The electronic version of this file/report should have the file name:

Report.HW.1987-12-10.October_1987_GW_Monitoring_Report.pdf

Type of document . Site Number . Year-Month . File *Year-Year* or Report name . pdf

---

_____ . _____ - ____ . File _____ .pdf

example: *letter . Year-Month . File Year-Year . pdf*

_____ . _____ - ____ . _____ .pdf

example: *report . Site Number . Year-Month . Report Name . pdf*

Project Site numbers will be proceeded by the following:

Municipal Brownfields - B
Superfund - HW
Spills - SP
ERP - E
VCP - V
BCP - C

FRONTIER TECHNICAL ASSOCIATES INC.

BEZ-1987-3-120

GROUNDWATER MONITORING REPORT FOR OCTOBER 1987

Bell Aerospace Textron
Wheatfield, New York

FTA Report No. T-211-6

Prepared For:

Bell Aerospace Textron
P.O. Box One
Buffalo, N.Y. 14240

Attn: Mr. Thomas Comer
Mr. Earl Kramer
Mr. Michael Roberts

Prepared By:

Frontier Technical Associates, Inc.
8675 Sheridan Drive
Buffalo, N.Y. 14221

INTRODUCTION

Frontier Technical Associates, Inc. (FTA), under contract to Bell Aerospace Textron, is monitoring the groundwater quality at the Wheatfield Plant in accordance with the interim groundwater monitoring plan (Reference 1). Using this methodology, FTA prepared the first quarterly groundwater monitoring report for July 1986 (Reference 2). The existing groundwater monitoring network consists of 19 wells located in the northeast portion of the plant property. This report includes the following:

1. Location of the Wells Sampled
2. Groundwater Elevations
3. Sampling Personnel
4. Sampling and Purging Equipment, and Methods Used
5. Sample Preservation and Shipping Procedures
6. Analytical Laboratories and Methods
7. Results of Analyses
8. Notes and Observations
9. Chain-of-Custody Records
10. Well Purging Report
11. Quality Control/Quality Assurance Data

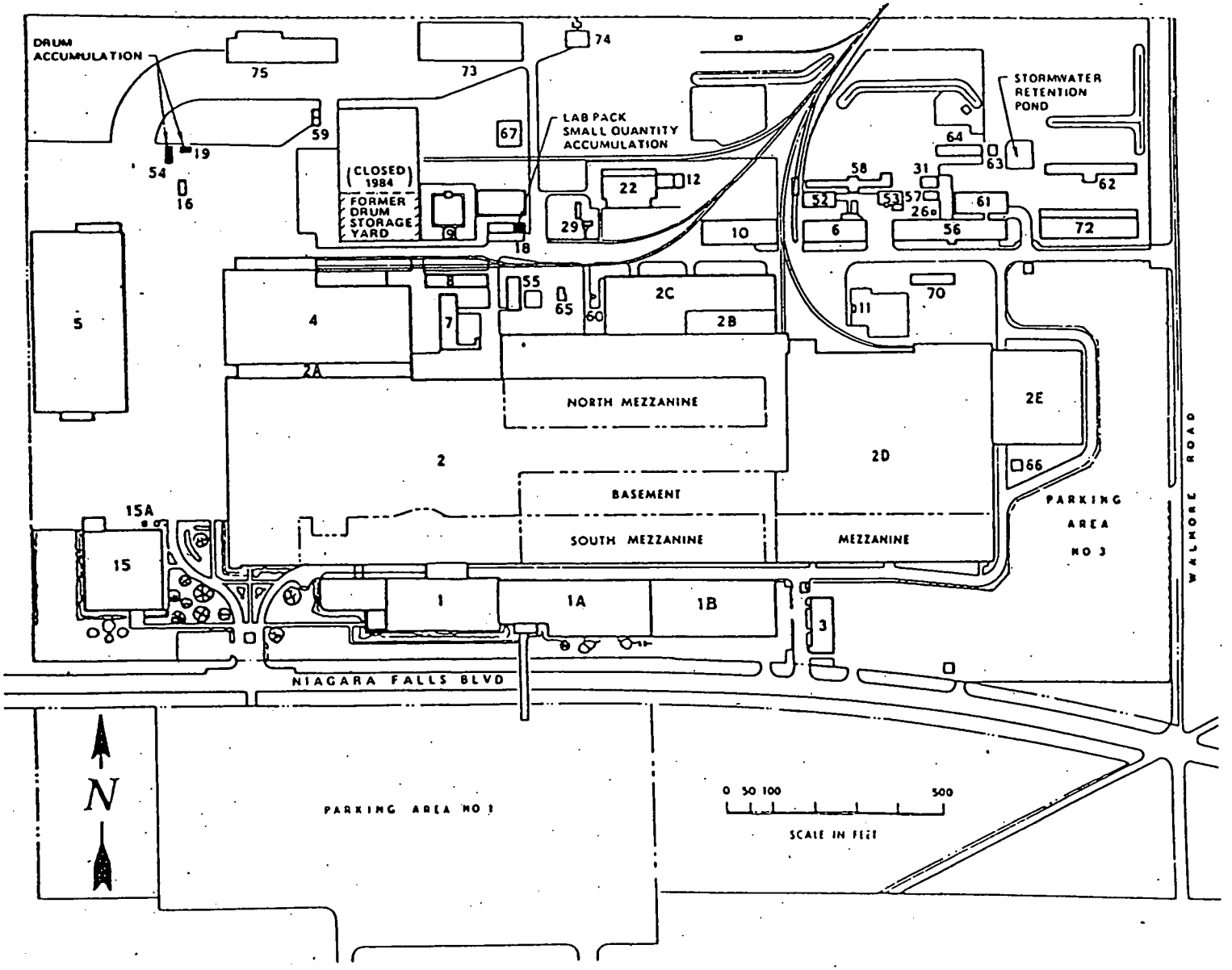
In accordance with the interim groundwater monitoring plan, the pollutants analyzed for during the sampling period were pH, specific conductance, temperature and volatile organic pollutants (Method 624). In addition, groundwater elevation measurements obtained since May 1985 are also included.

DESCRIPTION OF OPERATIONS

Bell Aerospace Textron is an aerospace-defense company. Its diversified product line includes the research, development, test, and limited manufacture of small rocket engines and reaction-control devices; automatic, all weather aircraft landing systems; inertial navigation systems; radar and communication products; and other defense-oriented hardware and systems. The general layout of the Bell Aerospace Textron Wheatfield plant is shown in Figure 1.

Facility Address: Bell Aerospace Textron
2221 Niagara Falls Blvd.
Niagara Falls, NY 14303

Figure 1. Generalized Plot Plan - Bell Aerospace Textron



Wheatfield Plant

Building No.	
1	Admin. and Engineering Offices (2 floors)
1A	Engineering (2 floors)
1B	Engineering (3 floors)
2	Main Manufacturing
2A	Machine Shop and Cribs
2B	Foundry
2C	Maint. and Plaster Shop
2D	Manufacturing Addition
2E	Manufacturing Addition
3	Employment
4	Flight Research and Tool Room Bldg.
5	Production Hangar
6	Storage and Reclamation
7	Air Compressor House
8	Oil Storage
9	Pump House
10	Automotive Garage
11	Power Station
12	Incinerator
15	Electronic Data Center
15A	A.C. Pump House
16	Fire Truck Garage
18	Lab Packs, Small Quantity Accumulation (NE Corner Only)
19	Drum Accumulation
22	Boiler House
26	Sewage Ejector
29	Gasoline Pump House (Sta. "A")
31	Rocket Maintenance Building
52	Rocket Flow Test
53	Rocket Machine Shop
54	Drum Accumulation
55	Aerodynamics Bldg.
56	Rocket Engineering Bldg.
57	Rocket Welding Bldg.
58	Rocket Test Cells A,B,C,D,S
59	Rocket Research
60	Vibration Tower & Control Room
61	Rocket Instrumentation Bldg.
62	Test Cells W,X Y,Z
63	Rocket Tank Test Bldg.
64	Test Cells H & K
65	Explosion Test Bldg.
66	Mechanical Equipment Bldg.
67	Propulsion Test Bldg.
70	Rocket Area Storage Guard Houses
72	Rocket Components Test
73	ACV Test Facility
74	Rain Erosion Test Facility
75	Chemistry Laboratory

Mailing Address: Bell Aerospace Textron
P.O. Box One
Buffalo, NY 14240

Telephone Number: (716) 692-2100

MONITORING WELL LOCATIONS

The monitoring wells are located in the northeast corner of the plant primarily in the rocket test cell area. Figure 2 is a plan view of the northeast portion of the plant site showing the location of each of the monitoring wells. A total of 19 monitoring wells were installed (13 in the overburden and six in the bedrock (Lockport Dolomite)). The borings and wells were completed in three stages as listed below:

	Boring No.	Install. Date	Shallow Well	Deep Well
	B-1	8/11/82	X	
	B-2	8/12/82	No Well*	
	B-3	8/12/82	X	
Stage I	B-4	8/13/82	X	
	B-5	8/16/82	X	
	B-6	8/16/82	X	
	B-7	6/07/83	X	
	B-8	6/07-6/8/83	X	
	B-9	6/07/83	X	
Stage II	B-10S	6/10/83	X	
	B-10A**	2/20/84		X
	B-11	6/09/83	X	X
	B-12	6/10/83	X	
Stage III	B-13	2/14-2/16/84		X
	B-14	2/14-2/17/84		X
	B-15	2/14-2/17/84		X
	B-16	2/15-2/20/84		X
	B-17	2/15/84	X	
	B-18	2/16/84	X	

*Dry Hole
**Drilled in Stage III

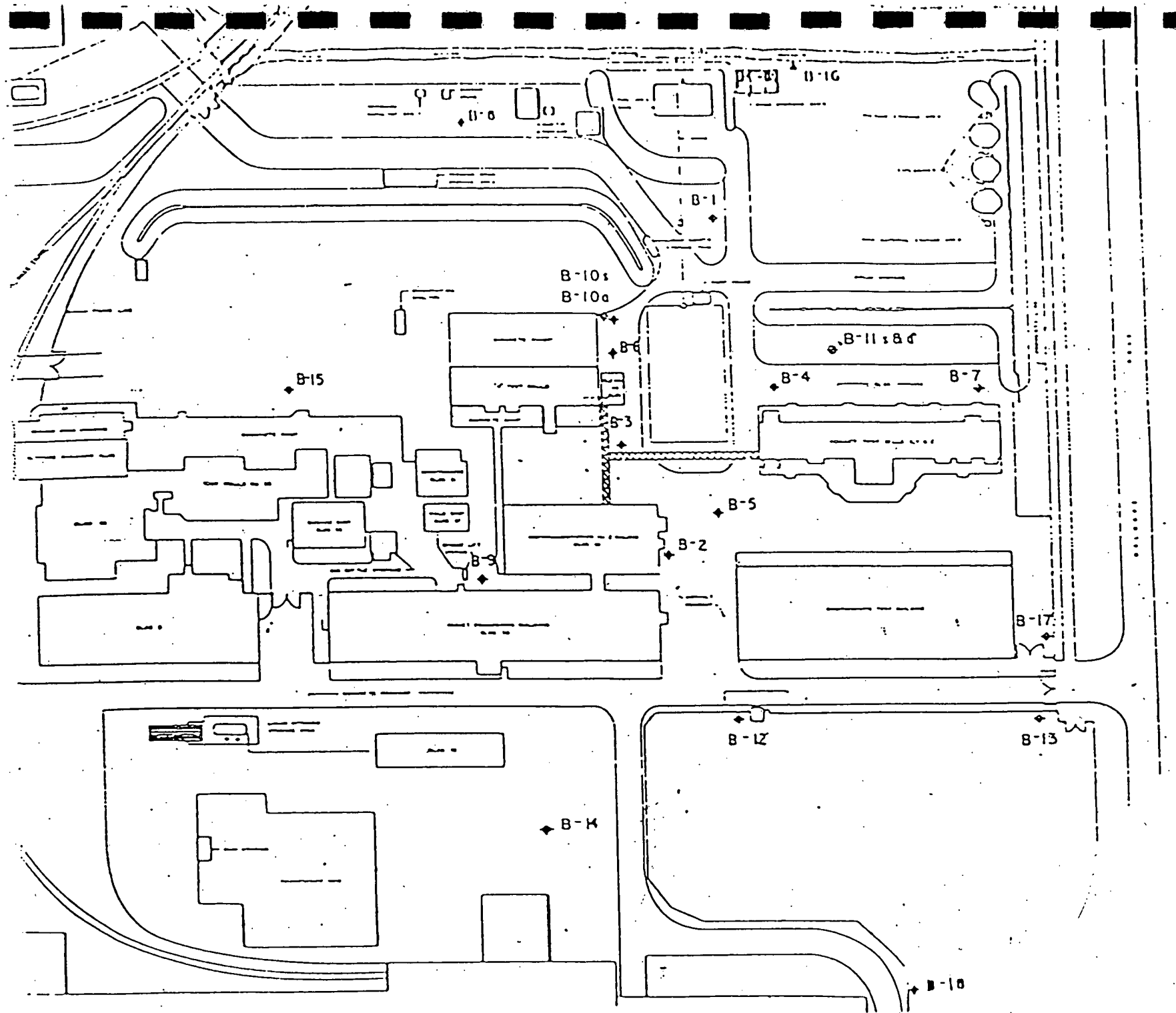


Figure 2. Location of Groundwater Monitoring Wells

GROUNDWATER ELEVATIONS

Groundwater elevation measurements are obtained electronically (i.e. by noting the length of cable with reference to the established monitoring elevations when the amperage of the circuit changes). Only one-eigth of an inch of cable is in contact with the water to minimize potential cross contamination between wells. The cable is cleaned, triple rinsed with distilled water, and dried prior to use.

Groundwater level measurements were obtained by FTA in each of the wells at the site with the exception of well B11-D which is a Bar Cad sampler. The purpose of groundwater level monitoring is to provide a data base for determining groundwater migration patterns and flow rates. A summary of the groundwater elevation data collected between May 1985 and November 1987 is presented in Table 1. The well monitoring reports for September 1987, October 1987, and November 1987 are included in the Appendix to this report. The data from Table 1 are plotted in Figure 3 through Figure 7 to indicate the trends in groundwater elevations measured in the various wells. Construction activities associated with pond closure and the drilling of additional wells may have impacted the groundwater elevations during this quarter.

SAMPLING PERSONNEL

The groundwater elevation measurements, purging and sampling conducted on July 8, 1987 was performed by the following Frontier Technical Associates personnel:

Mr. David M. Harty, P.E., Environmental Engineer
Ms. Suzanne M. Birkholz, Environmental Technician
Dr. P. Michael Terlecky, Geologist

SAMPLING AND PURGING EQUIPMENT

The wells are purged prior to sampling by a vacuum dewatering system (see Figure 8). Each well has a dedicated length of polyethylene tubing which is inserted into the well. The tubing is connected to two, five gallon glass bottles in series and then to a rotary vacuum pump.

Table 1. Groundwater Elevation Measurements above MSL in Wells at Bell Aerospace Textron

Date	B-1.	B-3	B-4	B-5	B-6	B-7	B-8	B-9	B-10S	B-10A	B-11S	B-12	B-13	B-14	B-15	B-16	B-17	B-18
5/6/85	579.78	580.12	580.59	580.68	579.55	579.39	581.90	579.40	579.55	578.83	579.20	578.53	579.14	575.59	578.67	578.34	578.07	577.05
6/5/85	579.22	580.05	580.45	580.75	579.21	579.29	581.22	579.49	579.30	577.96	578.57	578.63	576.06	575.02	578.38	576.22	577.19	577.35
6/18/85	579.02	580.03	580.34	580.95	579.16	579.29	580.04	579.59	579.09	578.85	578.95	578.56	577.98	575.48	578.72	577.64	578.54	577.30
7/3/85	579.30	579.84	580.56	580.56	579.16	579.52	580.82	579.39	579.27	578.09	579.22	579.00	577.31	574.81	578.16	577.01	578.07	577.50
7/16/85	578.58	579.43	580.26	580.65	578.54	579.08	580.16	578.95	578.70	577.80	578.73	578.46	576.58	574.31	578.00	576.39	577.34	577.18
7/19/85**	-	-	580.09	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8/7/85	577.94	579.38	580.00	579.87	578.45	578.95	578.86	578.61	578.42	577.45	578.68	578.33	576.44	573.92	577.54	576.15	577.47	576.85
8/27/85	577.79	579.48	579.79	580.25	578.36	578.51	578.36	578.52	578.34	577.25	578.34	577.97	575.87	573.95	577.63	576.02	576.95	576.70
9/4/85	577.80	579.60	579.91	580.15	578.42	578.44	578.20	578.75	578.37	577.07	578.34	577.82	576.01	573.35	577.38	575.93	576.58	576.43
10/2/85	577.92	579.07	579.39	579.69	578.10	578.29	578.30	578.17	578.13	577.04	578.13	577.90	575.83	573.36	577.08	575.74	576.88	576.34
11/6/85	579.99	580.60	580.54	581.03	579.56	579.30	580.75	579.30	579.66	580.62	579.91	579.61	580.11	578.05	582.09	580.32	580.65	578.43
12/4/85	579.92	580.29	580.69	580.70	579.34	579.10	580.69	579.46	579.58	579.77	579.57	579.19	577.71	576.30	580.01	578.68	578.59	578.13
1/2/86	579.11	580.12	580.18	580.08	579.31	578.23	579.99	578.99	579.22	578.05	578.47	577.75	575.67	574.48	578.80	576.84	576.45	576.71
2/5/86	580.24	580.72	580.82	***	580.08	579.35	581.17	579.73	580.11	579.75	579.77	579.32	578.92	577.14	579.93	579.32	579.09	578.03
3/5/86	579.88	580.28	580.48	580.45	579.66	579.16	580.84	579.26	579.79	578.99	579.28	578.86	576.96	575.69	579.26	577.82	577.69	577.67
4/2/86	579.51	580.37	580.69	580.17	579.56	579.13	580.80	579.43	579.64	578.18	579.00	578.55	575.85	574.84	579.03	577.00	576.57	577.32
5/7/86	580.65	580.46	581.17	580.27	580.04	580.62	581.72	579.89	580.34	579.77	580.06	579.62	578.56	576.43	579.61	578.82	578.72	578.43
6/30/86	578.77	579.83	580.44	580.50	578.94	579.48	579.50	579.13	579.06	578.21	578.78	578.52	576.69	573.79	578.00	577.09	577.50	577.35
7/9/86	578.88	579.97	580.39	580.63	579.06	579.61	579.57	579.07	579.30	578.29	578.98	578.94	577.02	574.87	577.96	577.16	577.94	577.64
8/6/86	580.04	580.60	581.02	581.04	579.76	579.99	581.47	579.52	579.94	578.86	579.90	579.50	577.44	575.86	578.51	577.94	578.43	578.45
9/2/86	578.93	579.84	580.49	580.88	578.96	579.54	579.56	579.04	579.16	578.24	579.32	578.85	577.01	574.62	577.69	577.15	577.88	577.60
10/8/86	580.73	580.88	581.17	581.34	580.02	580.41	581.91	579.64	581.36	580.19	579.64	580.01	578.90	576.93	579.68	579.17	579.23	579.03
11/5/86	579.10	580.55	580.54	580.72	579.65	579.58	580.51	579.29	579.96	578.89	579.42	578.80	576.48	575.34	578.64	577.59	577.34	577.94
12/3/86	581.01	581.17	581.09	581.02	579.52	580.09	582.15	580.21	580.72	581.07	580.44	580.18	580.51	578.09	580.16	580.61	580.54	579.05
1/7/87	580.01	580.34	580.70	580.15	579.70	579.56	581.44	579.46	579.82	578.92	579.18	578.36	576.94	575.40	578.94	577.80	577.03	577.42
2/4/87	580.05	580.10	****	****	579.35	579.84	581.35	578.90	579.55	579.51	579.10	578.84	579.35	575.39	578.96	579.93	578.93	577.59
3/4/87	580.24	580.26	580.51	580.23	579.29	579.57	581.68	578.84	579.61	579.51	579.22	579.15	577.57	576.64	579.59	578.73	578.27	578.03
4/7/87	581.48	581.06	581.24	581.10	580.40	580.78	582.52	580.16	580.67	581.15	580.83	580.64	579.90	578.39	580.75	580.72	580.67	579.58
5/7/87	579.57	580.05	580.49	579.90	579.26	579.74	581.25	579.28	579.59	578.26	579.23	578.50	576.55	575.02	578.40	577.29	577.08	577.32
6/3/87	579.49	580.11	580.58	580.34	579.26	580.10	581.10	579.08	579.50	578.34	579.60	579.21	577.22	575.29	578.01	577.59	577.95	577.82
7/8/87	579.11	580.07	580.60	580.22	579.01	580.25	580.08	578.87	579.35	578.23	579.30	577.92	576.91	574.82	577.63	577.20	577.76	577.64
8/5/87	580.02	580.46	581.01	580.94	579.49	580.47	581.48	579.42	579.80	579.20	580.03	579.57	577.92	576.41	578.65	578.08	578.99	578.68
9/9/87	579.33	580.23	580.54	580.73	579.11	579.63	580.84	577.98	579.20	578.50	579.05	578.66	576.73	575.07	577.85	577.45	577.74	577.28
10/6/87	578.41	577.37	580.19	580.32	576.49	579.14	580.85	577.09	577.14	577.57	578.39	577.67	576.47	575.06	576.38	576.61	577.46	577.15
11/4/87	577.94	577.23	580.28	579.97	576.54	578.68	581.11	576.66	577.07	577.58	578.28	578.40	576.03	575.22	577.41	576.88	577.28	576.80

10/7 ?

** An additional measurement was obtained when a sample was obtained to replace one broken in shipment.

*** No measurement could be made as well was under a puddle.

**** Well caps frozen on. Caps could not be removed.

FRONTIER TECHNICAL ASSOCIATES INC.
8675 Sheridan Drive Buffalo New York 14221

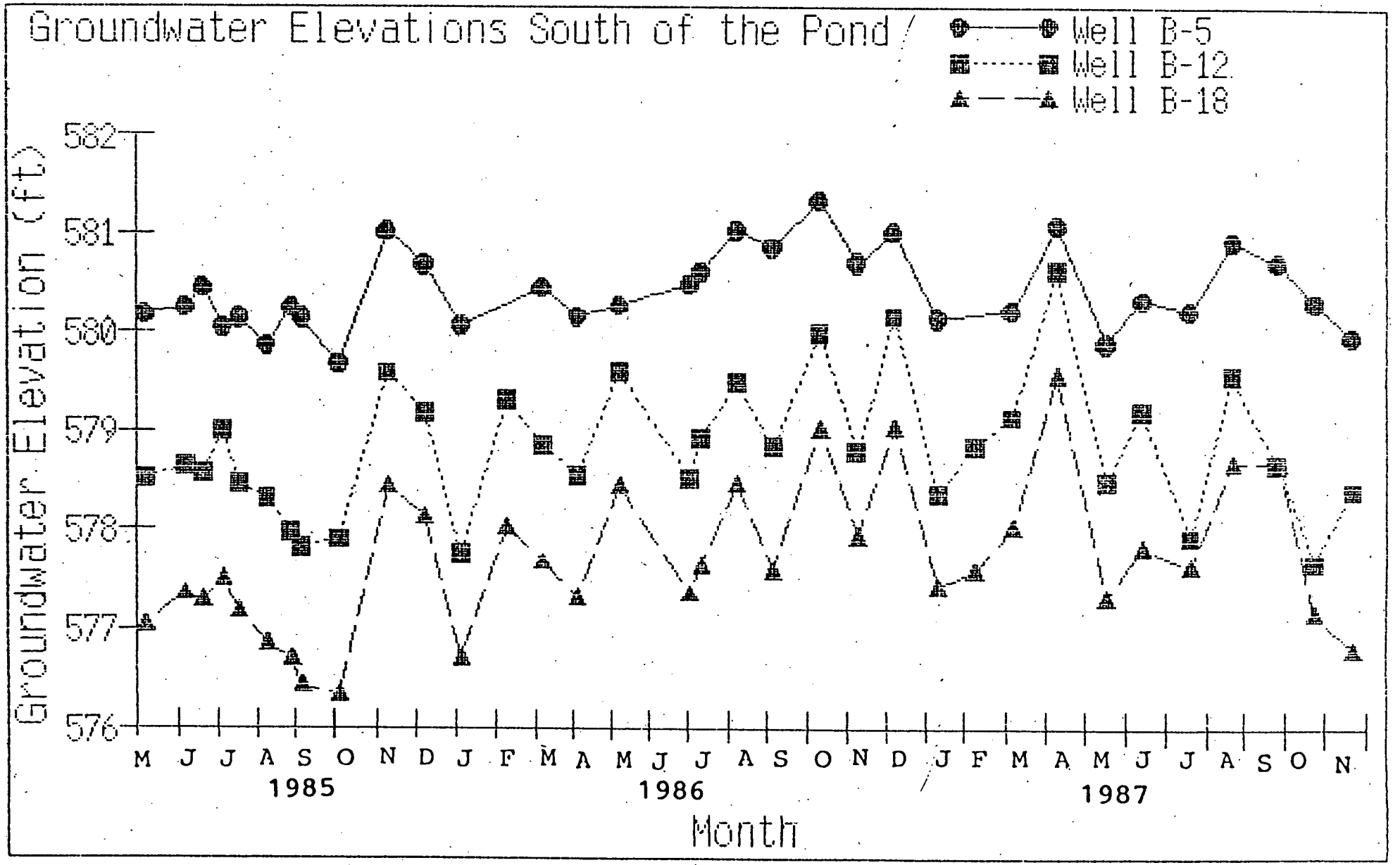


Figure 3. Groundwater Elevations in Wells South of the Pond

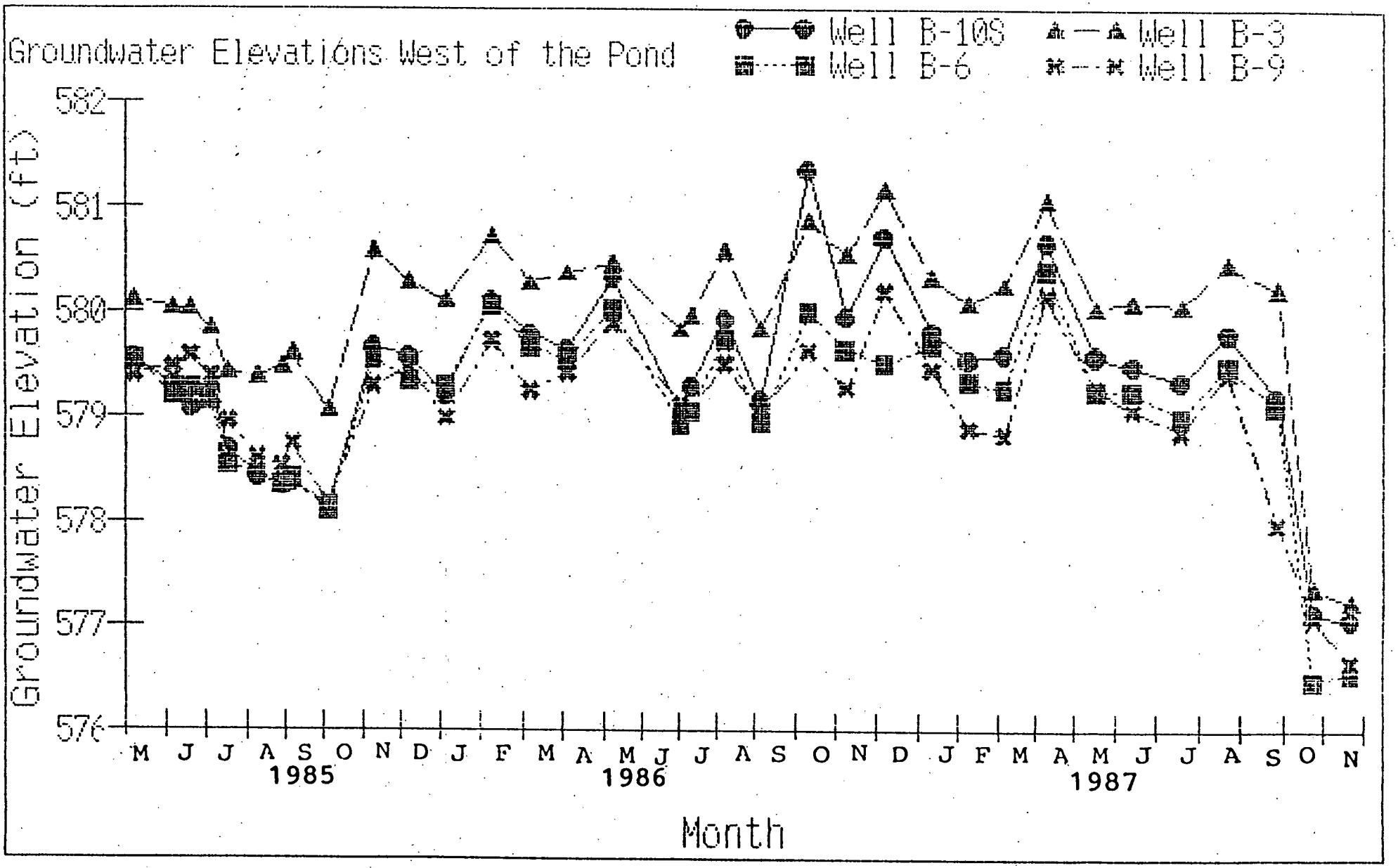


Figure 4. Groundwater Elevations in Wells West of the Pond

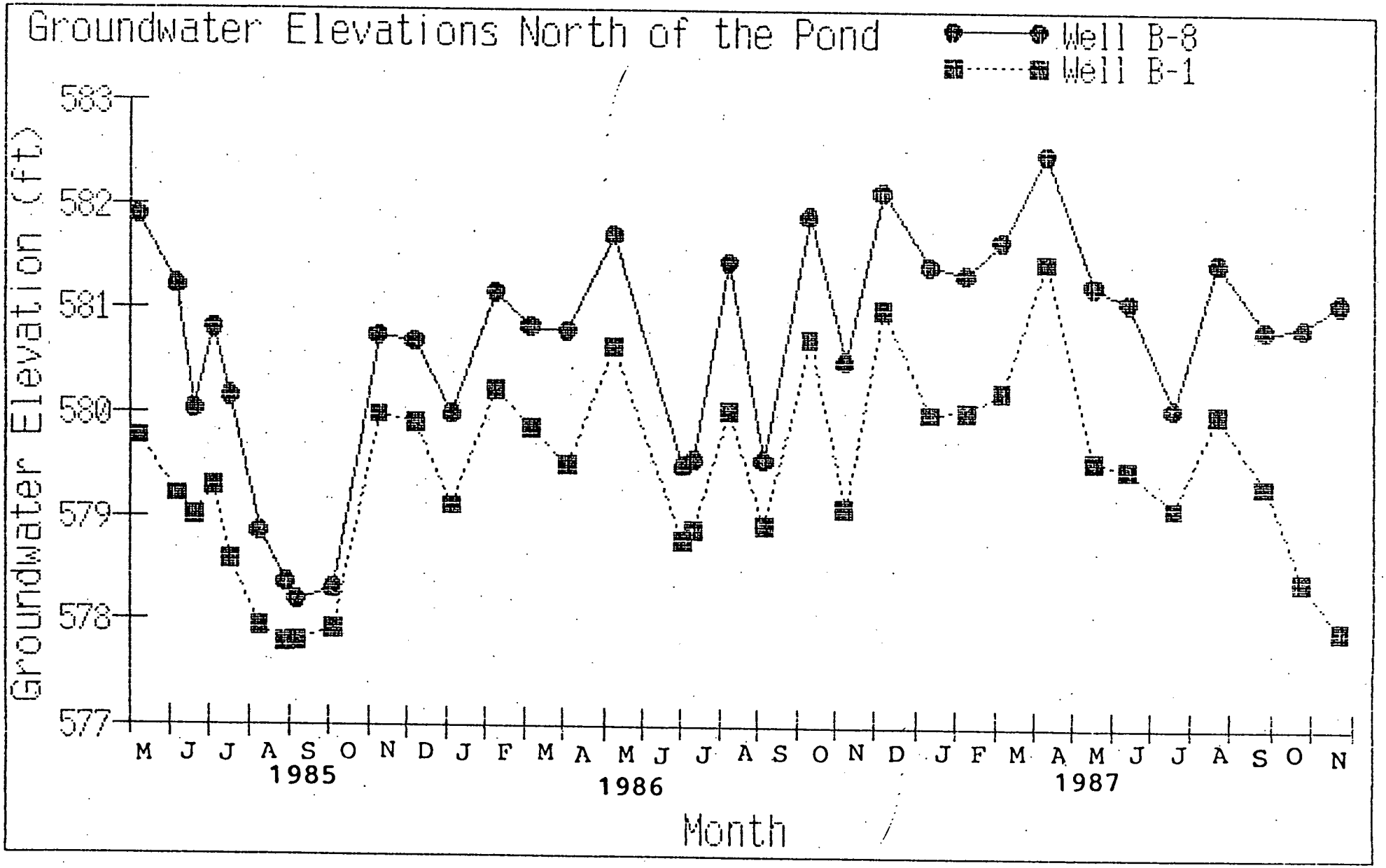


Figure 5. Groundwater Elevations in Wells North of the Pond

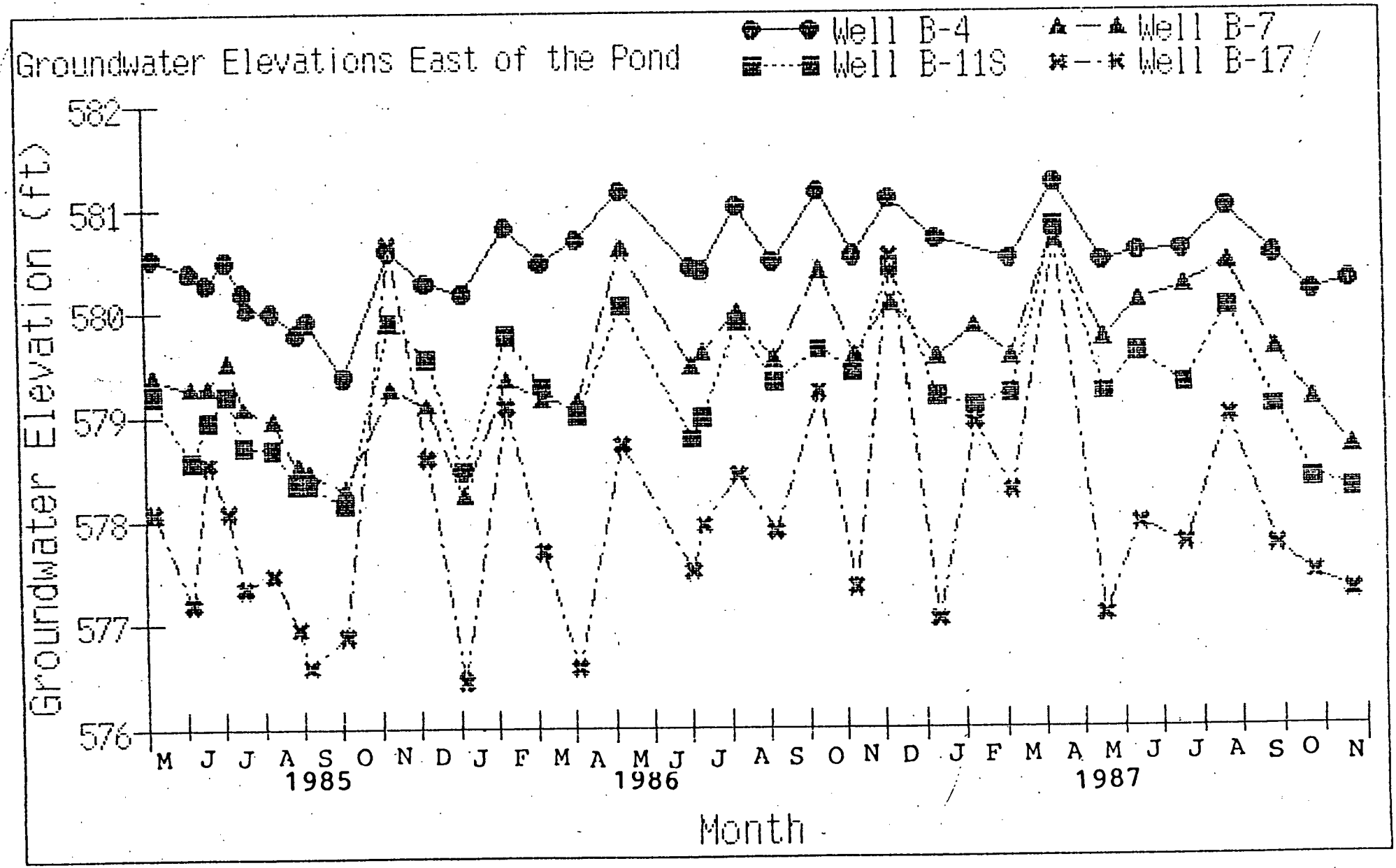


Figure 6. Groundwater Elevations in Wells East of the Pond

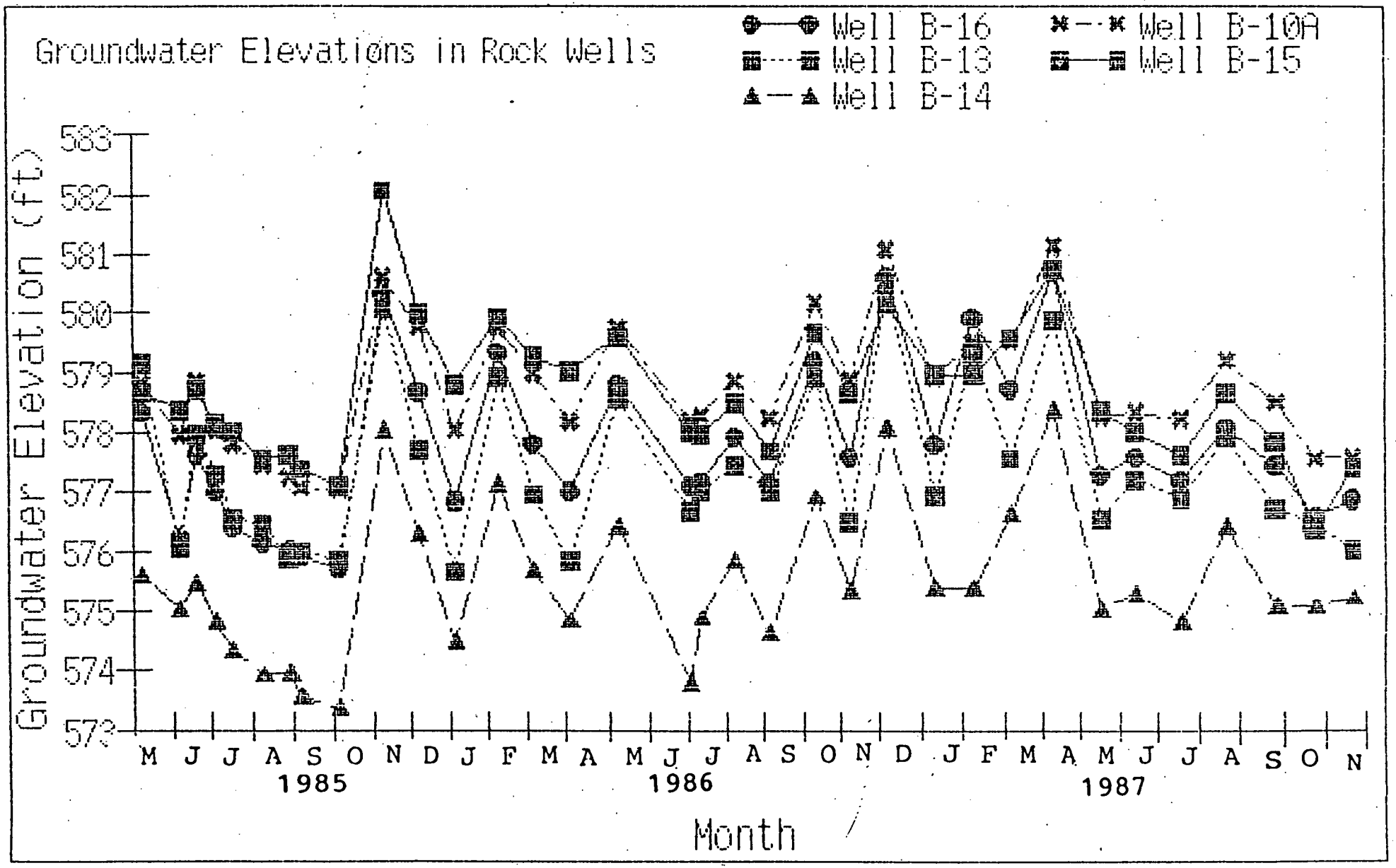
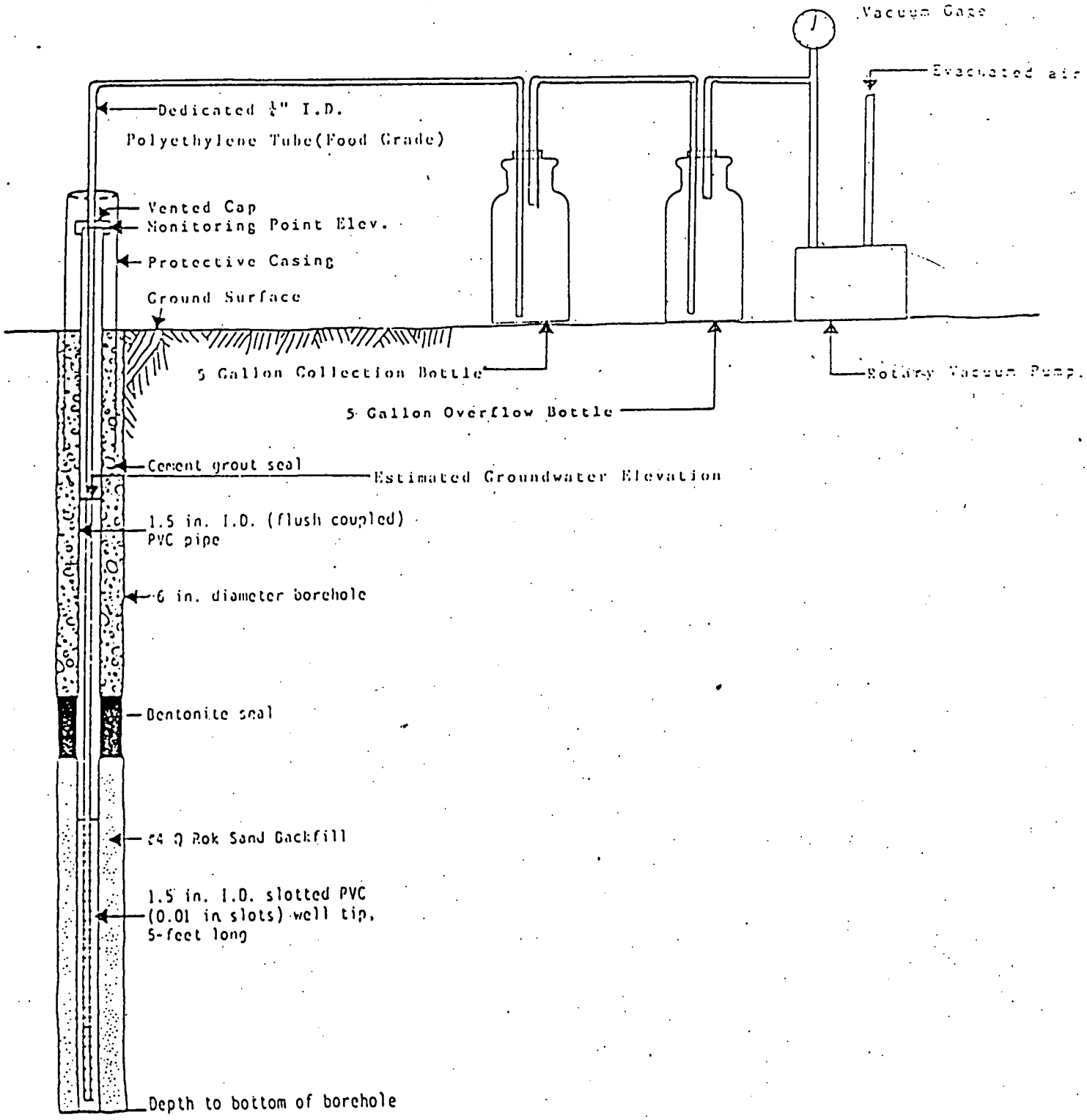


Figure 7. Groundwater Elevations in "Rock" Wells

Figure 8. FTA Well Purging System.



The vacuum pump evacuates air from the bottles and tubing, and then draws the well water into the first bottle. Well water elevations are obtained before and after purging. In addition, the volume of water removed during purging is measured and recorded. The well purging data is located in the appendix to this report. A minimum of three volumes of water from the well casing are removed during purging. The water is transferred from the five gallon bottles to 55 gallon drums for proper disposal by BAT.

Samples are obtained from each of the wells, except well B-11D (see note below) by bailing with a dedicated bailer for each individual well. Bailers are constructed of threaded PVC with a steel clip and polypropylene cord. The sample is in contact with the bailer for only approximately ten seconds which reduces the possiblity of vinyl chloride contamination. A field blank was obtained to determine the potential for vinyl chloride leaching from the bailer. The well casing and screens are PVC, and if leaching is occurring, the dominant source would be the well casing and not the bailer.

Well B-11D contains a Bar Cad Sampler which consists of two narrow tubes connected to a porous stone. A sample from this well was obtained by pressurizing the outside tube using compressed air and forcing the water up the narrow tube directly into the sample bottles.

All tubing, cords and bailers for each well are stored in separate containers to minimize potential cross-contamination. All equipment is cleaned in accordance with procedures described in the interim groundwater monitoring plan.

SAMPLING PRESERVATION AND SHIPPING PROCEDURES

Preservation of all samples was conducted in accordance with established USEPA protocols and procedures. The samples for pH, specific conductance and temperature were analyzed immediately in the field. The volatile samples were collected and preserved in accordance with the established EPA method. Proper chain-of-custody control was maintained on all samples. Copies of the chain-of-custody records are found in the appendix of this report.

ANALYTICAL LABORATORIES AND METHODS

Two New York State Certified Laboratories were used in this monitoring program to provide the proper mix of specialties required. The laboratories used by FTA during the sampling program and the pollutant parameters measured by each of the laboratories are summarized below:

1. Frontier Technical Associates, Inc.
   8675 Sheridan Drive
   Buffalo, NY 14221
   Laboratory Director: Dr. P. Michael Terlecky
   Parameters Analyzed: pH, Temperature, Specific Conductance
   New York State Certification No. 10475

2. Princeton Testing Laboratory
   P.O. Box 3108
   Princeton, NJ 08540
   Organic Laboratory Manager: Charles Corcoran
   Parameters Analyzed: Volatile Pollutants (Method 624)
   New York State Certification No. 10775

The approved USEPA analytical methods used to measure the pollutants are listed below:

Pollutant	EPA Method No.
pH	150.1
Specific Conductance	120.1
Temperature	170.1
Volatile Pollutants	624

A detailed description of these methods can be found in the following two USEPA publications:

1. USEPA, "Methods for Chemical Analysis of Water and Wastes," EPA-600/4-79-020, Revised March 1984.

2. USEPA, "Test Methods for Evaulating Solid Waste," SW-846, Revised 1984.

RESULTS OF GROUNDWATER ANALYSES

The analytical results from the samples obtained are presented in Tables 2 through 20 and in the appendix to this report. In general, the pollutant concentrations and distribution were similiar to previous measurements at this site. The results of this monitoring are summarized below either by parameter or groups of parameters.

pH

Four replicate analyses were obtained for pH from each of the wells in accordance with the interim groundwater monitoring plan. The average of four pH readings at each location ranged from 6.49 (Well B-11S) to 10.13 (Well B-9). The pH measurements in all but one of the wells are within the range of expected values for groundwater. Well B-9's average pH of 10.13 has been consistently higher than expected. The high pH readings for this well may be related to the nearby foundation walls (alkaline characteristics of concrete), the sewage lift station, or some unidentified condition. There is no established correlation between pH and known contamination at this site.

In general, the pH measurements in each of the wells were consistent with past measurements except for Well B-10A. This well has exhibited significant pH and conductivity variations over the past 18 months. The pH has varied as follows:

Date	pH
07/09/86	8.23
10/08/86	7.26
01/07/87	8.19
04/07/87	7.36
07/08/87	9.15
10/07/87	7.39

The cause(s) of this variation in pH are unknown, but may be related to the slow recharge of this well during purging.

Specific Conductance

Four replicate analyses were also obtained to measure specific conductance in each well. The average specific conductance ranged from 930 to 9,929 micromhos/cm in the wells. The overall average conductivity from all the wells is 2,670 micromhos/cm. The conductivity measurements in most of the wells were essentially the same as previous quarterly monitoring. In general, specific conductance does not appear to be an indicator of known contamination at this site.

Volatile Organic Compounds

Each of the wells was sampled and analyzed to determine the concentration of volatile organic compounds in the groundwater. The results of these analyses are presented in Tables 2 through 20. Eight of the volatile compounds measured by EPA Method 624 were present above the detection limit in one or more wells. The following volatile compounds were present in one or more wells:

Methylene Chloride
Trichloroethylene
Trans 1,2-Dichloroethylene
Chloroform
Vinyl Chloride
Trichlorofluoromethane
1,1-Dichloroethene
Chloroethane

Of the above, the following volatile compounds were found in concentrations greater than 0.5 mg/l (500 ppb):

Chemical	Wells
Methylene Chloride	B-3, B-4, B-6, B-10S, B-10A, B-11D, B-11S, B-13, B-14
Trans-1,2-Dichloroethylene	B-1, B-6, B-10S, B-10A, B-11D, B-14, B-16, B-18
Trichloroethylene	B-1, B-3, B-4, B-6, B-10S, B-10A, B-11D, B-11S, B-17, B-18
Chloroform	B-10S
Trichlorofluoromethane	B-6, B-10S, B-10A, B-11D, B-11S, B-14, B-16
Vinyl Chloride	B-10S, B-11D
Chloroethane	B-14

In general, the concentrations and distribution of these volatile compounds are similar to those observed during previous quarterly sampling. However, the high concentration gradients in the area near the former pond result in apparently wide fluctuations in the concentrations in these wells. The concentrations of volatile chemicals in the wells are too variable, and the data base is too small to draw any significant conclusions as to the direction and rate of migration for individual chemicals.

NOTES AND OBSERVATIONS

During the purging and sampling of the wells, several observations were made regarding the well water quality and well integrity. The "soil" wells all contained silt and/or clay-sized material which had entered through the sand pack around the wells and through the well screen and settled in the bottom of the well. When the wells were purged, the soil was resuspended and pumped out of the wells with the water, however, the sediment continued to re-enter the wells during recharge and caused relatively high turbidity in the samples.

The "rock wells" all had a hydrogen sulfide odor when purged. Well B-10A (a rock well near the H & K Test Cells) may be nonfunctional. Typically this well, along with the other "rock wells," would not be significantly drawn down during purging, however, during the last three sampling episodes, when this well was purged, virtually all the water from the well was removed. This suggests that the well screens are partially blocked.

Construction activities and pond closure activities were occurring during the time span covered by this report. During October, soils and sediments from the former pond were removed, the area filled with low permeability clay, and the area was capped and covered with top soil.

QUALITY CONTROL AND QUALITY ASSURANCE PROGRAM

Frontier Technical Associates quality assurance and quality control (QA/QC) program follows the program outlined in the Interim Groundwater Monitoring Plan. The program includes all aspects of the sampling analysis of the groundwater. The field equipment (pH and specific conductance meters) were calibrated in the field, and the results are recorded in a permanent notebook. Both the pH meter and conductivity meter were calibrated four times during the day the analyses were conducted.

A trip blank was prepared and analyzed in accordance with the Interim Groundwater Monitoring Plan. Distilled water was placed and sealed in a volatile pollutant sampling bottle in the laboratory prior to shipment into the field. This sample is used to check the sample container and laboratory environment. The results of the analyses of the trip blank are presented in Table 21. A trace of methylene chloride was detected in the trip blank. Since the sample bottles are not opened nor is methylene chloride present in our laboratory, laboratory contamination is suspected (see below also).

A field blank was also prepared to check the sampling environment. Distilled water was poured through a bailer (prior to use) and analyzed. The bailer for well B-14 was selected. The results of the analysis of the field blank are presented in Table 21. Methylene chloride was detected in the field blank. One of the laboratories' internal blanks also detected methylene chloride at a concentration similar to that found in the trip and field blanks. The presence of methylene chloride in both the trip and field blanks and the internal laboratory blanks strongly suggest low levels of laboratory contamination. It should be noted that PVC (polyvinyl chloride) bailers from which the field blank was taken did not leach any detectable vinyl chloride into the sample.

Duplicate samples were obtained and analyzed on 10% of the samples. The wells were randomly selected from two sets of wells--wells with low concentrations, and wells with high concentrations of pollutants. The wells selected were wells B-3 and B-13, and the results of these duplicate analyses are presented in Table 22. The duplicate analysis for Well B-3 produced fairly consistent results considering the nature of volatile pollutant analyses. The duplicate analysis for Well B-13 did not fare as well since the duplicate analysis did not detect the presence of vinyl chloride, trans-1,2-dichloroethylene and trichloroethylene. This may be due to different dilution ratios.

The surrogate spike and recovery data for each of the samples is presented in the Appendix of this report. Toluene-d8, 4-Bromofluorobenzene, and 1,2-Dichloroethane-d4 were added to the sample matrix in known concentrations by the laboratory to evaluate spike recovery.

The matrix spike data for the water from Wells B-9 and B-10S are presented in the Appendix of this report.

Table 2. Results of Groundwater Sampling and Analysis in Well B-1.

Parameter	Concentration (mg/l)	
Date	7/8/87	10/7/87
pH (a)*	8.09	8.06
pH (b)	8.11	8.07
pH (c)	8.12	8.06
pH (d)	8.10	8.07
Specific Conductance (a)**	2860	3220
Specific Conductance (b)	2860	3220
Specific Conductance (c)	2860	3220
Specific Conductance (d)	2860	3220
Chloromethane	ND	ND
Bromomethane	ND	ND
Vinyl chloride	1.1	ND
Chloroethane	ND	ND
Methylene chloride	0.670	ND
Trichlorofluoromethane	ND	ND
1,1-Dichloroethene	ND	ND
1,1-Dichloroethane	ND	ND
Trans-1,2-Dichloroethene	26	9.0
Chloroform	ND	ND
1,2-Dichloroethane	ND	ND
1,1,1-Trichloroethane	ND	ND
Carbon tetrachloride	ND	ND
Bromodichloromethane	ND	ND
1,2-Dichloropropane	ND	ND
Trans-1,3-Dichloropropene	ND	ND
Trichloroethylene	7	8.7
Dibromochloromethane	ND	ND
1,1,2-Trichloroethane	ND	ND
Benzene	ND	ND
Cis-1,3-Dichloropropene	ND	ND
2-Chloroethylvinyl ether	ND	ND
Bromoform	ND	ND
Tetrachloroethylene	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND
Toluene	ND	ND
Chlorobenzene	ND	ND
Ethylbenzene	ND	ND
1,2-Dichlorobenzene	ND	ND
1,3-Dichlorobenzene	ND	ND
1,4-Dichlorobenzene	ND	ND

2600 initial checks corrected for temp o/c

* pH is measured in standard units. The ( ) represents the results of one of four replicate samples.

**Specific conductance is measured in umhos/cm. The ( ) represents the results of one of four replicate samples. Corrected to 25 degrees Celsius.

ND-Not Detected (See Laboratory Reports for Analytical Detection Levels)

Table 3. Results of Groundwater Sampling and Analysis in Well B-3.

Parameter	Concentration (mg/l)	
Date	7/8/87	10/7/87
pH (a)*	7.08	7.14
pH (b)	7.07	7.12
pH (c)	7.10	7.13
pH (d)	7.08	7.13
Specific Conductance (a)**	630	930
Specific Conductance (b)	630	930
Specific Conductance (c)	630	930
Specific Conductance (d)	630	930
Chloromethane	ND	ND
Bromomethane	ND	ND
Vinyl chloride	ND	ND
Chloroethane	ND	ND
Methylene chloride	200	10.0
Trichlorofluoromethane	ND	ND
1,1-Dichloroethene	ND	ND
1,1-Dichloroethane	ND	ND
Trans-1,2-Dichloroethene	ND	ND
Chloroform	5.4	ND
1,2-Dichloroethane	ND	ND
1,1,1-Trichloroethane	ND	ND
Carbon tetrachloride	ND	ND
Bromodichloromethane	ND	ND
1,2-Dichloropropane	ND	ND
Trans-1,3-Dichloropropene	ND	ND
Trichloroethylene	1.0	4.7
Dibromochloromethane	ND	ND
1,1,2-Trichloroethane	ND	ND
Benzene	ND	ND
Cis-1,3-Dichloropropene	ND	ND
2-Chloroethylvinyl ether	ND	ND
Bromoform	ND	ND
Tetrachloroethylene	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND
Toluene	ND	ND
Chlorobenzene	ND	ND
Ethylbenzene	ND	ND
1,2-Dichlorobenzene	ND	ND
1,3-Dichlorobenzene	ND	ND
1,4-Dichlorobenzene	ND	ND

* pH is measured in standard units. The ( ) represents the results of one of four replicate samples.

**Specific conductance is measured in umhos/cm. The ( ) represents the results of one of four replicate samples. Corrected to 25 degrees Celsius.

ND-Not Detected (See Laboratory Reports for Analytical Detection Levels)

Table 4. Results of Groundwater Sampling and Analysis in Well B-4.

Parameter	Concentration (mg/l)	
Date	7/8/87	10/7/87
pH (a)*	6.98	7.10
pH (b)	7.00	7.08
pH (c)	7.01	7.09
pH (d)	7.00	7.09
Specific Conductance (a)**	1680	1650
Specific Conductance (b)	1680	1650
Specific Conductance (c)	1680	1650
Specific Conductance (d)	1680	1650
Chloromethane	ND	ND
Bromomethane	ND	ND
Vinyl chloride	ND	ND
Chloroethane	ND	ND
Methylene chloride	830	3100
Trichlorofluoromethane	ND	ND
1,1-Dichloroethene	ND	ND
1,1-Dichloroethane	ND	ND
Trans-1,2-Dichloroethene	8.2	ND
Chloroform	7.4	ND
1,2-Dichloroethane	ND	ND
1,1,1-Trichloroethane	ND	ND
Carbon tetrachloride	ND	ND
Bromodichloromethane	ND	ND
1,2-Dichloropropane	ND	ND
Trans-1,3-Dichloropropene	ND	ND
Trichloroethylene	420	97.0
Dibromochloromethane	ND	ND
1,1,2-Trichloroethane	ND	ND
Benzene	ND	ND
Cis-1,3-Dichloropropene	ND	ND
2-Chloroethylvinyl ether	ND	ND
Bromoform	ND	ND
Tetrachloroethylene	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND
Toluene	ND	ND
Chlorobenzene	ND	ND
Ethylbenzene	ND	ND
1,2-Dichlorobenzene	ND	ND
1,3-Dichlorobenzene	ND	ND
1,4-Dichlorobenzene	ND	ND

* pH is measured in standard units. The ( ) represents the results of one of four replicate samples.

**Specific conductance is measured in umhos/cm. The ( ) represents the results of one of four replicate samples. Corrected to 25 degrees Celsius.

ND-Not Detected (See Laboratory Reports for Analytical Detection Levels)

Table 5. Results of Groundwater Sampling and Analysis in Well B-5.

Parameter	Concentration (mg/l)	
Date	7/8/87	10/7/87
pH (a)*	6.85	6.94
pH (b)	6.88	6.96
pH (c)	6.85	6.95
pH (d)	6.88	6.95
Specific Conductance (a)**	1100	1240
Specific Conductance (b)	1100	1240
Specific Conductance (c)	1100	1240
Specific Conductance (d)	1100	1240
Chloromethane	ND	ND
Bromomethane	ND	ND
Vinyl chloride	ND	ND
Chloroethane	ND	ND
Methylene chloride	ND	0.210
Trichlorofluoromethane	ND	0.010
1,1-Dichloroethene	ND	ND
1,1-Dichloroethane	ND	ND
Trans-1,2-Dichloroethene	0.037	ND
Chloroform	ND	ND
1,2-Dichloroethane	ND	ND
1,1,1-Trichloroethane	ND	ND
Carbon tetrachloride	ND	ND
Bromodichloromethane	ND	ND
1,2-Dichloropropane	ND	ND
Trans-1,3-Dichloropropene	ND	ND
Trichloroethylene	ND	0.042
Dibromochloromethane	ND	ND
1,1,2-Trichloroethane	ND	ND
Benzene	ND	ND
Cis-1,3-Dichloropropene	ND	ND
2-Chloroethylvinyl ether	ND	ND
Bromoform	ND	ND
Tetrachloroethylene	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND
Toluene	ND	ND
Chlorobenzene	ND	ND
Ethylbenzene	ND	ND
1,2-Dichlorobenzene	ND	ND
1,3-Dichlorobenzene	ND	ND
1,4-Dichlorobenzene	ND	ND

* pH is measured in standard units. The ( ) represents the results of one of four replicate samples.

**Specific conductance is measured in umhos/cm. The ( ) represents the results of one of four replicate samples. Corrected to 25 degrees Celsius.

ND-Not Detected (See Laboratory Reports for Analytical Detection Levels)

Table 6. Results of Groundwater Sampling and Analysis in Well B-6.

Parameter	Concentration (mg/l)	
Date	7/8/87	10/7/87
pH (a)*	9.44	9.26
pH (b)	9.41	9.25
pH (c)	9.42	9.26
pH (d)	9.43	9.24
Specific Conductance (a)**	2580	2600
Specific Conductance (b)	2580	2600
Specific Conductance (c)	2580	2600
Specific Conductance (d)	2580	2600
Chloromethane	ND	ND
Bromomethane	ND	ND
Vinyl chloride	ND	ND
Chloroethane	ND	ND
Methylene chloride	300	110
Trichlorofluoromethane	10	10
1,1-Dichloroethene	ND	ND
1,1-Dichloroethane	ND	ND
Trans-1,2-Dichloroethene	ND	7.0
Chloroform	ND	ND
1,2-Dichloroethane	ND	ND
1,1,1-Trichloroethane	ND	ND
Carbon tetrachloride	ND	ND
Bromodichloromethane	ND	ND
1,2-Dichloropropane	ND	ND
Trans-1,3-Dichloropropene	ND	ND
Trichloroethylene	450	390
Dibromochloromethane	ND	ND
1,1,2-Trichloroethane	ND	ND
Benzene	ND	ND
Cis-1,3-Dichloropropene	ND	ND
2-Chloroethylvinyl ether	ND	ND
Bromoform	ND	ND
Tetrachloroethylene	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND
Toluene	ND	ND
Chlorobenzene	ND	ND
Ethylbenzene	ND	ND
1,2-Dichlorobenzene	ND	ND
1,3-Dichlorobenzene	ND	ND
1,4-Dichlorobenzene	ND	ND

* pH is measured in standard units. The ( ) represents the results of one of four replicate samples.

**Specific conductance is measured in umhos/cm. The ( ) represents the results of one of four replicate samples. Corrected to 25 degrees Celsius.

ND-Not Detected (See Laboratory Reports for Analytical Detection Levels)

Table 7. Results of Groundwater Sampling and Analysis in Well B-7.

Parameter	Concentration (mg/l)	
Date	7/8/87	10/7/87
pH (a)*	6.98	7.05
pH (b)	6.99	7.06
pH (c)	6.98	7.05
pH (d)	6.99	7.05
Specific Conductance (a)**	10640	9920
Specific Conductance (b)	10640	9920
Specific Conductance (c)	10640	9920
Specific Conductance (d)	10640	9920
Chloromethane	ND	ND
Bromomethane	ND	ND
Vinyl chloride	ND	ND
Chloroethane	ND	ND
Methylene chloride	ND	0.026
Trichlorofluoromethane	0.035	ND
1,1-Dichloroethene	0.055	0.025
1,1-Dichloroethane	ND	ND
Trans-1,2-Dichloroethene	ND	0.055
Chloroform	4.3	0.020
1,2-Dichloroethane	ND	ND
1,1,1-Trichloroethane	ND	ND
Carbon tetrachloride	ND	ND
Bromodichloromethane	ND	ND
1,2-Dichloropropane	ND	ND
Trans-1,3-Dichloropropene	ND	ND
Trichloroethylene	0.033	0.055
Dibromochloromethane	ND	ND
1,1,2-Trichloroethane	ND	ND
Benzene	ND	ND
Cis-1,3-Dichloropropene	ND	ND
2-Chloroethylvinyl ether	ND	ND
Bromoform	ND	ND
Tetrachloroethylene	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND
Toluene	ND	ND
Chlorobenzene	ND	ND
Ethylbenzene	ND	ND
1,2-Dichlorobenzene	ND	ND
1,3-Dichlorobenzene	ND	ND
1,4-Dichlorobenzene	ND	ND

* pH is measured in standard units. The ( ) represents the results of one of four replicate samples.

**Specific conductance is measured in umhos/cm. The ( ) represents the results of one of four replicate samples. Corrected to 25 degrees Celsius.

ND-Not Detected (See Laboratory Reports for Analytical Detection Levels)

Table 8. Results of Groundwater Sampling and Analysis in Well B-8.

Parameter	Concentration (mg/l)	
Date	7/8/87	10/7/87
pH (a)*	7.02	7.16
pH (b)	6.98	7.18
pH (c)	7.03	7.16
pH (d)	6.96	7.17
Specific Conductance (a)**	1540	1430
Specific Conductance (b)	1540	1430
Specific Conductance (c)	1540	1430
Specific Conductance (d)	1540	1430
Chloromethane	ND	ND
Bromomethane	ND	ND
Vinyl chloride	ND	ND
Chloroethane	ND	ND
Methylene chloride	0.280	0.017
Trichlorofluoromethane	ND	0.010
1,1-Dichloroethene	ND	ND
1,1-Dichloroethane	ND	ND
Trans-1,2-Dichloroethene	ND	ND
Chloroform	ND	ND
1,2-Dichloroethane	ND	ND
1,1,1-Trichloroethane	ND	ND
Carbon tetrachloride	ND	ND
Bromodichloromethane	ND	ND
1,2-Dichloropropane	ND	ND
Trans-1,3-Dichloropropene	ND	ND
Trichloroethylene	ND	0.015
Dibromochloromethane	ND	ND
1,1,2-Trichloroethane	ND	ND
Benzene	ND	ND
Cis-1,3-Dichloropropene	ND	ND
2-Chloroethylvinyl ether	ND	ND
Bromoform	ND	ND
Tetrachloroethylene	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND
Toluene	ND	ND
Chlorobenzene	ND	ND
Ethylbenzene	ND	ND
1,2-Dichlorobenzene	ND	ND
1,3-Dichlorobenzene	ND	ND
1,4-Dichlorobenzene	ND	ND

* pH is measured in standard units. The ( ) represents the results of one of four replicate samples.

**Specific conductance is measured in umhos/cm. The ( ) represents the results of one of four replicate samples. Corrected to 25 degrees Celsius.

ND-Not Detected (See Laboratory Reports for Analytical Detection Levels)

Table 9. Results of Groundwater Sampling and Analysis in Well B-9.

Parameter	Concentration (mg/l)	
Date	7/8/87	10/7/87
pH (a)*	10.20	10.13
pH (b)	10.19	10.12
pH (c)	10.20	10.13
pH (d)	10.20	10.13
Specific Conductance (a)**	1590	1530
Specific Conductance (b)	1590	1530
Specific Conductance (c)	1590	1530
Specific Conductance (d)	1590	1530
Chloromethane	ND	ND
Bromomethane	ND	ND
Vinyl chloride	0.051	0.022
Chloroethane	ND	ND
Methylene chloride	ND	ND
Trichlorofluoromethane	ND	ND
1,1-Dichloroethene	ND	ND
1,1-Dichloroethane	ND	ND
Trans-1,2-Dichloroethene	ND	ND
Chloroform	ND	ND
1,2-Dichloroethane	ND	ND
1,1,1-Trichloroethane	ND	ND
Carbon tetrachloride	ND	ND
Bromodichloromethane	ND	ND
1,2-Dichloropropane	ND	ND
Trans-1,3-Dichloropropene	ND	ND
Trichloroethylene	ND	ND
Dibromochloromethane	ND	ND
1,1,2-Trichloroethane	ND	ND
Benzene	ND	ND
Cis-1,3-Dichloropropene	ND	ND
2-Chloroethylvinyl ether	ND	ND
Bromoform	ND	ND
Tetrachloroethylene	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND
Toluene	ND	ND
Chlorobenzene	ND	ND
Ethylbenzene	ND	ND
1,2-Dichlorobenzene	ND	ND
1,3-Dichlorobenzene	ND	ND
1,4-Dichlorobenzene	ND	ND

* pH is measured in standard units. The ( ) represents the results of one of four replicate samples.

**Specific conductance is measured in umhos/cm. The ( ) represents the results of one of four replicate samples. Corrected to 25 degrees Celsius.

ND-Not Detected (See Laboratory Reports for Analytical Detection Levels)

Table 10. Results of Groundwater Sampling and Analysis in Well B-10S.

Parameter	Concentration (mg/l)	
Date	7/8/87	10/7/87
pH (a)*	8.36	8.52
pH (b)	8.35	8.53
pH (c)	8.34	8.54
pH (d)	8.34	8.53
Specific Conductance (a)**	3420	3160
Specific Conductance (b)	3420	3160
Specific Conductance (c)	3420	3160
Specific Conductance (d)	3420	3160
Chloromethane	ND	ND
Bromomethane	ND	ND
Vinyl chloride	1.2	1.8
Chloroethane	ND	ND
Methylene chloride	11	0.820
Trichlorofluoromethane	ND	2.0
1,1-Dichloroethene	ND	0.025
1,1-Dichloroethane	ND	ND
Trans-1,2-Dichloroethene	6.7	7.4
Chloroform	0.800	1.0
1,2-Dichloroethane	ND	ND
1,1,1-Trichloroethane	ND	ND
Carbon tetrachloride	ND	ND
Bromodichloromethane	ND	ND
1,2-Dichloropropane	ND	ND
Trans-1,3-Dichloropropene	ND	ND
Trichloroethylene	110	72.0
Dibromochloromethane	ND	ND
1,1,2-Trichloroethane	ND	ND
Benzene	ND	ND
Cis-1,3-Dichloropropene	ND	ND
2-Chloroethylvinyl ether	ND	ND
Bromoform	ND	ND
Tetrachloroethylene	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND
Toluene	ND	ND
Chlorobenzene	ND	ND
Ethylbenzene	ND	ND
1,2-Dichlorobenzene	ND	ND
1,3-Dichlorobenzene	ND	ND
1,4-Dichlorobenzene	ND	ND

* pH is measured in standard units. The ( ) represents the results of one of four replicate samples.

**Specific conductance is measured in umhos/cm. The ( ) represents the results of one of four replicate samples. Corrected to 25 degrees Celsius.

ND-Not Detected (See Laboratory Reports for Analytical Detection Levels)

Table 11. Results of Groundwater Sampling and Analysis in Well B-10A.

Parameter	Concentration (mg/l)	
Date	7/8/87	10/7/87
pH (a)*	9.15	7.38
pH (b)	9.17	7.39
pH (c)	9.15	7.38
pH (d)	9.14	7.39
Specific Conductance (a)**	4600	2260
Specific Conductance (b)	4600	2260
Specific Conductance (c)	4600	2260
Specific Conductance (d)	4600	2260
Chloromethane	ND	ND
Bromomethane	ND	ND
Vinyl chloride	ND	ND
Chloroethane	ND	ND
Methylene chloride	780	80
Trichlorofluoromethane	ND	ND
1,1-Dichloroethene	ND	ND
1,1-Dichloroethane	ND	ND
Trans-1,2-Dichloroethene	ND	16
Chloroform	ND	ND
1,2-Dichloroethane	ND	ND
1,1,1-Trichloroethane	ND	ND
Carbon tetrachloride	ND	ND
Bromodichloromethane	ND	ND
1,2-Dichloropropane	ND	ND
Trans-1,3-Dichloropropene	ND	ND
Trichloroethylene	180	240
Dibromochloromethane	ND	ND
1,1,2-Trichloroethane	ND	ND
Benzene	ND	ND
Cis-1,3-Dichloropropene	ND	ND
2-Chloroethylvinyl ether	ND	ND
Bromoform	ND	ND
Tetrachloroethylene	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND
Toluene	ND	ND
Chlorobenzene	ND	ND
Ethylbenzene	ND	ND
1,2-Dichlorobenzene	ND	ND
1,3-Dichlorobenzene	ND	ND
1,4-Dichlorobenzene	ND	ND

* pH is measured in standard units. The ( ) represents the results of one of four replicate samples.

**Specific conductance is measured in umhos/cm. The ( ) represents the results of one of four replicate samples. Corrected to 25 degrees Celsius.

ND-Not Detected (See Laboratory Reports for Analytical Detection Levels)

Table 12. Results of Groundwater Sampling and Analysis in Well B-11S.

Parameter	Concentration (mg/l)	
Date	7/8/87	10/7/87
pH (a)*	6.49	6.48
pH (b)	6.48	6.49
pH (c)	6.48	6.48
pH (d)	6.49	6.49
Specific Conductance (a)**	4700	4510
Specific Conductance (b)	4700	4510
Specific Conductance (c)	4700	4510
Specific Conductance (d)	4700	4510
Chloromethane	ND	ND
Bromomethane	ND	ND
Vinyl chloride	ND	ND
Chloroethane	ND	ND
Methylene chloride	620	390
Trichlorofluoromethane	150	5.1
1,1-Dichloroethene	ND	ND
1,1-Dichloroethane	ND	ND
Trans-1,2-Dichloroethene	ND	ND
Chloroform	0.840	ND
1,2-Dichloroethane	ND	ND
1,1,1-Trichloroethane	ND	ND
Carbon tetrachloride	ND	ND
Bromodichloromethane	ND	ND
1,2-Dichloropropane	ND	ND
Trans-1,3-Dichloropropene	ND	ND
Trichloroethylene	46	0.770
Dibromochloromethane	ND	ND
1,1,2-Trichloroethane	ND	ND
Benzene	ND	ND
Cis-1,3-Dichloropropene	ND	ND
2-Chloroethylvinyl ether	ND	ND
Bromoform	ND	ND
Tetrachloroethylene	ND	ND
1,1,2,2-Tetrachloroethane	0.550	ND
Toluene	ND	ND
Chlorobenzene	ND	ND
Ethylbenzene	ND	ND
1,2-Dichlorobenzene	ND	ND
1,3-Dichlorobenzene	ND	ND
1,4-Dichlorobenzene	ND	ND

* pH is measured in standard units. The ( ) represents the results of one of four replicate samples.

**Specific conductance is measured in umhos/cm. The ( ) represents the results of one of four replicate samples. Corrected to 25 degrees Celsius.

ND-Not Detected (See Laboratory Reports for Analytical Detection Levels)

Table 13. Results of Groundwater Sampling and Analysis in Well B-11D.

Parameter	Concentration (mg/l)	
Date	7/8/87	10/7/87
pH (a)*	7.02	6.97
pH (b)	7.01	6.97
pH (c)	7.04	6.98
pH (d)	7.02	6.97
Specific Conductance (a)**	4480	3890
Specific Conductance (b)	4480	3890
Specific Conductance (c)	4450	3890
Specific Conductance (d)	4450	3890
Chloromethane	ND	ND
Bromomethane	ND	ND
Vinyl chloride	ND	3.950
Chloroethane	ND	ND
Methylene chloride	350	140
Trichlorofluoromethane	9.5	6.9
1,1-Dichloroethene	ND	0.025
1,1-Dichloroethane	ND	ND
Trans-1,2-Dichloroethene	18	25.0
Chloroform	ND	ND
1,2-Dichloroethane	ND	ND
1,1,1-Trichloroethane	ND	ND
Carbon tetrachloride	ND	ND
Bromodichloromethane	ND	ND
1,2-Dichloropropane	ND	ND
Trans-1,3-Dichloropropene	ND	ND
Trichloroethylene	87	51.0
Dibromochloromethane	ND	ND
1,1,2-Trichloroethane	ND	ND
Benzene	ND	ND
Cis-1,3-Dichloropropene	ND	ND
2-Chloroethylvinyl ether	ND	ND
Bromoform	ND	ND
Tetrachloroethylene	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND
Toluene	ND	ND
Chlorobenzene	ND	ND
Ethylbenzene	ND	ND
1,2-Dichlorobenzene	ND	ND
1,3-Dichlorobenzene	ND	ND
1,4-Dichlorobenzene	ND	ND

* pH is measured in standard units. The ( ) represents the results of one of four replicate samples.

**Specific conductance is measured in umhos/cm. The ( ) represents the results of one of four replicate samples. Corrected to 25 degrees Celsius.

ND-Not Detected (See Laboratory Reports for Analytical Detection Levels)

Table 14. Results of Groundwater Sampling and Analysis in Well B-12.

Parameter	Concentration (mg/l)	
Date	7/8/87	10/7/87
pH (a)*	7.24	7.47
pH (b)	7.25	7.49
pH (c)	7.25	7.47
pH (d)	7.25	7.48
Specific Conductance (a)**	1670	1800
Specific Conductance (b)	1670	1800
Specific Conductance (c)	1670	1800
Specific Conductance (d)	1670	1800
Chloromethane	ND	ND
Bromomethane	ND	ND
Vinyl chloride	ND	ND
Chloroethane	ND	ND
Methylene chloride	ND	ND
Trichlorofluoromethane	ND	ND
1,1-Dichloroethene	ND	ND
1,1-Dichloroethane	ND	ND
Trans-1,2-Dichloroethene	0.050	ND
Chloroform	ND	ND
1,2-Dichloroethane	ND	ND
1,1,1-Trichloroethane	ND	ND
Carbon tetrachloride	ND	ND
Bromodichloromethane	ND	ND
1,2-Dichloropropane	ND	ND
Trans-1,3-Dichloropropene	ND	ND
Trichloroethylene	0.044	ND
Dibromochloromethane	ND	ND
1,1,2-Trichloroethane	ND	ND
Benzene	ND	ND
Cis-1,3-Dichloropropene	ND	ND
2-Chloroethylvinyl ether	ND	ND
Bromoform	ND	ND
Tetrachloroethylene	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND
Toluene	ND	ND
Chlorobenzene	ND	ND
Ethylbenzene	ND	ND
1,2-Dichlorobenzene	ND	ND
1,3-Dichlorobenzene	ND	ND
1,4-Dichlorobenzene	ND	ND

* pH is measured in standard units. The ( ) represents the results of one of four replicate samples.

**Specific conductance is measured in umhos/cm. The ( ) represents the results of one of four replicate samples. Corrected to 25 degrees Celsius.

ND-Not Detected (See Laboratory Reports for Analytical Detection Levels)

Table 15. Results of Groundwater Sampling and Analysis in Well B-13.

Parameter	Concentration (mg/l)	
Date	7/8/87	10/7/87
pH (a)*	6.98	7.28
pH (b)	7.02	7.29
pH (c)	7.03	7.29
pH (d)	7.02	7.29
Specific Conductance (a)**	1400	1170
Specific Conductance (b)	1400	1170
Specific Conductance (c)	1400	1170
Specific Conductance (d)	1400	1170
Chloromethane	ND	ND
Bromomethane	ND	ND
Vinyl chloride	ND	0.021
Chloroethane	ND	ND
Methylene chloride	0.880	1.6
Trichlorofluoromethane	ND	ND
1,1-Dichloroethene	ND	ND
1,1-Dichloroethane	ND	ND
Trans-1,2-Dichloroethene	0.330	0.096
Chloroform	ND	ND
1,2-Dichloroethane	ND	ND
1,1,1-Trichloroethane	ND	ND
Carbon tetrachloride	ND	ND
Bromodichloromethane	ND	ND
1,2-Dichloropropane	ND	ND
Trans-1,3-Dichloropropene	ND	ND
Trichloroethylene	0.010	0.340
Dibromochloromethane	ND	ND
1,1,2-Trichloroethane	ND	ND
Benzene	ND	ND
Cis-1,3-Dichloropropene	ND	ND
2-Chloroethylvinyl ether	ND	ND
Bromoform	ND	ND
Tetrachloroethylene	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND
Toluene	ND	ND
Chlorobenzene	ND	ND
Ethylbenzene	ND	ND
1,2-Dichlorobenzene	ND	ND
1,3-Dichlorobenzene	ND	ND
1,4-Dichlorobenzene	ND	ND

* pH is measured in standard units. The ( ) represents the results of one of four replicate samples.

**Specific conductance is measured in umhos/cm. The ( ) represents the results of one of four replicate samples. Corrected to 25 degrees Celsius.

ND-Not Detected (See Laboratory Reports for Analytical Detection Levels)

Table 16. Results of Groundwater Sampling and Analysis in Well B-14.

Parameter	Concentration (mg/l)	
Date	7/8/87	10/7/87
pH (a)*	6.93	7.30
pH (b)	6.96	7.30
pH (c)	6.96	7.29
pH (d)	6.95	7.30
Specific Conductance (a)**	2480	2460
Specific Conductance (b)	2480	2460
Specific Conductance (c)	2480	2460
Specific Conductance (d)	2480	2460
Chloromethane	ND	0.520
Bromomethane	ND	ND
Vinyl chloride	1.4	ND
Chloroethane	ND	ND
Methylene chloride	0.320	0.640
Trichlorofluoromethane	ND	1.1
1,1-Dichloroethene	0.014	ND
1,1-Dichloroethane	0.0072	ND
Trans-1,2-Dichloroethene	0.043	4.8
Chloroform	0.077	ND
1,2-Dichloroethane	ND	ND
1,1,1-Trichloroethane	0.006	ND
Carbon tetrachloride	ND	ND
Bromodichloromethane	ND	ND
1,2-Dichloropropane	ND	ND
Trans-1,3-Dichloropropene	ND	ND
Trichloroethylene	0.012	ND
Dibromochloromethane	ND	ND
1,1,2-Trichloroethane	ND	ND
Benzene	ND	ND
Cis-1,3-Dichloropropene	ND	ND
2-Chloroethylvinyl ether	ND	ND
Bromoform	ND	ND
Tetrachloroethylene	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND
Toluene	ND	ND
Chlorobenzene	ND	ND
Ethylbenzene	ND	ND
1,2-Dichlorobenzene	ND	ND
1,3-Dichlorobenzene	ND	ND
1,4-Dichlorobenzene	ND	ND

* pH is measured in standard units. The ( ) represents the results of one of four replicate samples.

**Specific conductance is measured in umhos/cm. The ( ) represents the results of one of four replicate samples. Corrected to 25 degrees Celsius.

ND-Not Detected (See Laboratory Reports for Analytical Detection Levels)

Table 17. Results of Groundwater Sampling and Analysis in Well B-15.

Parameter	Concentration (mg/l)	
Date	7/8/87	10/7/87
pH (a)*	7.86	7.07
pH (b)	7.85	7.06
pH (c)	7.87	7.07
pH (d)	7.84	7.05
Specific Conductance (a)**	1100	1610
Specific Conductance (b)	1100	1610
Specific Conductance (c)	1100	1610
Specific Conductance (d)	1100	1610
Chloromethane	ND	ND
Bromomethane	ND	ND
Vinyl chloride	ND	0.075
Chloroethane	ND	ND
Methylene chloride	1.6	ND
Trichlorofluoromethane	ND	ND
1,1-Dichloroethene	ND	ND
1,1-Dichloroethane	ND	ND
Trans-1,2-Dichloroethene	2.4	ND
Chloroform	ND	ND
1,2-Dichloroethane	ND	ND
1,1,1-Trichloroethane	ND	ND
Carbon tetrachloride	ND	ND
Bromodichloromethane	ND	ND
1,2-Dichloropropane	ND	ND
Trans-1,3-Dichloropropene	ND	ND
Trichloroethylene	ND	ND
Dibromochloromethane	ND	ND
1,1,2-Trichloroethane	ND	ND
Benzene	ND	ND
Cis-1,3-Dichloropropene	ND	ND
2-Chloroethylvinyl ether	ND	ND
Bromoform	ND	ND
Tetrachloroethylene	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND
Toluene	ND	ND
Chlorobenzene	ND	ND
Ethylbenzene	ND	ND
1,2-Dichlorobenzene	ND	ND
1,3-Dichlorobenzene	ND	ND
1,4-Dichlorobenzene	ND	ND

* pH is measured in standard units. The ( ) represents the results of one of four replicate samples.

**Specific conductance is measured in umhos/cm. The ( ) represents the results of one of four replicate samples. Corrected to 25 degrees Celsius.

ND-Not Detected (See Laboratory Reports for Analytical Detection Levels)

Table 18. Results of Groundwater Sampling and Analysis in Well B-16.

Parameter	Concentration (mg/l)	
Date	7/8/87	10/7/87
pH (a)*	7.24	6.90
pH (b)	7.25	6.91
pH (c)	7.23	6.90
pH (d)	7.20	6.91
Specific Conductance (a)**	1730	2010
Specific Conductance (b)	1730	2010
Specific Conductance (c)	1730	2010
Specific Conductance (d)	1730	2010
Chloromethane	ND	ND
Bromomethane	ND	ND
Vinyl chloride	ND	0.330
Chloroethane	ND	ND
Methylene chloride	1.6	0.110
Trichlorofluoromethane	ND	0.590
1,1-Dichloroethene	ND	ND
1,1-Dichloroethane	ND	ND
Trans-1,2-Dichloroethene	0.068	1.600
Chloroform	ND	ND
1,2-Dichloroethane	ND	ND
1,1,1-Trichloroethane	ND	ND
Carbon tetrachloride	ND	ND
Bromodichloromethane	ND	ND
1,2-Dichloropropane	ND	ND
Trans-1,3-Dichloropropene	ND	ND
Trichloroethylene	ND	0.029
Dibromochloromethane	ND	ND
1,1,2-Trichloroethane	ND	ND
Benzene	ND	ND
Cis-1,3-Dichloropropene	ND	ND
2-Chloroethylvinyl ether	ND	ND
Bromoform	ND	ND
Tetrachloroethylene	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND
Toluene	ND	ND
Chlorobenzene	ND	ND
Ethylbenzene	ND	ND
1,2-Dichlorobenzene	ND	ND
1,3-Dichlorobenzene	ND	ND
1,4-Dichlorobenzene	ND	ND

* pH is measured in standard units. The ( ) represents the results of one of four replicate samples.

**Specific conductance is measured in umhos/cm. The ( ) represents the results of one of four replicate samples. Corrected to 25 degrees Celsius.

ND-Not Detected (See Laboratory Reports for Analytical Detection Levels)

Table 19. Results of Groundwater Sampling and Analysis in Well B-17.

Parameter	Concentration (mg/l)	
Date	7/8/87	10/7/87
pH (a)*	6.86	6.99
pH (b)	6.89	6.98
pH (c)	6.90	6.99
pH (d)	6.90	6.99
Specific Conductance (a)**	2590	2650
Specific Conductance (b)	2590	2650
Specific Conductance (c)	2590	2650
Specific Conductance (d)	2590	2650
Chloromethane	ND	ND
Bromomethane	ND	ND
Vinyl chloride	ND	0.052
Chloroethane	ND	ND
Methylene chloride	1.8	0.150
Trichlorofluoromethane	ND	ND
1,1-Dichloroethene	ND	ND
1,1-Dichloroethane	ND	ND
Trans-1,2-Dichloroethene	ND	0.250
Chloroform	0.600	ND
1,2-Dichloroethane	ND	ND
1,1,1-Trichloroethane	ND	ND
Carbon tetrachloride	ND	ND
Bromodichloromethane	ND	ND
1,2-Dichloropropane	ND	ND
Trans-1,3-Dichloropropene	ND	ND
Trichloroethylene	0.470	0.730
Dibromochloromethane	ND	ND
1,1,2-Trichloroethane	ND	ND
Benzene	ND	ND
Cis-1,3-Dichloropropene	ND	ND
2-Chloroethylvinyl ether	ND	ND
Bromoform	ND	ND
Tetrachloroethylene	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND
Toluene	ND	ND
Chlorobenzene	ND	ND
Ethylbenzene	ND	ND
1,2-Dichlorobenzene	ND	ND
1,3-Dichlorobenzene	ND	ND
1,4-Dichlorobenzene	ND	ND

* pH is measured in standard units. The ( ) represents the results of one of four replicate samples.

**Specific conductance is measured in umhos/cm. The ( ) represents the results of one of four replicate samples. Corrccted to 25 degrees Celsius

ND-Not Detected (See Laboratory Reports for Analytical Detection Levels)

Table 20. Results of Groundwater Sampling and Analysis in Well B-18.

Parameter	Concentration (mg/l)	
Date	7/8/87	10/7/87
pH (a)*	7.05	7.65
pH (b)	7.06	7.67
pH (c)	7.05	7.66
pH (d)	7.05	7.67
Specific Conductance (a)**	2800	2700
Specific Conductance (b)	2800	2700
Specific Conductance (c)	2800	2700
Specific Conductance (d)	2800	2700
Chloromethane	ND	ND
Bromomethane	ND	ND
Vinyl chloride	ND	ND
Chloroethane	ND	ND
Methylene chloride	0.550	0.250
Trichlorofluoromethane	ND	ND
1,1-Dichloroethene	ND	ND
1,1-Dichloroethane	ND	ND
Trans-1,2-Dichloroethene	10	5.0
Chloroform	ND	ND
1,2-Dichloroethane	ND	ND
1,1,1-Trichloroethane	ND	ND
Carbon tetrachloride	ND	ND
Bromodichloromethane	ND	ND
1,2-Dichloropropane	ND	ND
Trans-1,3-Dichloropropene	ND	ND
Trichloroethylene	9.0	9.9
Dibromochloromethane	ND	ND
1,1,2-Trichloroethane	ND	ND
Benzene	ND	ND
Cis-1,3-Dichloropropene	ND	ND
2-Chloroethylvinyl ether	ND	ND
Bromoform	ND	ND
Tetrachloroethylene	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND
Toluene	ND	ND
Chlorobenzene	ND	ND
Ethylbenzene	ND	ND
1,2-Dichlorobenzene	ND	ND
1,3-Dichlorobenzene	ND	ND
1,4-Dichlorobenzene	ND	ND

* pH is measured in standard units. The ( ) represents the results of one of four replicate samples.

**Specific conductance is measured in umhos/cm. The ( ) represents the results of one of four replicate samples. Corrected to 25 degrees Celsius.

ND-Not Detected (See Laboratory Reports for Analytical Detection Levels)

Table 21. Results of Analyses of Trip and Field Blanks.

Parameter	Concentration (mg/l) Trip Blank	Field Blank
Chloromethane	ND	ND
Bromomethane	ND	ND
Vinyl chloride	ND	ND
Chloroethane	ND	ND
Methylene chloride	0.019	0.016
Trichlorofluoromethane	ND	ND
1,1-Dichloroethene	ND	ND
1,1-Dichloroethane	ND	ND
1,2-Dichloroethene (Total)	ND	ND
Chloroform	ND	ND
1,2-Dichloroethane	ND	ND
1,1,1-Trichloroethane	ND	ND
Carbon tetrachloride	ND	ND
Bromodichloromethane	ND	ND
1,2-Dichloropropane	ND	ND
Trans-1,3-Dichloropropene	ND	ND
Trichloroethylene	ND	ND
Dibromochloromethane	ND	ND
1,1,2-Trichloroethane	ND	ND
Benzene	ND	ND
Cis-1,3-Dichloropropene	ND	ND
2-Chloroethylvinyl ether	ND	ND
Bromoform	ND	ND
Tetrachloroethylene	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND
Toluene	ND	ND
Chlorobenzene	ND	ND
Ethylbenzene	ND	ND
1,3-Dichlorobenzene	ND	ND
1,4-Dichlorobenzene	ND	ND
1,2-Dichlorobenzene	ND	ND

Trip Blank Sample No. B1911
Field Blank Sample No. B2011 (Bailer B-14)

ND-Not Detected (See Laboratory Reports for Analytical Detection Levels)

Table 22. Results of Duplicate Analyses on Wells B-3 and B-13.

Parameter	Concentration (mg/l) Duplicate Sample Well B-3*	Duplicate Sample Well 13**
Chloromethane	ND	ND
Bromomethane	ND	ND
Vinyl chloride	ND	ND
Chloroethane	ND	ND
Methylene chloride	12.0	4.0
Trichlorofluoromethane	ND	ND
1,1-Dichloroethene	ND	ND
1,1-Dichloroethane	ND	ND
Trans-1,2-dichloroethene	ND	ND
Chloroform	ND	ND
1,2-Dichloroethane	ND	ND
1,1,1-Trichloroethane	ND	ND
Carbon tetrachloride	ND	ND
Bromodichloromethane	ND	ND
1,2-Dichloropropane	ND	ND
Trans-1,3-Dichloropropene	ND	ND
Trichloroethylene	5.4	ND
Dibromochloromethane	ND	ND
1,1,2-Trichloroethane	ND	ND
Benzene	ND	ND
Cis-1,3-Dichloropropene	ND	ND
2-Chloroethylvinyl ether	ND	ND
Bromoform	ND	ND
Tetrachloroethylene	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND
Toluene	ND	ND
Chlorobenzene	ND	ND
Ethylbenzene	ND	ND
1,3-Dichlorobenzene	ND	ND
1,4-Dichlorobenzene	ND	ND
1,2-Dichlorobenzene	ND	ND

ND-Not Detected (See Laboratory Reports for Analytical Detection Levels)

* Sample No. B2111
** Sample No. B2211

REFERENCES

1. Golder Associates, "Interim Groundwater Monitoring Plan for Bell Aerospace Textron Wheatfield New York", October 1985 851.1166.1.

2. Frontier Technical Associates, Inc., "Groundwater Monitoring Report for July 1986--Bell Aerospace Textron, Wheatfield, NY", FTA Report No. T-211-1.

APPENDIX

1. Bell Aerospace Well Monitoring Report for September 1987
2. Bell Aerospace Well Monitoring Report for October 1987
3. Bell Aerospace Well Monitoring Report for November 1987
4. Well Purging Report October 7, 1987
5. Chain-of-Custody Records
6. Laboratory Data Sheets
7. FTA Water Sample Collection Forms

FRONTIER TECHNICAL ASSOCIATES INC.

Bell Aerospace Well Monitoring Report

Date: September 9, 1987 Personnel: David Harty - FTA

Well No.	Top of Pipe Elevation	Ft. to Water Surface	Groundwater Elevation
Shallow Wells			
B-1	588.33	9.00	579.33
B-3	590.76	10.53	580.23
B-4	586.24	5.70	580.54
B-5	586.15	5.42	580.73
B-6	589.34	10.23	579.11
B-7	589.29	9.66	579.63
B-8	590.06	9.22	580.84
B-9	589.64	11.66*	577.98
B-10S	590.20	11.00	579.20
B-11S	589.13	10.08	579.05
B-12	588.84	10.18	578.66
B-17	588.82	11.08	577.74
B-18	588.43	11.15	577.28
Rock Wells			
B-10A	589.07	10.57	578.50
B-13	587.83	11.10	576.73
B-14	589.02	13.95	575.07
B-15	588.44	10.59	577.85
B-16	587.82	10.37	577.45

* Excavation for sewer 10' laterally and 12' deep.

David M. Harty

David M. Harty, P.E.

8675 Sheridan Drive Buffalo New York 14221 (716) 634-229

FRONTIER TECHNICAL ASSOCIATES INC.

Bell Aerospace Well Monitoring Report

Date: October 7, 1987 Personnel: David Harty - FTA

Well No.	Top of Pipe Elevation	Ft. to Water Surface	Groundwater Elevation
Shallow Wells			
B-1	588.33	9.92	578.41
B-3	590.76	13.39	577.37
B-4	586.24	6.05	580.19
B-5	586.15	5.83	580.32
B-6	589.34	12.85	576.49
B-7	589.29	10.15	579.14
B-8	590.06	9.21	580.85
B-9	589.64	12.55	577.09
B-10S	590.20	13.06	577.14
B-11S	589.13	10.74	578.39
B-12	588.84	11.17	577.67
B-17	588.82	11.36	577.46
B-18	588.43	11.28	577.15
Rock Wells			
B-10A	589.07	11.50	577.57
B-13	587.83	11.36	576.47
B-14	589.02	13.96	575.06
B-15	588.44	12.06	576.38
B-16	587.82	11.21	576.61

David M. Harty, P.E.

8675 Sheridan Drive Buffalo, New York 14221

FRONTIER TECHNICAL ASSOCIATES INC.

Bell Aerospace Well Monitoring Report

Date: November 4, 1987 Personnel: David Harty - FTA

Well No.	Top of Pipe Elevation	Ft. to Water Surface	Groundwater Elevation
Shallow Wells			
B-1	588.33	10.39	577.94
B-3	590.76	13.53	577.23
B-4	586.24	5.96	580.28
B-5	586.15	6.18	579.97
B-6	589.34	12.80	576.54
B-7	589.29	10.61	578.68
B-8	590.06	8.95	581.11
B-9	589.64	12.98	576.66
B-10S	590.20	13.13	577.07
B-11S	589.13	10.85	578.28
B-12	588.84	10.44	578.40
B-17	588.82	11.54	577.28
B-18	588.43	11.63	576.80
Rock Wells			
B-10A	589.07	11.49	577.58
B-13	587.83	11.80	576.03
B-14	589.02	13.80	575.22
B-15	588.44	11.03	577.41
B-16	587.82	10.94	576.88

David M Harty

David M. Harty, P.E.

8675 Sheridan Drive, Buffalo, New York 14221 (716) 634-229

FRONTIER TECHNICAL ASSOCIATES INC.

Well Purging Report

Facility: Bell Aerospace Textron
Address: 2221 Niagara Falls Blvd., Niagara Falls, NY 14303
FTA Personnel: P.M. Terlecky
Purging Method: Vacuum Pumping Date: 10/7/87

Well No.	Time (begin)	Time (end)	Approximate Volume Removed(gal)	Volume to be Removed by Purging (gallons)
B-1	11:25am	11:35am	4.0	3.7
B-3	9:45am	9:57am	2.8	2.3
B-4	7:25am	7:35am	1.6 (dry)	2.4
B-5	9:10am	9:30am	4.3	3.6
B-6	10:15am	10:30am	2.5	2.1
B-7	8:27am	8:44am	2.5	2.5
B-8	11:50am	11:57am	3.5	3.3
B-9	3:27pm	3:35pm	3.0	2.9
B-10S	10:57am	11:08am	2.5	2.5
B-10A	10:42am	10:55am	2.5 (dry)	6.0
B-11S	7:40am	7:52am	2.5	2.3
B-11D	7:55am	8:17am	3.0	3.0
B-12	2:30pm	2:38pm	2.8	2.7
B-13	2:46pm	3:00pm	5.6	5.6
B-14	4:13pm	4:42pm	5.1	5.1
B-15	1:53pm	2:17pm	6.2	6.2
B-16	12:05pm	12:20pm	5.5	5.4
B-17	8:54am	9:02am	2.9	2.9
B-18	3:56pm	4:08pm	2.1 (dry)	2.5

David M Harty

David M. Harty, P.E.

8675 Sheridan Drive, Buffalo, New York 14221 (716) 634-2293

FRONTIER TECHNICAL ASSOCIATES INC.

FTA CHAIN OF CUSTODY RECORDS

Samples Taken by: Frontier Technical Associates, Inc.
Address: 8675 Sheridan Drive, Buffalo, NY 14221
Telephone No.: (716) 634-2293
Sampling Personnel: David M. Harty
Location of Sampling: Bell Aerospace Well Network
Date of Sampling: 10/7/87 Time of Sampling: See Data Sheets
Type of Sample: Groundwater Task No.: T-211
Analyses to be performed under P.O. No:

Comments:

Analytical Parameters: pH, Specfic Conductance, Temperature

Container Type: amber glass Approximate Sample Volume: 900 ml

Preservation Method: Analyze Immediately

Sample No(s).: B1812, B1712, B1612, B1512, B1412, B1312, B1212, ~~B12T1~~, ~~B11MD~~ B11A12, B11S12, B10A12, B10S12, B9012, B8012 B7012, B6012, B5012, B4012, B3812, B1012

CHAIN OF POSSESSION:

Company	Name	Signature	Inclusive Dates
FTA	David M Harty	David M Harty	10/7/87

FRONTIER TECHNICAL ASSOCIATES INC.

FTA CHAIN OF CUSTODY RECORDS

Samples Taken by: Frontier Technical Associates, Inc.
Address: 8675 Sheridan Drive, Buffalo, NY 14221
Telephone No.: (716) 634-2293
Sampling Personnel: David M. Harty
Location of Sampling: Bell Aerospace Well Network
Date of Sampling: 10/7/87 Time of Sampling: See Data Sheets
Type of Sample: Groundwater Task No.: T-211
Analyses to be performed under P.O. No:

Comments:

Analytical Parameters: volatile pollutants (EPA Method 624)

Container Type: glass w/ teflon Approximate Sample Volume: 2@40 ml

Preservation Method: Cool to 4 C

Sample No(s).: B10 11 a+b, B30 11 a+b, B40 11 a+b, B50 11 a+b
B60 11 a+b, B70 11 a+b, B80 11 a+b, B90 11 a+b, B10S 11 a+b
B10A 11 a+b, B11S 11 a+b, B11D 11 a+b, B12 11 a+b, B13 11 a+b
B14 11 a+b, B15 11 a+b, B16 11 a+b, B17 11 a+b, B18 11 a+b
B19 11 a+b, B20 11 a+b, B21 11 a+b, B22 11 a+b

BM 10/9 11:45

Also Samples
10101 - 2 vials
10103 - 2 vials

CHAIN OF POSSESSION:

Company	Name	Signature	Inclusive Dates
FTA	David M. Harty	David M Harty	10/7/87 - 10/8/87
Princeton Testing		R.V. Rave	10/9/87

FTA Sample No.	Well No.	Laboratory Sample No.	Sample Multiplier	Analysis Date
B1011	B-1	001	1000	10/18/87
B3011	B-3	002	100	10/18/87
B4011	B-4	003	1000	10/18/87
B5011	B-5	004	1	10/17/87
B6011	B-6	005	1000	10/18/87
B7011	B-7	006	1	10/17/87
B8011	B-8	007	1	10/17/87
B9011	B-9	008	5	10/17/87
B10S11	B-10S	009	50	10/17/87
B10A11	B-10A	010	1000	10/17/87
B11S11	B-11S	011	100	10/18/87
B11D11	B-11D	012	50	10/17/87
B1211	B-12	013	1000	10/18/87
B1311	B-13	014	1	10/17/87
B1411	B-14	015	50	10/17/87
B1511	B-15	016	5	10/17/87
B1611	B-16	017	5	10/17/87
B1711	B-17	018	5	10/17/87
B1811	B-18	019	50	10/18/87
B1911	Trip Blank	020	1	10/17/87
B2011	Field Blank	021	1	10/17/87
B2111	B-3	022	100	10/18/87
B2211	B-13	023	50	10/18/87

Princeton Service Center
U.S. Route 1
Princeton, NJ 08540

princeton testing laboratory inc.

P.O. Box 3108
Princeton, NJ 08543-3108
(609) 452-9050

Frontier Technical Associates
8675 Sheridan Drive
Buffalo, NY 14221

November 25, 1987
JOB # 87G3868
UNITS: ug/l

PURGEABLE VOLATILE ORGANICS

Method: 624

NAME	MDL	BLK 1017 A	001	002
Chlormethane	10.0	ND	ND	ND
Bromomethane	10.0	ND	ND	ND
Vinyl Chloride	10.0	ND	ND	ND
Chlorethane	10.0	ND	ND	ND
Methylene Chloride	5.0	ND	ND	10000
1,1-Dichloroethene	5.0	ND	ND	ND
1,1-Dichloroethane	5.0	ND	ND	ND
Trans-1,2-Dichloroethene	5.0	ND	9000	ND
Chloroform	5.0	ND	ND	ND
1,2-Dichloroethane	5.0	ND	ND	ND
Trichlorofluoromethane	5.0	ND	ND	ND
1,1,1-Trichloroethane	5.0	ND	ND	ND
Carbon Tetrachloride	5.0	ND	ND	ND
Bromodichloromethane	5.0	ND	ND	ND
1,2-Dichloromethane	5.0	ND	ND	ND
Trans-1,3-Dichloropropene	5.0	ND	ND	ND
Trichloroethene	5.0	ND	8700	4700
Dibromochloromethane	5.0	ND	ND	ND
1,1,2-Trichloroethane	5.0	ND	ND	ND
Benzene	5.0	ND	ND	ND
Cis-1,2-Dichloropropene	5.0	ND	ND	ND
2-Chloroethylvinyl ether	5.0	ND	ND	ND
Bromoform	5.0	ND	ND	ND
Tetrachloroethene	5.0	ND	ND	ND
1,1,2,2-Tetrachloroethane	5.0	ND	ND	ND
Toluene	5.0	ND	ND	ND
Chlorobenzene	5.0	ND	ND	ND
Ethyl Benzene	5.0	ND	ND	ND
1,3-Dichloro Benzene	10.0	ND	ND	ND
1,4-Dichloro Benzene	10.0	ND	ND	ND
1,2-Dichloro Benzene	10.0	ND	ND	ND

SURROGATE RECOVERY DATA

1,2-Dichloroethane-D4	59%	67%	69%
Toluene-D-8	101%	112%	102%
4-Bromofluorobenzene	109%	99%	105%

Received: 10/9/87

Princeton Service Center
U.S. Route 1
Princeton, NJ 08540

princeton testing laboratory inc.

P.O. Box 3108
Princeton, NJ 08543-3108
(609) 452-9050

Frontier Technical Associates
8675 Sheridan Drive
Buffalo, NY 14221

November 25, 1987
JOB # 87G3868
UNITS: ug/l

PURGEABLE VOLATILE ORGANICS

Method: 624

NAME	MDL	003	004	005
Chlormethane	10.0	ND	ND	ND
Bromomethane	10.0	ND	ND	ND
Vinyl Chloride	10.0	ND	ND	ND
Chlorethane	10.0	ND	ND	ND
Methylene Chloride	5.0	3100000	210	110000
1,1-Dichloroethene	5.0	ND	ND	ND
1,1-Dichloroethane	5.0	ND	ND	ND
Trans-1,2-Dichloroethene	5.0	ND	ND	7000
Chloroform	5.0	ND	ND	ND
1,2-Dichloroethane	5.0	ND	ND	ND
Trichlorofluoromethane	5.0	ND	10	10000
1,1,1-Trichloroethane	5.0	ND	ND	ND
Carbon Tetrachloride	5.0	ND	ND	ND
Bromodichloromethane	5.0	ND	ND	ND
1,2-Dichloromethane	5.0	ND	ND	ND
Trans-1,3-Dichloropropene	5.0	ND	ND	ND
Trichloroethene	5.0	97000	42	390000
Dibromochloromethane	5.0	ND	ND	ND
1,1,2-Trichloroethane	5.0	ND	ND	ND
Benzene	5.0	ND	ND	ND
Cis-1,2-Dichloropropene	5.0	ND	ND	ND
2-Chloroethylvinyl ether	5.0	ND	ND	ND
Bromoform	5.0	ND	ND	ND
Tetrachloroethene	5.0	ND	ND	ND
1,1,2,2-Tetrachloroethane	5.0	ND	ND	ND
Toluene	5.0	ND	ND	ND
Chlorobenzene	5.0	ND	ND	ND
Ethyl Benzene	5.0	ND	ND	ND
1,3-Dichloro Benzene	10.0	ND	ND	ND
1,4-Dichloro Benzene	10.0	ND	ND	ND
1,2-Dichloro Benzene	10.0	ND	ND	ND

SURROGATE RECOVERY DATA

1,2-Dichloroethane-D4	57%	76%	70%
Toluene-D-8	106%	128%	106%
4-Bromofluorobenzene	103%	120%	108%

Received: 10/9/87

Princeton Service Center
U.S. Route 1
Princeton, NJ 08540

princeton testing laboratory inc.

P.O. Box 3108
Princeton, NJ 08543-3108
(609) 452-9050

Frontier Technical Associates
8675 Sheridan Drive
Buffalo, NY 14221

November 25, 1987
JOB # 87G3868
UNITS: ug/l

PURGEABLE VOLATILE ORGANICS

Method: 624

NAME	MDL	006	007	008
Chlormethane	10.0	ND	ND	ND
Bromomethane	10.0	ND	ND	ND
Vinyl Chloride	10.0	ND	ND	22
Chlorethane	10.0	ND	ND	ND
Methylene Chloride	5.0	26	17	ND
1,1-Dichloroethene	5.0	25	ND	ND
1,1-Dichloroethane	5.0	ND	ND	ND
Trans-1,2-Dichloroethene	5.0	55	ND	ND
Chloroform	5.0	20	ND	ND
1,2-Dichloroethane	5.0	ND	ND	ND
Trichlorofluoromethane	5.0	ND	10	ND
1,1,1-Trichloroethane	5.0	ND	ND	ND
Carbon Tetrachloride	5.0	ND	ND	ND
Bromodichloromethane	5.0	ND	ND	ND
1,2-Dichloromethane	5.0	ND	ND	ND
Trans-1,3-Dichloropropene	5.0	ND	ND	ND
Trichloroethene	5.0	55	15	ND
Dibromochloromethane	5.0	ND	ND	ND
1,1,2-Trichloroethane	5.0	ND	ND	ND
Benzene	5.0	ND	ND	ND
Cis-1,2-Dichloropropene	5.0	ND	ND	ND
2-Chloroethylvinyl ether	5.0	ND	ND	ND
Bromoform	5.0	ND	ND	ND
Tetrachloroethene	5.0	ND	ND	ND
1,1,2,2-Tetrachloroethane	5.0	ND	ND	ND
Toluene	5.0	ND	ND	ND
Chlorobenzene	5.0	ND	ND	ND
Ethyl Benzene	5.0	ND	ND	ND
1,3-Dichloro Benzene	10.0	ND	ND	ND
1,4-Dichloro Benzene	10.0	ND	ND	ND
1,2-Dichloro Benzene	10.0	ND	ND	ND

SURROGATE RECOVERY DATA

1,2-Dichloroethane-D4	86%	76%	78%
Toluene-D-8	140%	122%	98%
4-Bromofluorobenzene	118%	132%	96%

Received: 10/9/87

Princeton Service Center
U.S. Route 1
Princeton, NJ 08540

princeton testing laboratory inc.

P.O. Box 3108
Princeton, NJ 08543-3108
(609) 452-9050

Frontier Technical Associates
8675 Sheridan Drive
Buffalo, NY 14221

November 25, 1987
JOB # 87G3868
UNITS: ug/l

PURGEABLE VOLATILE ORGANICS
Method: 624

NAME	MDL	009	010	011
Chlormethane	10.0	ND	ND	ND
Bromomethane	10.0	ND	ND	ND
Vinyl Chloride	10.0	1800	ND	ND
Chlorethane	10.0	ND	ND	ND
Methylene Chloride	5.0	820	80000	390000
1,1-Dichloroethene	5.0	25	ND	ND
1,1-Dichloroethane	5.0	ND	ND	ND
Trans-1,2-Dichloroethene	5.0	7400	16000	ND
Chloroform	5.0	1000	ND	ND
1,2-Dichloroethane	5.0	ND	ND	ND
Trichlorofluoromethane	5.0	2000	ND	5100
1,1,1-Trichloroethane	5.0	ND	ND	ND
Carbon Tetrachloride	5.0	ND	ND	ND
Bromodichloromethane	5.0	ND	ND	ND
1,2-Dichloromethane	5.0	ND	ND	ND
Trans-1,3-Dichloropropene	5.0	ND	ND	ND
Trichloroethene	5.0	72000	240000	770
Dibromochloromethane	5.0	ND	ND	ND
1,1,2-Trichloroethane	5.0	ND	ND	ND
Benzene	5.0	ND	ND	ND
Cis-1,2-Dichloropropene	5.0	ND	ND	ND
2-Chloroethylvinyl ether	5.0	ND	ND	ND
Bromoform	5.0	ND	ND	ND
Tetrachloroethene	5.0	ND	ND	ND
1,1,2,2-Tetrachloroethane	5.0	ND	ND	ND
Toluene	5.0	ND	ND	ND
Chlorobenzene	5.0	ND	ND	ND
Ethyl Benzene	5.0	ND	ND	ND
1,3-Dichloro Benzene	10.0	ND	ND	ND
1,4-Dichloro Benzene	10.0	ND	ND	ND
1,2-Dichloro Benzene	10.0	ND	ND	ND

SURROGATE RECOVERY DATA

1,2-Dichloroethane-D4	77%	89%	58%
Toluene-D-8	95%	109%	104%
4-Bromofluorobenzene	88%	99%	103%

Received: 10/9/87

Princeton Service Center
U.S. Route 1
Princeton, NJ 08540

princeton testing laboratory inc.

P.O. Box 3108
Princeton, NJ 08543-3108
(609) 452-9050

Frontier Technical Associates
8675 Sheridan Drive
Buffalo, NY 14221

November 25, 1987
JOB # 87G3868
UNITS: ug/l

PURGEABLE VOLATILE ORGANICS

Method: 624

NAME	MDL	012	013	014
Chlormethane	10.0	ND	ND	ND
Bromomethane	10.0	ND	ND	ND
Vinyl Chloride	10.0	3950	ND	21
Chlorethane	10.0	ND	ND	ND
Methylene Chloride	5.0	140000	ND	1600
1,1-Dichloroethene	5.0	25	ND	ND
1,1-Dichloroethane	5.0	ND	ND	ND
Trans-1,2-Dichloroethene	5.0	25000	ND	96
Chloroform	5.0	ND	ND	ND
1,2-Dichloroethane	5.0	ND	ND	ND
Trichlorofluoromethane	5.0	6900	ND	340
1,1,1-Trichloroethane	5.0	ND	ND	ND
Carbon Tetrachloride	5.0	ND	ND	ND
Bromodichloromethane	5.0	ND	ND	ND
1,2-Dichloromethane	5.0	ND	ND	ND
Trans-1,3-Dichloropropene	5.0	ND	ND	ND
Trichloroethene	5.0	51000	ND	770
Dibromochloromethane	5.0	ND	ND	ND
1,1,2-Trichloroethane	5.0	ND	ND	ND
Benzene	5.0	ND	ND	ND
Cis-1,2-Dichloropropene	5.0	ND	ND	ND
2-Chloroethylvinyl ether	5.0	ND	ND	ND
Bromoform	5.0	ND	ND	ND
Tetrachloroethene	5.0	ND	ND	ND
1,1,2,2-Tetrachloroethane	5.0	ND	ND	ND
Toluene	5.0	ND	ND	ND
Chlorobenzene	5.0	ND	ND	ND
Ethyl Benzene	5.0	ND	ND	ND
1,3-Dichloro Benzene	10.0	ND	ND	ND
1,4-Dichloro Benzene	10.0	ND	ND	ND
1,2-Dichloro Benzene	10.0	ND	ND	ND

SURROGATE RECOVERY DATA

1,2-Dichloroethane-D4	76%	70%	76%
Toluene-D-8	93%	101%	134%
4-Bromofluorobenzene	91%	105%	126%

Received: 10/9/87

Princeton Service Center
U.S. Route 1
Princeton, NJ 08540

princeton testing laboratory inc.

P.O. Box 3108
Princeton, NJ 08543-3108
(609) 452-9050

Frontier Technical Associates
8675 Sheridan Drive
Buffalo, NY 14221

November 25, 1987
JOB # 87G3868
UNITS: ug/l

PURGEABLE VOLATILE ORGANICS

Method: 624

NAME	MDL	015	016	017
Chlormethane	10.0	520	ND	ND
Bromomethane	10.0	ND	ND	ND
Vinyl Chloride	10.0	ND	75	330
Chlorethane	10.0	ND	ND	ND
Methylene Chloride	5.0	640	ND	110
1,1-Dichloroethene	5.0	ND	ND	ND
1,1-Dichloroethane	5.0	ND	ND	ND
Trans-1,2-Dichloroethene	5.0	4800	ND	1600
Chloroform	5.0	ND	ND	ND
1,2-Dichloroethane	5.0	ND	ND	ND
Trichlorofluoromethane	5.0	1100	ND	590
1,1,1-Trichloroethane	5.0	ND	ND	ND
Carbon Tetrachloride	5.0	ND	ND	ND
Bromodichloromethane	5.0	ND	ND	ND
1,2-Dichloromethane	5.0	ND	ND	ND
Trans-1,3-Dichloropropene	5.0	ND	ND	ND
Trichloroethene	5.0	ND	ND	29
Dibromochloromethane	5.0	ND	ND	ND
1,1,2-Trichloroethane	5.0	ND	ND	ND
Benzene	5.0	ND	ND	ND
Cis-1,2-Dichloropropene	5.0	ND	ND	ND
2-Chloroethylvinyl ether	5.0	ND	ND	ND
Bromoform	5.0	ND	ND	ND
Tetrachloroethene	5.0	ND	ND	ND
1,1,2,2-Tetrachloroethane	5.0	ND	ND	ND
Toluene	5.0	ND	ND	ND
Chlorobenzene	5.0	ND	ND	ND
Ethyl Benzene	5.0	ND	ND	ND
1,3-Dichloro Benzene	10.0	ND	ND	ND
1,4-Dichloro Benzene	10.0	ND	ND	ND
1,2-Dichloro Benzene	10.0	ND	ND	ND

SURROGATE RECOVERY DATA

1,2-Dichloroethane-D4	240%	78%	87%
Toluene-D-8	109%	95%	103%
4-Bromofluorobenzene	97%	93%	99%

Received: 10/9/87

Princeton Service Center
U.S. Route 1
Princeton, NJ 08540

princeton testing laboratory inc.

P.O. Box 3108
Princeton, NJ 08543-3108
(609) 452-9050

Frontier Technical Associates
8675 Sheridan Drive
Buffalo, NY 14221

November 25, 1987
JOB # 87G3868
UNITS: ug/l

PURGEABLE VOLATILE ORGANICS

Method: 624

NAME	MDL	018	019	020
Chlormethane	10.0	ND	ND	ND
Bromomethane	10.0	ND	ND	ND
Vinyl Chloride	10.0	52	ND	ND
Chlorethane	10.0	ND	ND	ND
Methylene Chloride	5.0	150	250	19
1,1-Dichloroethene	5.0	ND	ND	ND
1,1-Dichloroethane	5.0	ND	ND	ND
Trans-1,2-Dichloroethene	5.0	250	5000	ND
Chloroform	5.0	ND	ND	ND
1,2-Dichloroethane	5.0	ND	ND	ND
Trichlorofluoromethane	5.0	ND	9900	ND
1,1,1-Trichloroethane	5.0	ND	ND	ND
Carbon Tetrachloride	5.0	ND	ND	ND
Bromodichloromethane	5.0	ND	ND	ND
1,2-Dichloromethane	5.0	ND	ND	ND
Trans-1,3-Dichloropropene	5.0	ND	ND	ND
Trichloroethene	5.0	730	ND	ND
Dibromochloromethane	5.0	ND	ND	ND
1,1,2-Trichloroethane	5.0	ND	ND	ND
Benzene	5.0	ND	ND	ND
Cis-1,2-Dichloropropene	5.0	ND	ND	ND
2-Chloroethylvinyl ether	5.0	ND	ND	ND
Bromoform	5.0	ND	ND	ND
Tetrachloroethene	5.0	ND	ND	ND
1,1,2,2-Tetrachloroethane	5.0	ND	ND	ND
Toluene	5.0	ND	ND	ND
Chlorobenzene	5.0	ND	ND	ND
Ethyl Benzene	5.0	ND	ND	ND
1,3-Dichloro Benzene	10.0	ND	ND	ND
1,4-Dichloro Benzene	10.0	ND	ND	ND
1,2-Dichloro Benzene	10.0	ND	ND	ND

SURROGATE RECOVERY DATA

1,2-Dichloroethane-D4	98%	81%	77%
Toluene-D-8	95%	103%	128%
4-Bromofluorobenzene	94%	95%	134%

Received: 10/9/87

Princeton Service Center
U.S. Route 1
Princeton, NJ 08540

princeton testing laboratory inc.

P.O. Box 3108
Princeton, NJ 08543-3108
(609) 452-9050

Frontier Technical Associates
8675 Sheridan Drive
Buffalo, NY 14221

November 25, 1987
JOB # 87G3868
UNITS: ug/l

PURGEABLE VOLATILE ORGANICS

Method: 624

NAME	MDL	021	022	023
Chlormethane	10.0	ND	ND	ND
Bromomethane	10.0	ND	ND	ND
Vinyl Chloride	10.0	ND	ND	ND
Chlorethane	10.0	ND	ND	ND
Methylene Chloride	5.0	16	12000	4000
1,1-Dichloroethene	5.0	ND	ND	ND
1,1-Dichloroethane	5.0	ND	ND	ND
Trans-1,2-Dichloroethene	5.0	ND	ND	ND
Chloroform	5.0	ND	ND	ND
1,2-Dichloroethane	5.0	ND	ND	ND
Trichlorofluoromethane	5.0	ND	ND	ND
1,1,1-Trichloroethane	5.0	ND	ND	ND
Carbon Tetrachloride	5.0	ND	ND	ND
Bromodichloromethane	5.0	ND	ND	ND
1,2-Dichloromethane	5.0	ND	ND	ND
Trans-1,3-Dichloropropene	5.0	ND	ND	ND
Trichloroethene	5.0	ND	5400	ND
Dibromochloromethane	5.0	ND	ND	ND
1,1,2-Trichloroethane	5.0	ND	ND	ND
Benzene	5.0	ND	ND	ND
Cis-1,2-Dichloropropene	5.0	ND	ND	ND
2-Chloroethylvinyl ether	5.0	ND	ND	ND
Bromoform	5.0	ND	ND	ND
Tetrachloroethene	5.0	ND	ND	ND
1,1,2,2-Tetrachloroethane	5.0	ND	ND	ND
Toluene	5.0	ND	ND	ND
Chlorobenzene	5.0	ND	ND	ND
Ethyl Benzene	5.0	ND	ND	ND
1,3-Dichloro Benzene	10.0	ND	ND	ND
1,4-Dichloro Benzene	10.0	ND	ND	ND
1,2-Dichloro Benzene	10.0	ND	ND	ND

SURROGATE RECOVERY DATA

1,2-Dichloroethane-D4	74%	73%	69%
Toluene-D-8	126%	102%	105%
4-Bromofluorobenzene	130%	105%	105%

Received: 10/9/87

Princeton Service Center
U.S. Route 1
Princeton, NJ 08540

princeton testing laboratory inc.

P.O. Box 3108
Princeton, NJ 08543-3108
(609) 452-9050

Frontier Technical Associates
8675 Sheridan Drive
Buffalo, NY 14221

November 25, 1987
JOB # 87G3868
UNITS: ug/l

PURGEABLE VOLATILE ORGANICS

Method: 624

NAME	MDL	BLK 1018 A	BLK 10/18 B
Chlormethane	10.0	ND	ND
Bromomethane	10.0	ND	ND
Vinyl Chloride	10.0	ND	ND
Chlorethane	10.0	ND	ND
Methylene Chloride	5.0	ND	15
1,1-Dichloroethene	5.0	ND	ND
1,1-Dichloroethane	5.0	ND	ND
Trans-1,2-Dichloroethene	5.0	ND	ND
Chloroform	5.0	ND	ND
1,2-Dichloroethane	5.0	ND	ND
Trichlorofluoromethane	5.0	ND	ND
1,1,1-Trichloroethane	5.0	ND	ND
Carbon Tetrachloride	5.0	ND	ND
Bromodichloromethane	5.0	ND	ND
1,2-Dichloromethane	5.0	ND	ND
Trans-1,3-Dichloropropene	5.0	ND	ND
Trichloroethene	5.0	ND	ND
Dibromochloromethane	5.0	ND	ND
1,1,2-Trichloroethane	5.0	ND	ND
Benzene	5.0	ND	ND
Cis-1,2-Dichloropropene	5.0	ND	ND
2-Chloroethylvinyl ether	5.0	ND	ND
Bromoform	5.0	ND	ND
Tetrachloroethene	5.0	ND	ND
1,1,2,2-Tetrachloroethane	5.0	ND	ND
Toluene	5.0	ND	ND
Chlorobenzene	5.0	ND	ND
Ethyl Benzene	5.0	ND	ND
1,3-Dichloro Benzene	10.0	ND	ND
1,4-Dichloro Benzene	10.0	ND	ND
1,2-Dichloro Benzene	10.0	ND	ND

SURROGATE RECOVERY DATA

1,2-Dichloroethane-D4	72%	60%
Toluene-D-8	99%	103%
4-Bromofluorobenzene	105%	127%

Charles Corcoran-Manager Organic Lab.

3A

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: PTL Contract: _____

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix Spike - EPA Sample No.: 3868 9V

FTA Sample No. B10511

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC LIMITS REC.
1,1-Dichloroethene	100	---	128	128	61-1
Trichloroethene	100	---	132	132	71-1
Benzene	100	---	94	94	76-1
Toluene	100	---	92	92	76-1
Chlorobenzene	100	---	97	97	75-1

FTA Sample No. B9011

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC
1,1-Dichloroethene	100	126	126	1.6	14	61-1
Trichloroethene	100	143	143	8.0	14	71-1
Benzene	100	98	98	4.2	11	76-1
Toluene	100	98	98	6.3	13	76-1
Chlorobenzene	100	102	102	5.0	13	75-1

Column to be used to flag recovery and RPD values with an asterisk

Values outside of QC limits

RPD: 0 out of 5 outside limits

Spike Recovery: 2 out of 10 outside limits

COMMENTS: 3868 F 7A #008

3A

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: PTL Contract: _____

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix Spike - EPA Sample No.: 3836-14V

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC LIMITS REC.
1,1-Dichloroethene	100	0	128	128	61-14
Trichloroethene	100	9.0	131	122	71-12
Benzene	100	0	92	92	76-12
Toluene	100	0	99	99	76-12
Chlorobenzene	100	0	101	101	75-13

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	100	136	136	6	14	61-14
Trichloroethene	100	125	116	2	14	71-12
Benzene	100	84	84	9	11	76-12
Toluene	100	98	98	1	13	76-12
Chlorobenzene	100	98	98	3	13	75-13

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 5 outside limits

Spike Recovery: 0 out of 10 outside limits

COMMENTS: _____

FRONTIER TECHNICAL ASSOCIATES INC.

FTA WATER SAMPLE COLLECTION FORM

Project Ref.: Bell Aerospace Textron Project No.: T-211

WEATHER CONDITIONS

Temperature (F): 13°C
Cloud Cover: over cast
Precipitation: Steady rain

SAMPLE INFORMATION

Sample No.: B-1
Sample Location: well B-1
Sample Date: 10/7/87
Time: 12:05pm
Sampled By: David M Hartz
Sample Method: Dedicated Bailer-PVC
Sample Type: Groundwater

Water Level Before Purging (Ft.): 578.41'
Volume Water Removed Before Sampling: 4.0 gallons
Water Level Before Sampling: 578.0'
Water Level After Sampling: 578.21'
Appearance of Sample: Turbid

FIELD MEASUREMENTS

Parameter	Units	Repl.1	Repl.2	Repl.3	Repl.4
pH	Standard	8.06	8.07	8.06	8.07
Spec. Cond.	umhos/cm	2600	2600	2600	2600
Temperature	Deg.~~F~~C	13°C	13°C	13°C	13°C
Time Analyzed		12:12	12:14	12:15	12:18
Analyzed By		SBM	SBM	SBM	SBM

Remarks:

8675 Sheridan Drive Buffalo [illegible]

FRONTIER TECHNICAL ASSOCIATES INC.

FTA WATER SAMPLE COLLECTION FORM

Project Ref.: Dell Aerospace Textron Project No.: T-211

WEATHER CONDITIONS

Temperature(F): 14°C
Cloud Cover: Over cast
Precipitation: rain, steady

SAMPLE INFORMATION

Sample No.: B-3
Sample Location: well B-3
Sample Date: 10/7/87
Time: 10:35am
Sampled By: David M Hurty
Sample Method: Dedicated Bailer-PVC
Sample Type: Groundwater

Water Level Before Purging(Ft.): 577.37'
Volume Water Removed Before Sampling: 2.8 gallons
Water Level Before Sampling: 576.83'
Water Level After Sampling: 576.34'
Appearance of Sample: Turbid

FIELD MEASUREMENTS

Parameter	Units	Repl.1	Repl.2	Repl.3	Repl.4
pH	Standard	7.14	7.12	7.13	7.13
Spec. Cond.	umhos/cm	750	750	750	750
Temperature	Deg.~~F~~C	13°C	13°C	13°C	13°C
Time Analyzed		10:50	10:52	10:54	11:00
Analyzed by		SBM	SBM	SBM	SBM

Remarks:

8675 Sheridan Drive Buffalo New York 14221 Phone 634-3...

FRONTIER TECHNICAL ASSOCIATES INC.

FTA WATER SAMPLE COLLECTION FORM

Project Ref.: Bell Aerospace Textron Project No.: T-211

WEATHER CONDITIONS

Temperature (C/F): 14°C
Cloud Cover: Over Cast
Precipitation: rain, steady

SAMPLE INFORMATION

Sample No.: B-4
Sample Location: well B-4
Sample Date: 10/7/87
Time: 10:00am
Sampled By: David M Harty
Sample Method: Dedicated Bailer-PVC
Sample Type: Groundwater

Water Level Before Purging (Ft.): 580.19'
Volume Water Removed Before Sampling: 1.6 gallons (dry)
Water Level Before Sampling: 575.89'
Water Level After Sampling: 575.14'
Appearance of Sample: Turb.

FIELD MEASUREMENTS

Parameter	Units	Repl.1	Repl.2	Repl.3	Repl.4
pH	Standard	7.10	7.08	7.09	7.09
Spec. Cond.	umhos/cm	1350	1350	1350	1350
Temperature	Deg.C/F	14°C	14°C	14°C	14°C
Time Analyzed		10:20	10:22	10:24	10:26
Analyzed By		SBM	SBM	SBM	SBM

Remarks:

FRONTIER TECHNICAL ASSOCIATES INC.

FTA WATER SAMPLE COLLECTION FORM

Project Ref.: Bell Aerospace Textron Project No.: T-211

WEATHER CONDITIONS

Temperature (~~F~~): 13°C
Cloud Cover: Overcast
Precipitation: Steady rain

SAMPLE INFORMATION

Sample No.: B-5
Sample Location: well B-5
Sample Date: 10/7/87
Time: 10:20am
Sampled By: David M Harty
Sample Method: Dedicated Bailer-PVC
Sample Type: Groundwater

Water Level Before Purging (Ft.): 580.32'
Volume Water Removed Before Sampling: 4-3 gallons
Water Level Before Sampling: 579.37'
Water Level After Sampling: 579.32'
Appearance of Sample: Black coloring

FIELD MEASUREMENTS

Parameter	Units	Repl.1	Repl.2	Repl.3	Repl.4
pH	Standard	6.94	6.96	6.95	6.95
Spec. Cond.	umhos/cm	1000	1000	1000	1000
Temperature	Deg. ~~F~~C	13°C	13°C	13°C	13°C
Time Analyzed		10:35	10:38	10:40	10:45
Analyzed by		SBM	SBM	SBM	SBM

Remarks:

8675 Sheridan Drive Buffalo [illegible]

FRONTIER TECHNICAL ASSOCIATES INC.

FTA WATER SAMPLE COLLECTION FORM

Project Ref.: Bell Aerospace Textron Project No.: T-211

WEATHER CONDITIONS

Temperature(F): 13°
Cloud Cover: Over cast
Precipitation: Steady, rain

SAMPLE INFORMATION

Sample No.: B-6
Sample Location: MW B-6
Sample Date: 10/7/87
Time: 11:05 am
Sampled By: David M Hanby
Sample Method: Dedicated Bailer-PVC
Sample Type: Groundwater

Water Level Before Purging(Ft.): 576.49'
Volume Water Removed Before Sampling: 2.5 gallons
Water Level Before Sampling: 576.54'
Water Level After Sampling: 576.45'
Appearance of Sample: Turbid

FIELD MEASUREMENTS

Parameter	Units	Repl.1	Repl.2	Repl.3	Repl.4
pH	Standard	9.26	9.25	9.26	9.24
Spec. Cond.	umhos/cm	2100	2100	2100	2100
Temperature	Deg. ~~F~~ C	13°C	13°C	13°C	13°C
Time Analyzed		11:10	11:12	11:15	11:17
Analyzed by		SBM	SBM	SBM	SBM

Remarks:

FRONTIER TECHNICAL ASSOCIATES INC.

FTA WATER SAMPLE COLLECTION FORM

Project Ref.: Bell Aerospace Textron Project No.: T-211

WEATHER CONDITIONS

Temperature(F): 14°
Cloud Cover: Over Cast
Precipitation: rain, steady

SAMPLE INFORMATION

Sample No.: B-7
Sample Location: well B-7
Sample Date: 10/7/87
Time: 9:00am
Sampled By: David M Hartz
Sample Method: Dedicated Bailer-PVC
Sample Type: Groundwater

Water Level Before Purging(Ft.): 579.14'
Volume Water Removed Before Sampling: 2.5 gallons
Water Level Before Sampling: 573.57'
Water Level After Sampling: 573.41'
Appearance of Sample: Turbid

FIELD MEASUREMENTS

Parameter	Units	Repl.1	Repl.2	Repl.3	Repl.4
pH	Standard	7.05	7.06	7.05	7.05
Spec. Cond.	umhos/cm	8000	8000	8000	8000
Temperature	Deg. F	13°	13°	13°	13°
Time Analyzed		9:12	9:15	9:20	9:23
Analyzed By		SBM	SBM	SBM	SBM

Remarks:

8675 Sheridan Drive Buffalo [illegible]

FRONTIER TECHNICAL ASSOCIATES INC.

FTA WATER SAMPLE COLLECTION FORM

Project Ref.: Bell Aerospace Textron Project No.: T-211

WEATHER CONDITIONS

Temperature (°F): 13°C
Cloud Cover: Overcast
Precipitation:

SAMPLE INFORMATION

Sample No.: B-8
Sample Location: well B-8
Sample Date: 10/7/87
Time: 12:15pm
Sampled By: David M Hanty
Sample Method: Dedicated Bailer-PVC
Sample Type: Groundwater

Water Level Before Purging (Ft.): 580.85'
Volume Water Removed Before Sampling: 3.5 gallons
Water Level Before Sampling: 578.84'
Water Level After Sampling: 578.33'
Appearance of Sample: Turbid

FIELD MEASUREMENTS

Parameter	Units	Repl.1	Repl.2	Repl.3	Repl.4
pH	Standard	7.16	7.18	7.16	7.17
Spec. Cond.	umhos/cm	1150	1150	1150	1150
Temperature	Deg.°F	13°C	13°C	13°C	13°C
Time Analyzed		12:34	12:36	12:99	12:42
Analyzed By		SBM	SBM	SBM	SBM

Remarks:

FRONTIER TECHNICAL ASSOCIATES INC.

FTA WATER SAMPLE COLLECTION FORM

Project Ref.: Bell Aerospace Textron Project No.: T-211

WEATHER CONDITIONS

Temperature(F): 13°C.
Cloud Cover: overcast
Precipitation: rain

SAMPLE INFORMATION

Sample No.: B-9
Sample Location: Well B-9
Sample Date: 10/7/87
Time: 4:00pm
Sampled By: David M Hardy
Sample Method: Dedicated Bailer-PVC
Sample Type: Groundwater

Water Level Before Purging(Ft.): 577.09'
Volume Water Removed Before Sampling: 3.0 gallons
Water Level Before Sampling: 571.16'
Water Level After Sampling: 569.74'
Appearance of Sample: Yellowish

FIELD MEASUREMENTS

Parameter	Units	Repl.1	Repl.2	Repl.3	Repl.4
pH	Standard	10.13	10.12	10.13	10.13
Spec. Cond.	umhos/cm	1300	1300	1300	1300
Temperature	Deg.~~F~~C	16° C	16° C	16° C	16° C
Time Analyzed		4:20	4:23	4:26	4:29
Analyzed by		SBM	SBM	SBM	SBM

Remarks:

FRONTIER TECHNICAL ASSOCIATES INC.

FTA WATER SAMPLE COLLECTION FORM

Project Ref.: Bell Aerospace Textron Project No.: T-211

WEATHER CONDITIONS

Temperature (~~F~~): 13°C
Cloud Cover: overcast
Precipitation: steady rain

SAMPLE INFORMATION

Sample No.: B-10-S
Sample Location: well B10-S
Sample Date: 10/7/87
Time: 11:40am
Sampled By: David M Harty
Sample Method: Dedicated Bailer-PVC
Sample Type: Groundwater

Water Level Before Purging (Ft.): 577.14'
Volume Water Removed Before Sampling: 2.5 gallons
Water Level Before Sampling: 576.97'
Water Level After Sampling: 576.95'
Appearance of Sample: Turbid

FIELD MEASUREMENTS

Parameter	Units	Repl.1	Repl.2	Repl.3	Repl.4
pH	Standard	8.52	8.53	8.54	8.53
Spec. Cond.	umhos/cm	2550	2550	2550	2550
Temperature	Deg.~~F~~	13°C	13°C	13°C	13°C
Time Analyzed		12:58	12:01	12:03	12:06
Analyzed by		SBM	SBM	SBM	SBM

Remarks:

FRONTIER TECHNICAL ASSOCIATES INC.

FTA WATER SAMPLE COLLECTION FORM

Project Ref.: Bell Aerospace Textron Project No.: T-211

WEATHER CONDITIONS

Temperature(F): 13°C
Cloud Cover: Light East
Precipitation: Steady Rain

SAMPLE INFORMATION

Sample No.: B-10-A
Sample Location: Well B-10 A
Sample Date: 10/7/87
Time: 11:15 am
Sampled By: David M Harty
Sample Method: Dedicated Bailer-PVC
Sample Type: Groundwater

Water Level Before Purging(Ft.): 577.57'
Volume Water Removed Before Sampling: 2.5 gallons (dry)
Water Level Before Sampling: 576.47'
Water Level After Sampling: 576.62'
Appearance of Sample: Clear

FIELD MEASUREMENTS

Parameter	Units	Repl.1	Repl.2	Repl.3	Repl.4
pH	Standard	7.38	7.39	7.38	7.39
Spec. Cond.	umhos/cm	1820	1820	1820	1820
Temperature	Deg. ~~F~~ C	13°C	13°C	13°C	13°C
Time Analyzed		11:40	11:42	11:45	11:50
Analyzed By		SBM	SBM	SBM	SBM

Remarks:

FRONTIER TECHNICAL ASSOCIATES INC.

FTA WATER SAMPLE COLLECTION FORM

Project Ref.: Bell Aerospace Textron Project No.: T-211

WEATHER CONDITIONS

Temperature(F): 14°C
Cloud Cover: Overcast
Precipitation: rain, steady

SAMPLE INFORMATION

Sample No.: B-11-S
Sample Location: MW11 B-11-S
Sample Date: 10/7/87
Time: 7:55AM
Sampled By: David M Harty
Sample Method: Dedicated Bailer-PVC
Sample Type: Groundwater

Water Level Before Purging(Ft.): ~~10.74~~ 578.39'
Volume Water Removed Before Sampling: 2.5 gallons
Water Level Before Sampling: ~~10.57~~ 573.55'
Water Level After Sampling: ~~14.62~~ 574.51'
Appearance of Sample: Turbid

FIELD MEASUREMENTS

Parameter	Units	Repl.1	Repl.2	Repl.3	Repl.4
pH	Standard	6.48	6.49	6.48	4.49
Spec. Cond.	umhos/cm	3700	3700	3700	3700
Temperature	Deg.C	14°C	14°	14°	14
Time Analyzed		8:10	8:12	8:15	8:20
Analyzed By		SBM	SBM	SBM	SBM

Remarks:

8675 Sheridan Drive Buffalo New York 14221 (716) 634-2293

FRONTIER TECHNICAL ASSOCIATES INC.

FTA WATER SAMPLE COLLECTION FORM

Project Ref.: Bell Aerospace Textron Project No.: T-211

WEATHER CONDITIONS

Temperature(F): 14°C
Cloud Cover: over Cast
Precipitation: rain, steady

SAMPLE INFORMATION

Sample No.: B-11-D
Sample Location: Well B-11-D
Sample Date: 10/7/87
Time: 8:20am
Sampled By: David M Harty
Sample Method: ~~Dedicated Bailer PVC~~ Bar Coal Device
Sample Type: Groundwater

Water Level Before Purging(Ft.): —
Volume Water Removed Before Sampling: 3.0 gallons
Water Level Before Sampling: —
Water Level After Sampling: —
Appearance of Sample: Clear

FIELD MEASUREMENTS

Parameter	Units	Repl.1	Repl.2	Repl.3	Repl.4
pH	Standard	6.97	6.97	6.98	6.97
Spec. Cond.	umhos/cm	3140	3140	3140	3140
Temperature	Deg. ~~F~~C	13°	13°	13°	13°
Time Analyzed		8:35	8:40	8:45	8:48
Analyzed By		SBM	SBM	SBM	SBM

Remarks:

FRONTIER TECHNICAL ASSOCIATES INC.

FTA WATER SAMPLE COLLECTION FORM

Project Ref.: Bell Aerospace Textron Project No.: T-211

WEATHER CONDITIONS

Temperature(F): 14°C
Cloud Cover: overcast
Precipitation: rain

SAMPLE INFORMATION

Sample No.: B-12
Sample Location: B-12 well
Sample Date: 10/7/87
Time: 3:15pm
Sampled By: David M Hanby
Sample Method: Dedicated Bailer-PVC
Sample Type: Groundwater

Water Level Before Purging(Ft.): 577.67'
Volume Water Removed Before Sampling: 2.8 gallons
Water Level Before Sampling: 573.71'
Water Level After Sampling: 573.41'
Appearance of Sample: Turbid

FIELD MEASUREMENTS

Parameter	Units	Repl.1	Repl.2	Repl.3	Repl.4
pH	Standard	7.47	7.49	7.47	7.48
Spec. Cond.	umhos/cm	1450	1450	1450	1450
Temperature	Deg.~~F~~C	14°C	14°C	14°C	14°C
Time Analyzed		3:40	3:43	3:46	3:50
Analyzed By		SBM	SBM	SBM	SBM

Remarks:

FRONTIER TECHNICAL ASSOCIATES INC.

FTA WATER SAMPLE COLLECTION FORM

Project Ref.: Bell Aerospace Textron Project No.: T-211

WEATHER CONDITIONS

Temperature(F): ~~B-T~~ 13°C
Cloud Cover: Overcast
Precipitation: Rain

SAMPLE INFORMATION

Sample No.: B-13
Sample Location: Well B-13
Sample Date: 10/7/87
Time: 3:35pm
Sampled By: David M Hardy
Sample Method: Dedicated Bailer-PVC
Sample Type: Groundwater

Water Level Before Purging(Ft.): 576.47'
Volume Water Removed Before Sampling: 5-6 gallons
Water Level Before Sampling: 576.59'
Water Level After Sampling: 576.59'
Appearance of Sample: Clear

FIELD MEASUREMENTS

Parameter	Units	Repl.1	Repl.2	Repl.3	Repl.4
pH	Standard	7.28	7.29	7.29	27.29
Spec. Cond.	umhos/cm	950	950	950	950
Temperature	Deg.~~F~~ C	13°C	13°C	13°C	13°C
Time Analyzed		3:57	3:58	4:01	4:05
Analyzed By		SBM	SBM	SBM	SBM

Remarks:

FRONTIER TECHNICAL ASSOCIATES INC.

FTA WATER SAMPLE COLLECTION FORM

Project Ref.: Bell Aerospace Textron Project No.: T-211

WEATHER CONDITIONS

Temperature(F): 13°C
Cloud Cover: over cast
Precipitation: Rain

SAMPLE INFORMATION

Sample No.: B-14
Sample Location: well B-14
Sample Date: 10/7/82
Time: 4:45 pm
Sampled By: David M Hardy
Sample Method: Dedicated Bailer-PVC
Sample Type: Groundwater

Water Level Before Purging(Ft.): 575.06'
Volume Water Removed Before Sampling: 5-1 gallons
Water Level Before Sampling: 575.15'
Water Level After Sampling: 574.47'
Appearance of Sample: Clear

FIELD MEASUREMENTS

Parameter	Units	Repl.1	Repl.2	Repl.3	Repl.4
pH	Standard	7.30	7.30	~~7~~.29	7.30
Spec. Cond.	umhos/cm	2050	2050	2050	2050
Temperature	Deg.~~F~~C	15°C	15°C	15°C	15°C
Time Analyzed		4:55	4:59	5:02	5:05
Analyzed By		SBM	SBM	SBM	SBM

Remarks:

FRONTIER TECHNICAL ASSOCIATES INC.

FTA WATER SAMPLE COLLECTION FORM

Project Ref.: Bell Aerospace Textron Project No.: T-211

WEATHER CONDITIONS

Temperature(F): 14°C
Cloud Cover: over cast
Precipitation: rain

SAMPLE INFORMATION

Sample No.: B-15
Sample Location: well B-15
Sample Date: 10/7/87
Time: 2:55pm
Sampled By: David M Hurley
Sample Method: Dedicated Bailer-PVC
Sample Type: Groundwater

Water Level Before Purging(Ft.): 576.38'
Volume Water Removed Before Sampling: 6.2 gallons
Water Level Before Sampling: 576.29'
Water Level After Sampling: 576.14'
Appearance of Sample: Clear

FIELD MEASUREMENTS

Parameter	Units	Repl.1	Repl.2	Repl.3	Repl.4
pH	Standard	7.07	7.06	7.07	7.05
Spec. Cond.	umhos/cm	1300	1300	1300	1300
Temperature	Deg.F	13°	13°	13°	13°
Time Analyzed		3:09	3:12	3:17	3:20
Analyzed by		SBM	SBM	SBM	SBM

Remarks:

FRONTIER TECHNICAL ASSOCIATES INC.

FTA WATER SAMPLE COLLECTION FORM

Project Ref.: Bell Aerospace Textron Project No.: T-211

WEATHER CONDITIONS

Temperature(F): 14°C
Cloud Cover: Overcast
Precipitation: Rain

SAMPLE INFORMATION

Sample No.: B-16
Sample Location: well B-16
Sample Date: 10/7/87
Time: 2:05pm
Sampled By: David M Hurley
Sample Method: Dedicated Bailer-PVC
Sample Type: Groundwater

Water Level Before Purging(Ft.): 576.61'
Volume Water Removed Before Sampling: 5-5 gallons
Water Level Before Sampling: 576.66'
Water Level After Sampling: 576.67'
Appearance of Sample: Clear

FIELD MEASUREMENTS

Parameter	Units	Repl.1	Repl.2	Repl.3	Repl.4
pH	Standard	6.90	6.91	6.90	6.91
Spec. Cond.	umhos/cm	1650	1650	1650	1650
Temperature	Deg.~~F~~C	14°C	14°C	14°C	14°C
Time Analyzed		2:15	2:17	2:20	2:23
Analyzed by		SBM	SBM	SBM	SBM

Remarks:

FRONTIER TECHNICAL ASSOCIATES INC.

FTA WATER SAMPLE COLLECTION FORM

Project Ref.: Bell Aerospace Textron Project No.: T-211

WEATHER CONDITIONS

Temperature(℉): 14°C
Cloud Cover: Overcast
Precipitation: Steady rain

SAMPLE INFORMATION

Sample No.: B-17
Sample Location: well B-17
Sample Date: 10/7/87
Time: 9:15 am
Sampled By: David M Hartz
Sample Method: Dedicated Bailer-PVC
Sample Type: Groundwater

Water Level Before Purging(Ft.): 577.46'
Volume Water Removed Before Sampling: 2.9 gallons
Water Level Before Sampling: 576.79'
Water Level After Sampling: 576.82'
Appearance of Sample: Turbid

FIELD MEASUREMENTS

Parameter	Units	Repl.1	Repl.2	Repl.3	Repl.4
pH	Standard	6.98	6.99	6.99	6.99
Spec. Cond.	umhos/cm	2250	2250	2250	2250
Temperature	Deg.℉EC	16°	16°	16°	16°
Time Analyzed		9:28	9:30	9:33	9:36
Analyzed By		SBM	SBM	SBM	SBM

Remarks:

FRONTIER TECHNICAL ASSOCIATES INC.

FTA WATER SAMPLE COLLECTION FORM

Project Ref.: Bell Aerospace Textron Project No.: T-211

WEATHER CONDITIONS

Temperature(F): 13°C
Cloud Cover: Overcast
Precipitation: Rain

SAMPLE INFORMATION

Sample No.: B-18
Sample Location: Well B-18
Sample Date: 10/7/87
Time: 4:20pm
Sampled By: David M Hurty
Sample Method: Dedicated Bailer-PVC
Sample Type: Groundwater

Water Level Before Purging(Ft.): 577.15'
Volume Water Removed Before Sampling: 2.1 gallons (dry)
Water Level Before Sampling: 576.01'
Water Level After Sampling: 575.80'
Appearance of Sample: Turbid

FIELD MEASUREMENTS

Parameter	Units	Repl.1	Repl.2	Repl.3	Repl.4
pH	Standard	7.65	7.67	7.66	7.67
Spec. Cond.	umhos/cm	2250	2250	2250	2250
Temperature	Deg.C	15°C	15°C	15°C	15°C
Time Analyzed		4:32	4:36	4:39	4:42
Analyzed By		SBM	SBM	SBM	SBM

Remarks:

8675 Sheridan Drive. Buffalo. New York 14221 (716) 634-2293