TWIN STATE ENVIRONMENTAL CORPORATION *Environmental Scientists and Engineers*

Phase (check one)	Type (check one)
☐ Initial Site Investigation	☐ Work Scope
☐ Corrective Action Feasibility	☒ ***Technical Report***
☐ Investigation	☐ PCF Reimbursement
☐ Corrective Action Plan	☐ General Correspondence
☐ Corrective Action Summary Rpt	
☒ ***Groundwater Monitoring Report***	

May 1999
GROUNDWATER MONITORING REPORT

Habro Mobil
Sherburne, Vermont

SMS Site # 90-610
UST Facility # 1001978
TSEC # 94169

Date Prepared: July 21, 1999

Facility Owned By:
Habro, Inc.
P.O. Box 169
Sherburne, Vermont 05751
Contact: Mr. Martin Brown

Written By:
Brian Wagner
Geochemist

Reviewed By:
Kenneth J. Bisceglio
Project Manager

34 Roosevelt Highway
Colchester, Vermont 05446
E-mail: tsec@together.net

Phone: (802) 654-8663
Fax: (802) 654-8667
www.twinstateenvironmental.com

Copyright © 1999
Twin State Environmental Corp.

TABLE OF CONTENTS

Habro Mobil

"Groundwater Monitoring Report"
Date Sampled: May 10, 1999

1.0 INTRODUCTION 1

2.0 SUMMARY OF FIELD ACTIVITIES 1

3.0 SAMPLING RESULTS 2
3.1 Depth to Groundwater and Flow Direction 2
3.2 Analytical Results 2
3.2.1 QA/QC Results 3

4.0 CONCLUSIONS & RECOMMENDATIONS 4

FIGURES

FIGURE 1 Site Location Map
FIGURE 2 Site Plan
FIGURE 3 Groundwater Contour Plan
FIGURE 4 BTEX Isopleth Plan
FIGURE 5 MTBE Isopleth Plan

TABLES

TABLE 1 Summary of Groundwater Elevations
TABLE 2 Summary of Groundwater Quality

APPENDIX

APPENDIX A Groundwater Quality and Trend Analysis Graphs

ATTACHMENT

ATTACHMENT 1 Laboratory Data

1.0 INTRODUCTION

This report has been prepared by Twin State Environmental Corporation (TSEC) to present the quarterly groundwater monitoring results generated for the Habro Mobil (SITE) located in Sherburne, Vermont (SMS Site No. 90-610). See SITE Location Map, **Figure 1** and the SITE Plan, **Figure 2**.

In accordance with the requirements currently imposed on this SITE, monitoring activities which have been conducted and therefore presented in this report include:

- the collection of groundwater samples from accessible monitoring wells for the determination of volatile organic compounds (VOCs) by USEPA Method 8021B;
- the collection of depth to groundwater measurements;
- the generation of a groundwater contour map which illustrates an interpretation of groundwater flow underlying the SITE at the time of sampling;
- contaminant distribution plans depicting groundwater quality; and,
- the generation of this groundwater monitoring report.

2.0 SUMMARY OF FIELD ACTIVITIES

Groundwater sampling for data and analysis was conducted at this SITE by TSEC on May 10, 1999. Groundwater samples were collected from on-SITE monitoring wells MW-201, 202, 203, 204, 207, 208D, 209, 209D, 210, 211, and 213. Monitoring wells MW-1, 2, 4, 5, 205, 206, and 208 have been removed from the groundwater sampling program, as recommended in the Supplemental Site Investigation report dated March 23, 1998. Depth to water measurements were collected from accessible wells for preparation of the groundwater contour plan. Monitoring wells MW-208 and MW-212 were dry at the time of sampling. Monitoring well MW-206 could not be located for this sampling. A supply well sample from the Chalet Killington (labeled TAP-1) was also collected during this monitoring round.

To allow for the collection of a representative groundwater sample, each well was purged of standing water with a dedicated bailer. Purge water from all wells was discharged directly to the ground surface. Sampling at each monitoring well was conducted with the use of a dedicated bailer.

Quality assurance/quality control (QA/QC) samples which were collected during this sampling event included one (1) duplicate sample collected from MW-201 (labeled DUP-1) and one (1) Field Blank. All analyses conducted for this project were performed by Endyne, Inc., located in Williston, VT.

3.0 SAMPLING RESULTS

3.1 Depth to Groundwater and Flow Direction

Depth to water levels ranged from 1.85 to 12.85 feet below the top of casing (btoc) in MW-211 and MW-207, respectively. Groundwater elevation data is presented in **Table 1**. Graphical summaries of water levels for individual monitoring wells are presented in **Appendix A**. In general, the water table elevation is approximately 0.7 ft higher than the September 1998 sampling round. Groundwater was measured above the screen in monitoring wells MW-1, MW-4, MW-208D, MW-209D, and MW-211.

Groundwater underlying the SITE at the time of sampling has been calculated to flow generally to the southeast toward Roaring Brook with a horizontal hydraulic gradient of 0.12 ft/ft between MW-210 and MW-207 and 0.07 ft/ft between MW-4 and MW-2. The groundwater elevation data is presented in **Table 1** and interpreted on the Groundwater Contour Map presented as **Figure 3**.

3.2 Analytical Results

The current groundwater sampling results are summarized in **Table 2**. The complete analytical laboratory report is provided as **Attachment 1** and graphical trend analyses of historical data are found in **Appendix A**. BTEX and MTBE Isopleth Plans are provided as **Figures 4** and **5**, respectively.

The total dissolved concentration of benzene, toluene, ethylbenzene, and total xylenes (BTEX) was found to range from 4.2 micrograms/liter (µg/l) in MW-213 to 65,850 µg/l in MW-201. BTEX was also detected above method detection limits (MDLs) in MW-202 (37 µg/l), MW-203 (11,310 µg/l), MW-204 (5.1 µg/l), MW-207 (28 µg/l), MW-210 (493 µg/l), and MW-211 (13 µg/l). BTEX was not detected above MDLs in MW-208D, MW-209, MW-209D, and the Chalet sample.

1,3,5-Trimethylbenzene (135 TMB) was detected above the MDL in MW-201 (2,020 µg/l), MW-203 (626 µg/l), and MW-210 (28 µg/l). 135 TMB was not detected above the MDL in MW-202, MW-204, MW-207 (<10 µg/l), MW-208D, MW-209, MW-209D, MW-211, MW-213, and the Chalet sample.

1,2,4-Trimethylbenzene (124 TMB) was detected above the MDL in MW-201 (5,250 µg/l), MW-203 (1,900 µg/l), and MW-210 (80 µg/l). 124 TMB was not detected above the MDL in MW-202, MW-204, MW-207 (<10 µg/l), MW-208D, MW-209, MW-209D, MW-211 (tbq<1 µg/l), MW-213, and the Chalet sample.

Naphthalene was detected above the MDL in MW-201 (1,020 µg/l), MW-203 (403 µg/l), and MW-210 (8.2 µg/l). Naphthalene was not detected above the MDL in MW-202, MW-204, MW-207 (<10 µg/l), MW-208D, MW-20,9, MW-209D, MW-211, MW-213, and the Chalet sample.

Methyl-tertiary-butyl ether (MTBE) was detected above the MDL in MW-201 (9,860 µg/l), MW-203 (2,700 µg/l), MW-207 (197 µg/l), MW-210 (127 µg/l), and MW-213 (191 µg/l). MTBE was not detected above the MDL in MW-202 (tbq<10 µg/l), MW-204, MW-208D, MW-209, MW-209D, MW-211, and the Chalet sample

Since the last sampling round in September 1998, BTEX and MTBE levels have fluctuated as follows:

Well Location	BTEX	MTBE	Sheen Present
MW-201	-	+	no
MW-202	-	nc/nd	no
MW-203	+	+	no
MW-204	nc/5 ug/l	nc/nd	no
MW-207	+	-	no
MW-208D	nc/nd	nc/nd	no
MW-209	nc/nd	nc/nd	no
MW-209D	nc/nd	nc/nd	no
MW-210	-	-	no
MW-211	+	nc/nd	no
MW-212	ns	ns	ns
MW-213	-	-	no

+ increase - decrease nc no change nd not detected
ns not sampled na not applicable

Free product was not observed in MW-201 during this sampling round.

3.2.1 QA/QC Results

The Relative Percent Difference (RPD) calculated for BTEX in MW-201 and its duplicate, DUP-1 was 18.1 %. The RPD calculated for MTBE was 0.5 %. An RPD of up to 25 % is generally considered acceptable for precision.

No 8021B target analytes were detected in the Field Blank. All laboratory data was evaluated for the following parameters prior to acceptance in this report:

- analysis within holding times;
- correct sample ID's;
- acceptable detection limit multipliers;
- acceptable matrix spike (MS) and matrix spike duplicate (MSD) recoveries, if applicable;
- acceptable Relative Percent Difference (RPD) between the MS and MSD, if applicable; and,
- acceptable surrogate recoveries.

4.0 CONCLUSIONS & RECOMMENDATIONS

Based on the activities conducted during this reporting period and the findings generated, the following conclusions have been drawn for this SITE:

- Benzene contamination above the Vermont Groundwater Enforcement Standard (VGES) of 5.0 µg/l was detected in MW-201 (15,300 µg/l), MW-202 (33 µg/l), MW-203 (4,040 µg/l), MW-204 (5.1 µg/l), MW-207 (11 µg/l), and MW-210 (154 µg/l). and MW-213. Toluene, ethylbenzene, and xylene concentrations in MW-201 exceeded the VGES of 1000 ug/l, 700 µg/l, and 10,000 µg/l, respectively. Ethylbenzene was also measured above the VGES of 700 µg/l in MW-203;

- MTBE contamination above the VGES of 40 µg/l was detected in MW-201 (9,860 µg/l), MW-203 (2,700 µg/l), MW-207 (197 µg/l), MW-210 (127 µg/l), and MW-213 (191 µg/l);

- 1,3,5-Trimethylbenzene contamination above the VGES of 4.0 µg/l was detected in MW-201 (2,020 µg/l), MW-203 (626 µg/l), and MW-210 (28 µg/l);

- 1,2,4-Trimethylbenzene contamination above the VGES of 5.0 µg/l was detected in MW-201 (5,250 µg/l), MW-203 (1,900 µg/l), and MW-210 (80 µg/l);

- Naphthalene contamination above the VGES of 20 µg/l was detected in MW-201 (1,020 µg/l), MW-203 (403 µg/l), and MW-210 (8.2 µg/l);

- The highest levels of dissolved phase concentrations of VOCs occur in the location of the former gasoline USTs and pump island north of the service station. The maximum levels of BTEX, benzene, and MTBE were found in MW-201 at 65,850 µg/l, 15,300 µg/l, and 9,860 µg/l, respectively;

- Well MW-213 is located adjacent to Roaring Brook and provides a fair approximation of the groundwater quality that discharges to the brook. Benzene and MTBE were detected in MW-213 at 4.2 µg/l and 191 µg/l ;

- Groundwater at this SITE has been interpreted to flow to the southeast towards Roaring Brook at a hydraulic gradient of 0.12 ft/ft between MW-210 and MW-207 and 0.08 ft/ft between MW-4 and MW-2;

- No BTEX or MTBE compounds were detected in the groundwater in wells 208D and 209D. These wells serve as points of compliance between the source area and potential points of exposure at the Chalet Killington and Killington Mall water supplies; and,

- No target compounds were detected above MDLs in the Chalet Killington (TAP-1) sample.

TSEC recommends continuing the quarterly monitoring program. The next round of sampling is scheduled for August 1999. The following table details the sampling frequency, sample dates, sampling locations, and analytical methodology.

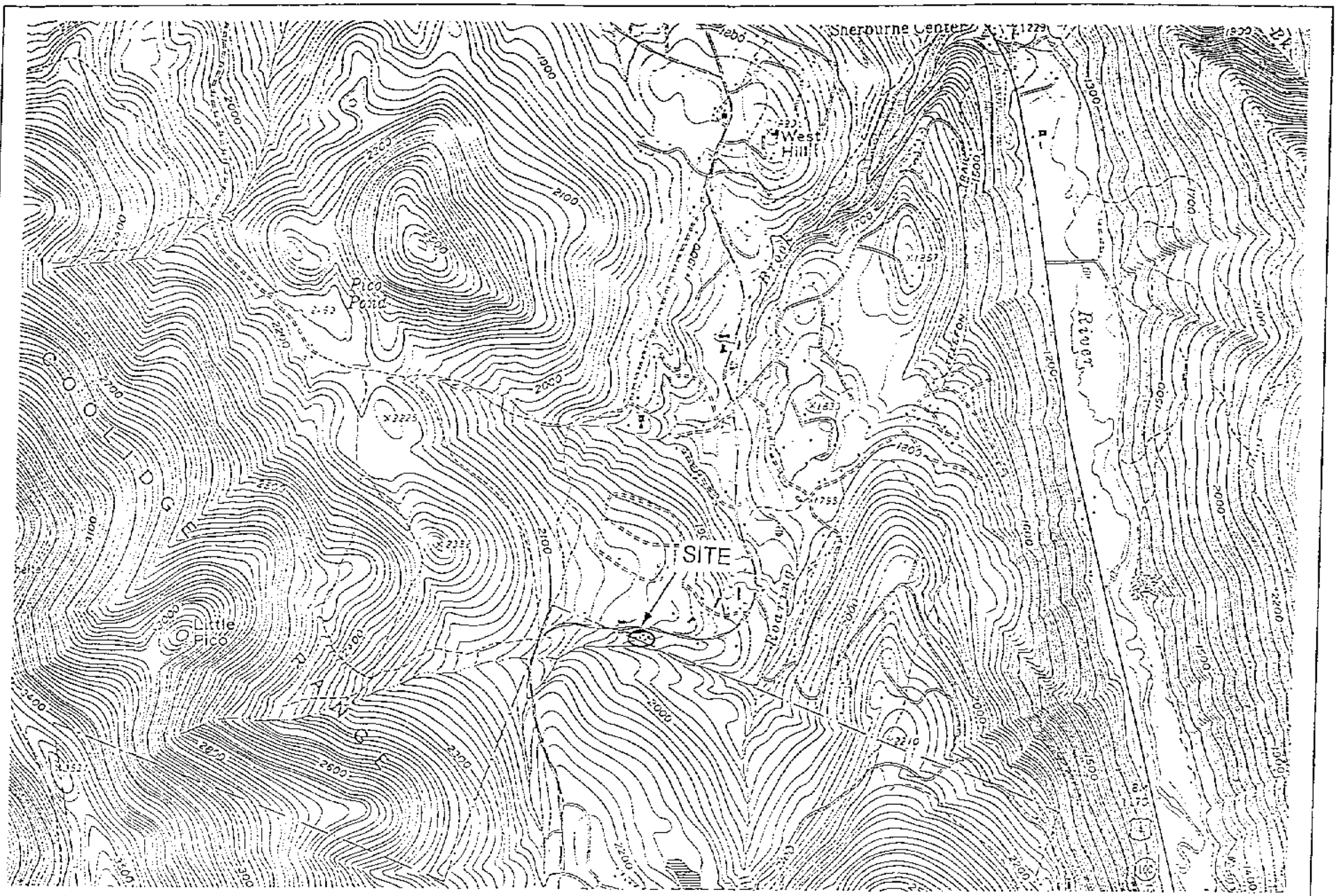
Sampling Frequency	Sampling Dates	Samples to be Collected	Analytical Methodology
Quarterly	February, May, August, November	MW-201,-202,-203,-204,-207,-208D,-209,-209D,-210,-211,-212, and 213, QA/QC- 1 Field Blank and 1 Duplicate	Modified EPA Method 8021B

The Chalet Killington and the Killington Mall water supply wells are sampled on an annual basis. The Chalet Killington sample was collected during the May 1999 sampling round. The Killington Mall sample will be collected during the August 1999 sampling round.

A natural attenuation study was recently completed and follow-up work was requested by the SMS. TSEC is preparing a cost estimate to install an upgradient well from MW-205 and perform another round of geochemical groundwater sampling and analysis.

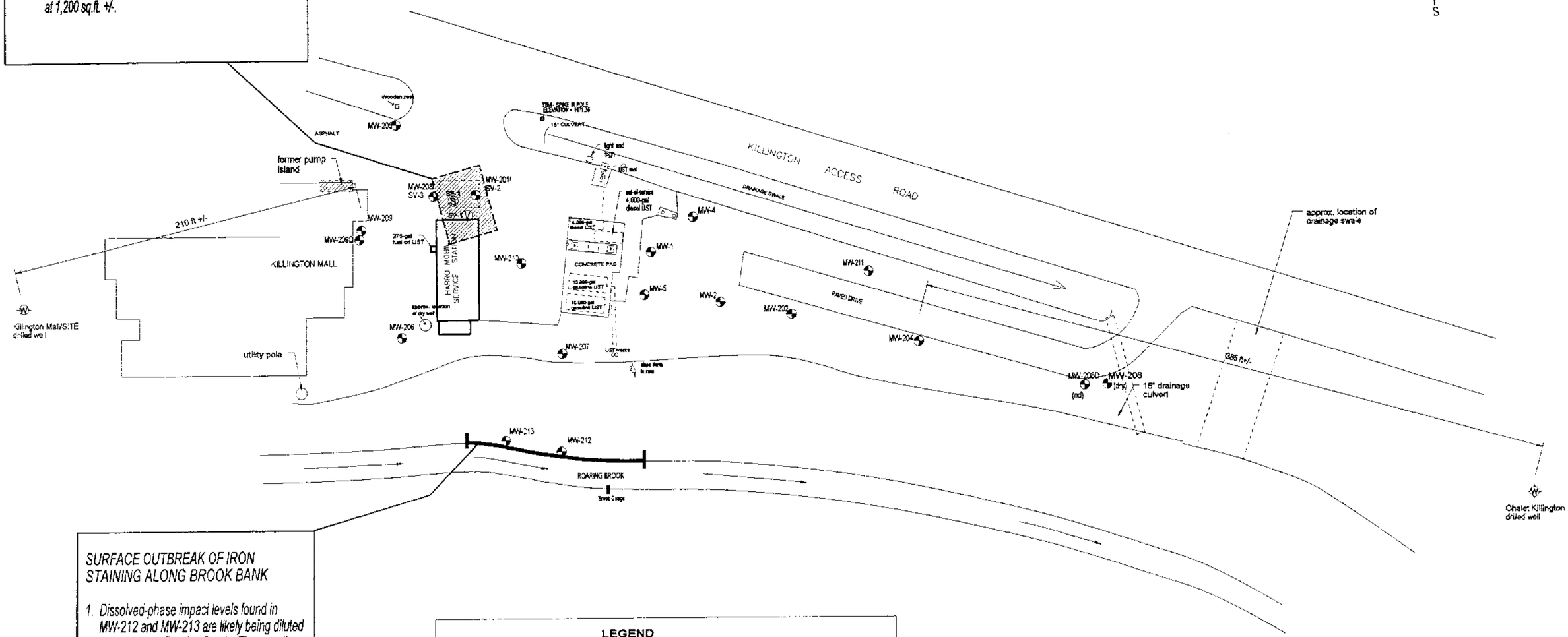
fs1:\project\94169hm\0599gwr.doc

FIGURES


Sherburne Center
West Hill
Pico Pond
Little Pico
SITE
River
Branch
COOLIDGE
1000
1100
1200
1300
1400
1500
1600
1700
1800
1900
2000
2100
2200
2300
2400
2500
2600
2700
2800
2900
3000
3100
3200
3300
3400
3500
3600
3700
3800
3900
4000
4100
4200
4300
4400
4500
4600
4700
4800
4900

SOURCE AREA:

1. *Location of 2 former 10,000-gal gasoline USTs and pump island.*
2. *Source area boundary is estimated at 1,200 sq.ft. +/-.*



SURFACE OUTBREAK OF IRON STAINING ALONG BROOK BANK

1. *Dissolved-phase impact levels found in MW-212 and MW-213 are likely being diluted by water from Roaring Brook. These wells are sealed from surface infiltration but are within the mixing zone of the groundwater discharge to the brook.*

LEGEND

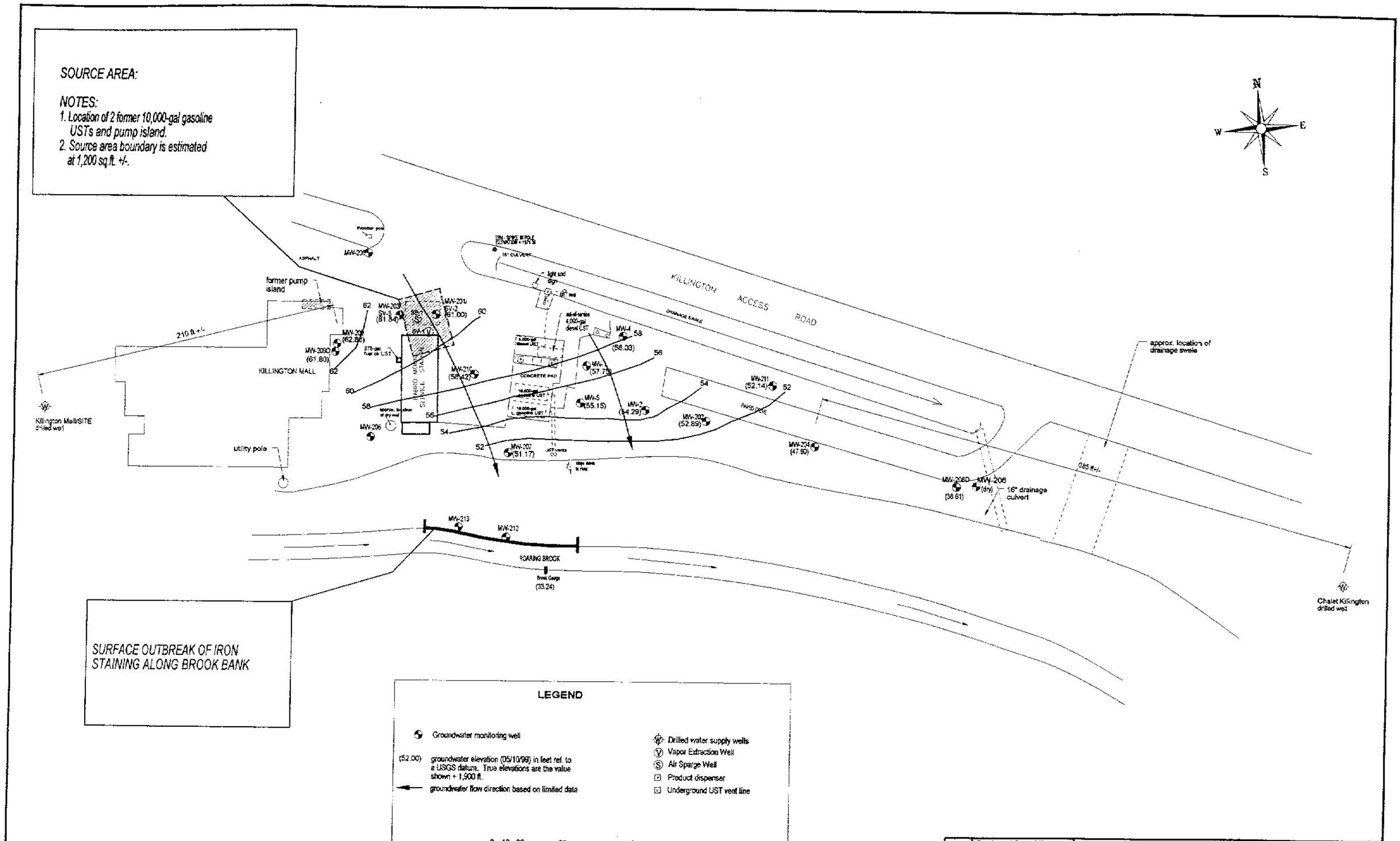
- Groundwater monitoring well
- Drilled water supply wells
- Vapor Extraction Well
- Air Sparge Well
- Product dispenser
- Underground UST vent line

0 10 20 50 100 ft

Scale 1" : 60'

Source: Provan & Lorber, Inc. 1994.
kjb:\project\94169\sitepln2.skd

Project No: 91469	Designed By: kjb Approved By: Drawn By: kjb Scale: 1" : 60' Date: 07/12/95 Revised: 07/23/99	TWIN STATE ENVIRONMENTAL CORP. 34 Roosevelt Highway Colchester, Vermont 802-654-8663	FIGURE 2 SITE Plan Habro Mobil Sherburne, Vermont

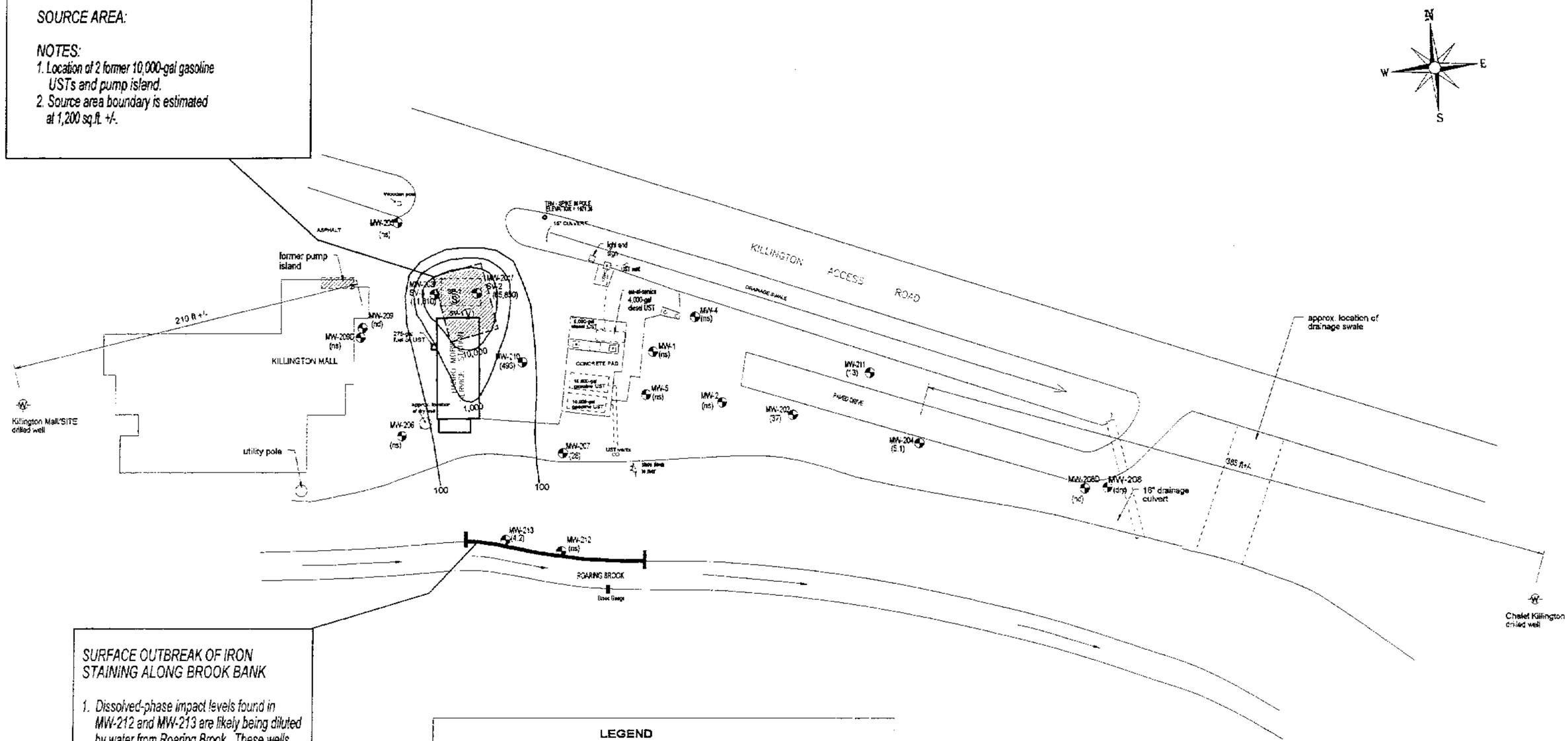


Source: Provan & Lorber, Inc. 1994.
lgb:\project\94169\sitepln2.skd

Project No: 91469	Designed By: kjb Approved By: Drawn By: kjb Scale: 1" : 60'	TWIN STATE ENVIRONMENTAL CORP. 34 Roosevelt Highway Colchester, Vermont	FIGURE 3 Groundwater Contour Plan May 10, 1999 Habro Mobil

SOURCE AREA:

NOTES:
1. *Location of 2 former 10,000-gal gasoline USTs and pump island.*
2. *Source area boundary is estimated at 1,200 sq.ft. +/-.*



SURFACE OUTBREAK OF IRON STAINING ALONG BROOK BANK

1. *Dissolved-phase impact levels found in MW-212 and MW-213 are likely being diluted by water from Roaring Brook. These wells are sealed from surface infiltration but are within the mixing zone of the groundwater discharge to the brook.*

LEGEND

- Groundwater monitoring well
- (10,000) Dissolved-phase BTEX conc. (ug/l) on 05/10/99. Contaminant isopleths are based on limited data.
- Drilled water supply wells
- Vapor Extraction Well
- Air Sparge Well
- Product dispenser
- Underground UST vent line

0 10 20 50 100 ft
Scale
1" : 60'

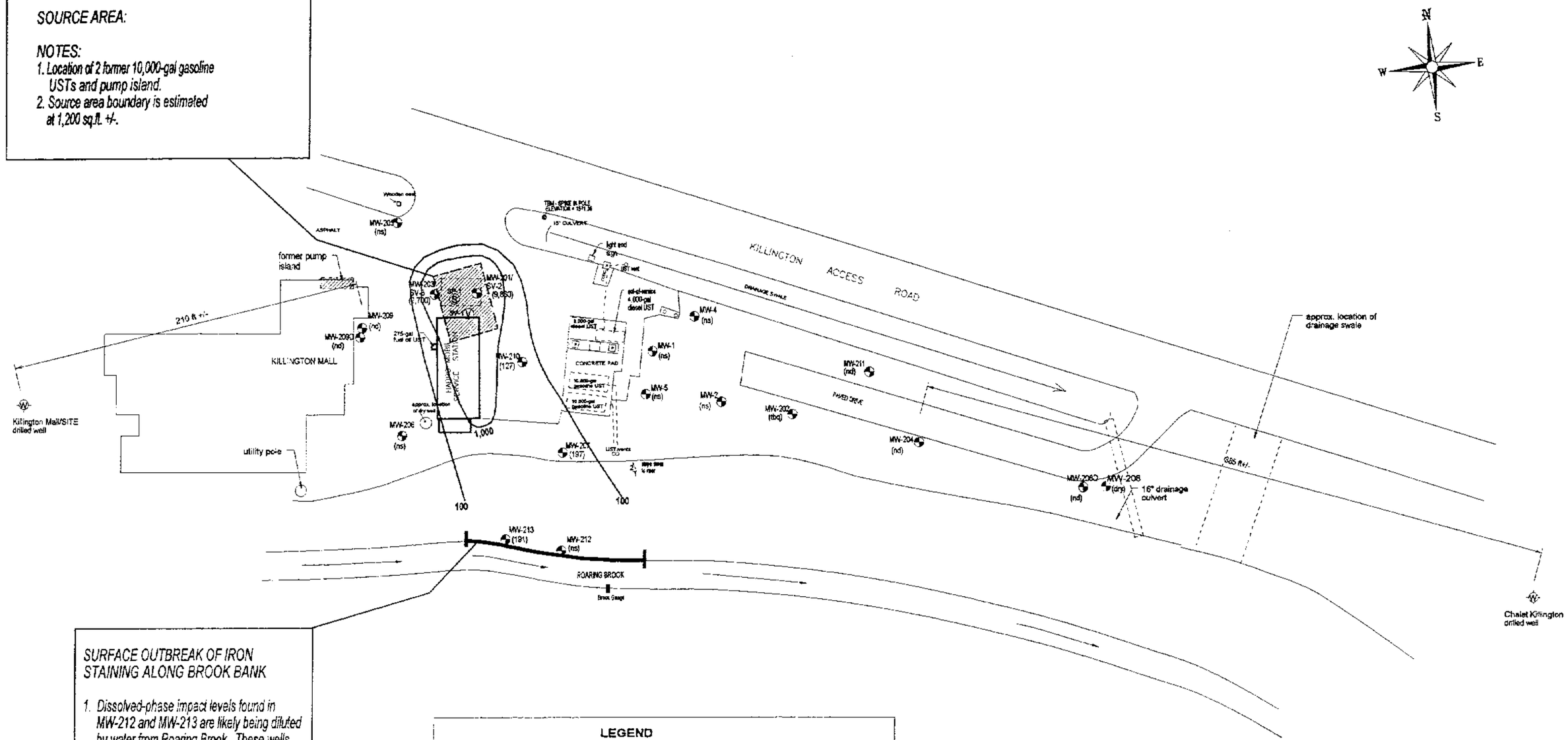
Source: Provan & Lorber, Inc. 1994.
kjb:\project\94169\sitepln2.std

Project No: 91469	Designed By: kjb Approved By: Drawn By: kjb Scale: 1" : 60' Date: 07/12/96 Revised: 07/23/99	TWIN STATE ENVIRONMENTAL CORP. 34 Roosevelt Highway Colchester, Vermont 802-864-8663

FIGURE 4
BTEX Isopleth Plan
May 10, 1999
Habro Mobil
Sherburne, Vermont

SOURCE AREA:

NOTES:
1. *Location of 2 former 10,000-gal gasoline USTs and pump island.*
2. *Source area boundary is estimated at 1,200 sq.ft. +/-.*



SURFACE OUTBREAK OF IRON STAINING ALONG BROOK BANK

1. *Dissolved-phase impact levels found in MW-212 and MW-213 are likely being diluted by water from Roaring Brook. These wells are sealed from surface infiltration but are within the mixing zone of the groundwater discharge to the brook.*

LEGEND

- Groundwater monitoring well
- (1,000) Dissolved-phase MTBE conc. (ug/l) on 05/10/99. Contaminant isopleths are based on limited data.
- Drilled water supply wells
- Vapor Extraction Well
- Air Sparge Well
- Product dispenser
- Underground UST vent line

0 10 20 50 100 ft
Scale
1" : 60'

Source: Provan & Lorber, Inc. 1994.
kjb:\project\94169\sitepln2.skd

Project No: 91469	Designed By: kjb Approved By: Drawn By: kjb Scale: 1" : 60' Date: 07/12/96 Revised: 07/23/99	TWIN STATE ENVIRONMENTAL CORP. 34 Roosevelt Highway Colchester, Vermont 802-654-8663	FIGURE 5 MTBE Isopleth Plan May 10, 1999 Habro Mobil Sherburne, Vermont

TABLES

TABLE 1
SUMMARY OF GROUNDWATER ELEVATIONS
May 10, 1999

Habro's Mobil
Sherburne, Vermont

Well Identification	*Top of Riser Elev.*	*Depth to Product (ft.)*	*Depth to Water (ft.)*	*Depth of Well (ft.)*	*Thickness of Water Table in Well (ft.)*	*Water Table Elev. (ft.)*
MW-1	1,963.69	nd	5.90	14.01	8.11	1,957.79
MW-2	1,959.19	nd	4.90	13.73	8.83	1,954.29
MW-4	1,961.73	nd	3.70	14.98	11.28	1,958.03
MW-5	1,963.38	nd	8.27	16.71	8.44	1,955.11
MW-201	1,969.80	nd	8.80	17.80	9.00	1,961.00
MW-202	1,956.63	nd	3.74	8.79	5.05	1,952.89
MW-203	1,970.88	nd	9.04	17.75	8.71	1,961.84
MW-204	1,952.10	nd	4.50	14.25	9.75	1,947.60
MW-205	1,971.57	nd	7.95	14.20	6.25	1,963.62
MW-206	1,971.54	nl	nl	11.37	nl	nl
MW-207	1,964.02	nd	12.85	19.07	6.22	1,951.17
MW-208	1,951.26	dry	dry	13.15	dry	dry
MW-208D	1,950.13	nd	11.52	24.10	12.58	1,938.61
MW-209	1,972.13	nd	9.30	17.11	7.81	1,962.83
MW-209D	1,972.00	nd	10.20	29.30	19.10	1,961.80
MW-210	1,967.14	nd	8.72	19.00	10.28	1,958.42
MW-211	1,953.99	nd	1.85	14.34	12.49	1,952.14
MW-212	1,938.80	dry	dry	4.51	dry	dry
MW-213	1,940.24	nr	nr	5.20	nr	nr
Brook Gauge	1,934.28	nd	1.04	--	--	1,933.24

Notes:

1. *Elevation data are referenced to a USGS datum and are in units of feet. Survey revised 08/97.*
2. *nd - Not detected; ns - not sampled; nr - not recorded due to bent well or obstruction.*
3. *Measurements recorded are referenced to a marking on top of PVC riser for each well.*
4. *Depth to fluid measurements were obtained using a Solinst Interface Probe.*
5. *Brook gauge elevation ref. to base of stream gauge at 0.0'.*

fs1:\project\94169hab\wet.xls\0599

TABLE 2

SUMMARY OF GROUNDWATER QUALITY

Habro Mobil
Sherburne, Vermont

May 10, 1999

Test	Benzene	Toluene	Ethyl-benzene	Total Xylenes	Total BTEX	1,3,5 TBM	1,2,4 TBM	Naphthalene	MTBE
Sample ID	Concentration, ug/l								
MW-201	***15,300***	***27,500***	***3,250***	***19,800***	65,850	***2,020***	***5,250***	***1,020***	***9,860***
MW-202	***33***	<1	<1	3.8	37	<1	<1	<1	TBQ<10
MW-203	***4,040***	***2,190***	***1,150***	3,930	11,310	***626***	***1,900***	***403***	***2,700***
MW-204	***5.1***	<1	<1	<1	5.1	<1	<1	<1	<10
MW-207	***11***	<10	17.0	<10	28	<10	<10	<10	***197***
MW-208	ns	ns	ns	ns	--	ns	ns	ns	ns
MW-208D	<1	<1	<1	<1	--	<1	<1	<1	<10
MW-209	<1	<1	<1	<1	--	<1	<1	<1	<10
MW-209D	<1	<1	<1	<1	--	<1	<1	<1	<10
MW-210	***154***	63	111	165	493	***28***	***80***	8.2	***127***
MW-211	<1	2	tbq<1	11	13	<1	tbq<1	<1	<10
MW-213	4.2	<2	<2	<2	4.2	<2	<2	<2	***191***
Chalet	<1	<1	<1	<1	--	<1	<1	<1	<10
DUP-1	**14,000**	***23,500***	***2,490***	***17,000***	56,990	***1,130***	***3,720***	***<500***	**9,810**
Field Blank	<1	<1	<1	<1	--	<1	<1	<1	<10
VGES	5.0	1,000	700	10,000	--	4.0	5.0	20	40

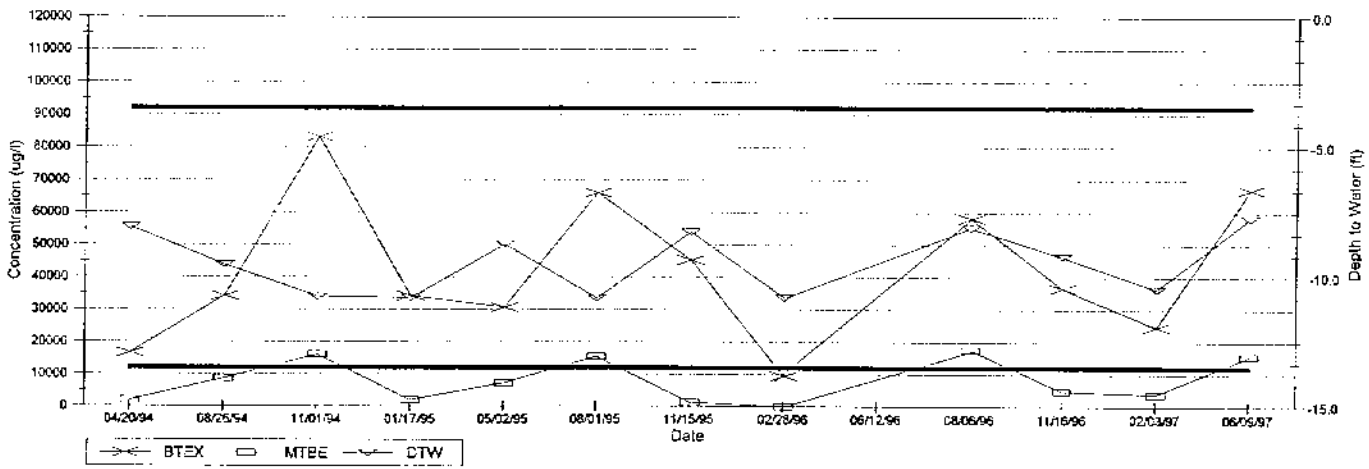
Notes:

1. *VGES - Vermont Groundwater Enforcement Standard*
2. *All samples were tested using EPA Method 8020 or 8021B..*
4. *Bold and italicised numbers indicate VGES exceedence.*
5. *ns - not sampled*
6. *DUP-1 is a duplicate of MW-201.*

QA/QC - Relative Percent Difference			
	Total Aromatics	MTBE	Limits
MW-201 & DUP-1	**18.1**	**0.5**	**25%**

APPENDIX A

MW-201
Groundwater Quality and Depth Trend Analysis

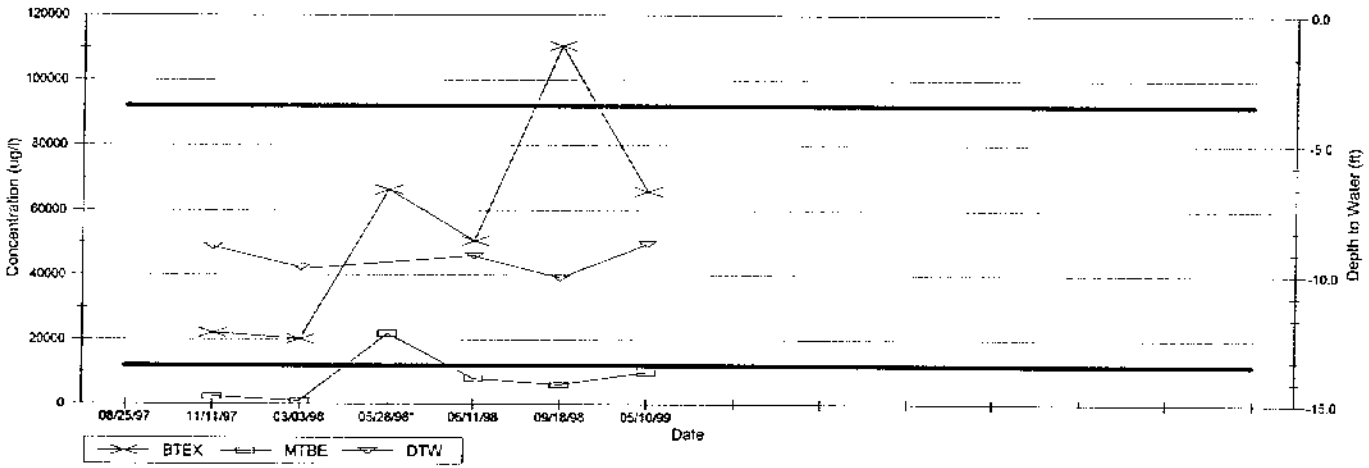


	04/20/94	08/26/94	11/01/94	01/17/95	05/02/95	08/01/95	11/15/95	02/28/96	06/12/96	08/06/96	11/16/96	02/03/97	06/09/97
Benzene	2,000	7,350	17,000	3,350	5,600	17,000	4,900	1,600	fp	13,500	5,990	4,770	15,400
Toluene	5,700	16,600	37,500	12,000	12,500	29,000	17,600	2,900	fp	26,900	15,400	10,000	32,800
Ethylbenzene	1,400	1,750	3,250	2,500	1,700	2,400	2,600	500	fp	2,250	2,050	1,340	2,620
Total Xylenes	6,900	8,500	25,500	16,400	10,900	17,700	20,300	4,400	fp	15,600	13,200	8,570	16,200
BTEX	**16,600**	**34,200**	**83,250**	**34,250**	**30,700**	**66,100**	**45,400**	**9,400**	fp	**58,250**	**36,640**	**24,680**	**67,020**
MTBE	**1,800**	**8,650**	**16,100**	**1,900**	**7,200**	**15,500**	**1,200**	**0**	fp	**17,600**	**4,770**	**3,820**	**15,700**
DTW	-8.07	-9.51	-10.75	-10.80	-8.72	-10.81	-8.25	-10.80	fp	-8.10	-9.20	-10.45	-7.70

Notes:

1. *Samples tested using EPA Method 8020 or 8260.*
2. *Concentrations are in units of ug/l or parts-per-billion (ppb).*
3. *DTW - Depth to water measured using a Soloinst interface probe as referenced to the top of PVC riser. Date of measurement was within a one month period of sampling.*
4. *Some sampling rounds performed by others.*
5. *nd - Compound not detected above method detection limit. Summation in spreadsheet yields 0; however, actual concentration may be between zero and the method detection limit.*
   ns - not sampled.
   fp - free product.
6. *Wide lines on graph indicate top and bottom of well screen.*

MW-201 (continued)
Groundwater Quality and Depth Trend Analysis



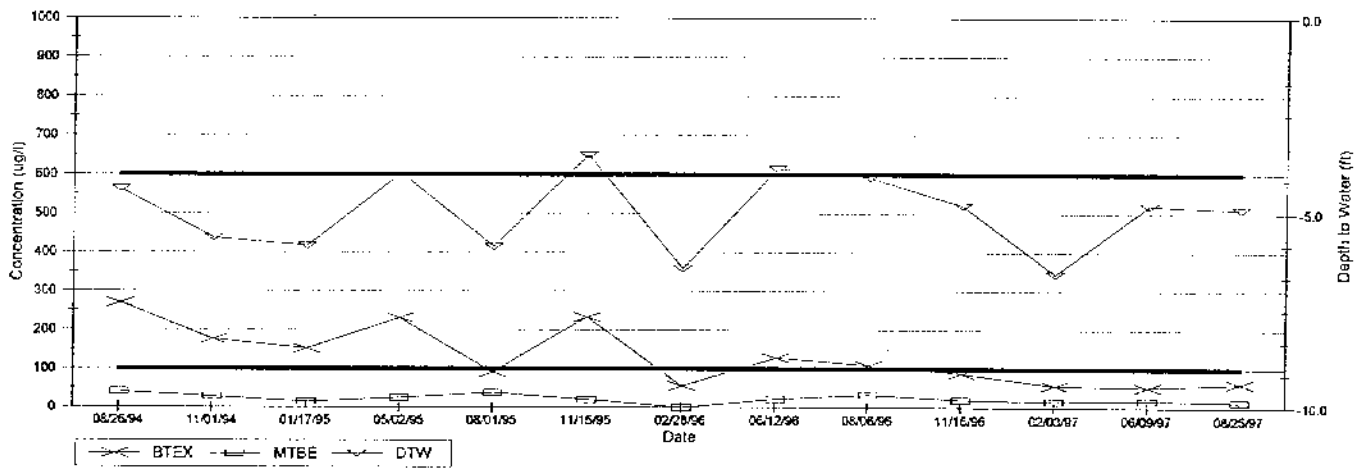
	08/25/97	11/11/97	03/03/98	05/28/98*	06/11/98	09/18/98	05/10/99							
Benzene	fp	4,600	3,600	18,400	12,000	17,400	15,300							
Toluene	fp	8,600	6,800	32,200	24,300	46,200	27,500							
Ethylbenzene	fp	1,300	1,500	1,840	1,780	6,490	3,250							
Total Xylenes	fp	7,700	8,300	13,900	12,500	40,500	19,800							
BTEX	fp	22,200	20,200	66,340	50,580	110,590	65,850							
1,3,5, TMB	na	na	na	na	na	4,290	2,020							
1,2,4 TMB	na	na	na	na	na	12,300	5,250							
Naphthalene	na	na	na	na	na	2,130	1,020							
MTBE	fp	2,400	990	21,900	7,970	6,130	9,860							
DTW	--	-8.90	-9.70	na	-9.26	-10.10	-8.80							

Notes:

1. *Samples tested using EPA Method 8020, 8021B, or 8260.*
2. *Concentrations are in units of ug/l or parts-per-billion (ppb).*
3. *DTW - Depth to water measured using a Solinst interface probe as referenced to the top of PVC riser. Date of measurement was within a one month period of sampling.*
4. *Some sampling rounds performed by others.*
5. *nd - Compound not detected above method detection limit. Summation in spreadsheet yields 0; however, actual concentration may be between zero and the method detection limit.*
   ns - not sampled.
   fp - free product.
6. *Wide lines on graph indicate top and bottom of well screen.*

* - *Sample collected using low-flow method during RNA study.*

MW-202
Groundwater Quality and Depth Trend Analysis

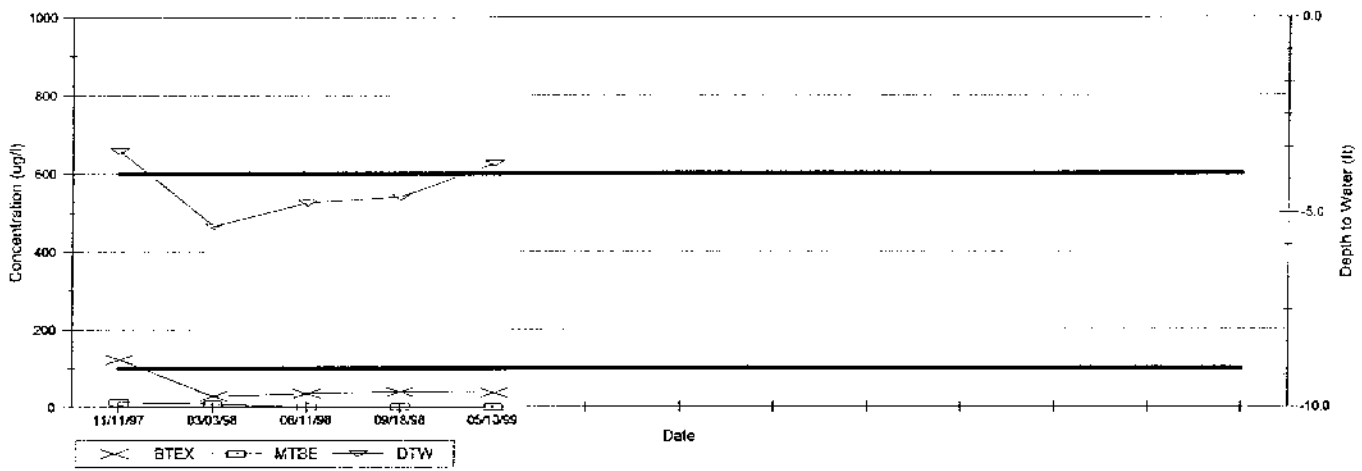


	08/26/94	11/01/94	01/17/95	05/02/95	08/01/95	11/15/95	02/28/96	06/12/96	08/06/96	11/16/96	02/03/97	06/09/97	08/25/97
Benzene	220	173	152	200	82	190	55	109	83	78	55	48	59
Toluene	nd	1	nd	nd	nd	nd	nd	nd	1.8	nd	nd	nd	nd
Ethylbenzene	nd	nd	nd	nd	nd	nd	nd	nd	5.2	3.2	nd	2.3	nd
Total Xylenes	50	2	nd	31	8	43	nd	20	19	6.8	1.8	2.3	3.1
BTEX	270	176	152	231	90	233	55	129	109	88	57	53	52
MTBE	40	28	14	24	37	20	0	22	33	20	16	18	14
DTW	-4.38	-5.62	-5.83	-3.96	-5.85	-3.50	-6.41	-3.85	-4.08	-4.80	-6.55	-4.80	-4.90

Notes:

1. *Samples tested using EPA Method 8020 or 8260.*
2. *Concentrations are in units of ug/l or parts-per-billion (ppb).*
3. *DTW - Depth to water measured using a Solinst interface probe as referenced to the top of PVC riser. Date of measurement was within a one month period of sampling.*
4. *Some sampling rounds performed by others.*
5. *nd - Compound not detected above method detection limit. Summation in spreadsheet yields 0; however, actual concentration may be between zero and the method detection limit.*
   ns - not sampled.
   fp - free product.
6. *Wide lines on graph indicate top and bottom of well screen.*

MW-202 (continued)
Groundwater Quality and Depth Trend Analysis



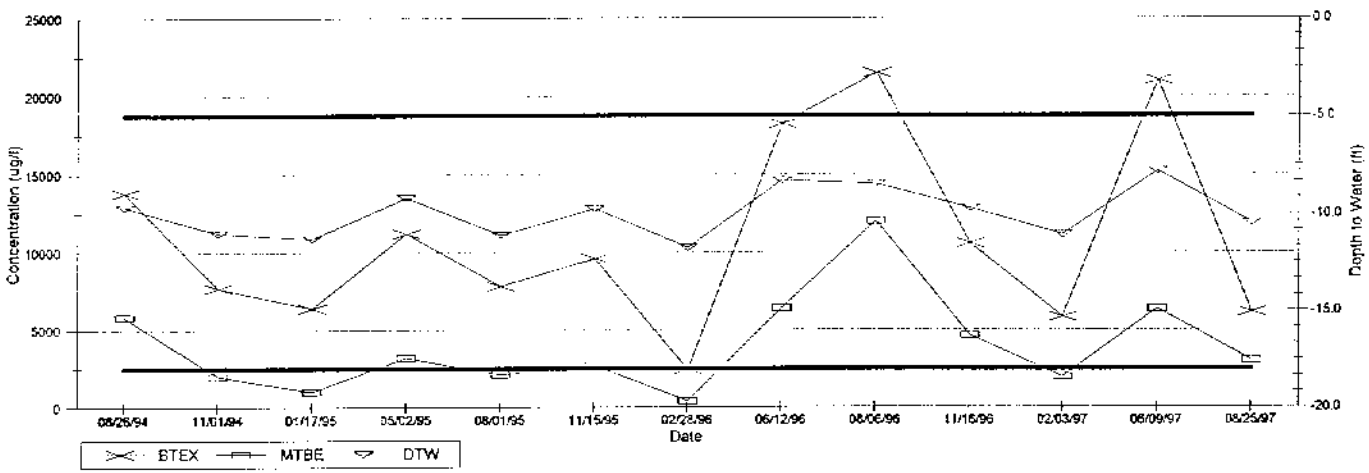
	11/11/97	03/03/98	06/11/98	09/18/98	05/10/99								
Benzene	97	26	35	38	33								
Toluene	nd	nd	nd	nd	nd								
Ethylbenzene	6	nd	nd	1	nd								
Total Xylenes	20	2	nd	nd	4								
BTEX	123	28	35	39	37								
1,3,5, TMB	na	na	na	nd	nd								
1,2,4 TMB	na	na	na	nd	nd								
Naphthalene	na	na	na	nd	nd								
MTBE	13	8	0	0	0								
DTW	-3.43	-5.35	-4.75	-4.60	-3.74								

Notes:

1. *Samples tested using EPA Method 8020, 8021B, or 8260.*
2. *Concentrations are in units of ug/l or parts-per-billion (ppb).*
3. *DTW - Depth to water measured using a Soloinst interface probe as referenced to the top of PVC riser. Date of measurement was within a one month period of sampling.*
4. *Some sampling rounds performed by others.*
5. *nd - Compound not detected above method detection limit. Summation in spreadsheet yields 0; however, actual concentration may be between zero and the method detection limit.*
   ns - not sampled.
   fp - free product.
6. *Wide lines on graph indicate top and bottom of well screen.*

MW-203

Groundwater Quality and Depth Trend Analysis

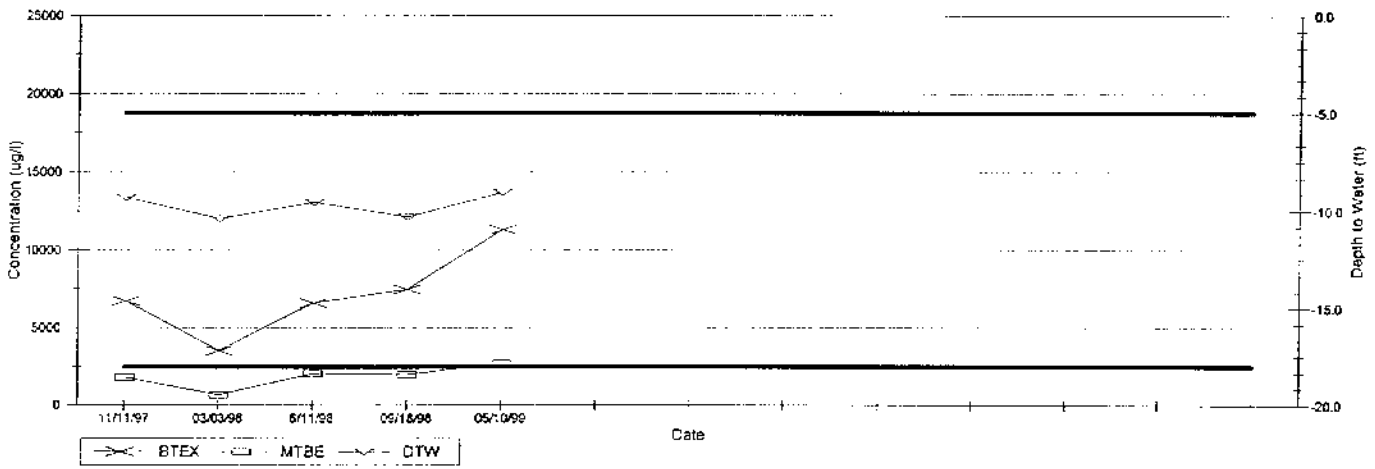


	08/26/94	11/01/94	01/17/95	05/02/95	08/01/95	11/15/95	02/28/96	06/12/96	08/06/96	11/16/96	02/03/97	06/09/97	08/25/97
Benzene	5,600	4,200	3,250	5,400	4,350	5,350	1,130	7,000	9,350	5,570	2,970	6,740	3,060
Toluene	2,600	950	500	2,200	720	900	260	4,350	4,870	1,120	457	6,140	590
Ethylbenzene	1,400	750	850	1,050	850	1,100	370	1,450	1,570	975	756	1,560	593
Total Xylenes	4,200	1,800	1,800	2,550	1,900	2,250	670	5,450	5,690	2,910	1,650	6,590	1,890
BTEX	**13,800**	**7,700**	**6,400**	**11,200**	**7,820**	**9,600**	**2,430**	**18,250**	**21,480**	**10,575**	**5,833**	**21,030**	**6,133**
MTBE	**5,850**	**2,000**	**1,000**	**3,200**	**2,110**	**2,700**	**330**	**6,400**	**12,000**	**4,530**	**1,950**	**6,360**	**3,000**
DTW	-9.68	-11.02	-11.30	-9.19	-11.11	-9.76	-11.75	-8.31	-8.50	-9.75	-11.10	-7.82	-10.49

Notes:

1. *Samples tested using EPA Method 8020 or 8250.*
2. *Concentrations are in units of ug/l or parts-per-billion (ppb).*
3. *DTW - Depth to water measured using a Soloinst interface probe as referenced to the top of PVC riser. Date of measurement was within a one month period of sampling.*
4. *Some sampling rounds performed by others.*
5. *nd - Compound not detected above method detection limit. Summation in spreadsheet yields 0; however, actual concentration may be between zero and the method detection limit.*
   ns - not sampled.
   fp - free product.
6. *Wide lines on graph indicate top and bottom of well screen.*

MW-203 (continued)
Groundwater Quality and Depth Trend Analysis



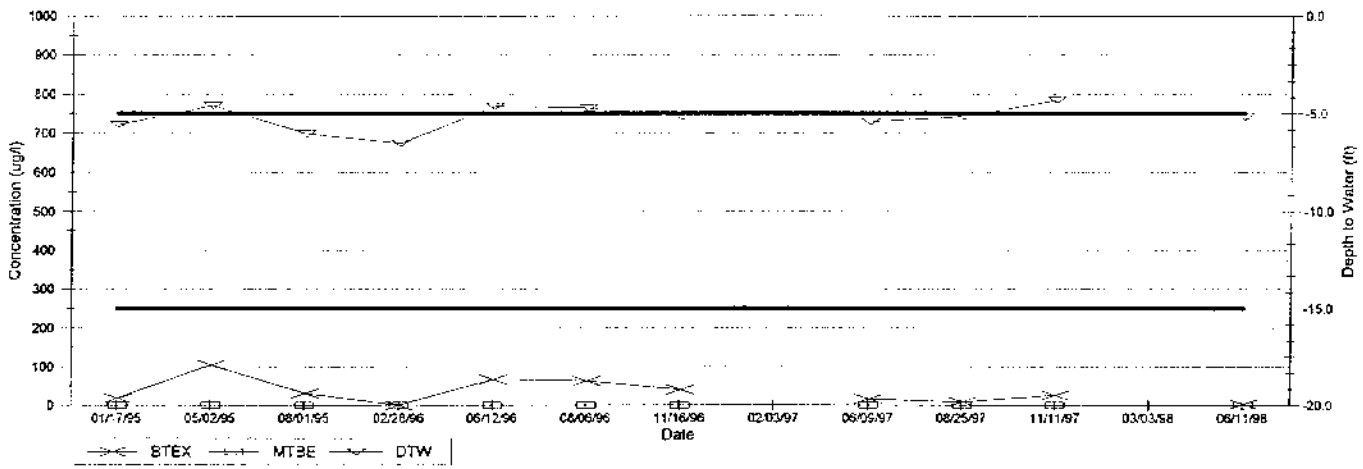
	11/11/97	03/03/98	6/11/98	09/18/98	05/10/99								
Benzene	3,100	1,800	2,780	4,010	4,040								
Toluene	730	290	876	559	2,190								
Ethylbenzene	710	470	699	794	1,150								
Total Xylenes	2,190	970	2,250	2,120	3,930								
BTEX	6,730	3,530	6,605	7,483	11,310								
1,3,5, TMB	na	na	na	758	626								
1,2,4 TMB	na	na	na	2,110	1,900								
Naphthalene	na	na	na	438	403								
MTBE	1,800	670	2,040	1,980	2,700								
DTW	-9.31	-10.40	-9.55	-10.30	-9.04								

Notes:

1. *Samples tested using EPA Method 8020, 8021B, or 8260.*
2. *Concentrations are in units of ug/l or parts-per-billion (ppb).*
3. *DTW - Depth to water measured using a Solinst interface probe as referenced to the top of PVC riser. Date of measurement was within a one month period of sampling.*
4. *Some sampling rounds performed by others.*
5. *nd - Compound not detected above method detection limit. Summation in spreadsheet yields 0; however, actual concentration may be between zero and the method detection limit.*
   ns - not sampled.
   fp - free product.
6. *Wide lines on graph indicate top and bottom of well screen.*

MW-204

Groundwater Quality and Depth Trend Analysis

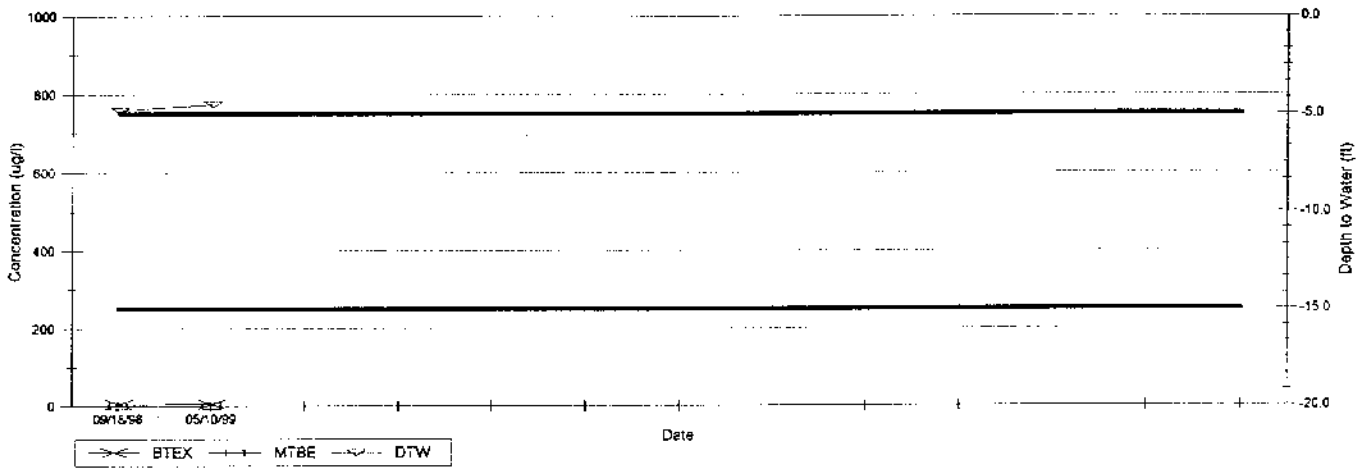


	01/17/95	05/02/95	08/01/95	02/28/96	06/12/96	08/06/96	11/16/96	02/03/97	06/09/97	08/25/97	11/11/97	03/03/98	06/11/98
Benzene	18	96	31	nd	56	49	35	ns	16	8.5	26	ns	3.4
Toluene	nd	nd	nd	nd	nd	nd	nd	ns	nd	nd	nd	ns	nd
Ethylbenzene	nd	nd	nd	nd	nd	1.6	nd	ns	nd	nd	nd	ns	nd
Total Xylenes	nd	9	nd	nd	11	12	5.2	ns	nd	nd	nd	ns	nd
BTEX	18	105	31	0	67	63	40	ns	16	8.5	26	ns	3.4
MTBE	0	0	0	0	0	0	0	ns	0	0	0	ns	0
DTW	-5.56	-4.58	-6.01	-6.51	-4.61	-4.70	-5.15	ns	-5.41	-5.15	-4.30	ns	-5.16

Notes:

1. *Samples tested using EPA Method 8020 or 8260.*
2. *Concentrations are in units of ug/l or parts-per-billion (ppb).*
3. *DTW - Depth to water measured using a Solinst interface probe as referenced to the top of PVC riser. Date of measurement was within a one month period of sampling.*
4. *Some sampling rounds performed by others.*
5. *nd - Compound not detected above method detection limit. Summation in spreadsheet yields 0; however, actual concentration may be between zero and the method detection limit.*
   ns - not sampled.
   fp - free product.
6. *Wide lines on graph indicate top and bottom of well screen.*

MW-204 (continued)
Groundwater Quality and Depth Trend Analysis

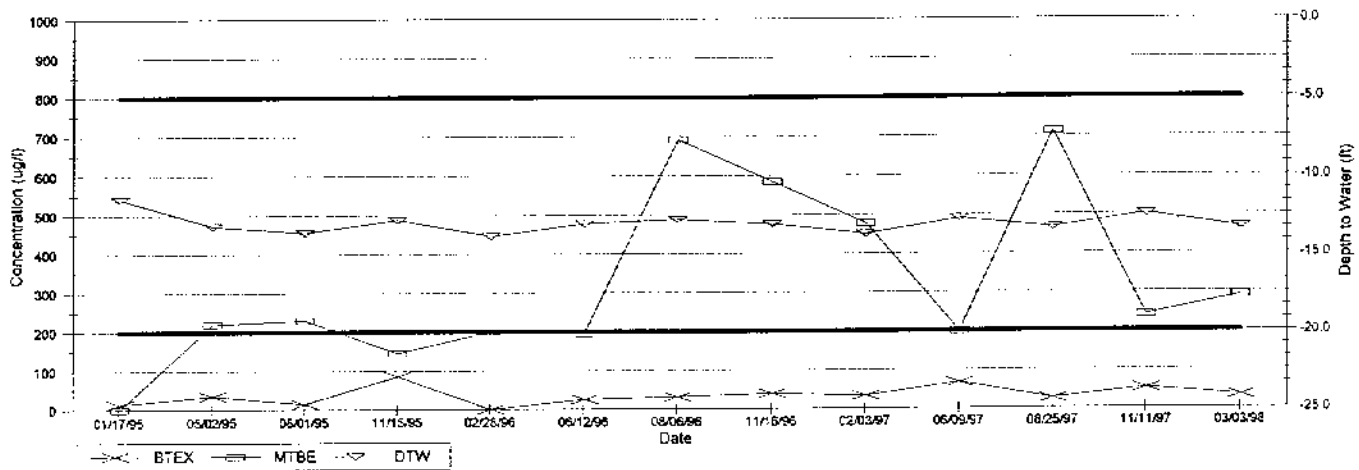


	09/18/98	05/10/99											
Benzene	5	5.1											
Toluene	nd	nd											
Ethylbenzene	nd	nd											
Total Xylenes	nd	nd											
BTEX	5	5.1											
1,3,5, TMB	nd	nd											
1,2,4 TMB	nd	nd											
Naphthalene	nd	nd											
MTBE	0	0											
DTW	-4.81	-4.50											

Notes:

1. *Samples tested using EPA Method 8020, 8021B, or 8260.*
2. *Concentrations are in units of ug/l or parts-per-billion (ppb).*
3. *DTW - Depth to water measured using a Solinst interface probe as referenced to the top of PVC riser. Date of measurement was within a one month period of sampling.*
4. *Some sampling rounds performed by others.*
5. *nd - Compound not detected above method detection limit. Summation in spreadsheet yields 0; however, actual concentration may be between zero and the method detection limit.*
   nt - not tested.
   fp - free product.
6. *Wide lines on graph indicate top and bottom of well screen.*

MW-207
Groundwater Quality and Depth Trend Analysis

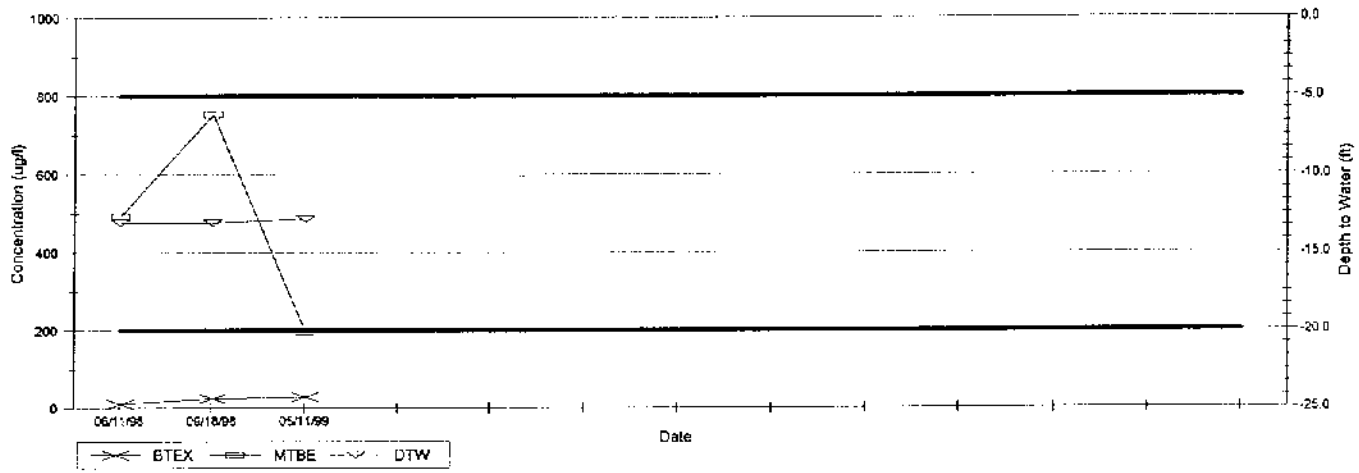


	01/17/95	05/02/95	08/01/95	11/15/95	02/28/96	06/12/96	08/06/96	11/16/96	02/03/97	06/09/97	08/25/97	11/11/97	03/03/98
Benzene	13	35	14	5	nd	25	24	39	33	67	25	32	17
Toluene	nd	nd	nd	nd	nd	nd	6.9	nd	nd	nd	nd	nd	nd
Ethylbenzene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	19	13
Total Xylenes	nd	nd	nd	80	nd	nd	nd	nd	nd	nd	nd	nd	2
BTEX	13	35	14	85	0	25	31	39	33	67	25	51	32
MTBE	0	220	230	145	200	195	692	584	477	199	712	240	290
DTW	-11.50	-13.20	-13.63	-12.61	-13.85	-13.07	-12.81	-13.10	-13.74	-12.76	-13.36	-12.50	-13.35

Notes:

1. *Samples tested using EPA Method 8020 or 8260.*
2. *Concentrations are in units of ug/l or parts-per-billion (ppb).*
3. *DTW - Depth to water measured using a Solinst interface probe as referenced to the top of PVC riser. Date of measurement was within a one month period of sampling.*
4. *Some sampling rounds performed by others.*
5. *nd - Compound not detected above method detection limit. Summation in spreadsheet yields 0; however, actual concentration may be between zero and the method detection limit.*
   ns - not sampled.
   fp - free product.
6. *Wide lines on graph indicate top and bottom of well screen.*

MW-207 (continued)
Groundwater Quality and Depth Trend Analysis

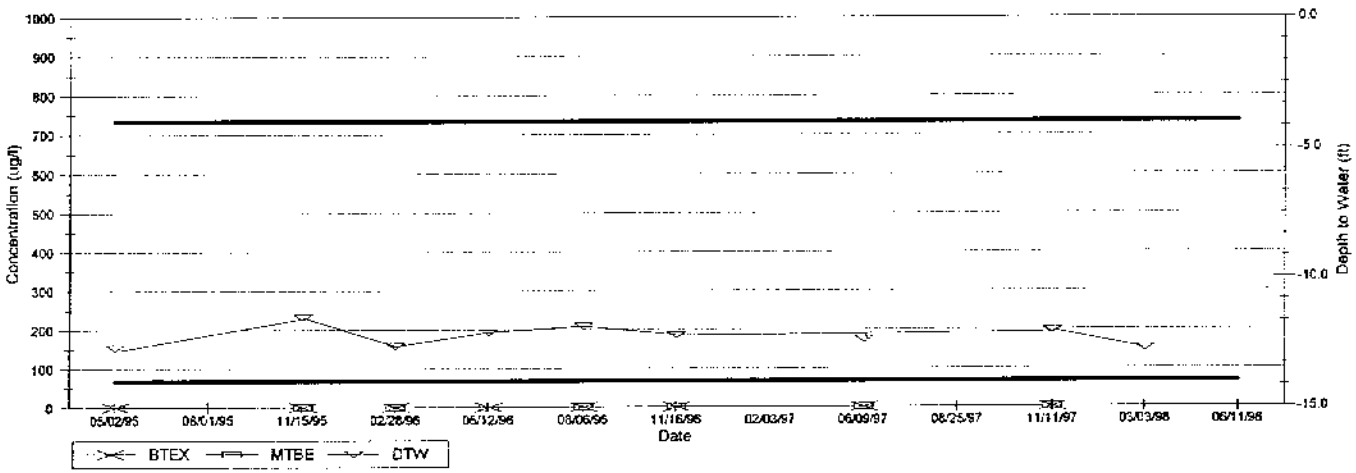


	06/11/98	09/18/98	05/11/99										
Benzene	10	24	11										
Toluene	nd	nd	nd										
Ethylbenzene	nd	nd	17										
Total Xylenes	nd	nd	nd										
BTEX	10	24	28										
1,3,5, TMB	na	nd	nd										
1,2,4 TMB	na	nd	nd										
Naphthalene	na	nd	nd										
MTBE	493	753	197										
DTW	-13.10	-13.10	-12.85										

Notes:

1. *Samples tested using EPA Method 8020, 8021B, or 8260.*
2. *Concentrations are in units of ug/l or parts-per-billion (ppb).*
3. *DTW - Depth to water measured using a Solinst interface probe as referenced to the top of PVC riser. Date of measurement was within a one month period of sampling.*
4. *Some sampling rounds performed by others.*
5. *nd - Compound not detected above method detection limit. Summation in spreadsheet yields 0; however, actual concentration may be between zero and the method detection limit.*
   ns - not sampled.
   fp - free product.
6. *Wide lines on graph indicate top and bottom of well screen.*

MW-208
Groundwater Quality and Depth Trend Analysis

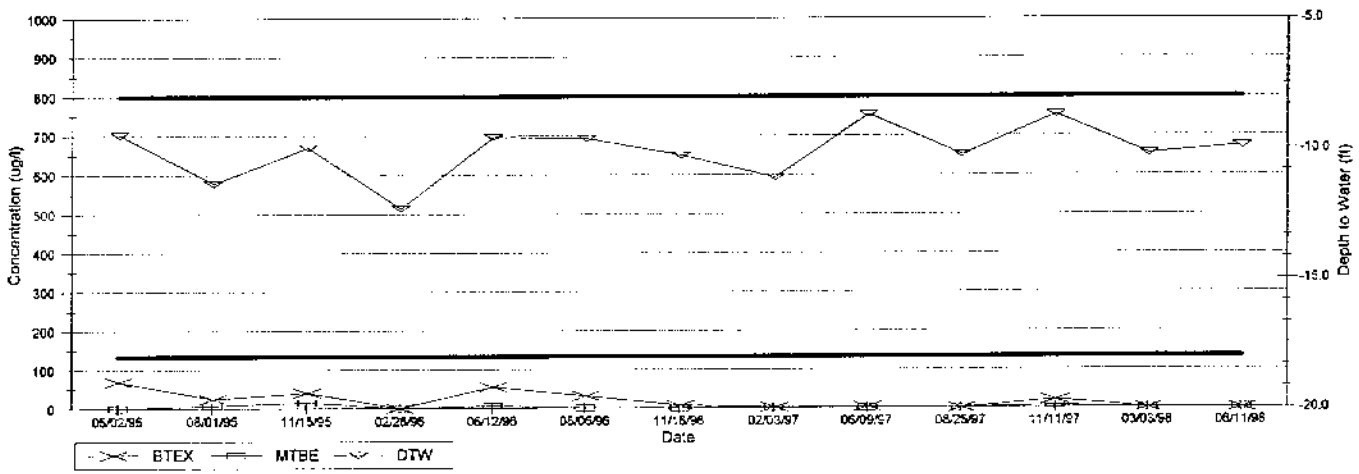


	05/02/95	08/01/95	11/15/95	02/28/96	06/12/96	08/06/96	11/16/96	02/03/97	06/09/97	08/25/97	11/11/97	03/03/98	06/11/98
Benzene	nd	ns	nd	nd	nd	nd	nd	ns	nd	ns	nd	ns	ns
Toluene	nd	ns	nd	nd	nd	nd	nd	ns	nd	ns	nd	ns	ns
Ethylbenzene	nd	ns	nd	nd	nd	nd	nd	ns	nd	ns	nd	ns	ns
Total Xylenes	nd	ns	nd	nd	nd	nd	nd	ns	nd	ns	nd	ns	ns
BTEX	0	ns	0	0	0	0	0	ns	0	ns	0	ns	ns
MTBE	0	ns	0	0	0	0	0	ns	0	ns	0	ns	ns
DTW	-12.69	dry	-11.52	-12.64	-12.11	-11.88	-12.22	dry	-12.39	ns	-12.05	-12.75	ns

Notes:

1. *Samples tested using EPA Method 8020 or 8260.*
2. *Concentrations are in units of ug/l or parts-per-billion (ppb).*
3. *DTW - Depth to water measured using a Solainst interface probe as referenced to the top of PVC riser. Date of measurement was within a one month period of sampling.*
4. *Some sampling rounds performed by others.*
5. *nd - Compound not detected above method detection limit. Summation in spreadsheet yields 0; however, actual concentration may be between zero and the method detection limit.*
   ns - not sampled.
   fp - free product.
6. *Wide lines on graph indicate top and bottom of well screen.*

MW-209
Groundwater Quality and Depth Trend Analysis

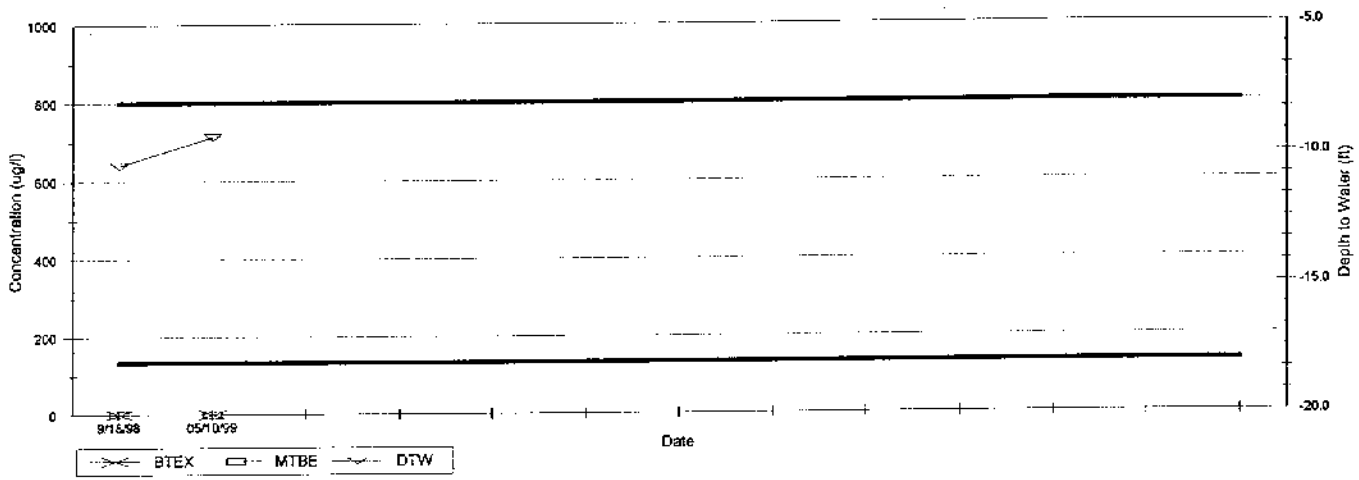


	05/02/95	08/01/95	11/15/95	02/28/96	06/12/96	08/06/96	11/16/96	02/03/97	06/09/97	08/25/97	11/11/97	03/03/98	06/11/98
Benzene	65	24	40	nd	55	31	6.6	1.4	2.7	nd	20	nd	nd
Toluene	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Ethylbenzene	2	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Total Xylenes	2	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
BTEX	69	24	40	0	55	31	6.6	1.4	2.7	0	20	0	0
MTBE	0	6	15	0	6	0	0	0	0	0	5	0	0
DTW	-9.46	-11.33	-9.95	-12.29	-9.55	-9.61	-10.25	-11.10	-8.69	-10.24	-8.70	-10.20	-9.90

Notes:

1. *Samples tested using EPA Method 8020 or 8260.*
2. *Concentrations are in units of ug/l or parts-per-billion (ppb).*
3. *DTW - Depth to water measured using a Solinst interface probe as referenced to the top of PVC riser. Date of measurement was within a one month period of sampling.*
4. *Some sampling rounds performed by others.*
5. *nd - Compound not detected above method detection limit. Summation in spreadsheet yields 0; however, actual concentration may be between zero and the method detection limit.*
   nt - not tested.
   fp - free product.
6. *Wide lines on graph indicate top and bottom of well screen.*

MW-209 (continued)
Groundwater Quality and Depth Trend Analysis



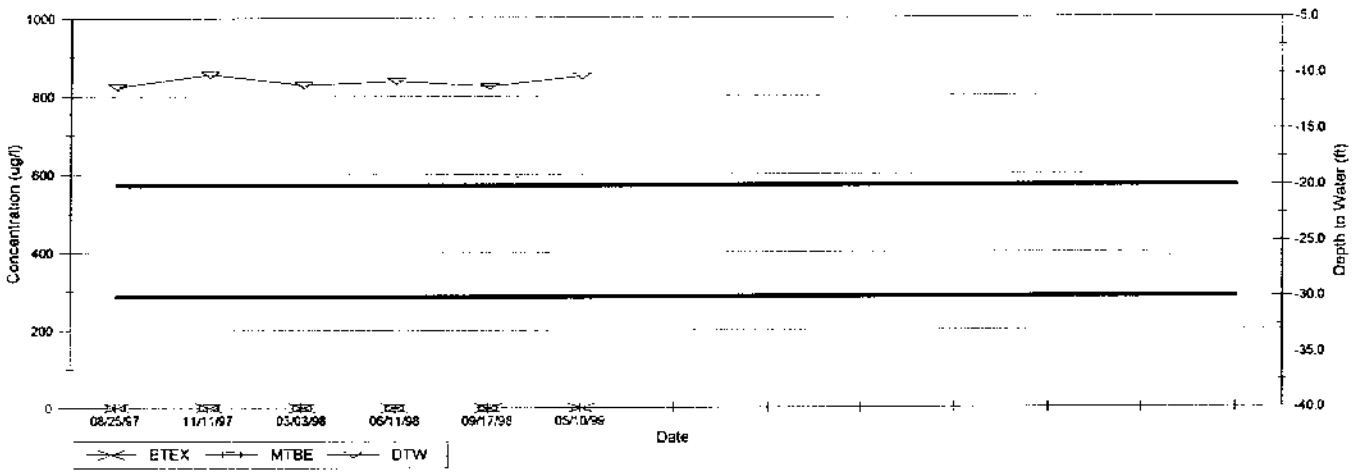
	9/18/98	05/10/99											
Benzene	nd	nd											
Toluene	nd	nd											
Ethylbenzene	nd	nd											
Total Xylenes	nd	nd											
BTEX	0	0											
1,3,5, TMB	nd	nd											
1,2,4 TMB	nd	nd											
Naphthalene	nd	nd											
MTBE	0	0											
DTW	-10.40	-9.30											

Notes:

1. *Samples tested using EPA Method 8020, 8021B, or 8260.*
2. *Concentrations are in units of ug/l or parts-per-billion (ppb).*
3. *DTW - Depth to water measured using a Solinst interface probe as referenced to the top of PVC riser. Date of measurement was within a one month period of sampling.*
4. *Some sampling rounds performed by others.*
5. *nd - Compound not detected above method detection limit. Summation in spreadsheet yields 0; however, actual concentration may be between zero and the method detection limit.*
   nt - not tested.
   fp - free product.
6. *Wide lines on graph indicate top and bottom of well screen.*

MW-209D

Groundwater Quality and Depth Trend Analysis

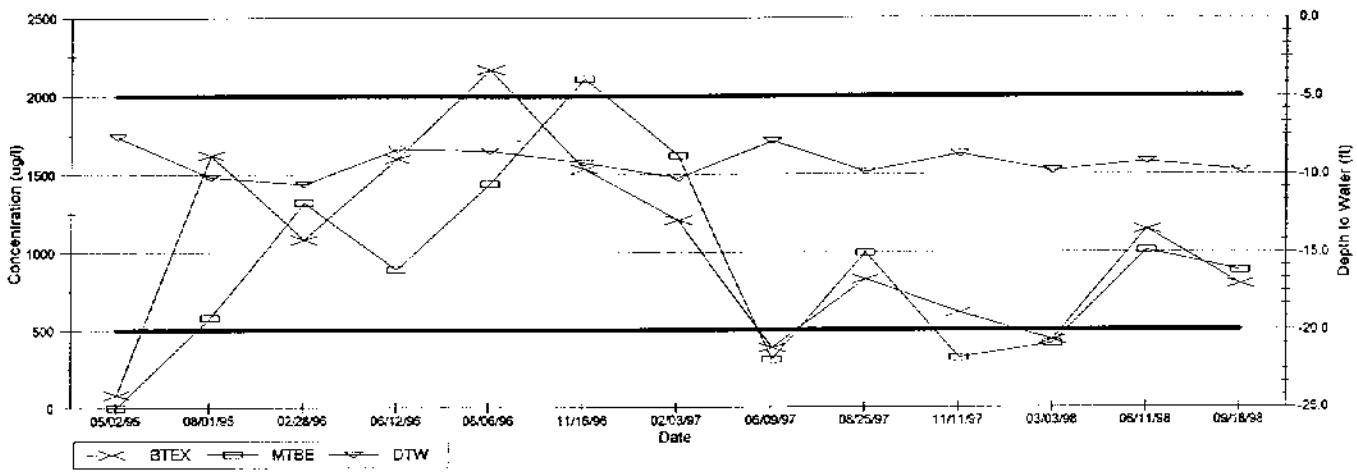


	08/25/97	11/11/97	03/03/98	06/11/98	09/17/98	05/10/99							
Benzene	nd	nd	nd	nd	nd	nd							
Toluene	nd	nd	nd	nd	nd	nd							
Ethylbenzene	nd	nd	nd	nd	nd	nd							
Total Xylenes	nd	nd	nd	nd	nd	nd							
BTEX	0	0	0	0	0	0							
1,3,5, TMB	na	na	na	na	na	nd							
1,2,4 TMB	na	na	na	na	na	nd							
Naphthalene	na	na	na	na	na	nd							
MTBE	0	0	0	0	0	0							
DTW	-11.18	-10.05	-11.00	-10.66	-11.14	-10.20							

Notes:

1. *Samples tested using EPA Method 8020, 8021B, or 8260.*
2. *Concentrations are in units of ug/l or parts-per-billion (ppb).*
3. *DTW - Depth to water measured using a Solinst interface probe as referenced to the top of PVC riser. Date of measurement was within a one month period of sampling.*
4. *Some sampling rounds performed by others.*
5. *nd - Compound not detected above method detection limit. Summation in spreadsheet yields 0; however, actual concentration may be between zero and the method detection limit.*
   nt - not tested.
   fp - free product.
6. *Wide lines on graph indicate top and bottom of well screen.*

MW-210
Groundwater Quality and Depth Trend Analysis

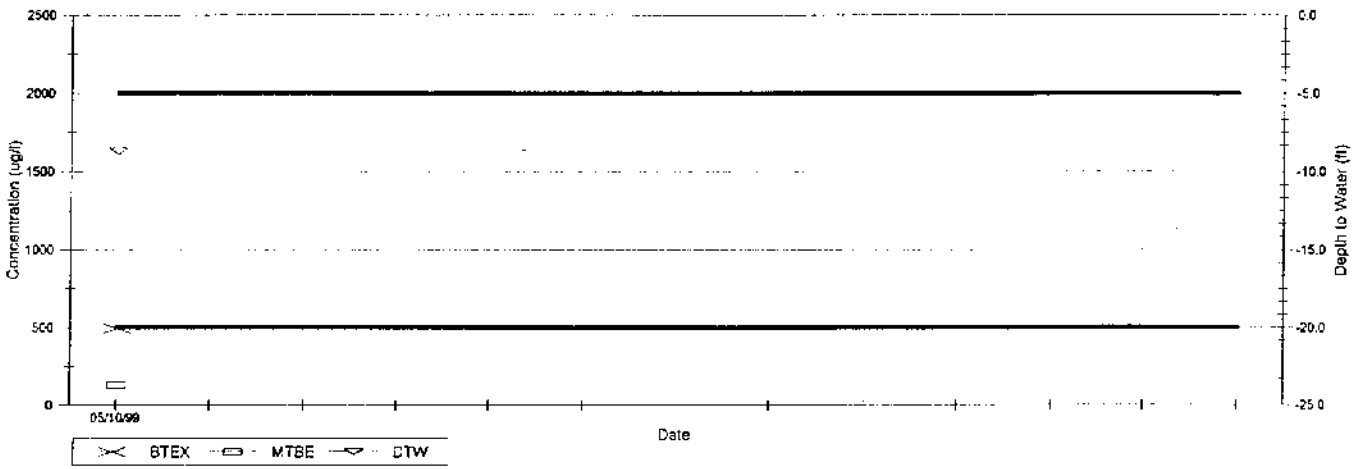


	05/02/95	08/01/95	02/28/96	06/12/96	08/06/96	11/16/96	02/03/97	06/09/97	08/25/97	11/11/97	03/03/98	06/11/98	09/18/98
Benzene	12	700	700	920	976	933	785	190	506	270	230	612	452
Toluene	6	100	nd	90	127	57	37	34	44	56	21	57	38
Ethylbenzene	17	370	180	280	344	275	204	65	145	150	110	245	189
Total Xylenes	48	450	200	310	722	269	181	96	131	136	75	231	115
BTEX	83	1,620	1,080	1,600	2,169	1,534	1,207	385	826	612	436	1,145	794
1,3,5, TMB	na	na	na	na	na	na	na	na	na	na	na	na	nd
1,2,4 TMB	na	na	na	na	na	na	na	na	na	na	na	na	55
Naphthalene	na	na	na	na	na	na	na	na	na	na	na	na	nd
MTBE	0	580	1,320	890	1,440	2,110	1,620	308	997	320	410	1,010	881
DTW	-7.61	-10.19	-10.65	-8.40	-8.50	-9.25	-10.25	-7.89	-9.85	-8.71	-9.80	-9.20	-9.77

Notes:

1. *Samples tested using EPA Method 8020 or 8260.*
2. *Concentrations are in units of ug/l or parts-per-billion (ppb).*
3. *DTW - Depth to water measured using a Solinst interface probe as referenced to the top of PVC riser. Date of measurement was within a one month period of sampling.*
4. *Some sampling rounds performed by others.*
5. *nd - Compound not detected above method detection limit. Summation in spreadsheet yields 0; however, actual concentration may be between zero and the method detection limit.*
   ns - not sampled.
   fp - free product.
6. *Wide lines on graph indicate top and bottom of well screen.*

MW-210 (con't)
Groundwater Quality and Depth Trend Analysis

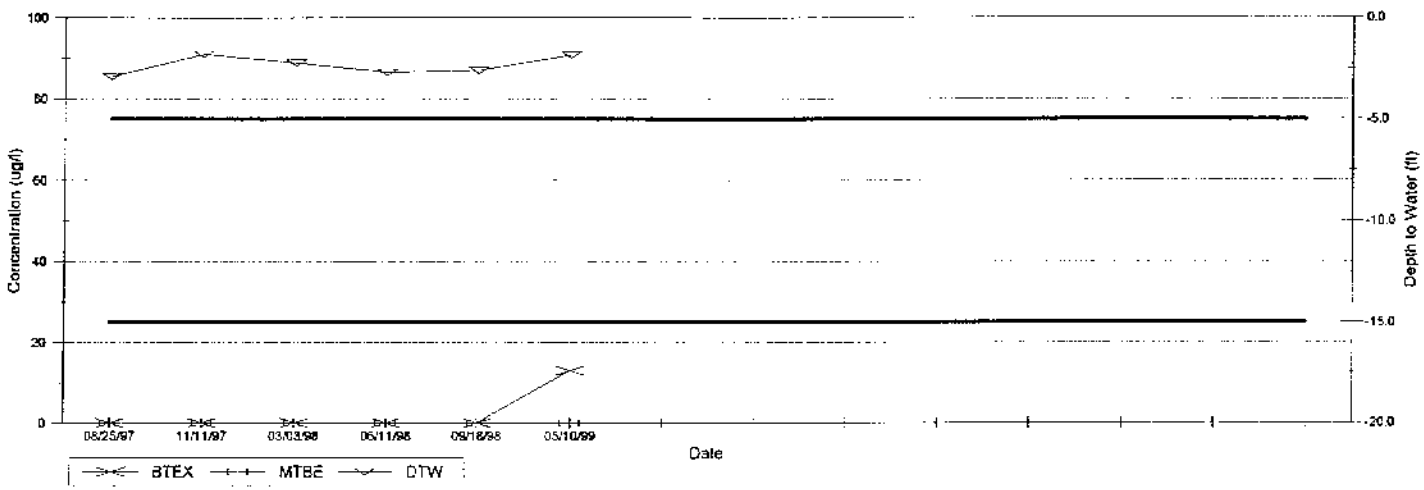


	05/10/99												
Benzene	154												
Toluene	63												
Ethylbenzene	111												
Total Xylenes	165												
BTEX	493												
1,3,5, TMB	28												
1,2,4 TMB	80												
Naphthalene	8												
MTBE	127												
DTW	-8.72												

Notes:

1. *Samples tested using EPA Method 8020, 8021B, or 8260.*
2. *Concentrations are in units of ug/l or parts-per-billion (ppb).*
3. *DTW - Depth to water measured using a Solinst interface probe as referenced to the top of PVC riser. Date of measurement was within a one month period of sampling.*
4. *Some sampling rounds performed by others.*
5. *nd - Compound not detected above method detection limit. Summation in spreadsheet yields 0; however, actual concentration may be between zero and the method detection limit.*
   ns - not sampled.
   fp - free product.
6. *Wide lines on graph indicate top and bottom of well screen.*

MW-211
Groundwater Quality and Depth Trend Analysis



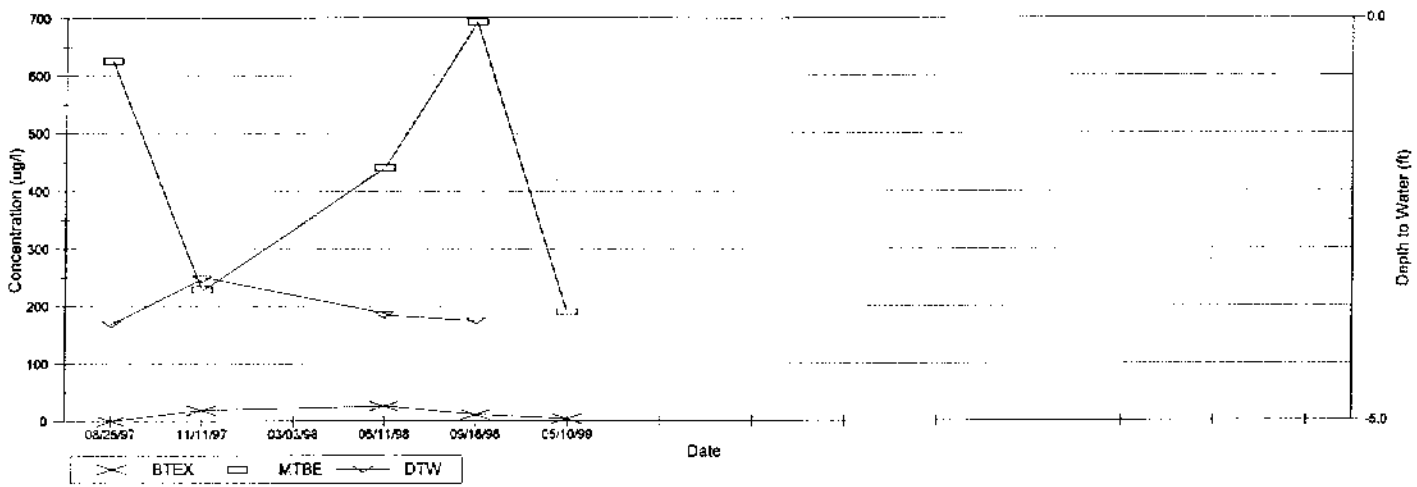
	08/25/97	11/11/97	03/03/98	06/11/98	09/18/98	05/10/99								
Benzene	nd	nd	nd	nd	nd	nd								
Toluene	nd	nd	nd	nd	nd	2								
Ethylbenzene	nd	nd	nd	nd	nd	tbq<1								
Total Xylenes	nd	nd	nd	nd	nd	11								
BTEX	0	0	0	0	0	13								
1,3,5, TMB	na	na	na	na	nd	nd								
1,2,4 TMB	na	na	na	na	nd	tbq<1								
Naphthalene	na	na	na	na	nd	nd								
MTBE	0	0	0	0	0	0								
DTW	-2.90	-1.80	-2.23	-2.71	-2.62	-1.85								

Notes:

1. *Samples tested using EPA Method 8020, 8021B, or 8260.*
2. *Concentrations are in units of ug/l or parts-per-billion (ppb).*
3. *DTW - Depth to water measured using a Solinst interface probe as referenced to the top of PVC riser. Date of measurement was within a one month period of sampling.*
4. *Some sampling rounds performed by others.*
5. *nd - Compound not detected above method detection limit. Summation in spreadsheet yields 0; however, actual concentration may be between zero and the method detection limit.*
   ns - not sampled.
   fp - free product.
6. *Wide lines on graph indicate top and bottom of well screen.*

MW-213

Groundwater Quality and Depth Trend Analysis



	08/25/97	11/11/97	03/03/98	06/11/98	09/18/98	05/10/99								
Benzene	nd	10	ns	26	11	4								
Toluene	nd	nd	ns	nd	nd	nd								
Ethylbenzene	nd	9.2	ns	nd	nd	nd								
Total Xylenes	nd	nd	ns	nd	nd	nd								
BTEX	0	19	ns	26	11	4								
1,3,5, TMB	na	na	na	na	nd	nd								
1,2,4 TMB	na	na	na	na	nd	nd								
Naphthalene	na	na	na	na	nd	nd								
MTBE	626	230	ns	441	692	191								
DTW	-3.79	-3.23	ns	-3.68	-3.75	–								

Notes:

1. *Samples tested using EPA Method 8020, 8021B, or 8260.*
2. *Concentrations are in units of ug/l or parts-per-billion (ppb).*
3. *DTW - Depth to water measured using a Solinst interface probe as referenced to the top of PVC riser. Date of measurement was within a one month period of sampling.*
4. *Some sampling rounds performed by others.*
5. *nd - Compound not detected above method detection limit. Summation in spreadsheet yields 0; however, actual concentration may be between zero and the method detection limit.*
   ns - not sampled.
   fp - free product.
6. *Wide lines on graph indicate top and bottom of well screen.*

ATTACHMENT 1

Laboratory Data Validation Checklist

Job Name: HARBO MOBIL

Job Number: 94169.E2

Receive Date: 5/11/99

Sample Date: 5/10/99

Sample ID's: ✓

Analysis Date: w/in 14 day holding time

Reporting Units: ✓

DLM: ✓

MS Recovery: N/A

MSD Recovery: ↓

% RSD: ✓

Surrogate Rec: ✓

COC Attached: ✓

Sensibility:

TB/EB/FB <DL ✓

Duplicate match MW-201 vs. DUP-1

Past History Anomalies _____

MW-201 Total Aromatics - 74,140
DUP-1 " " - 61,840

$$\frac{|74,140 - 61,840|}{135980} \times 200 = 18.09\% \quad (12300)$$ ✓

MW-201 MTBE - 9860
DUP-1 MTBE - 9810

$$\frac{|9860 - 9810|}{19670} \times 200 = 0.51\% \quad (50)$$ ✓

bw:\general\dataval.doc

6/8/99

F-023

ENDYNE, INC.

Laboratory Services

32 James Brown Drive
Williston, Vermont 05495
(802) 879-4333
FAX 879-7103

MAY 27

REPORT OF LABORATORY ANALYSIS

CLIENT: Twin State Environmental Corp.
PROJECT NAME: Habro Mobil/94169
REPORT DATE: May 24, 1999
DATE SAMPLED: May 10, 1999

ORDER ID: 2297
REF.#: 138,241 - 138,254

Enclosed please find the results of the analyses performed for the samples referenced on the attached chain of custody. Chain of custody indicated sample preservation with HCl.

All samples were prepared and analyzed by requirements outlined in the referenced method and within the specified holding times. All instrumentation was calibrated with the appropriate frequency and verified by the requirements outlined in the referenced method. Blank contamination was not observed at levels affecting the analytical results.

Analytical method precision and accuracy was monitored by laboratory control standards which included matrix spike, duplicate and quality control analyses. These standards were determined to be within established laboratory method acceptance limits.

Individual sample performance was monitored by the addition of surrogate analytes to each sample. All surrogate recovery data was determined to be within laboratory QA/QC guidelines unless otherwise noted.

Reviewed by,

Harry B. Locker, Ph.D.
Laboratory Director

enclosures

ENDYNE, INC.

Laboratory Services

32 James Brown Drive
Williston, Vermont 05495
(802) 879-4333
FAX 879-7103

EPA METHOD 8021B--PURGEABLE AROMATICS

CLIENT: Twin State Environmental Corp.
PROJECT NAME: Habro Mobil/94169
CLIENT PROJ. #: 94169

DATE RECEIVED: May 11, 1999
REPORT DATE: May 24, 1999
ORDER ID: 2297

Ref. #:	138,241	138,242	138,243	138,244	138,245
Site:	MW-207	MW-201	MW-202	MW-203	MW-204
Date Sampled:	5/10/99	5/10/99	5/10/99	5/10/99	5/10/99
Time Sampled:	1:04	2:00	12:20	2:35	12:45
Sampler:	RL/BW	RL/BW	RL/BW	RL/BW	RL/BW
Date Analyzed:	5/20/99	5/19/99	5/18/99	5/20/99	5/19/99
UIP Count:	0	>10	>10	>10	0
Dil. Factor (%):	10	0.2	100	1	100
Surr % Rec. (%):	107	95	88	93	105
Parameter	Conc. (ug/L)	Conc. (ug/L)	Conc. (ug/L)	Conc. (ug/L)	Conc. (ug/L)
MTBE	197.	9,860.	TBQ <10	2,700.	<10
Benzene	10.5	15,300.	33.3	4,040.	5.1
Toluene	<10	27,500.	<1	2,190.	<1
Ethylbenzene	16.6	3,250.	<1	1,150.	<1
Xylenes	<10	19,800.	3.8	3,930.	<1
1,3,5 Trimethyl Benzene	<10	2,020.	<1	626.	<1
1,2,4 Trimethyl Benzene	<10	5,250.	<1	1,900.	<1
Naphthalene	<10	1,020.	<1	403.	<1

Ref. #:	138,246	138,247	138,248	138,249	138,250
Site:	MW-208D	MW-209	MW-209D	MW-210	MW-211
Date Sampled:	5/10/99	5/10/99	5/10/99	5/10/99	5/10/99
Time Sampled:	12:05	1:09	1:15	12:35	12:15
Sampler:	RL/BW	RL/BW	RL/BW	RL/BW	RL/BW
Date Analyzed:	5/19/99	5/19/99	5/19/99	5/20/99	5/19/99
UIP Count:	0	0	3	>10	4
Dil. Factor (%):	100	100	100	20	100
Surr % Rec. (%):	88	92	93	86	86
Parameter	Conc. (ug/L)	Conc. (ug/L)	Conc. (ug/L)	Conc. (ug/L)	Conc. (ug/L)
MTBE	<10	<10	<10	127.	<10
Benzene	<1	<1	<1	154.	<1
Toluene	<1	<1	<1	62.5	2.0
Ethylbenzene	<1	<1	<1	111.	TBQ <1
Xylenes	<1	<1	<1	165.	10.5
1,3,5 Trimethyl Benzene	<1	<1	<1	28.2	<1
1,2,4 Trimethyl Benzene	<1	<1	<1	80.0	TBQ <1
Naphthalene	<1	<1	<1	8.2	<1

Note: UIP = Unidentified Peaks TBQ = Trace Below Quantitation NI = Not Indicated

ENDYNE, INC.

Laboratory Services

32 James Brown Drive
Williston, Vermont 05495
(802) 879-4333
FAX 879-7103

EPA METHOD 8021B--PURGEABLE AROMATICS

CLIENT: Twin State Environmental Corp.
PROJECT NAME: Habro Mobil/94169
CLIENT PROJ. #: 94169

DATE RECEIVED: May 11, 1999
REPORT DATE: May 24, 1999
ORDER ID: 2297

Ref. #:	138,251	138,252	138,253	138,254	
Site:	MW-213	Tap-1	Dup-1	F.B.	
Date Sampled:	5/10/99	5/10/99	5/10/99	5/10/99	
Time Sampled:	1:30	2:50	4:00	11:55	
Sampler:	RL/BW	RL/BW	RL/BW	RL/BW	
Date Analyzed:	5/20/99	5/19/99	5/23/99	5/19/99	
UIP Count:	0	0	>10	0	
Dil. Factor (%):	50	100	0.2	100	
Surr % Rec. (%):	83	95	95	106	
Parameter	Conc. (ug/L)	Conc. (ug/L)	Conc. (ug/L)	Conc. (ug/L)	
MTBE	191.	<10	9,810.	<10	
Benzene	4.2	<1	14,000.	<1	
Toluene	<2	<1	23,500.	<1	
Ethylbenzene	<2	<1	2,490.	<1	
Xylenes	<2	<1	17,000.	<1	
1,3,5 Trimethyl Benzene	<2	<1	1,130.	<1	
1,2,4 Trimethyl Benzene	<2	<1	3,720.	<1	
Naphthalene	<2	<1	<500	<1	

Note: UIP = Unidentified Peaks TBQ = Trace Below Quantitation NI = Not Indicated

ENDYNE, INC.
32 James Brown Drive
Williston, Vermont 05495
(802) 879-4333

31892

CHAIN-OF-CUSTODY RECORD

Project Name: Albo Mobil Site Location: Shelburne, VT	Reporting Address: Same as -->	Billing Address: [illegible]
Endyne Project Number: 2297	Company: Texas State [illegible] Corp Contact Name/Phone #: [illegible]	Sampler Name: [illegible] Phone #: [illegible]

Lab #	Sample Location	Matrix	GRAB	COMP	Date/Time 5-10-94	Sample Containers No.	Sample Containers Type/Size	Field Results/Remarks	Analysis Required	Sample Preservation	Rush
13824[illegible]	mw-207	C	X		1304	2	40 ml VOA		8021B	HCl	
13824[illegible]	mw-201				1400						
13824[illegible]	mw-202				1220						
13824[illegible]	mw-203				1435						
13824[illegible]	mw-204				1245						
13824[illegible]	mw-208D				1305						
13824[illegible]	mw-209				1309						
13824[illegible]	mw-209D				1315						
13824[illegible]	mw-210				1225						
13824[illegible]	mw-211				1215						
13824[illegible]	mw-213				1330						
13824[illegible]	Trip-1				1450						

Relinquished by: Signature	Received by: Signature	Date/Time
Relinquished by: Signature	Received by: Signature	Date/Time

New York State Project: Yes ____ No ____

Requested Analyses

1	pH	6	TKN	11	Total Solids	16	Metals (Specify)	21	EPA 624	26	EPA 8270 B/N or Acid
2	Chloride	7	Total P	12	TSS	17	Coliform (Specify)	22	EPA 625 B/N or A	27	EPA 8010/8020
3	Ammonia N	8	Total Diss. P	13	TDS	18	COD	23	EPA 418.1	28	EPA 8080 Pest/PCB
4	Nitrite N	9	BOD_5	14	Turbidity	19	BTEX	24	EPA 608 Pest/PCB		
5	Nitrate N	10	Alkalinity	15	Conductivity	20	EPA 601/602	25	EPA 8240		
29	TCLP (Specify: volatiles, semi-volatiles, metals, pesticides, herbicides)										
30	Other (Specify):										

ENDYNE, INC.

32 James Brown Drive
Williston, Vermont 05495
(802) 879-4333

2 of 2

CHAIN-OF-CUSTODY RECORD

94169

31251

Project Name: Habro Mobil Site Location: Sherburne, VT	Reporting Address: SAME AS →	Billing Address: 34 Roosevelt Hwy Colchester, VT
Endyne Project Number: 7297	Company: Twin State Pers Corp Contact Name/Phone #: Ken Bergeslie	Sampler Name: R. Lindsay & B Wagner Phone #: 654-8663

Lab #	Sample Location	Matrix	GRAB	COMP	Date/Time 5.10.99	Sample Containers No.	Sample Containers Type/Size	Field Results/Remarks	Analysis Required	Sample Preservation	Rush
138253	Dup-1	L	X		1600	2	40 ml VOA		8021B	HCl	
138254	F.B	L	X		1155	2	40 ml VOA		8021B	HCl	

Relinquished by: Signature	Received by: Signature	Date/Time
Relinquished by: Signature [signature]	Received by: Signature [signature]	Date/Time [illegible]

New York State Project: Yes ____ No ✓

Requested Analyses

1	pH	6	TKN	11	Total Solids	16	Metals (Specify)	21	EPA 624	26	EPA 8270 B/N or Acid
2	Chloride	7	Total P	12	TSS	17	Coliform (Specify)	22	EPA 625 B/N or A	27	EPA 8010/8020
3	Ammonia N	8	Total Diss. P	13	TDS	18	COD	23	EPA 418.1	28	EPA 8080 Pest/PCB
4	Nitrite N	9	BOD_5	14	Turbidity	19	BTEX	24	EPA 608 Pest/PCB		
5	Nitrate N	10	Alkalinity	15	Conductivity	20	EPA 601/602	25	EPA 8240		
29	TCLP (Specify: volatiles, semi-volatiles, metals, pesticides, herbicides)										
30	Other (Specify):										