1.1	1	04/29/99	
Bromomethane	<.02	U	.02	1.1	1	04/29/99	
Chloroethane	<.01	U	.01	1.	1	04/29/99	
Trichlorofluoromethane	<.003	U	.003	.8	1	04/29/99	
1,1-Dichloroethene	<.01	U	.01	1.2	1	04/29/99	
Methylene chloride	<.02	U	.02	.3	1	04/29/99	
trans-1,2-Dichloroethene	<.01	U	.01	.6	1	04/29/99	
1,1-Dichloroethane	1.25		.01	.4	1	04/29/99	
cis-1,2-Dichloroethene	8.42		.01	1.2	1	04/29/99	
Bromochloromethane	<.01	U	.01	.4	1	04/29/99	
Chloroform	<.01	U	.01	.3	1	04/29/99	
2,2-Dichloropropane	<.01	U	.01	3.5	1	04/29/99	
1,2-Dichloroethane	<.01	U	.01	.6	1	04/29/99	
1,1,1-Trichloroethane	1.58		.01	.8	1	04/29/99	
1,1-Dichloropropene	<.01	U	.01	1.	1	04/29/99	
Carbon tetrachloride	<.01	U	.01	2.1	1	04/29/99	
Benzene	<.004	U	.004	.4	1	04/29/99	
Dibromomethane	<.01	U	.01	2.4	1	04/29/99	
1,2-Dichloropropane	<.01	U	.01	.4	1	04/29/99	
Trichloroethene	<.01	U	.01	1.	1	04/29/99	
Bromodichloromethane	<.02	U	.02	.8	1	04/29/99	
cis-1,3-Dichloropropene	<.01	U	.01	1.	1	04/29/99	
trans-1,3-Dichloropropene	<.01	U	.01	1.	1	04/29/99	
1,1,2-Trichloroethane	<.02	U	.02	1.	1	04/29/99	
Toluene	<.01	U	.01	1.1	1	04/29/99	
1,3-Dichloropropane	<.01	U	.01	.4	1	04/29/99	
Dibromochloromethane	<.01	U	.01	.5	1	04/29/99	
1,2-Dibromoethane	<.01	U	.01	.6	1	04/29/99	

- Outside control limits U - Undetected at the reported level.
J - reported value is estimated.
E - concentration exceeded the calibration range and is estimated.

Authorized: Monika Santucci
Date: May 19,1999 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: M1005
Samp. Description: 59SW6WG1
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 61

Collected: 04/28/99
Received: 04/29/99
Prepared: 04/29/99

Matrix: Water
QC Batch: 042999W2
%Solids:
Purge volume: 25 mL

Parameter	Result	Qual	MDL	RL	Dilution	Analyzed	Notes
Tetrachloroethene	<.01	U	.01	1.4	1	04/29/99	
1,1,1,2-Tetrachloroethane	<.01	U	.01	.5	1	04/29/99	
Chlorobenzene	<.01	U	.01	.4	1	04/29/99	
1-Chlorohexane	<.01	U	.01	.5	1	04/29/99	
Ethylbenzene	<.004	U	.004	.6	1	04/29/99	
Bromoform	<.01	U	.01	1.2	1	04/29/99	
o-Xylene	<.01	U	.01	1.1	1	04/29/99	
(m+p)-Xylene	<.01	U	.01	.6	1	04/29/99	
Xylene (total)	<.01	U	.01	1.1	1	04/29/99	
Styrene	<.01	U	.01	.5	1	04/29/99	
1,1,2,2-Tetrachloroethane	<.01	U	.01	.5	1	04/29/99	
1,2,3-Trichloropropane	<.01	U	.01	3.2	1	04/29/99	
Isopropylbenzene	<.004	U	.004	.5	1	04/29/99	
Bromobenzene	<.01	U	.01	.3	1	04/29/99	
n-Propylbenzene	<.01	U	.01	.4	1	04/29/99	
2-Chlorotoluene	<.01	U	.01	.4	1	04/29/99	
4-Chlorotoluene	<.02	U	.02	.6	1	04/29/99	
1,3,5-Trimethylbenzene	<.01	U	.01	.5	1	04/29/99	
tert-Butylbenzene	<.01	U	.01	1.4	1	04/29/99	
n-Butylbenzene	<.01	U	.01	1.1	1	04/29/99	
1,2,4-Trimethylbenzene	<.01	U	.01	1.3	1	04/29/99	
sec-Butylbenzene	<.01	U	.01	1.3	1	04/29/99	
1,3-Dichlorobenzene	<.01	U	.01	1.2	1	04/29/99	
1,4-Dichlorobenzene	<.01	U	.01	.3	1	04/29/99	
p-Isopropyltoluene	<.01	U	.01	1.2	1	04/29/99	
1,2-Dichlorobenzene	<.01	U	.01	.3	1	04/29/99	
1,2-Dibromo-3-chloropropane	<.03	U	.03	2.6	1	04/29/99	
1,2,4-Trichlorobenzene	<.02	U	.02	.4	1	04/29/99	
Naphthalene	<.02	U	.02	1.	1	04/29/99	
Hexachlorobutadiene	<.03	U	.03	1.1	1	04/29/99	
1,2,3-Trichlorobenzene	<.01	U	.01	.3	1	04/29/99	

- Outside control limits U - Undetected at the reported level.
J - reported value is estimated.
E - concentration exceeded the calibration range and is estimated.

Authorized: Monika Santucci
Date: May 19,1999 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: M1005
Samp. Description: 59SW6WG1
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 61

Collected: 04/28/99
Received: 04/29/99
Prepared: 04/29/99

Matrix: Water
QC Batch: 042999W2
%Solids:
Purge volume: 25 mL

Surrogate	Result	Qual	Limits	Dilution	Analyzed
Dibromofluoromethane (surrogate)	112.%		75-125	1	04/29/99
1,2-Dichloroethane-d4 (surrogate)	104.%		62-139	1	04/29/99
Toluene-d8 (surrogate)	110.%		75-125	1	04/29/99
Bromofluorobenzene (surrogate)	111.%		75-125	1	04/29/99

Notes:

- Outside control limits U - Undetected at the reported level.
J - reported value is estimated.
E - concentration exceeded the calibration range and is estimated.

Authorized: Monika Santucci
Date: May 19,1999 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: M1341
Samp. Description: 59DW6WG1
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 61

Collected: 04/29/99
Received: 05/01/99
Prepared: 05/05/99

Matrix: Water
QC Batch: 050599W2
%Solids:
Purge volume: 25 mL

Parameter	Result	Qual	MDL	RL	Dilution	Analyzed	Notes
Dichlorodifluoromethane	<.004	U	.004	1.	1	05/05/99	
Chloromethane	<.01	U	.01	1.3	1	05/05/99	
Vinyl chloride	<.02	U	.02	1.1	1	05/05/99	
Bromomethane	<.02	U	.02	1.1	1	05/05/99	
Chloroethane	<.01	U	.01	1.	1	05/05/99	
Trichlorofluoromethane	<.003	U	.003	.8	1	05/05/99	
1,1-Dichloroethene	<.01	U	.01	1.2	1	05/05/99	
Methylene chloride	<.02	U	.02	.3	1	05/05/99	
trans-1,2-Dichloroethene	<.01	U	.01	.6	1	05/05/99	
1,1-Dichloroethane	<.01	U	.01	.4	1	05/05/99	
cis-1,2-Dichloroethene	<.01	U	.01	1.2	1	05/05/99	
Bromochloromethane	<.01	U	.01	.4	1	05/05/99	
Chloroform	<.01	U	.01	.3	1	05/05/99	
2,2-Dichloropropane	<.01	U	.01	3.5	1	05/05/99	
1,2-Dichloroethane	<.01	U	.01	.6	1	05/05/99	
1,1,1-Trichloroethane	<.01	U	.01	.8	1	05/05/99	
1,1-Dichloropropene	<.01	U	.01	1.	1	05/05/99	
Carbon tetrachloride	<.01	U	.01	2.1	1	05/05/99	
Benzene	<.004	U	.004	.4	1	05/05/99	
Dibromomethane	<.01	U	.01	2.4	1	05/05/99	
1,2-Dichloropropane	<.01	U	.01	.4	1	05/05/99	
Trichloroethene	<.01	U	.01	1.	1	05/05/99	
Bromodichloromethane	<.02	U	.02	.8	1	05/05/99	
cis-1,3-Dichloropropene	<.01	U	.01	1.	1	05/05/99	
trans-1,3-Dichloropropene	<.01	U	.01	1.	1	05/05/99	
1,1,2-Trichloroethane	<.02	U	.02	1.	1	05/05/99	
Toluene	.19	F	.01	1.1	1	05/05/99	
1,3-Dichloropropane	<.01	U	.01	.4	1	05/05/99	
Dibromochloromethane	<.01	U	.01	.5	1	05/05/99	
1,2-Dibromoethane	<.01	U	.01	.6	1	05/05/99	

- Outside control limits U - Undetected at the reported level.
J - reported value is estimated.
E - concentration exceeded the calibration range and is estimated.

Authorized: Monika Santucci
Date: May 19,1999 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: M1341
Samp. Description: 59DW6WG1
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 61

Collected: 04/29/99
Received: 05/01/99
Prepared: 05/05/99

Matrix: Water
QC Batch: 050599W2
%Solids:
Purge volume: 25 mL

Parameter	Result	Qual	MDL	RL	Dilution	Analyzed	Notes
Tetrachloroethene	<.01	U	.01	1.4	1	05/05/99	
1,1,1,2-Tetrachloroethane	<.01	U	.01	.5	1	05/05/99	
Chlorobenzene	<.01	U	.01	.4	1	05/05/99	
1-Chlorohexane	<.01	U	.01	.5	1	05/05/99	
Ethylbenzene	<.004	U	.004	.6	1	05/05/99	
Bromoform	<.01	U	.01	1.2	1	05/05/99	
o-Xylene	<.01	U	.01	1.1	1	05/05/99	
(m+p)-Xylene	.13	F	.01	.6	1	05/05/99	
Xylene (total)	.13	F	.01	1.1	1	05/05/99	
Styrene	<.01	U	.01	.5	1	05/05/99	
1,1,2,2-Tetrachloroethane	<.01	U	.01	.5	1	05/05/99	
1,2,3-Trichloropropane	<.01	U	.01	3.2	1	05/05/99	
Isopropylbenzene	<.004	U	.004	.5	1	05/05/99	
Bromobenzene	<.01	U	.01	.3	1	05/05/99	
n-Propylbenzene	<.01	U	.01	.4	1	05/05/99	
2-Chlorotoluene	<.01	U	.01	.4	1	05/05/99	
4-Chlorotoluene	<.02	U	.02	.6	1	05/05/99	
1,3,5-Trimethylbenzene	<.01	U	.01	.5	1	05/05/99	
tert-Butylbenzene	<.01	U	.01	1.4	1	05/05/99	
n-Butylbenzene	<.01	U	.01	1.1	1	05/05/99	
1,2,4-Trimethylbenzene	<.01	U	.01	1.3	1	05/05/99	
sec-Butylbenzene	<.01	U	.01	1.3	1	05/05/99	
1,3-Dichlorobenzene	<.01	U	.01	1.2	1	05/05/99	
1,4-Dichlorobenzene	<.01	U	.01	.3	1	05/05/99	
p-Isopropyltoluene	<.01	U	.01	1.2	1	05/05/99	
1,2-Dichlorobenzene	<.01	U	.01	.3	1	05/05/99	
1,2-Dibromo-3-chloropropane	<.03	U	.03	2.6	1	05/05/99	
1,2,4-Trichlorobenzene	<.02	U	.02	.4	1	05/05/99	
Naphthalene	<.02	U	.02	1.	1	05/05/99	
Hexachlorobutadiene	<.03	U	.03	1.1	1	05/05/99	
1,2,3-Trichlorobenzene	<.01	U	.01	.3	1	05/05/99	

- Outside control limits U - Undetected at the reported level.
J - reported value is estimated.
E - concentration exceeded the calibration range and is estimated.

Authorized: Monika Santucci
Date: May 19,1999 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: M1341
Samp. Description: 59DW6WG1
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 61

Collected: 04/29/99
Received: 05/01/99
Prepared: 05/05/99

Matrix: Water
QC Batch: 050599W2
%Solids:
Purge volume: 25 mL

Surrogate	Result	Qual	Limits	Dilution	Analyzed
Dibromofluoromethane (surrogate)	105.%		75-125	1	05/05/99
1,2-Dichloroethane-d4 (surrogate)	105.%		62-139	1	05/05/99
Toluene-d8 (surrogate)	106.%		75-125	1	05/05/99
Bromofluorobenzene (surrogate)	108.%		75-125	1	05/05/99

Notes:

- Outside control limits U - Undetected at the reported level.
J - reported value is estimated.
E - concentration exceeded the calibration range and is estimated.

Authorized: Monika Santucci
Date: May 19,1999 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: M1345
Samp. Description: 59SW7WG1
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 61

Collected: 04/29/99
Received: 05/01/99
Prepared: 05/05/99

Matrix: Water
QC Batch: 050599W2
%Solids:
Purge volume: 25 mL

Parameter	Result	Qual	MDL	RL	Dilution	Analyzed	Notes
Dichlorodifluoromethane	<.004	U	.004	1.	1	05/05/99	
Chloromethane	<.01	U	.01	1.3	1	05/05/99	
Vinyl chloride	<.02	U	.02	1.1	1	05/05/99	
Bromomethane	<.02	U	.02	1.1	1	05/05/99	
Chloroethane	<.01	U	.01	1.	1	05/05/99	
Trichlorofluoromethane	<.003	U	.003	.8	1	05/05/99	
1,1-Dichloroethene	<.01	U	.01	1.2	1	05/05/99	
Methylene chloride	<.02	U	.02	.3	1	05/05/99	
trans-1,2-Dichloroethene	<.01	U	.01	.6	1	05/05/99	
1,1-Dichloroethane	1.46		.01	.4	1	05/05/99	
cis-1,2-Dichloroethene	5.25		.01	1.2	1	05/05/99	
Bromochloromethane	<.01	U	.01	.4	1	05/05/99	
Chloroform	<.01	U	.01	.3	1	05/05/99	
2,2-Dichloropropane	<.01	U	.01	3.5	1	05/05/99	
1,2-Dichloroethane	<.01	U	.01	.6	1	05/05/99	
1,1,1-Trichloroethane	1.23		.01	.8	1	05/05/99	
1,1-Dichloropropene	<.01	U	.01	1.	1	05/05/99	
Carbon tetrachloride	<.01	U	.01	2.1	1	05/05/99	
Benzene	<.004	U	.004	.4	1	05/05/99	
Dibromomethane	<.01	U	.01	2.4	1	05/05/99	
1,2-Dichloropropane	<.01	U	.01	.4	1	05/05/99	
Trichloroethene	3.95		.01	1.	1	05/05/99	
Bromodichloromethane	<.02	U	.02	.8	1	05/05/99	
cis-1,3-Dichloropropene	<.01	U	.01	1.	1	05/05/99	
trans-1,3-Dichloropropene	<.01	U	.01	1.	1	05/05/99	
1,1,2-Trichloroethane	<.02	U	.02	1.	1	05/05/99	
Toluene	<.01	U	.01	1.1	1	05/05/99	
1,3-Dichloropropane	<.01	U	.01	.4	1	05/05/99	
Dibromochloromethane	<.01	U	.01	.5	1	05/05/99	
1,2-Dibromoethane	<.01	U	.01	.6	1	05/05/99	

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Authorized: Monika Santucci
Date: May 19,1999 Monika Santucci

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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: M1345
Samp. Description: 59SW7WG1
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 61

Collected: 04/29/99
Received: 05/01/99
Prepared: 05/05/99

Matrix: Water
QC Batch: 050599W2
%Solids:
Purge volume: 25 mL

Parameter	Result	Qual	MDL	RL	Dilution	Analyzed	Notes
Tetrachloroethene	.19	F	.01	1.4	1	05/05/99	
1,1,1,2-Tetrachloroethane	<.01	U	.01	.5	1	05/05/99	
Chlorobenzene	<.01	U	.01	.4	1	05/05/99	
1-Chlorohexane	<.01	U	.01	.5	1	05/05/99	
Ethylbenzene	<.004	U	.004	.6	1	05/05/99	
Bromoform	<.01	U	.01	1.2	1	05/05/99	
o-Xylene	<.01	U	.01	1.1	1	05/05/99	
(m+p)-Xylene	<.01	U	.01	.6	1	05/05/99	
Xylene (total)	<.01	U	.01	1.1	1	05/05/99	
Styrene	<.01	U	.01	.5	1	05/05/99	
1,1,2,2-Tetrachloroethane	<.01	U	.01	.5	1	05/05/99	
1,2,3-Trichloropropane	<.01	U	.01	3.2	1	05/05/99	
Isopropylbenzene	<.004	U	.004	.5	1	05/05/99	
Bromobenzene	<.01	U	.01	.3	1	05/05/99	
n-Propylbenzene	<.01	U	.01	.4	1	05/05/99	
2-Chlorotoluene	<.01	U	.01	.4	1	05/05/99	
4-Chlorotoluene	<.02	U	.02	.6	1	05/05/99	
1,3,5-Trimethylbenzene	<.01	U	.01	.5	1	05/05/99	
tert-Butylbenzene	<.01	U	.01	1.4	1	05/05/99	
n-Butylbenzene	<.01	U	.01	1.1	1	05/05/99	
1,2,4-Trimethylbenzene	<.01	U	.01	1.3	1	05/05/99	
sec-Butylbenzene	<.01	U	.01	1.3	1	05/05/99	
1,3-Dichlorobenzene	<.01	U	.01	1.2	1	05/05/99	
1,4-Dichlorobenzene	<.01	U	.01	.3	1	05/05/99	
p-Isopropyltoluene	<.01	U	.01	1.2	1	05/05/99	
1,2-Dichlorobenzene	<.01	U	.01	.3	1	05/05/99	
1,2-Dibromo-3-chloropropane	<.03	U	.03	2.6	1	05/05/99	
1,2,4-Trichlorobenzene	<.02	U	.02	.4	1	05/05/99	
Naphthalene	<.02	U	.02	1.	1	05/05/99	
Hexachlorobutadiene	<.03	U	.03	1.1	1	05/05/99	
1,2,3-Trichlorobenzene	<.01	U	.01	.3	1	05/05/99	

- Outside control limits U - Undetected at the reported level.
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Authorized: Monika Santucci
Date: May 19,1999 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: M1345
Samp. Description: 59SW7WG1
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 61

Collected: 04/29/99
Received: 05/01/99
Prepared: 05/05/99

Matrix: Water
QC Batch: 050599W2
%Solids:
Purge volume: 25 mL

Surrogate	Result	Qual	Limits	Dilution	Analyzed
Dibromofluoromethane (surrogate)	106.%		75-125	1	05/05/99
1,2-Dichloroethane-d4 (surrogate)	111.%		62-139	1	05/05/99
Toluene-d8 (surrogate)	107.%		75-125	1	05/05/99
Bromofluorobenzene (surrogate)	108.%		75-125	1	05/05/99

Notes:

- Outside control limits U - Undetected at the reported level.
J - reported value is estimated.
E - concentration exceeded the calibration range and is estimated.

Authorized: Monika Santucci
Date: May 19,1999 Monika Santucci

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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: M1002
Samp. Description: 59SW9WG1
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 61

Collected: 04/28/99
Received: 04/29/99
Prepared: 04/29/99

Matrix: Water
QC Batch: 042999W2
%Solids:
Purge volume: 25 mL

Parameter	Result	Qual	MDL	RL	Dilution	Analyzed	Notes
Dichlorodifluoromethane	<.004	U	.004	1.	1	04/29/99	
Chloromethane	<.01	U	.01	1.3	1	04/29/99	
Vinyl chloride	<.02	U	.02	1.1	1	04/29/99	
Bromomethane	<.02	U	.02	1.1	1	04/29/99	
Chloroethane	<.01	U	.01	1.	1	04/29/99	
Trichlorofluoromethane	<.003	U	.003	.8	1	04/29/99	
1,1-Dichloroethene	<.01	U	.01	1.2	1	04/29/99	
Methylene chloride	<.02	U	.02	.3	1	04/29/99	
trans-1,2-Dichloroethene	<.01	U	.01	.6	1	04/29/99	
1,1-Dichloroethane	3.62		.01	.4	1	04/29/99	
cis-1,2-Dichloroethene	3.68		.01	1.2	1	04/29/99	
Bromochloromethane	<.01	U	.01	.4	1	04/29/99	
Chloroform	.47		.01	.3	1	04/29/99	
2,2-Dichloropropane	<.01	U	.01	3.5	1	04/29/99	
1,2-Dichloroethane	<.01	U	.01	.6	1	04/29/99	
1,1,1-Trichloroethane	12.32		.01	.8	1	04/29/99	
1,1-Dichloropropene	<.01	U	.01	1.	1	04/29/99	
Carbon tetrachloride	<.01	U	.01	2.1	1	04/29/99	
Benzene	<.004	U	.004	.4	1	04/29/99	
Dibromomethane	<.01	U	.01	2.4	1	04/29/99	
1,2-Dichloropropane	<.01	U	.01	.4	1	04/29/99	
Trichloroethene	18.6		.01	1.	1	04/29/99	
Bromodichloromethane	<.02	U	.02	.8	1	04/29/99	
cis-1,3-Dichloropropene	<.01	U	.01	1.	1	04/29/99	
trans-1,3-Dichloropropene	<.01	U	.01	1.	1	04/29/99	
1,1,2-Trichloroethane	<.02	U	.02	1.	1	04/29/99	
Toluene	<.01	U	.01	1.1	1	04/29/99	
1,3-Dichloropropane	<.01	U	.01	.4	1	04/29/99	
Dibromochloromethane	<.01	U	.01	.5	1	04/29/99	
1,2-Dibromoethane	<.01	U	.01	.6	1	04/29/99	

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Authorized: Monika Santucci
Date: May 19,1999 Monika Santucci

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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: M1002
Samp. Description: 59SW9WG1
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 61

Collected: 04/28/99
Received: 04/29/99
Prepared: 04/29/99

Matrix: Water
QC Batch: 042999W2
%Solids:
Purge volume: 25 mL

Parameter	Result	Qual	MDL	RL	Dilution	Analyzed	Notes
Tetrachloroethene	<.01	U	.01	1.4	1	04/29/99	
1,1,1,2-Tetrachloroethane	<.01	U	.01	.5	1	04/29/99	
Chlorobenzene	<.01	U	.01	.4	1	04/29/99	
1-Chlorohexane	<.01	U	.01	.5	1	04/29/99	
Ethylbenzene	<.004	U	.004	.6	1	04/29/99	
Bromoform	<.01	U	.01	1.2	1	04/29/99	
o-Xylene	<.01	U	.01	1.1	1	04/29/99	
(m+p)-Xylene	<.01	U	.01	.6	1	04/29/99	
Xylene (total)	<.01	U	.01	1.1	1	04/29/99	
Styrene	<.01	U	.01	.5	1	04/29/99	
1,1,2,2-Tetrachloroethane	<.01	U	.01	.5	1	04/29/99	
1,2,3-Trichloropropane	<.01	U	.01	3.2	1	04/29/99	
Isopropylbenzene	<.004	U	.004	.5	1	04/29/99	
Bromobenzene	<.01	U	.01	.3	1	04/29/99	
n-Propylbenzene	<.01	U	.01	.4	1	04/29/99	
2-Chlorotoluene	<.01	U	.01	.4	1	04/29/99	
4-Chlorotoluene	<.02	U	.02	.6	1	04/29/99	
1,3,5-Trimethylbenzene	<.01	U	.01	.5	1	04/29/99	
tert-Butylbenzene	<.01	U	.01	1.4	1	04/29/99	
n-Butylbenzene	<.01	U	.01	1.1	1	04/29/99	
1,2,4-Trimethylbenzene	<.01	U	.01	1.3	1	04/29/99	
sec-Butylbenzene	<.01	U	.01	1.3	1	04/29/99	
1,3-Dichlorobenzene	<.01	U	.01	1.2	1	04/29/99	
1,4-Dichlorobenzene	<.01	U	.01	.3	1	04/29/99	
p-Isopropyltoluene	<.01	U	.01	1.2	1	04/29/99	
1,2-Dichlorobenzene	<.01	U	.01	.3	1	04/29/99	
1,2-Dibromo-3-chloropropane	<.03	U	.03	2.6	1	04/29/99	
1,2,4-Trichlorobenzene	<.02	U	.02	.4	1	04/29/99	
Naphthalene	<.02	U	.02	1.	1	04/29/99	
Hexachlorobutadiene	<.03	U	.03	1.1	1	04/29/99	
1,2,3-Trichlorobenzene	<.01	U	.01	.3	1	04/29/99	

- Outside control limits U - Undetected at the reported level.
J - reported value is estimated.
E - concentration exceeded the calibration range and is estimated.

Authorized: Monika Santucci
Date: May 19,1999 Monika Santucci

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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: M1002
Samp. Description: 59SW9WG1
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 61

Collected: 04/28/99
Received: 04/29/99
Prepared: 04/29/99

Matrix: Water
QC Batch: 042999W2
%Solids:
Purge volume: 25 mL

Surrogate	Result	Qual	Limits	Dilution	Analyzed
Dibromofluoromethane (surrogate)	110.%		75-125	1	04/29/99
1,2-Dichloroethane-d4 (surrogate)	104.%		62-139	1	04/29/99
Toluene-d8 (surrogate)	108.%		75-125	1	04/29/99
Bromofluorobenzene (surrogate)	104.%		75-125	1	04/29/99

Notes:

- Outside control limits U - Undetected at the reported level.
J - reported value is estimated.
E - concentration exceeded the calibration range and is estimated.

Authorized: Monika Santucci
Date: May 19,1999 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: M1003
Samp. Description: 59DW9WG1
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 61

Collected: 04/28/99
Received: 04/29/99
Prepared: 04/29/99

Matrix: Water
QC Batch: 042999W2
%Solids:
Purge volume: 25 mL

Parameter	Result	Qual	MDL	RL	Dilution	Analyzed	Notes
Dichlorodifluoromethane	<.004	U	.004	1.	1	04/29/99	
Chloromethane	<.01	U	.01	1.3	1	04/29/99	
Vinyl chloride	<.02	U	.02	1.1	1	04/29/99	
Bromomethane	<.02	U	.02	1.1	1	04/29/99	
Chloroethane	<.01	U	.01	1.	1	04/29/99	
Trichlorofluoromethane	<.003	U	.003	.8	1	04/29/99	
1,1-Dichloroethene	<.01	U	.01	1.2	1	04/29/99	
Methylene chloride	<.02	U	.02	.3	1	04/29/99	
trans-1,2-Dichloroethene	<.01	U	.01	.6	1	04/29/99	
1,1-Dichloroethane	<.01	U	.01	.4	1	04/29/99	
cis-1,2-Dichloroethene	<.01	U	.01	1.2	1	04/29/99	
Bromochloromethane	<.01	U	.01	.4	1	04/29/99	
Chloroform	<.01	U	.01	.3	1	04/29/99	
2,2-Dichloropropane	<.01	U	.01	3.5	1	04/29/99	
1,2-Dichloroethane	<.01	U	.01	.6	1	04/29/99	
1,1,1-Trichloroethane	<.01	U	.01	.8	1	04/29/99	
1,1-Dichloropropene	<.01	U	.01	1.	1	04/29/99	
Carbon tetrachloride	<.01	U	.01	2.1	1	04/29/99	
Benzene	<.004	U	.004	.4	1	04/29/99	
Dibromomethane	<.01	U	.01	2.4	1	04/29/99	
1,2-Dichloropropane	<.01	U	.01	.4	1	04/29/99	
Trichloroethene	<.01	U	.01	1.	1	04/29/99	
Bromodichloromethane	<.02	U	.02	.8	1	04/29/99	
cis-1,3-Dichloropropene	<.01	U	.01	1.	1	04/29/99	
trans-1,3-Dichloropropene	<.01	U	.01	1.	1	04/29/99	
1,1,2-Trichloroethane	<.02	U	.02	1.	1	04/29/99	
Toluene	<.01	U	.01	1.1	1	04/29/99	
1,3-Dichloropropane	<.01	U	.01	.4	1	04/29/99	
Dibromochloromethane	<.01	U	.01	.5	1	04/29/99	
1,2-Dibromoethane	<.01	U	.01	.6	1	04/29/99	

- Outside control limits U - Undetected at the reported level.
J - reported value is estimated.
E - concentration exceeded the calibration range and is estimated.

Authorized: Monika Santucci
Date: May 19,1999 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: M1003
Samp. Description: 59DW9WG1
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 61

Collected: 04/28/99
Received: 04/29/99
Prepared: 04/29/99

Matrix: Water
QC Batch: 042999W2
%Solids:
Purge volume: 25 mL

Parameter	Result	Qual	MDL	RL	Dilution	Analyzed	Notes
Tetrachloroethene	<.01	U	.01	1.4	1	04/29/99	
1,1,1,2-Tetrachloroethane	<.01	U	.01	.5	1	04/29/99	
Chlorobenzene	<.01	U	.01	.4	1	04/29/99	
1-Chlorohexane	<.01	U	.01	.5	1	04/29/99	
Ethylbenzene	<.004	U	.004	.6	1	04/29/99	
Bromoform	<.01	U	.01	1.2	1	04/29/99	
o-Xylene	<.01	U	.01	1.1	1	04/29/99	
(m+p)-Xylene	<.01	U	.01	.6	1	04/29/99	
Xylene (total)	<.01	U	.01	1.1	1	04/29/99	
Styrene	<.01	U	.01	.5	1	04/29/99	
1,1,2,2-Tetrachloroethane	<.01	U	.01	.5	1	04/29/99	
1,2,3-Trichloropropane	<.01	U	.01	3.2	1	04/29/99	
Isopropylbenzene	<.004	U	.004	.5	1	04/29/99	
Bromobenzene	<.01	U	.01	.3	1	04/29/99	
n-Propylbenzene	<.01	U	.01	.4	1	04/29/99	
2-Chlorotoluene	<.01	U	.01	.4	1	04/29/99	
4-Chlorotoluene	<.02	U	.02	.6	1	04/29/99	
1,3,5-Trimethylbenzene	<.01	U	.01	.5	1	04/29/99	
tert-Butylbenzene	<.01	U	.01	1.4	1	04/29/99	
n-Butylbenzene	<.01	U	.01	1.1	1	04/29/99	
1,2,4-Trimethylbenzene	<.01	U	.01	1.3	1	04/29/99	
sec-Butylbenzene	<.01	U	.01	1.3	1	04/29/99	
1,3-Dichlorobenzene	<.01	U	.01	1.2	1	04/29/99	
1,4-Dichlorobenzene	<.01	U	.01	.3	1	04/29/99	
p-Isopropyltoluene	<.01	U	.01	1.2	1	04/29/99	
1,2-Dichlorobenzene	<.01	U	.01	.3	1	04/29/99	
1,2-Dibromo-3-chloropropane	<.03	U	.03	2.6	1	04/29/99	
1,2,4-Trichlorobenzene	<.02	U	.02	.4	1	04/29/99	
Naphthalene	<.02	U	.02	1.	1	04/29/99	
Hexachlorobutadiene	<.03	U	.03	1.1	1	04/29/99	
1,2,3-Trichlorobenzene	<.01	U	.01	.3	1	04/29/99	

- Outside control limits U - Undetected at the reported level.
J - reported value is estimated.
E - concentration exceeded the calibration range and is estimated.

Authorized: Monika Santucci
Date: May 19,1999 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: M1003
Samp. Description: 59DW9WG1
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 61

Collected: 04/28/99
Received: 04/29/99
Prepared: 04/29/99

Matrix: Water
QC Batch: 042999W2
%Solids:
Purge volume: 25 mL

Surrogate	Result	Qual	Limits	Dilution	Analyzed
Dibromofluoromethane (surrogate)	112.%		75-125	1	04/29/99
1,2-Dichloroethane-d4 (surrogate)	109.%		62-139	1	04/29/99
Toluene-d8 (surrogate)	107.%		75-125	1	04/29/99
Bromofluorobenzene (surrogate)	109.%		75-125	1	04/29/99

Notes:

- Outside control limits U - Undetected at the reported level.
J - reported value is estimated.
E - concentration exceeded the calibration range and is estimated.

Authorized: Monika Santucci
Date: May 19,1999 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: M1001
Samp. Description: 59IW13WG1
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 61

Collected: 04/28/99
Received: 04/29/99
Prepared: 04/29/99

Matrix: Water
QC Batch: 042999W2
%Solids:
Purge volume: 25 mL

Parameter	Result	Qual	MDL	RL	Dilution	Analyzed	Notes
Dichlorodifluoromethane	<.004	U	.004	1.	1	04/29/99	
Chloromethane	<.01	U	.01	1.3	1	04/29/99	
Vinyl chloride	<.02	U	.02	1.1	1	04/29/99	
Bromomethane	<.02	U	.02	1.1	1	04/29/99	
Chloroethane	<.01	U	.01	1.	1	04/29/99	
Trichlorofluoromethane	<.003	U	.003	.8	1	04/29/99	
1,1-Dichloroethene	<.01	U	.01	1.2	1	04/29/99	
Methylene chloride	<.02	U	.02	.3	1	04/29/99	
trans-1,2-Dichloroethene	<.01	U	.01	.6	1	04/29/99	
1,1-Dichloroethane	<.01	U	.01	.4	1	04/29/99	
cis-1,2-Dichloroethene	<.01	U	.01	1.2	1	04/29/99	
Bromochloromethane	<.01	U	.01	.4	1	04/29/99	
Chloroform	<.01	U	.01	.3	1	04/29/99	
2,2-Dichloropropane	<.01	U	.01	3.5	1	04/29/99	
1,2-Dichloroethane	<.01	U	.01	.6	1	04/29/99	
1,1,1-Trichloroethane	<.01	U	.01	.8	1	04/29/99	
1,1-Dichloropropene	<.01	U	.01	1.	1	04/29/99	
Carbon tetrachloride	<.01	U	.01	2.1	1	04/29/99	
Benzene	<.004	U	.004	.4	1	04/29/99	
Dibromomethane	<.01	U	.01	2.4	1	04/29/99	
1,2-Dichloropropane	<.01	U	.01	.4	1	04/29/99	
Trichloroethene	<.01	U	.01	1.	1	04/29/99	
Bromodichloromethane	<.02	U	.02	.8	1	04/29/99	
cis-1,3-Dichloropropene	<.01	U	.01	1.	1	04/29/99	
trans-1,3-Dichloropropene	<.01	U	.01	1.	1	04/29/99	
1,1,2-Trichloroethane	<.02	U	.02	1.	1	04/29/99	
Toluene	<.01	U	.01	1.1	1	04/29/99	
1,3-Dichloropropane	<.01	U	.01	.4	1	04/29/99	
Dibromochloromethane	<.01	U	.01	.5	1	04/29/99	
1,2-Dibromoethane	<.01	U	.01	.6	1	04/29/99	

- Outside control limits U - Undetected at the reported level.
J - reported value is estimated.
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Authorized: Monika Santucci
Date: May 19,1999 Monika Santucci

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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: M1001
Samp. Description: 59IW13WG1
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 61

Collected: 04/28/99
Received: 04/29/99
Prepared: 04/29/99

Matrix: Water
QC Batch: 042999W2
%Solids:
Purge volume: 25 mL

Parameter	Result	Qual	MDL	RL	Dilution	Analyzed	Notes
Tetrachloroethene	<.01	U	.01	1.4	1	04/29/99	
1,1,1,2-Tetrachloroethane	<.01	U	.01	.5	1	04/29/99	
Chlorobenzene	<.01	U	.01	.4	1	04/29/99	
1-Chlorohexane	<.01	U	.01	.5	1	04/29/99	
Ethylbenzene	<.004	U	.004	.6	1	04/29/99	
Bromoform	<.01	U	.01	1.2	1	04/29/99	
o-Xylene	<.01	U	.01	1.1	1	04/29/99	
(m+p)-Xylene	<.01	U	.01	.6	1	04/29/99	
Xylene (total)	<.01	U	.01	1.1	1	04/29/99	
Styrene	<.01	U	.01	.5	1	04/29/99	
1,1,2,2-Tetrachloroethane	<.01	U	.01	.5	1	04/29/99	
1,2,3-Trichloropropane	<.01	U	.01	3.2	1	04/29/99	
Isopropylbenzene	<.004	U	.004	.5	1	04/29/99	
Bromobenzene	<.01	U	.01	.3	1	04/29/99	
n-Propylbenzene	<.01	U	.01	.4	1	04/29/99	
2-Chlorotoluene	<.01	U	.01	.4	1	04/29/99	
4-Chlorotoluene	<.02	U	.02	.6	1	04/29/99	
1,3,5-Trimethylbenzene	<.01	U	.01	.5	1	04/29/99	
tert-Butylbenzene	<.01	U	.01	1.4	1	04/29/99	
n-Butylbenzene	<.01	U	.01	1.1	1	04/29/99	
1,2,4-Trimethylbenzene	<.01	U	.01	1.3	1	04/29/99	
sec-Butylbenzene	<.01	U	.01	1.3	1	04/29/99	
1,3-Dichlorobenzene	<.01	U	.01	1.2	1	04/29/99	
1,4-Dichlorobenzene	<.01	U	.01	.3	1	04/29/99	
p-Isopropyltoluene	<.01	U	.01	1.2	1	04/29/99	
1,2-Dichlorobenzene	<.01	U	.01	.3	1	04/29/99	
1,2-Dibromo-3-chloropropane	<.03	U	.03	2.6	1	04/29/99	
1,2,4-Trichlorobenzene	<.02	U	.02	.4	1	04/29/99	
Naphthalene	<.02	U	.02	1.	1	04/29/99	
Hexachlorobutadiene	<.03	U	.03	1.1	1	04/29/99	
1,2,3-Trichlorobenzene	<.01	U	.01	.3	1	04/29/99	

- Outside control limits U - Undetected at the reported level.
J - reported value is estimated.
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Authorized: Monika Santucci
Date: May 19,1999 Monika Santucci

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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: M1001
Samp. Description: 59IW13WG1
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 61

Collected: 04/28/99
Received: 04/29/99
Prepared: 04/29/99

Matrix: Water
QC Batch: 042999W2
%Solids:
Purge volume: 25 mL

Surrogate	Result	Qual	Limits	Dilution	Analyzed
Dibromofluoromethane (surrogate)	110.%		75-125	1	04/29/99
1,2-Dichloroethane-d4 (surrogate)	110.%		62-139	1	04/29/99
Toluene-d8 (surrogate)	107.%		75-125	1	04/29/99
Bromofluorobenzene (surrogate)	104.%		75-125	1	04/29/99

Notes:

- Outside control limits U - Undetected at the reported level.
J - reported value is estimated.
E - concentration exceeded the calibration range and is estimated.

Authorized: Monika Santucci
Date: May 19,1999 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: M1344
Samp. Description: AB1042999
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 61

Collected: 04/29/99
Received: 05/01/99
Prepared: 05/05/99

Matrix: Water
QC Batch: 050599W2
%Solids:
Purge volume: 25 mL

Parameter	Result	Qual	MDL	RL	Dilution	Analyzed	Notes
Dichlorodifluoromethane	<.004	U	.004	1.	1	05/05/99	
Chloromethane	<.01	U	.01	1.3	1	05/05/99	
Vinyl chloride	<.02	U	.02	1.1	1	05/05/99	
Bromomethane	<.02	U	.02	1.1	1	05/05/99	
Chloroethane	<.01	U	.01	1.	1	05/05/99	
Trichlorofluoromethane	<.003	U	.003	.8	1	05/05/99	
1,1-Dichloroethene	<.01	U	.01	1.2	1	05/05/99	
Methylene chloride	<.02	U	.02	.3	1	05/05/99	
trans-1,2-Dichloroethene	<.01	U	.01	.6	1	05/05/99	
1,1-Dichloroethane	<.01	U	.01	.4	1	05/05/99	
cis-1,2-Dichloroethene	<.01	U	.01	1.2	1	05/05/99	
Bromochloromethane	<.01	U	.01	.4	1	05/05/99	
Chloroform	<.01	U	.01	.3	1	05/05/99	
2,2-Dichloropropane	<.01	U	.01	3.5	1	05/05/99	
1,2-Dichloroethane	<.01	U	.01	.6	1	05/05/99	
1,1,1-Trichloroethane	<.01	U	.01	.8	1	05/05/99	
1,1-Dichloropropene	<.01	U	.01	1.	1	05/05/99	
Carbon tetrachloride	<.01	U	.01	2.1	1	05/05/99	
Benzene	<.004	U	.004	.4	1	05/05/99	
Dibromomethane	<.01	U	.01	2.4	1	05/05/99	
1,2-Dichloropropane	<.01	U	.01	.4	1	05/05/99	
Trichloroethene	<.01	U	.01	1.	1	05/05/99	
Bromodichloromethane	<.02	U	.02	.8	1	05/05/99	
cis-1,3-Dichloropropene	<.01	U	.01	1.	1	05/05/99	
trans-1,3-Dichloropropene	<.01	U	.01	1.	1	05/05/99	
1,1,2-Trichloroethane	<.02	U	.02	1.	1	05/05/99	
Toluene	<.01	U	.01	1.1	1	05/05/99	
1,3-Dichloropropane	<.01	U	.01	.4	1	05/05/99	
Dibromochloromethane	<.01	U	.01	.5	1	05/05/99	
1,2-Dibromoethane	<.01	U	.01	.6	1	05/05/99	

- Outside control limits U - Undetected at the reported level.
J - reported value is estimated.
E - concentration exceeded the calibration range and is estimated.

Authorized: Monika Santucci
Date: May 19,1999 Monika Santucci

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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: M1344
Samp. Description: AB1042999
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 61

Collected: 04/29/99
Received: 05/01/99
Prepared: 05/05/99

Matrix: Water
QC Batch: 050599W2
%Solids:
Purge volume: 25 mL

Parameter	Result	Qual	MDL	RL	Dilution	Analyzed	Notes
Tetrachloroethene	<.01	U	.01	1.4	1	05/05/99	
1,1,1,2-Tetrachloroethane	<.01	U	.01	.5	1	05/05/99	
Chlorobenzene	<.01	U	.01	.4	1	05/05/99	
1-Chlorohexane	<.01	U	.01	.5	1	05/05/99	
Ethylbenzene	<.004	U	.004	.6	1	05/05/99	
Bromoform	<.01	U	.01	1.2	1	05/05/99	
o-Xylene	<.01	U	.01	1.1	1	05/05/99	
(m+p)-Xylene	<.01	U	.01	.6	1	05/05/99	
Xylene (total)	<.01	U	.01	1.1	1	05/05/99	
Styrene	<.01	U	.01	.5	1	05/05/99	
1,1,2,2-Tetrachloroethane	<.01	U	.01	.5	1	05/05/99	
1,2,3-Trichloropropane	<.01	U	.01	3.2	1	05/05/99	
Isopropylbenzene	<.004	U	.004	.5	1	05/05/99	
Bromobenzene	<.01	U	.01	.3	1	05/05/99	
n-Propylbenzene	<.01	U	.01	.4	1	05/05/99	
2-Chlorotoluene	<.01	U	.01	.4	1	05/05/99	
4-Chlorotoluene	<.02	U	.02	.6	1	05/05/99	
1,3,5-Trimethylbenzene	<.01	U	.01	.5	1	05/05/99	
tert-Butylbenzene	<.01	U	.01	1.4	1	05/05/99	
n-Butylbenzene	<.01	U	.01	1.1	1	05/05/99	
1,2,4-Trimethylbenzene	<.01	U	.01	1.3	1	05/05/99	
sec-Butylbenzene	<.01	U	.01	1.3	1	05/05/99	
1,3-Dichlorobenzene	<.01	U	.01	1.2	1	05/05/99	
1,4-Dichlorobenzene	<.01	U	.01	.3	1	05/05/99	
p-Isopropyltoluene	<.01	U	.01	1.2	1	05/05/99	
1,2-Dichlorobenzene	<.01	U	.01	.3	1	05/05/99	
1,2-Dibromo-3-chloropropane	<.03	U	.03	2.6	1	05/05/99	
1,2,4-Trichlorobenzene	<.02	U	.02	.4	1	05/05/99	
Naphthalene	<.02	U	.02	1.	1	05/05/99	
Hexachlorobutadiene	<.03	U	.03	1.1	1	05/05/99	
1,2,3-Trichlorobenzene	<.01	U	.01	.3	1	05/05/99	

- Outside control limits U - Undetected at the reported level.
J - reported value is estimated.
E - concentration exceeded the calibration range and is estimated.

Authorized: Monika Santucci
Date: May 19,1999 Monika Santucci

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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: M1344
Samp. Description: AB1042999
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 61

Collected: 04/29/99
Received: 05/01/99
Prepared: 05/05/99

Matrix: Water
QC Batch: 050599W2
%Solids:
Purge volume: 25 mL

Surrogate	Result	Qual	Limits	Dilution	Analyzed
Dibromofluoromethane (surrogate)	106.%		75-125	1	05/05/99
1,2-Dichloroethane-d4 (surrogate)	112.%		62-139	1	05/05/99
Toluene-d8 (surrogate)	106.%		75-125	1	05/05/99
Bromofluorobenzene (surrogate)	107.%		75-125	1	05/05/99

Notes:

- Outside control limits U - Undetected at the reported level.
J - reported value is estimated.
E - concentration exceeded the calibration range and is estimated.

Authorized: Monika Santucci
Date: May 19,1999 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: M1006
Samp. Description: TB1042799
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 61

Collected: 04/27/99
Received: 04/29/99
Prepared: 04/29/99

Matrix: Water
QC Batch: 042999W2
%Solids:
Purge volume: 25 mL

Parameter	Result	Qual	MDL	RL	Dilution	Analyzed	Notes
Dichlorodifluoromethane	<.004	U	.004	1.	1	04/29/99	
Chloromethane	<.01	U	.01	1.3	1	04/29/99	
Vinyl chloride	<.02	U	.02	1.1	1	04/29/99	
Bromomethane	<.02	U	.02	1.1	1	04/29/99	
Chloroethane	<.01	U	.01	1.	1	04/29/99	
Trichlorofluoromethane	<.003	U	.003	.8	1	04/29/99	
1,1-Dichloroethene	<.01	U	.01	1.2	1	04/29/99	
Methylene chloride	<.02	U	.02	.3	1	04/29/99	
trans-1,2-Dichloroethene	<.01	U	.01	.6	1	04/29/99	
1,1-Dichloroethane	<.01	U	.01	.4	1	04/29/99	
cis-1,2-Dichloroethene	<.01	U	.01	1.2	1	04/29/99	
Bromochloromethane	<.01	U	.01	.4	1	04/29/99	
Chloroform	<.01	U	.01	.3	1	04/29/99	
2,2-Dichloropropane	<.01	U	.01	3.5	1	04/29/99	
1,2-Dichloroethane	<.01	U	.01	.6	1	04/29/99	
1,1,1-Trichloroethane	<.01	U	.01	.8	1	04/29/99	
1,1-Dichloropropene	<.01	U	.01	1.	1	04/29/99	
Carbon tetrachloride	<.01	U	.01	2.1	1	04/29/99	
Benzene	<.004	U	.004	.4	1	04/29/99	
Dibromomethane	<.01	U	.01	2.4	1	04/29/99	
1,2-Dichloropropane	<.01	U	.01	.4	1	04/29/99	
Trichloroethene	<.01	U	.01	1.	1	04/29/99	
Bromodichloromethane	<.02	U	.02	.8	1	04/29/99	
cis-1,3-Dichloropropene	<.01	U	.01	1.	1	04/29/99	
trans-1,3-Dichloropropene	<.01	U	.01	1.	1	04/29/99	
1,1,2-Trichloroethane	<.02	U	.02	1.	1	04/29/99	
Toluene	<.01	U	.01	1.1	1	04/29/99	
1,3-Dichloropropane	<.01	U	.01	.4	1	04/29/99	
Dibromochloromethane	<.01	U	.01	.5	1	04/29/99	
1,2-Dibromoethane	<.01	U	.01	.6	1	04/29/99	

- Outside control limits U - Undetected at the reported level.
J - reported value is estimated.
E - concentration exceeded the calibration range and is estimated.

Authorized: Monika Santucci
Date: May 19,1999 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: M1006
Samp. Description: TB1042799
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 61

Collected: 04/27/99
Received: 04/29/99
Prepared: 04/29/99

Matrix: Water
QC Batch: 042999W2
%Solids:
Purge volume: 25 mL

Parameter	Result	Qual	MDL	RL	Dilution	Analyzed	Notes
Tetrachloroethene	<.01	U	.01	1.4	1	04/29/99	
1,1,1,2-Tetrachloroethane	<.01	U	.01	.5	1	04/29/99	
Chlorobenzene	<.01	U	.01	.4	1	04/29/99	
1-Chlorohexane	<.01	U	.01	.5	1	04/29/99	
Ethylbenzene	<.004	U	.004	.6	1	04/29/99	
Bromoform	<.01	U	.01	1.2	1	04/29/99	
o-Xylene	<.01	U	.01	1.1	1	04/29/99	
(m+p)-Xylene	<.01	U	.01	.6	1	04/29/99	
Xylene (total)	<.01	U	.01	1.1	1	04/29/99	
Styrene	<.01	U	.01	.5	1	04/29/99	
1,1,2,2-Tetrachloroethane	<.01	U	.01	.5	1	04/29/99	
1,2,3-Trichloropropane	<.01	U	.01	3.2	1	04/29/99	
Isopropylbenzene	<.004	U	.004	.5	1	04/29/99	
Bromobenzene	<.01	U	.01	.3	1	04/29/99	
n-Propylbenzene	<.01	U	.01	.4	1	04/29/99	
2-Chlorotoluene	<.01	U	.01	.4	1	04/29/99	
4-Chlorotoluene	<.02	U	.02	.6	1	04/29/99	
1,3,5-Trimethylbenzene	<.01	U	.01	.5	1	04/29/99	
tert-Butylbenzene	<.01	U	.01	1.4	1	04/29/99	
n-Butylbenzene	<.01	U	.01	1.1	1	04/29/99	
1,2,4-Trimethylbenzene	<.01	U	.01	1.3	1	04/29/99	
sec-Butylbenzene	<.01	U	.01	1.3	1	04/29/99	
1,3-Dichlorobenzene	<.01	U	.01	1.2	1	04/29/99	
1,4-Dichlorobenzene	<.01	U	.01	.3	1	04/29/99	
p-Isopropyltoluene	<.01	U	.01	1.2	1	04/29/99	
1,2-Dichlorobenzene	<.01	U	.01	.3	1	04/29/99	
1,2-Dibromo-3-chloropropane	<.03	U	.03	2.6	1	04/29/99	
1,2,4-Trichlorobenzene	<.02	U	.02	.4	1	04/29/99	
Naphthalene	<.02	U	.02	1.	1	04/29/99	
Hexachlorobutadiene	<.03	U	.03	1.1	1	04/29/99	
1,2,3-Trichlorobenzene	<.01	U	.01	.3	1	04/29/99	

- Outside control limits U - Undetected at the reported level.
J - reported value is estimated.
E - concentration exceeded the calibration range and is estimated.

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Date: May 19,1999

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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: M1006
Samp. Description: TB1042799
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 61

Collected: 04/27/99
Received: 04/29/99
Prepared: 04/29/99

Matrix: Water
QC Batch: 042999W2
%Solids:
Purge volume: 25 mL

Surrogate	Result	Qual	Limits	Dilution	Analyzed
Dibromofluoromethane (surrogate)	107.%		75-125	1	04/29/99
1,2-Dichloroethane-d4 (surrogate)	102.%		62-139	1	04/29/99
Toluene-d8 (surrogate)	109.%		75-125	1	04/29/99
Bromofluorobenzene (surrogate)	103.%		75-125	1	04/29/99

Notes:

- Outside control limits U - Undetected at the reported level.
J - reported value is estimated.
E - concentration exceeded the calibration range and is estimated.

Authorized: Monika Santucci
Date: May 19,1999 Monika Santucci

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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: M1346
Samp. Description: TB1042999
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 61

Collected: 04/29/99
Received: 05/01/99
Prepared: 05/05/99

Matrix: Water
QC Batch: 050599W2
%Solids:
Purge volume: 25 mL

Parameter	Result	Qual	MDL	RL	Dilution	Analyzed	Notes
Dichlorodifluoromethane	<.004	U	.004	1.	1	05/05/99	
Chloromethane	<.01	U	.01	1.3	1	05/05/99	
Vinyl chloride	<.02	U	.02	1.1	1	05/05/99	
Bromomethane	<.02	U	.02	1.1	1	05/05/99	
Chloroethane	<.01	U	.01	1.	1	05/05/99	
Trichlorofluoromethane	<.003	U	.003	.8	1	05/05/99	
1,1-Dichloroethene	<.01	U	.01	1.2	1	05/05/99	
Methylene chloride	<.02	U	.02	.3	1	05/05/99	
trans-1,2-Dichloroethene	<.01	U	.01	.6	1	05/05/99	
1,1-Dichloroethane	<.01	U	.01	.4	1	05/05/99	
cis-1,2-Dichloroethene	<.01	U	.01	1.2	1	05/05/99	
Bromochloromethane	<.01	U	.01	.4	1	05/05/99	
Chloroform	<.01	U	.01	.3	1	05/05/99	
2,2-Dichloropropane	<.01	U	.01	3.5	1	05/05/99	
1,2-Dichloroethane	<.01	U	.01	.6	1	05/05/99	
1,1,1-Trichloroethane	<.01	U	.01	.8	1	05/05/99	
1,1-Dichloropropene	<.01	U	.01	1.	1	05/05/99	
Carbon tetrachloride	<.01	U	.01	2.1	1	05/05/99	
Benzene	<.004	U	.004	.4	1	05/05/99	
Dibromomethane	<.01	U	.01	2.4	1	05/05/99	
1,2-Dichloropropane	<.01	U	.01	.4	1	05/05/99	
Trichloroethene	<.01	U	.01	1.	1	05/05/99	
Bromodichloromethane	<.02	U	.02	.8	1	05/05/99	
cis-1,3-Dichloropropene	<.01	U	.01	1.	1	05/05/99	
trans-1,3-Dichloropropene	<.01	U	.01	1.	1	05/05/99	
1,1,2-Trichloroethane	<.02	U	.02	1.	1	05/05/99	
Toluene	<.01	U	.01	1.1	1	05/05/99	
1,3-Dichloropropane	<.01	U	.01	.4	1	05/05/99	
Dibromochloromethane	<.01	U	.01	.5	1	05/05/99	
1,2-Dibromoethane	<.01	U	.01	.6	1	05/05/99	

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J - reported value is estimated.
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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: M1346
Samp. Description: TB1042999
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 61

Collected: 04/29/99
Received: 05/01/99
Prepared: 05/05/99

Matrix: Water
QC Batch: 050599W2
%Solids:
Purge volume: 25 mL

Parameter	Result	Qual	MDL	RL	Dilution	Analyzed	Notes
Tetrachloroethene	<.01	U	.01	1.4	1	05/05/99	
1,1,1,2-Tetrachloroethane	<.01	U	.01	.5	1	05/05/99	
Chlorobenzene	<.01	U	.01	.4	1	05/05/99	
1-Chlorohexane	<.01	U	.01	.5	1	05/05/99	
Ethylbenzene	<.004	U	.004	.6	1	05/05/99	
Bromoform	<.01	U	.01	1.2	1	05/05/99	
o-Xylene	<.01	U	.01	1.1	1	05/05/99	
(m+p)-Xylene	<.01	U	.01	.6	1	05/05/99	
Xylene (total)	<.01	U	.01	1.1	1	05/05/99	
Styrene	<.01	U	.01	.5	1	05/05/99	
1,1,2,2-Tetrachloroethane	<.01	U	.01	.5	1	05/05/99	
1,2,3-Trichloropropane	<.01	U	.01	3.2	1	05/05/99	
Isopropylbenzene	<.004	U	.004	.5	1	05/05/99	
Bromobenzene	<.01	U	.01	.3	1	05/05/99	
n-Propylbenzene	<.01	U	.01	.4	1	05/05/99	
2-Chlorotoluene	<.01	U	.01	.4	1	05/05/99	
4-Chlorotoluene	<.02	U	.02	.6	1	05/05/99	
1,3,5-Trimethylbenzene	<.01	U	.01	.5	1	05/05/99	
tert-Butylbenzene	<.01	U	.01	1.4	1	05/05/99	
n-Butylbenzene	<.01	U	.01	1.1	1	05/05/99	
1,2,4-Trimethylbenzene	<.01	U	.01	1.3	1	05/05/99	
sec-Butylbenzene	<.01	U	.01	1.3	1	05/05/99	
1,3-Dichlorobenzene	<.01	U	.01	1.2	1	05/05/99	
1,4-Dichlorobenzene	<.01	U	.01	.3	1	05/05/99	
p-Isopropyltoluene	<.01	U	.01	1.2	1	05/05/99	
1,2-Dichlorobenzene	<.01	U	.01	.3	1	05/05/99	
1,2-Dibromo-3-chloropropane	<.03	U	.03	2.6	1	05/05/99	
1,2,4-Trichlorobenzene	<.02	U	.02	.4	1	05/05/99	
Naphthalene	<.02	U	.02	1.	1	05/05/99	
Hexachlorobutadiene	<.03	U	.03	1.1	1	05/05/99	
1,2,3-Trichlorobenzene	<.01	U	.01	.3	1	05/05/99	

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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: M1346
Samp. Description: TB1042999
Instrument: HP5970 GC/MS#2
Units: ug/L
Number of analytes: 61

Collected: 04/29/99
Received: 05/01/99
Prepared: 05/05/99

Matrix: Water
QC Batch: 050599W2
%Solids:
Purge volume: 25 mL

Surrogate	Result	Qual	Limits	Dilution	Analyzed
Dibromofluoromethane (surrogate)	105.%		75-125	1	05/05/99
1,2-Dichloroethane-d4 (surrogate)	107.%		62-139	1	05/05/99
Toluene-d8 (surrogate)	107.%		75-125	1	05/05/99
Bromofluorobenzene (surrogate)	108.%		75-125	1	05/05/99

Notes:

- Outside control limits U - Undetected at the reported level.
J - reported value is estimated.
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