GROUNDWATER
TECHNOLOGY, INC.
OIL RECOVERY SYSTEMS
32 Avenue C, Williston, VT 05495 (802) 865-2237

SUBSURFACE EVALUATION
MOBIL OIL CORPORATION
STATION 08-777
5 NORTH MAIN STREET
RUTLAND, VERMONT

DECEMBER 19, 1989

PREPARED FOR:

T. J. FARRELL
MOBIL OIL CORPORATION
687 BROOKS AVE
ROCHESTER, NEW YORK 14619

SUBMITTED BY:

GROUNDWATER TECHNOLOGY, INC
32 AVENUE C
WILLISTON, VERMONT 05495

PREPARED BY:

JOHN JOHNSON
PROJECT MANAGER

KENT KOPTIUCH
GEOLOGIST

REVIEWED BY:

JAMES OPPENHEIM
TERRITORY MANAGER

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1.0 INTRODUCTION

On December 8, 1989, Groundwater Technology, Inc. (GTI) was contracted by Mr. T. J. Farrell, Project Engineer for Mobil Oil Corporation (Mobil), to perform a subsurface evaluation at Mobil Service Station 08-777, 5 North Main Street, Rutland, Vermont. Mobil requested the subsurface evaluation in order to ascertain any subsurface conditions which would affect the sale of the property. The goal of the investigation was to determine groundwater and soil conditions within the overburden of the site (see Figure 1, site location map). Figure 1 details the geographic location of the site.

2.0 SITE DESCRIPTION

Mobil Service Station 08-777 is located at 5 North Main Street, Rutland, Vermont. The locations of the on-site structural features are indicated on Figure 2, Site Map. The station is located immediately north of the intersection of West Street and North Main Street (Route 7). West Street forms the southern property line while North Main Street delineates the eastern property boundary. Immediately south of West Street lies the Rutland City Green. Directly east of North Main Street there exists a Texaco Service Station. This station maintains underground storage tanks directly upgradient of Mobil's fuel tanks. South of the Texaco station there is a dry cleaning facility. To the north of the Texaco station is a Grand Union supermarket. West of Mobil Station 08-777 property lies the Park Pharmacy building and its parking facilities. Directly north of the station there is a Wendy's Family Restaurant.

In addition to underground fuel storage facilities in existence at the Texaco service station, bulk underground tanks are evident at a Getty service station on the east side of North Main Street, to the north of the Grand Union supermarket at the intersection of North Main Street and Route 4. Downgradient of Mobil Station 08-777 and just west of the Park Pharmacy property on West Street is the Rutland National Guard Armory. This is a large facility and likely maintains bulk fuel tanks of substantial size.

3.0 GROUNDWATER QUALITY DETERMINATION STUDY

On December 13, 1989, GTI received water quality information from the Vermont State Water Quality Division pertaining to the area proximate to Mobil Service Station 08-777. Appendix A contains this information.

3.1 Drinking Water Supply Proximity

According to information supplied by the State of Vermont there are no municipal or domestic water supply wells within a one-half mile radius of Mobil Service Station 08-777 (see Figure 3). The nearest potential receptor of groundwater moving in response to the normal local gradient at this site is a small tributary to Otter Creek named East Creek. East Creek at its nearest proximity to the site is still greater than three-quarters of a mile away. There is little to no potential for any direct impact upon East Creek from any hydrocarbons lost in the overburden at the Mobil Service Station 08-777 site.

As per a phone conversation with Chuck Schwer of the Vermont Agency of Natural Resources (VT ANR) on December 19, 1989, no confirmed subsurface hydrocarbon contamination exists in close proximity to Mobil facility 08-777. As stated previously it should be noted that other facilities exist in close proximity to Mobil station 08-777 that do possess underground storage systems.

Appendix A illustrates locations of all private water wells in the vicinity of Mobil service station 08-777 as provided by Dennis Nealon of the State of Vermont Water Quality Division (VT WQD).

3.2 Regional Geology

Mobil Service Station 08-777 lies within Unit C of the Vermont Valley Province (see Groundwater Resources of the Rutland Area, Vermont, U.S.G.S. 1983, p.3). This unit is composed primarily of Cambrian and Ordovician carbonates. Major faulting and other geologic structures are principally oriented north-south. Bedrock is typically overlain by a dense fragipan of basal till. The unconsolidated strata above this confining layer consists primarily of glacial and fluvial deposits ranging in size from clay and silt to large boulders. Total thickness can range from 0 to greater than 350 feet. Due to the dense impermeable nature of the basal till in this region, perched unconsolidated aquifers are typical.

4.0 METHODOLOGY

4.1 Monitoring Well Installation

On December 13, 14, and 15, 1989, Groundwater Technology, Inc. Drilling Services installed seven 2" diameter monitoring wells (GT-1, GT-2, GT-3, GT-4, GT-5, GT-6 and GT-7) on site. Figure 2 details the locations of all GTI installed monitoring wells.

Monitoring well placement developed as follows (see accompanying site map):

- GT-1 and GT-2 were installed strategically downgradient of the underground storage system,
- GT-3 was placed immediately upgradient of the underground storage system.
- GT-4 was installed downgradient of the distribution lines running from the underground storage system to the dispensing apparatus,
- GT-5 was drilled immediately upgradient of the fuel dispensing area,
- GT-6 and GT-7 were drilled upgradient of the underground storage system, delivery lines and fuel dispensing area.

Geologic logging was performed by a qualified GTI Geologist during the installation procedures for each monitor well. Well logs for each monitor well are provided for review in Appendix B. All geologic material encountered during drilling was screened via a calibrated photoionization detector (PID) in order to quantify volatile organic content. PID readings of soils encountered during the installation of monitor wells ranged from non-detect to a maximum organic vapor concentration of 150 parts-per-million (ppm) in air. PID readings for soils from individual wells are indicated on the appropriate drilling logs.

4.2 Monitoring Well Construction

All monitoring wells on site were constructed of two inch diameter schedule 40 PVC well screen and casing with flush threaded joints. A washed sand pack was placed between the screened portion of the well and the borehole. All monitoring wells are screened 5 feet above and 5 feet below the water table. A bentonite seal was placed between grade and the top of the well screen to prevent infiltration of surface water. A flush mount road box was installed on each of the wells on site. Each monitoring well was

developed by repetitive bailing in order to remove any fine sediments from within the well screen and sand pack.

4.3 Monitoring and Surveying

On December 15, 1989, the top of casing elevation of each monitoring well was surveyed to a relative datum point by a GTI survey team. A depth to water measurement was taken using an Oil Recovery Systems Interface Probe. The interface probe is capable of distinguishing the petroleum/water/air interface to an accuracy of 0.01 feet.

4.4 Monitoring Well Sampling Procedures

On December 15, 1989, groundwater samples were secured from all monitoring wells on site using a clean teflon bailer according to strict EPA method 602 sampling protocol. All samples were sent to the Groundwater Technology Environmental Laboratory (GTEL) in Milford, New Hampshire to be analyzed in accordance with EPA method 602.

Prior to sampling, each monitoring well was developed by repetitive bailing. A minimum of three well volumes were removed from each well during development. This procedure ensures the collection of a representative groundwater sample.

5.0 HYDROGEOLOGIC FINDINGS AND DATA INTERPRETATIONS

5.1 Site Geology

During the installation of the monitoring wells on site, the composition of the overburden was accurately documented by a Groundwater Technology, Inc. Geologist.

During the installation of monitoring well GT-1 continuous split spoon samples were collected from grade to the total depth of the well. With this information an accurate and detailed representation of the stratigraphy and/or lithologic variation encountered beneath the site was developed. In subsequent wells split spoon samples were collected at or in the interval spanning the groundwater table (vadose - phreatic zone interface). Mobil service station 08-777 rests upon glacial and post glaciofluvial sands and gravels. Local water well logs show that these sediments are ubiquitous in this area (see Appendix A). Basal clay till yields to an overburden of medium to fine sands and silts which in turn yield to fill material consisting of medium to fine sands with pebbles and cobbles. Bedrock underlying the region consists of a series of carbonate units of varying lithology belonging to the Dunham Dolomite Formation.

5.2 Site Hydrogeology

On December 15, 1989, a depth to water measurement was taken from each monitoring well on site. The groundwater table was encountered at approximately 8 feet below grade. Free floating hydrocarbons were not found in any of the monitoring wells. Figure 4 details the water table configuration developed from the December 1, 1989 gauging data. It appears that groundwater within the overburden is flowing in an southwest-west direction. The average groundwater gradient across the site is approximately 2.5 percent.

5.3 Groundwater Sampling Results

Lab analyses performed on samples taken from the Mobil Service Station 08-777 on December 15, 1989, verified the presence of hydrocarbons on site (see Figure 5 and Appendix C). Monitoring wells GT-1, GT-2, GT-3, GT-4, GT-5, GT-6, and GT-7 contained 15,000, 12,000, 13,000, 780, 1400, 490, and 710 parts per billion (ppb) total dissolved hydrocarbons in groundwater, respectively.

- Monitor well GT-1 and GT-2, installed downgradient of the underground storage system contained 1700 and 3000 ppb dissolved benzene, toluene, ethylbenzene, and xylene (BTEX), respectively.

- Monitor well GT-3, drilled immediately upgradient of the underground storage tanks contained 520 ppb dissolved BTEX.

- Monitor well GT-4, drilled immediately downgradient of the delivery lines extending from the underground storage tanks to the product dispensing apparatus contained 52 ppb dissolved BTEX.

- Monitor well GT-5, installed directly upgradient of the pumping islands in order to detect leakage from the pumping systems contained 58 ppb dissolved BTEX.

- Monitor well GT-6, drilled upgradient of all product storage, delivery and dispensing equipment contained 3.5 ppb dissolved BTEX. GT-6 was also strategically placed to detect any subsurface contamination being contributed to the Mobil facility 08-777 from confirmed upgradient underground storage systems.

- Monitor well GT-7, also drilled upgradient of all hydrocarbon sources contained 22 ppb dissolved BTEX. However, during the drilling procedures an existing buried building foundation was encountered. As per conversations between GTI site personnel and local sources it was confirmed that an apartment building did exist in the area

in which GT-7 was drilled. The foundation of the preexisting building as well as associated underground utility lines may be influencing the normal movement of groundwater and/or hydrocarbons developed beneath the site.

Based on the data obtained from this observation well, GTI has concluded that a plume of low level dissolved hydrocarbon contamination exists in the immediate vicinity and downgradient of the product dispensing area.

Figure 5, Total Dissolved Hydrocarbon Distribution Map, details the presence of two dissolved hydrocarbon plumes. The first plume is located in the vicinity of the underground storage system and the second plume is located in the center portion of the site beneath the product dispensing apparatus. Figure 6 details the configuration of the plume based on the total BTEX constituent concentrations. Both maps demonstrate that the majority of dissolved hydrocarbons is located directly downgradient of the tank pit.

6.0 CONCLUSIONS

- State of Vermont Water Quality Division information indicates groundwater within 0.5 miles of the Mobil Service Station 08-777 does not lie within the Aquifer Protection Area/Well Head Protection area.

- No domestic water supply wells are within 0.5 miles of Mobil Service Station 08-777.

- No private residences exist in the immediate vicinity of Mobil Service Station 08-777. However, a variety of commercial and retail outlets do exit in close proximity to this station.

- Overburden soils are composed predominantly of medium and coarse sands and gravel. A substantial quantity of the overburden was noted to be fill material.

- Depth to groundwater measurements taken on December 15, 1989 indicated that groundwater on-site is located between 6.7 and 11.05 feet below grade. Groundwater is moving predominantly in a southwest to west direction with a hydraulic gradient of 2.5 percent.

- PID screening during drilling procedures indicated that soils encountered during the installation of monitoring wells GT-1, GT-2, GT-3, GT-4, GT-5, and GT-7 possessed detectable levels of volatile hydrocarbons. A maximum organic vapor level of 150 parts per million in air was detected.

- Monitor wells GT-1, GT-2, GT-3, GT-4, GT-5, GT-6, and GT-7 contained 1700, 3000, 520, 52, 58, 3.5 and 22 parts per billion dissolved BTEX in groundwater, respectively.

- Groundwater laboratory analyses results for samples collected on December 15, 1989 indicate that monitoring wells GT-1, GT-2, GT-3, GT-3, GT-4, GT-5, and GT-7 contained 15,000, 12,000, 13,000, 780, 1400, 490, and 710, parts per billion total dissolved hydrocarbons in groundwater, respectively.

- Phase separated petroleum was not detected in any of the monitoring wells installed by Groundwater Technology, Inc.

- A soil boring drilled in close proximity to the stations's fuel oil tank, located on the south side of the station, revealed no apparent contamination to a depth of 8 feet below grade.

FIGURES

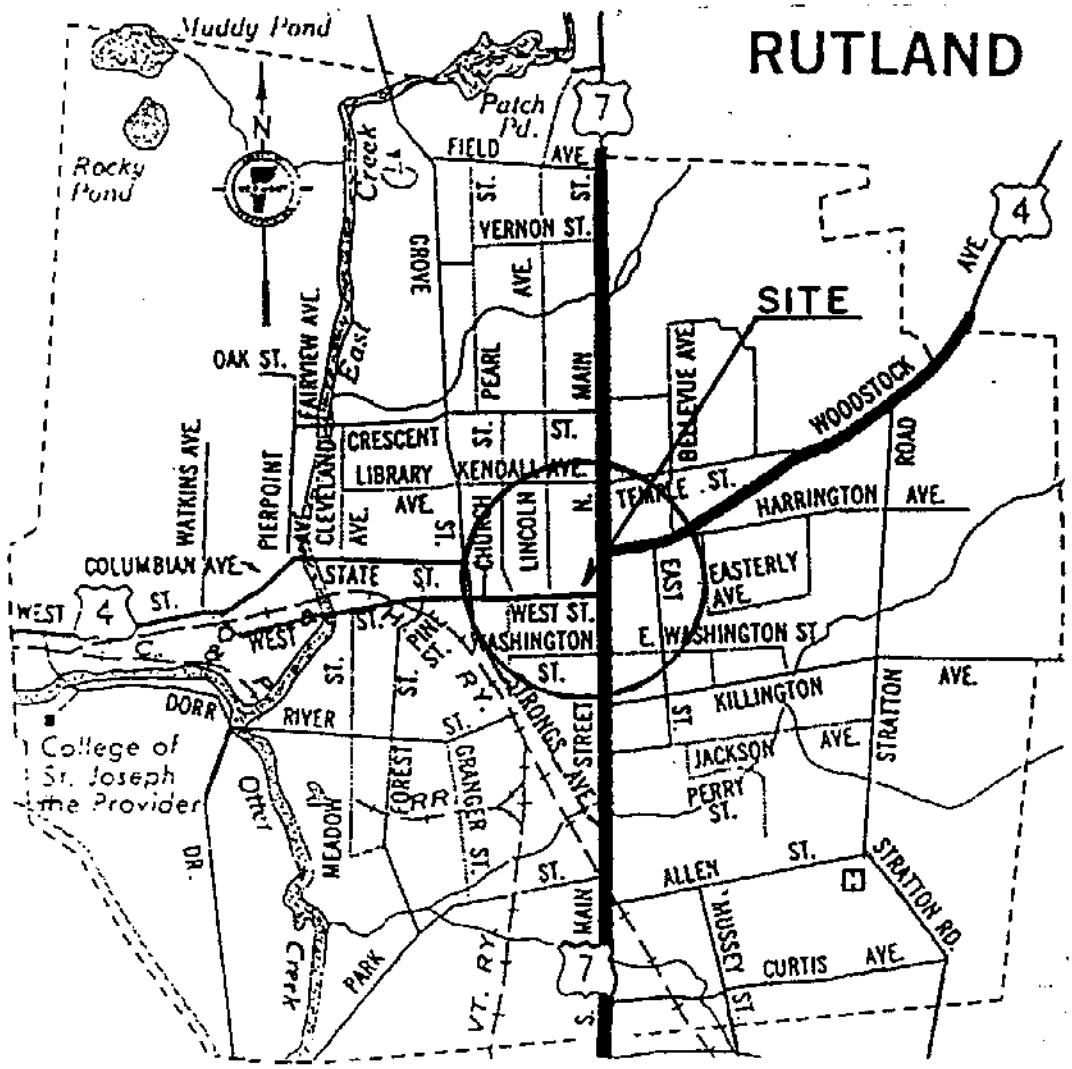
FIGURE 1

SITE LOCATION MAP

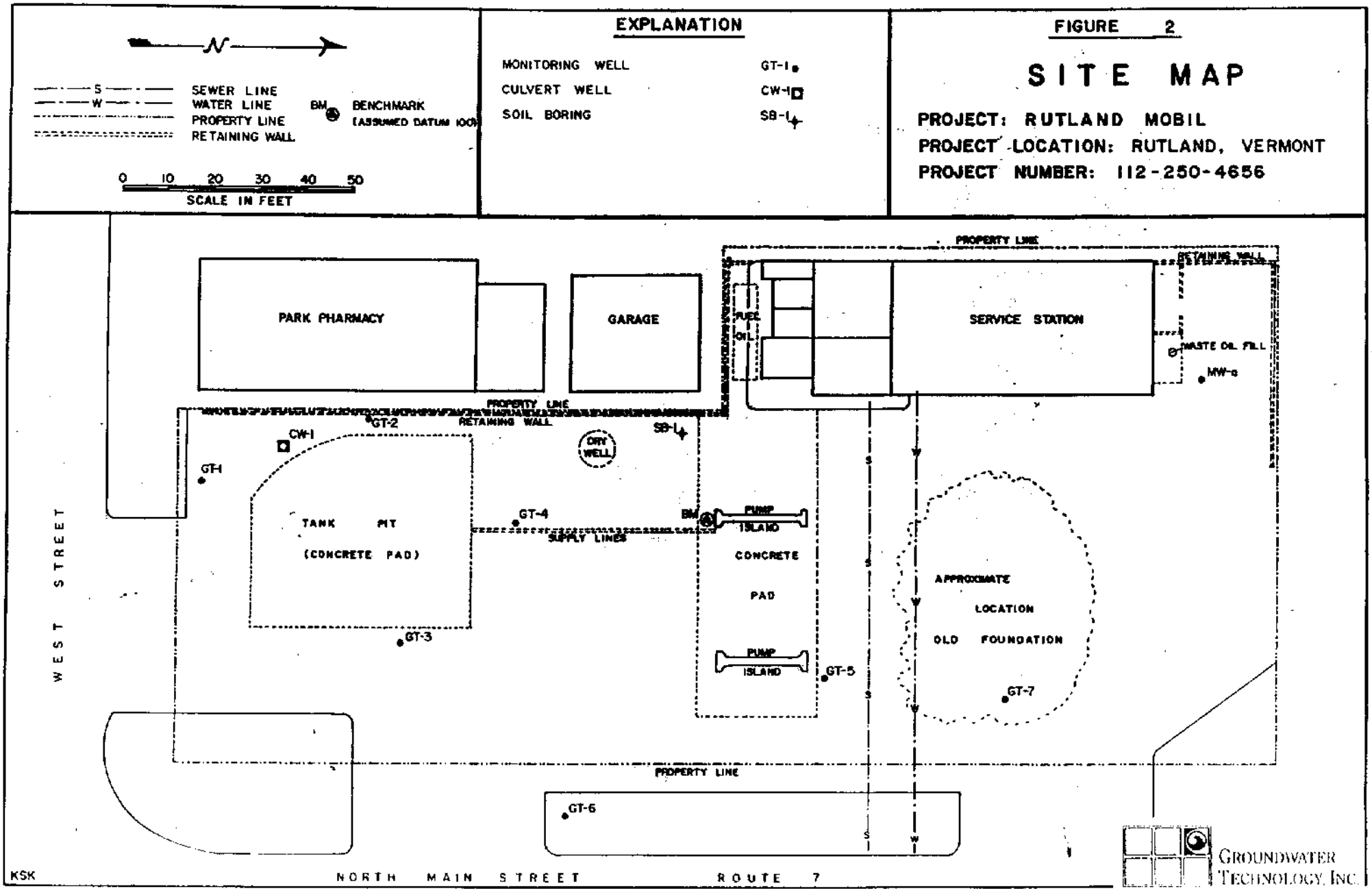
PROJECT: RUTLAND MOBIL
LOCATION: RUTLAND, VERMONT
PROJECT NO: 112 250 4656

KEY

0 .5 1 1.5
SCALE IN MILES



GROUNDWATER TECHNOLOGY, INC.


S SEWER LINE
W WATER LINE
PROPERTY LINE
RETAINING WALL
BM BENCHMARK (ASSUMED DATUM 100)
0 10 20 30 40 50
SCALE IN FEET
EXPLANATION
MONITORING WELL GT-1
CULVERT WELL CW-1
SOIL BORING SB-1
FIGURE 2
SITE MAP
PROJECT: RUTLAND MOBIL
PROJECT LOCATION: RUTLAND, VERMONT
PROJECT NUMBER: 112-250-4656
PROPERTY LINE
RETAINING WALL
PARK PHARMACY
GARAGE
FUEL OIL
SERVICE STATION
WASTE OIL FILL
MW-6
PROPERTY LINE
RETAINING WALL
GT-2
SB-1
CW-1
DRY WELL
GT-1
TANK PIT
(CONCRETE PAD)
GT-4
BM
PUMP ISLAND
SUPPLY LINES
CONCRETE PAD
APPROXIMATE LOCATION OLD FOUNDATION
GT-3
PUMP ISLAND
GT-5
GT-7
WEST STREET
PROPERTY LINE
GT-6
KSK
NORTH MAIN STREET
ROUTE 7
GROUNDWATER TECHNOLOGY, INC.

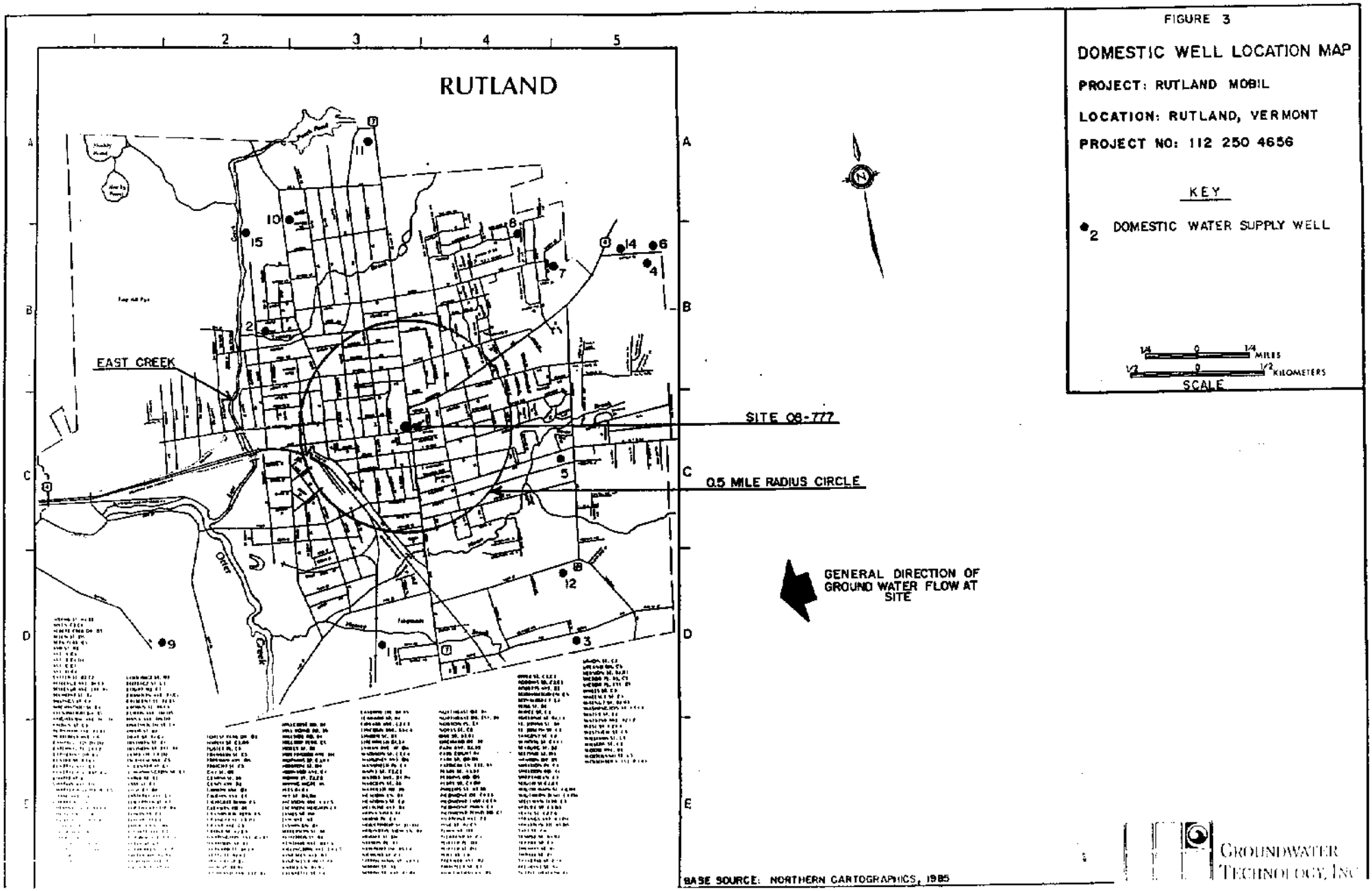


FIGURE 3

DOMESTIC WELL LOCATION MAP

PROJECT: RUTLAND MOBIL

LOCATION: RUTLAND, VERMONT

PROJECT NO: 112 250 4656

GROUNDWATER TECHNOLOGY, INC

FIGURE 4

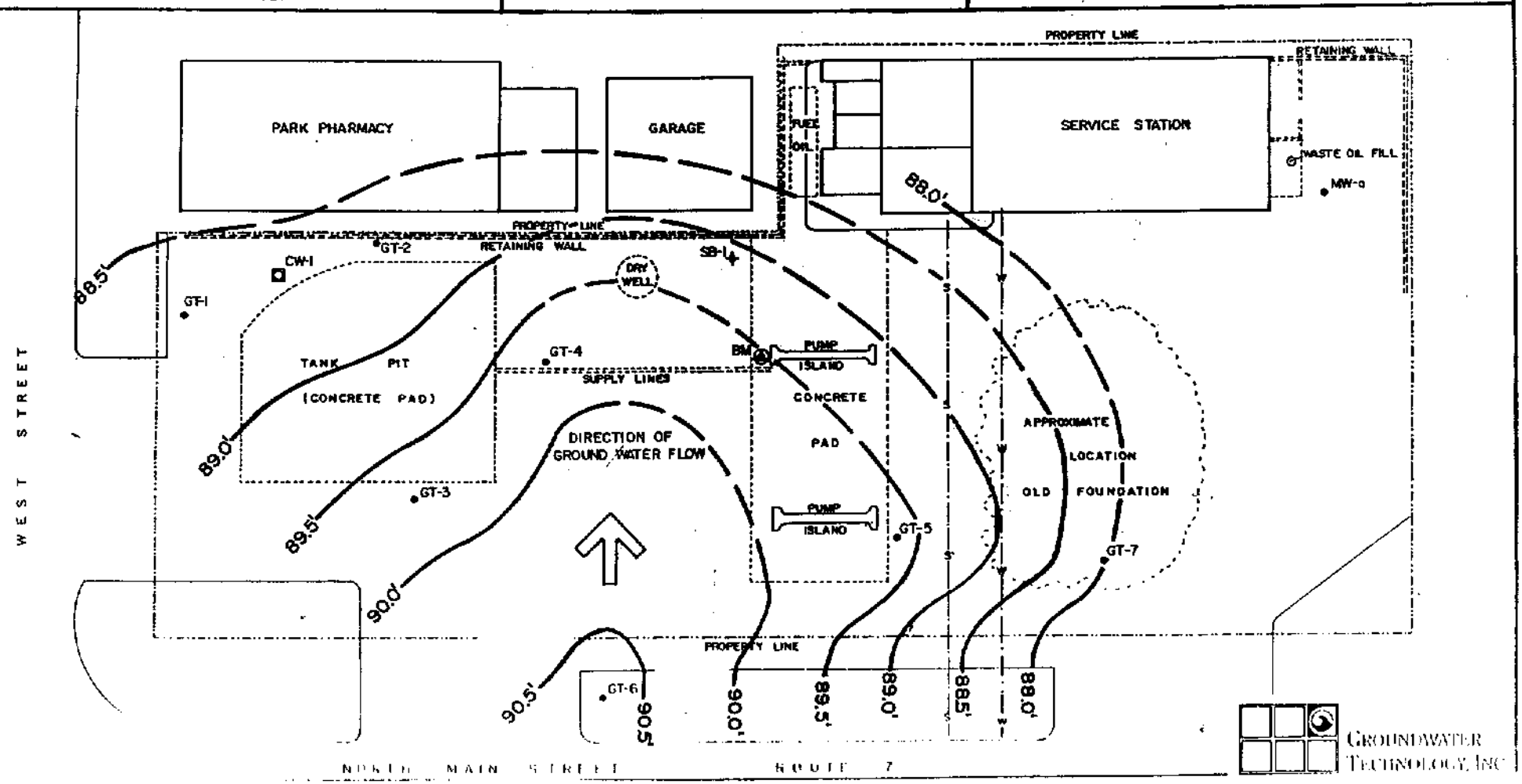
GROUND WATER CONTOUR MAP

PROJECT: RUTLAND MOBIL
PROJECT LOCATION: RUTLAND, VERMONT
PROJECT NUMBER: 112 - 250 - 4656
MONITORING DATE: 12 - 15 - 89

EXPLANATION

- MONITORING WELL — GT-1
- CULVERT WELL — CW-1
- SOIL BORING — SB-1
- GROUND WATER CONTOUR (DASHED WHERE INFERRED) — 90.5'
- S — SEWER LINE
- W — WATER LINE
- PROPERTY LINE
- RETAINING WALL
- BM — BENCHMARK (ASSUMED DATUM 100)

0 10 20 30 40 50
SCALE IN FEET



GROUNDWATER TECHNOLOGY, INC

EXPLANATION

- MONITORING WELL — GT-1
- CULVERT WELL — CW-1
- SOIL BORING — SB-1
- DISSOLVED HYDROCARBON CONCENTRATION CONTOUR IN ppm (DASHED WHERE INFERRED) — 0.5

- S — SEWER LINE
- W — WATER LINE
- PROPERTY LINE
- RETAINING WALL
- BM — BENCHMARK (ASSUMED DATUM 100)

0 10 20 30 40 50
SCALE IN FEET

FIGURE 5

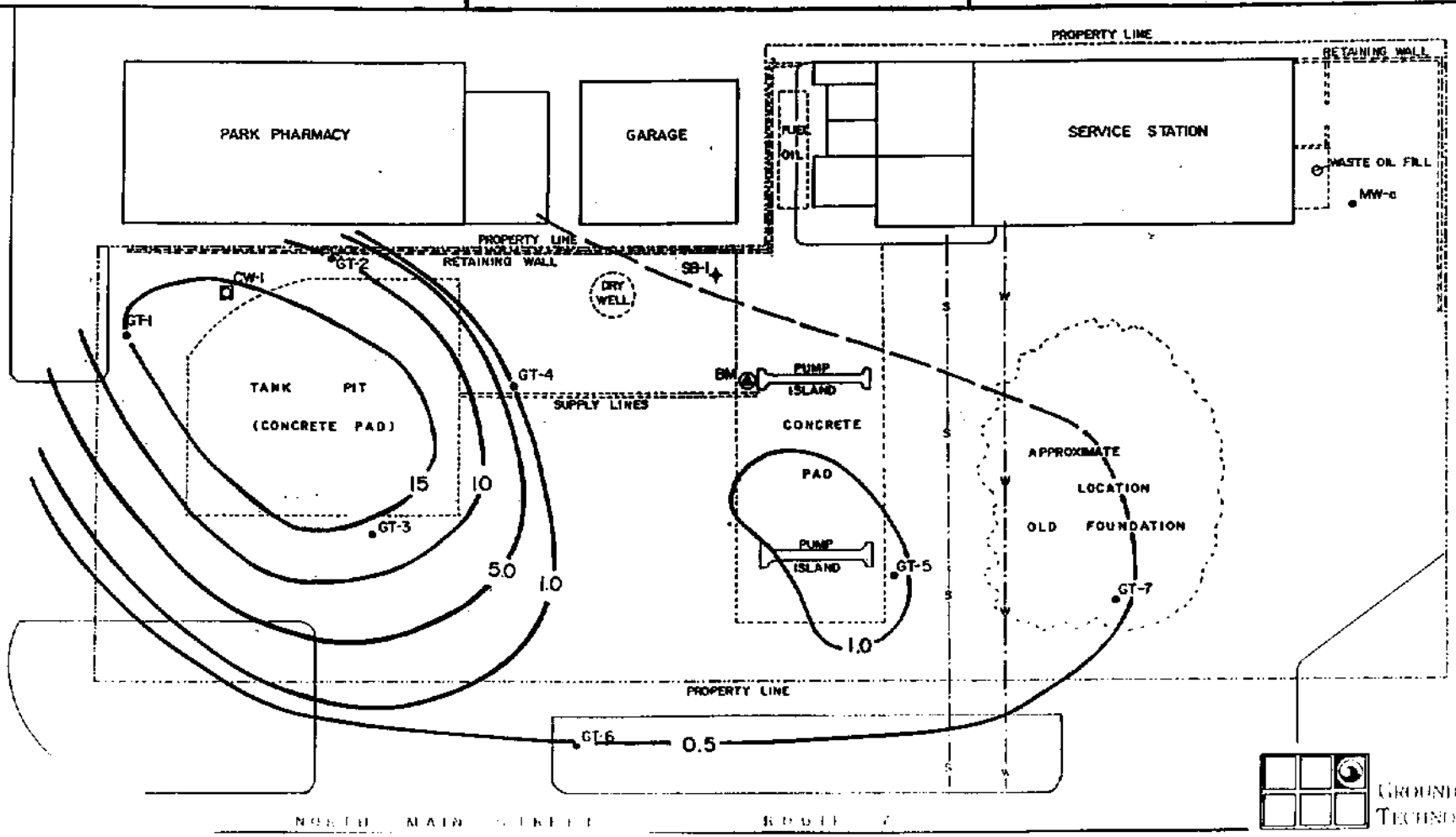
TOTAL DISSOLVED HYDROCARBON CONCENTRATION MAP

PROJECT: RUTLAND MOBIL

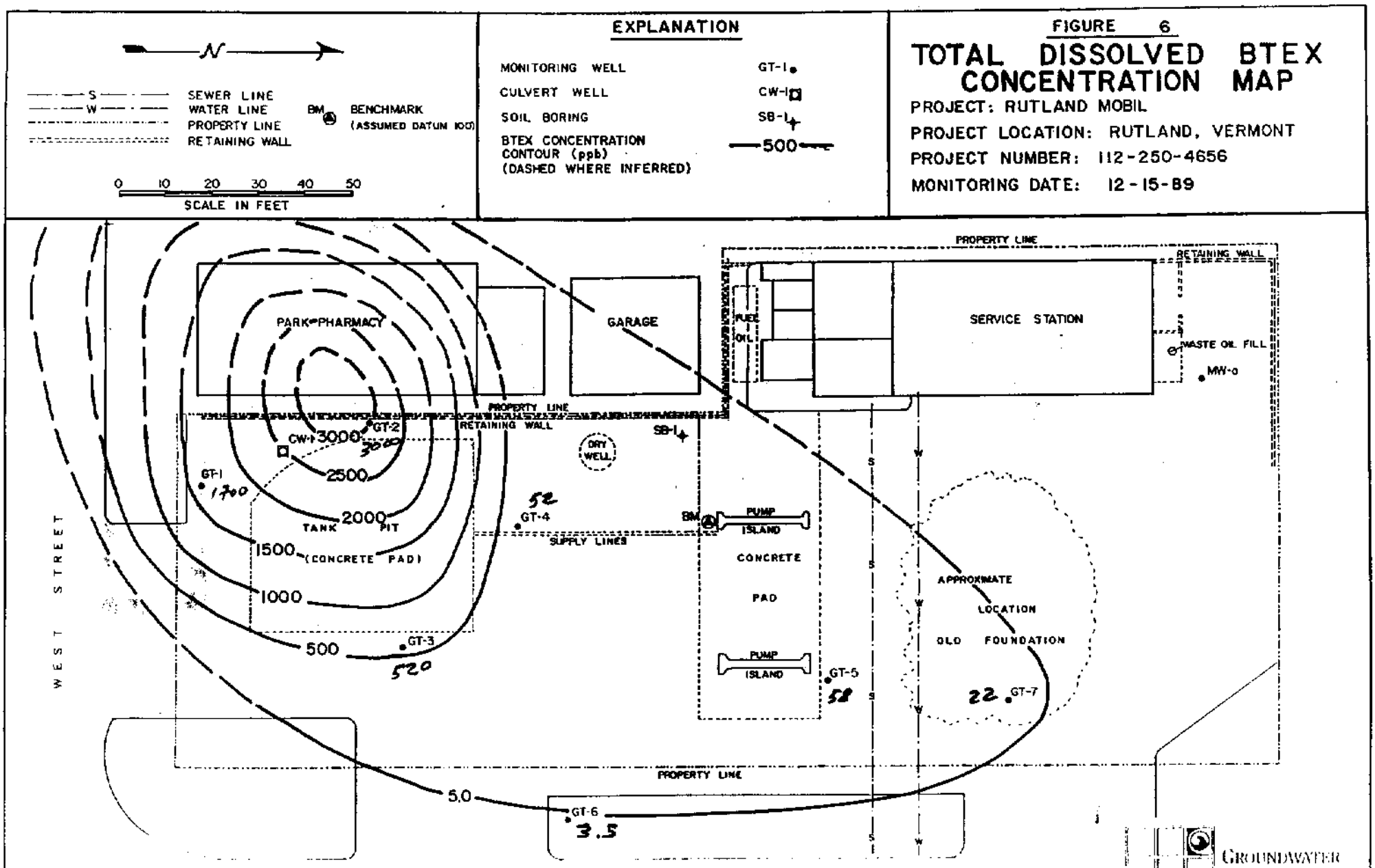
PROJECT LOCATION: RUTLAND, VERMONT

PROJECT NUMBER: 112-250-4656

MONITORING DATE: 12-15-89



GROUNDWATER TECHNOLOGY INC


N
S SEWER LINE
W WATER LINE
PROPERTY LINE
RETAINING WALL
BM BENCHMARK (ASSUMED DATUM 100)
0 10 20 30 40 50
SCALE IN FEET
EXPLANATION
MONITORING WELL GT-1
CULVERT WELL CW-1
SOIL BORING SB-1
BTEX CONCENTRATION CONTOUR (ppb) (DASHED WHERE INFERRED) 500
FIGURE 6
TOTAL DISSOLVED BTEX CONCENTRATION MAP
PROJECT: RUTLAND MOBIL
PROJECT LOCATION: RUTLAND, VERMONT
PROJECT NUMBER: 112-250-4656
MONITORING DATE: 12-15-89
PROPERTY LINE
RETAINING WALL
PARK-PHARMACY
GARAGE
FUEL OIL
SERVICE STATION
WASTE OIL FILL
MW-6
PROPERTY LINE
RETAINING WALL
SB-1
DRY WELL
CW-1 3000
GT-2 3000
2500
GT-1 1700
2000
TANK PIT
1500
(CONCRETE PAD)
1000
500
GT-3 520
GT-4 52
BM
PUMP ISLAND
SUPPLY LINES
CONCRETE PAD
PUMP ISLAND
GT-5 58
APPROXIMATE LOCATION OLD FOUNDATION
GT-7 22
PROPERTY LINE
5.0
GT-6 3.5
WEST STREET
NORTH MAIN STREET
ROUTE 7
GROUNDWATER TECHNOLOGY, INC.

GROUNDWATER GRADIENT DATA

CLIENT: RUTLAND MOBIL

LOCATION: RUTLAND, VERMONT

DATE : DECEMBER, 15, 1989

OBSERVATION WELL

NO.	TOP WELL ELEV.	DTW	DTP	PT	PT x .88	ADJ. DTW	ELEV. WATER
GT-1	95.41	6.80					88.69
GT-2	97.09	8.50					88.59
GT-3	97.90	8.05					89.85
GT-4	98.52	8.69					89.83
GT-5	98.65	8.87					89.78
GT-6	98.05	7.49					90.56
GT-7	99.05	11.05					88.00
MW-a	100.93	DRY					N/A
SB-1	100.35	DRY					N/A
CW-1	95.48	6.70					88.78

GROUNDWATER TECHNOLOGY, INC.
OIL RECOVERY SYSTEMS

A P P E N D I X A

STATE OF VERMONT GROUNDWATER QUALITY DETERMINATION STUDY

State of Vermont
DEPARTMENT OF WATER RESOURCES

WELL 1 Form WR-59

WELL COMPLETION REPORT

This report must be completed and submitted to the Department of Water Resources, State Office Building, Montpelier, Vermont 05602, no later than 10 days after completion of well.)

Do not fill in
State Well No. N13 35 30
Other No. W72 58 31

WELL OWNER QUINN FREIGHT LINES (Name) RUTLAND VT. (Mailing Address)

WELL DRILLER CARLSON & LUNDON ARTESIAN WELLING. (Name) SO. LONDONDERRY VT. (Mailing Address)

PROPOSED USE OR USES (Check):

[X] Domestic [ ] Agricultural [X] Business Establishment [ ] Municipal [ ] Industrial

[ ] Other (Specify use)

CASING DETAILS (Inside)	YIELD TEST	WATER LEVEL (From land surface) (if possible)	SCREEN DETAILS
Length: 80 Feet	[ ] Bailed or [ ] Pumped or [X] Compressed Air ... Hours 100 GPM	Static: UNKNOWN Feet	Make:
Diameter: 6 Inches		During Yield Test: Feet	Material:
Kind: VALLEY STARC		DRILLING EQUIPMENT	Slot Size
Weight: 19½ lbs/p/ft		[ ] Cable Tool	Length: Ft.
[X] New [ ] Used	Yield: 100 GPM	[ ] Rotary [X] Air Percussion [ ] Other (specify)	Diameter: in.

TOTAL DEPTH OF WELL 80' FEET

TOWN WELL IS LOCATED IN: (Make sketch of well location on reverse side of sheet)
Rutland VT.
C14

WELL LOG

Depth From Ground Surface	Give description of formations penetrated, such as: peat, silt, sand, gravel, clay, hardpan, shale, limestone, granite, etc. Include size of gravel (diameter) and sand (fine, medium, coarse) color of material, structure (loose, packed, cemented, hard). For example: 0 ft. to 27 ft. fine, packed, yellow sand; 27 ft. to 134 ft. gray granite.
0 ft. to 80 ft.	SAND & GRAVEL
ft. to ft.	
ft. to ft.	
ft. to ft.	
ft. to ft.	

YIELD TEST DATA IN G.P.M.
If yield was tested at different depth during drilling, List Below

80 ft.	100 G.P.M.
ft.	G.P.M.
ft.	G.P.M.

mple of well water been analyzed? No

was sample analyzed?
le analysis of sample if analyzed by other than Department of Water Resources.)

Well was Completed Nov. 23, 67

Date of Report JAN. 15, 68

Well Driller's License No. 26

Well Driller Carlson & Lundon Artesian Well Dr.
(signature)

6 V

2681

WELL-2

State of Vermont
DEPARTMENT OF WATER RESOURCES

Form WR-59

WELL COMPLETION REPORT

WR #2 USGS RBW-18
Field Loc ☒ Map Dat[illegible] ltted to
La 43°37'47 Alt 620 TS : Office
Lo. 72°58'55 ☐ HU er than
Scale: 62500 ☐ 25000 ☐ 24000 ☐

Do not fill in
State Well No. #39700
Other No. 72599.11

WELL OWNER Lyal Buck [illegible] Name — [illegible] Mailing Address

WELL DRILLER Walter A. Wells [illegible] Name — [illegible] Mailing Address

PROPOSED USE OR USES (Check):

☒ Domestic ☐ Agricultural ☐ Business Establishment ☐ Municipal ☐ Industrial

☐ Other (Specify use)

CASING DETAILS (Inside)	YIELD TEST	WATER LEVEL (From land surface) (If possible)	SCREEN DETAILS
Length: 75 Feet	☐ Bailed or ☐ Pumped or ☒ Compressed Air — Hours	Static: 10 Feet	Make:
Diameter: 6 ¼ Inches	100 GPM	During Yield Test: 25 Feet	Material:
Kind: Steel		DRILLING EQUIPMENT	Slot Size
Weight: 5 lbs/p/ft		☐ Cable Tool ☒ Rotary ☐ Air Percussion	Length: Ft.
☒ New ☐ Used	Yield: 100 GPM	☐ Other (specify)	Diameter: in.

TOTAL DEPTH OF WELL 75 FEET TOWN WELL IS LOCATED IN: [illegible]
(Make sketch of well location on reverse side of sheet)

WELL LOG

Depth From Ground Surface	Give description of formations penetrated, such as: peat, silt, sand, gravel, clay, hardpan, shale, limestone, granite, etc. Include size of gravel (diameter) and sand (fine, medium, coarse) color of material, structure (loose, packed, cemented, hard). For example: 0 ft. to 27 ft. fine, packed, yellow sand; 27 ft. to 134 ft. gray granite.
0 ft. to 5 ft.	Sand.
5 ft. to 75 ft.	Ledge.
ft. to ft.	
ft. to ft.	
ft. to ft.	

YIELD TEST DATA IN G.P.M.
If yield was tested at different depth during drilling, List Below

75 ft.	100 G.P.M.
ft.	G.P.M.
ft.	G.P.M.

as sample of well water been analyzed? No

'here was sample analyzed?
nclude analysis of sample if analyzed by other than Department of Water Resources.)

ate Well was Completed May 15. 1970 Date of Report May 26, 1970

/ater Well Driller's License No. 70 Well Driller [signature] (signature)

WELL 4

26 B 1

State of Vermont
DEPARTMENT OF WATER RESOURCES

Form WR-

WELL COMPLETION REPORT

(This report must be completed and submitted to the Department of Water Resources, State Office Building, Montpelier, Vermont 05602, no later than 60 days after completion of well.)

Do not fill in
State Well No. 4336
Other No. 72 57 40

WELL OWNER Mr. Garth Guyette (Name) Gleason Road Rutland, Vt. 05701 (Mailing Address)

WELL DRILLER Ottauquechee Drilling Co., Inc. (Name) West Bridgewater, Vt. 05035 (Mailing Address)

PROPOSED USE OR USES (Check):

☒ Domestic ☐ Agricultural ☐ Business Establishment ☐ Municipal ☐ Industrial

☐ Other (Specify use)

CASING DETAILS (Inside)	YIELD TEST		WATER LEVEL (From land surface) (if possible)	SCREEN DETAILS
Length: 57 Feet	☐ Bailed or ☒ Pumped or ☐ Compressed Air	12 Hours	Static: Flowing Feet	Make:
Diameter: 6 Inches		6 GPM	During Yield Test: Feet	Material:
Kind: Steel			DRILLING EQUIPMENT	Sl / Sl
Weight: 19 lbs/p/ft			☒ Cable Tool	Length: Ft.
☒ New ☐ Used	Yield: 6 GPM		☐ Rotary ☐ Air Percussion ☐ Other (specify)	Diameter:

TOTAL DEPTH OF WELL 57 FEET

TOWN WELL IS LOCATED IN: Rutland City ~~Town~~
(Make sketch of well location on reverse side of sh

WELL LOG

Depth From Ground Surface	Give description of formations penetrated, such as: peat, silt, sand, gravel, clay, ha pan, shale, limestone, granite, etc. Include size of gravel (diameter) and sand (fine, dium, coarse) color of material, structure (loose, packed, cemented, hard). For ex ple: 0 ft. to 27 ft. fine, packed, yellow sand; 27 ft. to 134 ft. gray granite.
0 ft. to 41 ft.	Fine sand, muck, cobbles and boulders.
41 ft. to 57 ft.	Sand and gravel.
ft. to ft.	
ft. to ft.	
ft. to ft.	

YIELD TEST DATA IN G.P.M.
If yield was tested at different depth during drilling, List Below

30 ft.	6 G.P.M.
ft.	G.P.M.
ft.	G.P.M.

Has sample of well water been analyzed?

Where was sample analyzed?
(Include analysis of sample if analyzed by other than Department of Water Resources.)

Date Well was Completed 2/15/71 Date of Report 3/15/71

Water Well Driller's License No. 6 Well Driller [signature] (Signature)

2684 WELL-5

State of Vermont
DEPARTMENT OF WATER RESOURCES

Form WR-59

WR #5 USGS RTW-237
Field Loc ☒ Map Des (Rutland City)
La 43°36'30 Alt 870 TS
Lo 72°58'20 ☐ HU
Scale: 62500 ☐, 25000 ☐, 24000 ☐

WELL COMPLETION REPORT

mitted to
ate Office
later than

Do not fill in
State Well No. 4336 22
Other No. 72 237 31

WELL OWNER Name: McLaughlin — Killington Rae — Mailing Address: Rutland Vt

WELL DRILLER Name: Art Wilson Well Co of Vt Inc — Mailing Address: Man. Depot Vt

PROPOSED USE OR USES (Check):

☑ Domestic ☐ Agricultural ☑ ~~Business Establishment~~ ☐ Municipal ☐ Industrial

☐ Other (Specify use)

CASING DETAILS (Inside)	YIELD TEST	WATER LEVEL (From land surface) (if possible)	SCREEN DETAILS
Length: 427 Feet	☐ Bailed or ☐ Pumped or ☑ Compressed Air — 6 Hours — 30 GPM	Static: 130 Feet	Make:
Diameter: 6 Inches		During Yield Test: 420 Feet	Material:
Kind: Steel		DRILLING EQUIPMENT	Slot Size
Weight: 19-45 lbs/p/ft		☐ Cable Tool	Length: Ft.
☑ New ☐ Used	Yield: 30 GPM	☐ Rotary ☐ Air Percussion ☐ Other (specify)	Diameter: in.

TOTAL DEPTH OF WELL 430 FEET

TOWN WELL IS LOCATED IN: Rutland
(Make sketch of well location on reverse side of sheet)

WELL LOG

Depth From Ground Surface	Give description of formations penetrated, such as: peat, silt, sand, gravel, clay, hardpan, shale, limestone, granite, etc. Include size of gravel (diameter) and sand (fine, medium, coarse) color of material, structure (loose, packed, cemented, hard). For example: 0 ft. to 27 ft. fine, packed, yellow sand; 27 ft. to 134 ft. gray granite.
0 ft. to 90 ft.	Hardpan & Packed Gravel
90 ft. to 170 ft.	Limestone
170 ft. to 415 ft.	Hardpan Dry
415 ft. to ft.	
ft. to 430 ft.	Gravel

YIELD TEST DATA IN G.P.M.
If yield was tested at different depth during drilling, List Below

ft.	G.P.M.
ft.	G.P.M.
ft.	G.P.M.

Has sample of well water been analyzed?

Where was sample analyzed?
Include analysis of sample if analyzed by other than Department of Water Resources.)

Date Well was Completed 4-9-'71 Date of Report

Water Well Driller's License No. 16 Well Driller (signature) Art Wilson mgr.

WELL-6

WELL NUMBER

(For Driller's Use)

Form WR-59
Rev. 7-72

26 B 1

State of Vermont
DEPARTMENT OF WATER RESOURCES
WELL COMPLETION REPORT

6
~~137~~ DO NOT FILL IN

(This report must be completed and submitted to the Department of Water Resources, State Office Building, Montpelier, Vermont 05602, no later than 60 days after completion of well. Complete or line out all blanks.)

WELL OWNER Mr. John LaFountain (Name) Gleason Road Rutland, Vt. 05701 (Mailing Address)

TOWN IN WHICH WELL IS LOCATED: Rutland ~~Town~~ City

DATE WELL WAS COMPLETED: 11/15/1973

(Please locate well on a large scale map to accompany this report. Maps are available on request.)

PROPOSED USE OF WELL: ☒ Domestic ☐ Agricultural ☐ Business Establishment ☐ Municipal ☐ Industrial ☐ Other (Specify)

DRILLING EQUIPMENT: ☒ Cable Tool ☒ Rotary ☐ Air Percussion ☐ Other (Specify)

TOTAL DEPTH OF WELL: 107 STATIC WATER LEVEL: 35

CASING DETAILS: Length 107 ft. Diameter 6 in. Material Steel Weight 19 lb./ft.

SCREEN DETAILS: Make Material Length ft. Diameter in. Slot Size

METHOD OF SEALING CASING TO SCREEN OR BEDROCK: Drive shoe

FINAL YIELD TEST: ☐ Bailed, or ☒ Pumped, or ☒ Compressed Air
6 Hours at 7 gallons per minute
Water level during yield test

WELL LOG

Depth From Ground Surface			Give description of formations penetrated, such as: peat, silt, sand, gravel, clay, hardpan, shale, limestone, granite, etc. Include size of gravel (diameter) and sand (fine, medium, coarse, color of material, structure (loose, packed, cemented, hard). For example: Surface to 27 ft. fine, packed, yellow sand; to 134 ft. gray granite.
Surface to	89	ft.	Sand, gravel, boulders and quicksand
89 to	94	ft.	Blue clay
94 to	107	ft.	Sand, gravel and boulders
to		ft.	
to		ft.	

YIELD TEST DATA IN G.P.M.
If yield was tested at different depth during drilling, List Below

90	ft.	7	G.P.M.
	ft.		G.P.M.
	ft.		G.P.M.

WATER ANALYSIS: Has water been analyzed? ☐ Yes ☐ No If Yes, Where
Include Analysis

DRILLED BY: Charles Wilkins Allen Moyer Signature

DOING BUSINESS AS: Ottauquechee Drilling Co., Inc. Vice President Company

DATE OF REPORT: 12/12/1973 WELL DRILLERS LICENSE NO. 6

5M 7-73

WELL-14

(For Driller's Use)

This report must be completed and submitted to the Department of Water Resources and Environmental Engineering, State Office Building, Montpelier, Vermont 05602, no later than 60 days after completion of the well.

DEPARTMENT OF WATER RESOURCES AND ENVIRONMENTAL ENGINEERING

WELL COMPLETION REPORT

JAN 2 6 1986

W.R. 14 U.S.G.S. _____
Field Location | | Map area 26 B1
Latitude _____ ° ' " Elev. _____
Longitude _____ ° ' " Topo. _____
Scale: 62,500 ☐, 25,000 ☐, 24,000 ☐
Location map attached to WCR _____ Data in Town Files ☐ _____

1. WELL OWNER _____ Name _____ Permanent Mailing Address Gleason Rd.
OR
WELL PURCHASER Kingdom Hall of Jehovah's Witnesses Rutland, Vt.
Name Permanent Mailing Address

2. LOCATION OF WELL: TOWN Rutland City SUBDIVISION _____ LOT NO. _____

3. DATE WELL WAS COMPLETED 9-7-85

4. PROPOSED USE OF WELL: ☐ Domestic, ☒ Other Church

5. REASON FOR DRILLING WELL: ☒ New Supply, ☐ Replace Existing Supply, ☐ Deepen Existing Well, ☐ Test or Exploration, ☐ Provide Additional Supply, ☐ Other _____

6. DRILLING EQUIPMENT: ☐ Cable Tool, ☒ Rotary with A-P, ☐ Other _____

7. TYPE OF WELL: ☒ Open Hole in Bedrock, ☐ Open End Casing, ☐ Screened or Slotted, ☐ Other _____

8. TOTAL DEPTH OF WELL: 185 feet below land surface.

9. CASING FINISH: ☒ Above ground, Finished, ☐ Above ground, Unfinished, ☐ Buried, ☐ In Pit, ☐ Removed, ☐ None used, ☐ Other _____

10. CASING DETAILS: Total length 60 ft. Length below L.S 58 ft Dia. 6 in. Material Steel Wt. 19 lb./ft.

NA LINER OR INNER CASING DETAILS: Length used _____ ft. Diameter _____ in. Material _____ Weight _____ lb./ft.

12. METHOD OF SEALING CASING TO BEDROCK: ☒ Drive Shoe, ☒ Grout - type cement, Drilled ___ in. hole ___ ft. in Bedrock ☐ Other _____

NA SCREEN DETAILS: Make and Type _____, Material _____, Length _____ ft., Diameter _____ in., Slot Size _____, Depth to top of screen in feet below land surface _____ ft., Gravel pack if used: Gravel Size or Type _____

14. YIELD TEST: ☐ Bailed, ☐ Pumped, ☒ Compressed Air, for 4 Hours at 7 Gallons per minute
Measured by ☒ Bucket, ☐ Orifice pipe, ☐ Weir, ☐ Meter ☐ Permanent Airline Installed

15. STATIC WATER LEVEL: 25 feet below land surface, Date or Time measured _____, Overflows at _____ G.P.M.

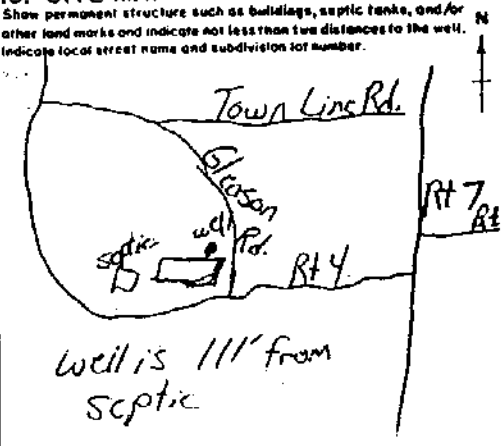
16. WATER ANALYSIS: Has the water been analyzed? ☐ Yes ☐ No, If Yes, Where _____

17. SPECIAL NOTES: grouted 55

18. WELL LOG

Depth from Land Surface Feet	Depth from Land Surface Feet	Water Bearing	Formation Description	Sketch
Ground Surface	0-60		Gravel	
60	185		Limestone	

19. SITE MAP
Show permanent structure such as buildings, septic tanks, and/or other land marks and indicate not less than two distances to the well. Indicate local street name and subdivision lot number.



20. TESTED YIELD
If the yield was tested at different depths during drilling, list below.

Feet	Gallons Per Minute

WELL DRILLED BY: Gerald Parker, Jr.

DOING BUSINESS AS: Parker Water Wells
Company or Business Name

REPORT FILED BY: Gerald Parker
Authorized Signature

DATE OF REPORT: 1/14/86 WELL DRILLERS LIC. NO. 176

A P P E N D I X B

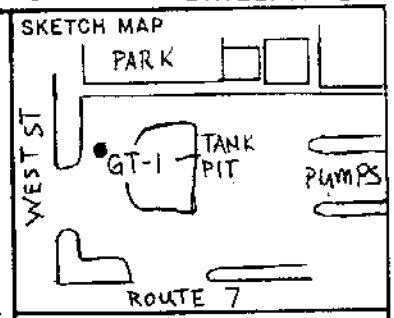
MONITORING WELL LOGS

GROUNDWATER TECHNOLOGY, INC.

WELL NUMBER GT-1 DRILLING LOG

PROJECT MOBIL, RUTLAND OWNER MOBIL
PROJECT NUMBER 250-4656 PROJECT LOCATION RUTLAND, VT
DATE DRILLED 12-13 TOTAL DEPTH OF HOLE 12' DIAMETER 2"
SURFACE ELEVATION 95.43 WATER LEVEL, INITIAL 6.8' 24 HRS
SCREEN DIA. 2" LENGTH 10' SLOT SIZE .010"
CASING DIA. 2" LENGTH 2' TYPE PVC
DRILLING CO. GTI DRILLING METHOD HSA
DRILLER J. BURNHARDT LOG BY K. KOPTIUCH

SKETCH MAP



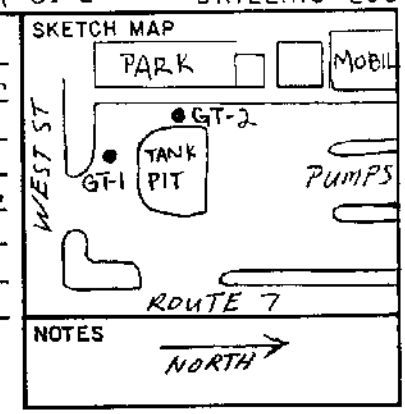
DEPTH (FEET)	WELL CONSTRUCTION	NOTES	SAMPLE NUMBER	GRAPHIC LOG	DESCRIPTION / SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURE)
0		Roadbox			6" ASPHALT/ 6" SUBBASE
		Wellcap			
		Backfill	SS-1		BLOWS: 100 dry. light brown, med-coarse
2		Bentonite	1-3'		RECOVERY: 4" SAND, large quartz cobbles,
					0 ppm minor SILT, some brick chips,
4					no odor,
			SS-2		BLOWS: 10-6-5-1 damp, brown, coarse SAND, shale
6		Sand	4-6'		RECOVERY: 12" flakes (top 6")
		Pack ▼	SS-3		1 ppm wet, grey, SANDY-SILT, some
8			6-8'		shale flakes, slight prod. odor.
		Screen			BLOWS: 8-13-20-20 Wet, mottled grey-brown
					RECOVERY: 18" SANDY-SILT, some limestone
10			SS-4		40 ppm pebbles, lower 4" wet, yellow SILT.
			10-12'		
12		Plug			BLOWS: 15-8-9-14 Wet, yellow-brown, SANDY-SILT,
					RECOVERY: 17" some pebbles, limestone cobbles.
14					22 ppm
16					

GROUNDWATER TECHNOLOGY, INC.

WELL NUMBER CT-2 DRILLING LOG

PROJECT MOBIL, RUTLAND OWNER MOBIL
PROJECT NUMBER 250-4656 PROJECT LOCATION RUTLAND, VT
DATE DRILLED 12-13 TOTAL DEPTH OF HOLE 12' DIAMETER 2"
SURFACE ELEVATION 97.09 WATER LEVEL, INITIAL 8.5 24 HRS.
SCREEN DIA. 2" LENGTH 10" SLOT SIZE .010"
CASING DIA. 2" LENGTH 2' TYPE PVC
DRILLING CO. GTI DRILLING METHOD HSA
DRILLER J. BURNHARDT LOG BY K. KOPTIUCH

SKETCH MAP



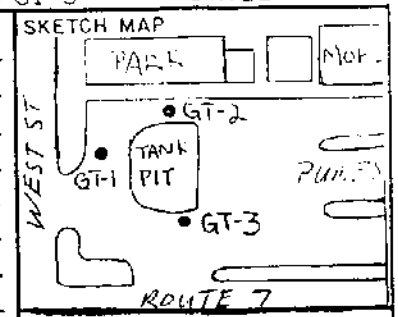
DEPTH (FEET)	WELL CONSTRUCTION	NOTES	SAMPLE NUMBER	GRAPHIC LOG	DESCRIPTION / SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURE)
0		Roadbox Wellcap Backfill Bentonite			0-6" ASPHALT 6-12" Sub-base
2					Dry, brown, coarse SAND, some pebbles, coarsening to 3/8" gravel fill, no odor.
4					0 ppm
6		Sand Pack	SS-1 5-7'		BLOWS: 11-8-8-2 Gravel fill RECOVERY: 0"
8		Screen	8.5 ▼		1 ppm ↓ 4 ppm Damp, brown, fine-medium SAND Wet, dark-brown, medium SANDY-SILT, some pebbles, strong product odor.
10			SS-2 10-12		BLOWS: 10-14-19-35 RECOVERY: 18"
12		Plug			60 ppm Wet, grey, CLAY-SILT, some pebbles, few cobbles, very strong product odor.
14					
16					

GROUNDWATER TECHNOLOGY, INC.

WELL NUMBER GT-3 DRILLING LOG

PROJECT MOBIL, RUTLAND OWNER MOBIL
PROJECT NUMBER 250-4656 PROJECT LOCATION RUTLAND, VT
DATE DRILLED 12-13 TOTAL DEPTH OF HOLE 12' DIAMETER 2"
SURFACE ELEVATION 97.85 WATER LEVEL, INITIAL 8.05 24 HRS.
SCREEN DIA. 2" LENGTH 10" SLOT SIZE .010"
CASING DIA. 2" LENGTH 2' TYPE PVC
DRILLING CO. GTI DRILLING METHOD HSA
DRILLER J. BURNHARDT LOG BY K. KOPTIUCH

SKETCH MAP



NOTES North

DEPTH (FEET)	WELL CONSTRUCTION	NOTES	SAMPLE NUMBER	GRAPHIC LOG	DESCRIPTION / SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURE)
0		Roadbox			0-6" Asphalt
		Wellcap			6-12" Sub-base
2		Backfill			
		Bentonite			3 ppm — Dry, brown, medium SAND, some large cobbles, no odor.
4					
6		Sand Pack	SS-1 5-7'		BLOWS: 1-1-11-10 RECOVERY: 4" 2 ppm — Damp, brown, coarse SAND, some pebbles, brick chips, slight product odor
8		Screen	▼8.05'		5 ppm — Wet, brown, medium SAND with cobbles, slight product odor
10			SS-2 10-12'		BLOWS: 25-25-21-18 RECOVERY: 16"
12		Plug			21 ppm — Wet, brown, fine SAND and grey SILT, some red pebbles, strong product odor.
14					
16					

GROUNDWATER TECHNOLOGY, INC.

WELL NUMBER GT-4 DRILLING LOG

PROJECT MOBIL, RUTLAND OWNER MOBIL

PROJECT NUMBER 250-4656 PROJECT LOCATION RUTLAND, VT

DATE DRILLED 12-14 TOTAL DEPTH OF HOLE 15' DIAMETER 2"

SURFACE ELEVATION 98.52 WATER LEVEL, INITIAL 8.69 24 HRS

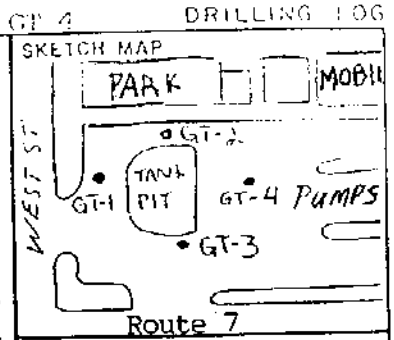
SCREEN DIA. 2" LENGTH 10' SLOT SIZE .010"

CASING DIA. 2" LENGTH 5' TYPE PVC

DRILLING CO. GTI DRILLING METHOD HSA

DRILLER J. BURNHARDT LOG BY K. KOPTIUCH

SKETCH MAP



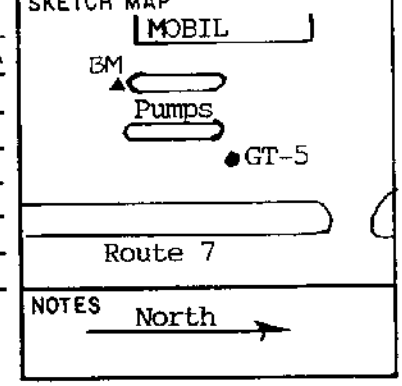
DEPTH (FEET)	WELL CONSTRUCTION	NOTES	SAMPLE NUMBER	GRAPHIC LOG	DESCRIPTION / SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURE)
0		Roadbox			0-6" Asphalt
		Wellcap			6-12" Sub-base
		Backfill			Dry, light brown, medium SAND, some pebbles.
2		Bentonite			2'-5' 18-24" -concrete
					Dry, brown, medium-fine SAND,
4					0 ppm few pebbles, no odor
					Concrete
6		Sand Pack	SS-1 5-7'		BLOWS: 27-14-7-5 RECOVERY: 12" Damp, brown, SANDY-SILT,
					2 ppm slight product odor.
8		8.69	SS-2 7-9'		BLOWS: 4-7-21-15 Moist, grey-orange mottled,
					RECOVERY: 16" SILTY-SAND, some pebbles, organic
		Screen	SS-3 9-11'		0 ppm odor, wood bits.
10					BLOWS: 6-6-7-7 Wet, grey-orange mottled SANDY-
					RECOVERY: 16" SILT, no odor
12		Plug			0 ppm
			SS-4 13-14'		BLOWS: 3-4-10-21
14					RECOVERY: 20" Wet, grey, SILTY-CLAY, some
					0 ppm pebbles, few cobbles, drying
16					with depth

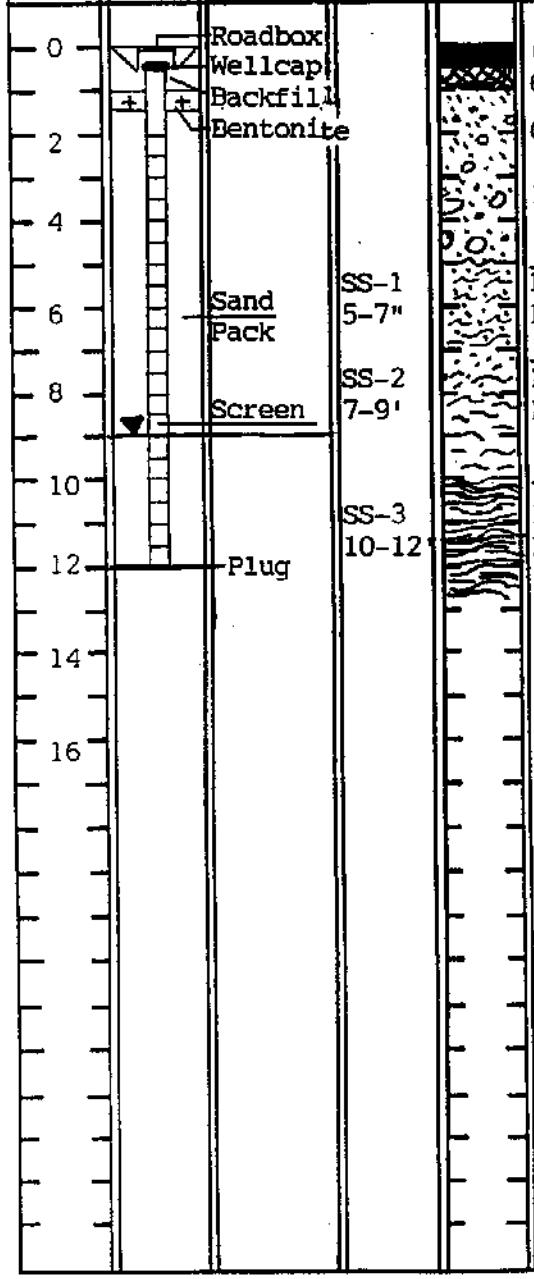
GROUNDWATER TECHNOLOGY, INC.

WELL NUMBER GT_5 DRILLING LOG

PROJECT MOBIL, RUTLAND OWNER MOBIL
PROJECT NUMBER 250-4656 PROJECT LOCATION RUTLAND, VT
DATE DRILLED 12-14 TOTAL DEPTH OF HOLE 12' DIAMETER 2"
SURFACE ELEVATION 98.65' WATER LEVEL, INITIAL 8.87' 24 HRS.
SCREEN DIA. 2" LENGTH 10' SLOT SIZE .010"
CASING DIA. 2" LENGTH 2' TYPE PVC
DRILLING CO. GTI DRILLING METHOD HSA
DRILLER J. BURNHARDT LOG BY K. KOPTIUCH

SKETCH MAP





DESCRIPTION / SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURE)

0-6" Asphalt
6-12" Sub-base

0 ppm — Dry, brown, medium SAND, some pebbles, no odor.

1 ppm — Dry, light-brown, medium Sand, some cobbles, slight prod. odor.

BLOWS: 12-10-5-3 Damp, grey-brown mottled
RECOVERY: 6" black, medium-fine SANDY-SILT
1 ppm slight product odor

BLOWS: 7-14-26-32 Wet, brown w/black mottles,
RECOVERY: 8" medium-fine sand, few pebbles,
150 ppm grading to grey silt, strong odor.

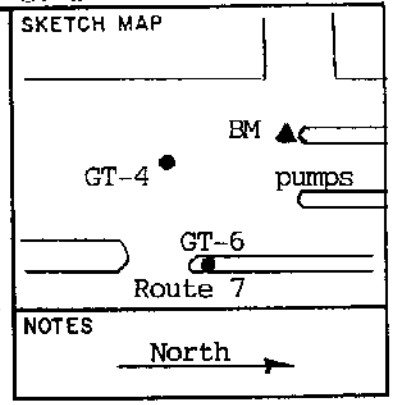
BLOWS: 33-59-52-33 Damp, grey, SAND-SILT-CLAY
RECOVERY: 8" TILL, very dense. Dry from
3 ppm 3" to 8". Slight product odor.

GROUNDWATER TECHNOLOGY, INC.

WELL NUMBER GT-6 DRILLING LOG

PROJECT MOBIL, RUTLAND OWNER MOBIL
PROJECT NUMBER 250-4656 PROJECT LOCATION RUTLAND, VT
DATE DRILLED 12-14 TOTAL DEPTH OF HOLE 12' DIAMETER 2"
SURFACE ELEVATION 98.10' WATER LEVEL, INITIAL 7.54' 24 HRS
SCREEN DIA. 2" LENGTH 10' SLOT SIZE .010"
CASING DIA. 2" LENGTH 2' TYPE PVC
DRILLING CO. GTI DRILLING METHOD HSA
DRILLER J. BURNHARDT LOG BY K. KOPTIUCH

SKETCH MAP



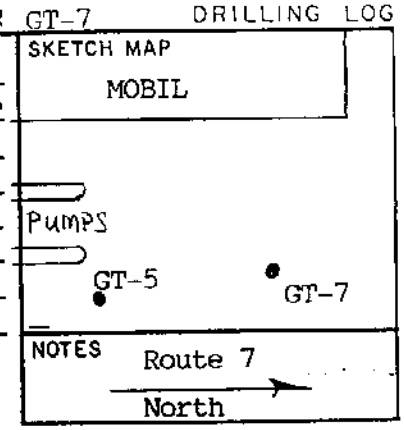
DEPTH (FEET)	WELL CONSTRUCTION	NOTES	SAMPLE NUMBER	GRAPHIC LOG	DESCRIPTION / SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURE)
0		Roadbox			0-2.5' Dry, frosted, brown, fine-medium SAND. Organic odor
		Wellcap			
		Backfill			
2		Bentonite			2.5-5' Wet, brown, medium SAND with large cobbles
4					
6		Sand Pack	SS-1 5-7'		BLOWS: 6-5-14-8 3" Dry, brown, medium SAND RECOVERY: 15" 12" Moist, light brown mottled dark brown/grey, fine SANDY-SILT some pebbles, slight product odor. 1 ppm
		▼ 7.54			
8		Screen	SS-2 7-9'		BLOWS: 10-8-13-12 Top 3" mottled as above 1 ppm. RECOVERY: 20" Lower 17" wet, light brown mottled dark brown SANDY-SILT 0 ppm
10			SS-3 10-12		BLOWS: 3-8-7-9 Wet, dark brown mottled light brown fine sandy SILT (top 3") RECOVERY: 16" 1" Wet, grey SILT-CLAY 0 ppm 11" Wet, light brown, sandy SILT with some pebbles 2" Wet, dark brown SILT
12		Plug			
14					
16					

GROUNDWATER TECHNOLOGY, INC.

WELL NUMBER GT-7 DRILLING LOG

PROJECT MOBIL, RUTLAND OWNER MOBIL
PROJECT NUMBER 250-4656 PROJECT LOCATION. RUTLAND, VT
DATE DRILLED 12-15 TOTAL DEPTH OF HOLE 12' DIAMETER 2"
SURFACE ELEVATION 99.05' WATER LEVEL, INITIAL 11.05' 24 HRS.
SCREEN DIA. 2" LENGTH 10' SLOT SIZE .010"
CASING DIA. 2" LENGTH 2' TYPE PVC
DRILLING CO. GTI DRILLING METHOD HSA
DRILLER J. BURNHARDT LOG BY K. KOPTIUCH

SKETCH MAP



DEPTH (FEET)	WELL CONSTRUCTION	NOTES	SAMPLE NUMBER	GRAPHIC LOG	DESCRIPTION / SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURE)
0		Roadbox			0-6" Asphalt
		Wellcap			6-12" Sub-base
		Backfill			Dry, brown, Medium SAND, few pebbles, few cobbles
2		Bentonite			
4					Cobbles, dry, brown, medium SAND limestone rock fill, grey Silt matrix, boulders, old foundation
6		Sand Pack	SS-1 5-7'		BLOWS: 11-8-10-13 0 ppm RECOVERY: 2" Dry, coarse sand, limestone cobbles
8		Screen	SS-2 7-9'		BLOWS: 9-8-11-13 3" Dry light brown, coarse SAND RECOVERY: 15" 20 ppm 12" Wet brown, sandy SILT mottled
10		▼ 11.05'	SS-3 10-12'		50 ppm orange, some pebbles, strong odor Wet, brown, fine SILT-SAND, some pebbles
12		Plug			BLOWS: 12-29-30-16 6" WET, grey, fine silty-SAND RECOVERY: 12" 6" Moist, grey, sandy, SILT-CLAY 0 ppm
14					
16					

GROUNDWATER TECHNOLOGY, INC.

WELL NUMBER SB-1 DRILLING LOG

PROJECT Rutland Mobil OWNER Mobil

PROJECT NUMBER 001-250-4656 PROJECT LOCATION Rutland, Vt.

DATE DRILLED 12-15 TOTAL DEPTH OF HOLE 8' DIAMETER 2"

SURFACE ELEVATION 100.35 WATER LEVEL, INITIAL Dry 24 HRS.

SCREEN DIA. LENGTH SLOT SIZE

CASING DIA. LENGTH TYPE

DRILLING CO. G.T.I inc. DRILLING METHOD SS

DRILLER J.Burnhardt LOG BY K.Koptiuch

SKETCH MAP

NOTES

SOIL BORING - 1

DEPTH (FEET)	WELL CONSTRUCTION	NOTES	SAMPLE NUMBER	GRAPHIC LOG	DESCRIPTION / SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURE)
0					Asphalt Sub base Dry, grey-brown, medium sand, some pebbles, few cobbles
2					Dry, brown, medium sand, some pebbles
4			ss-1		ss-1:4-6' Blows 4-3-7-15. Dry, brown, medium sand, some pebbles, no odor, 0 ppm. Recovery 4"
6			ss-2		ss-2:6-8' Blow 12-7-7-8. Dry, brown, coarse-medium large quartz cobbles, some pebbles, no odor, ppm.
8					

A P P E N D I X C

LABORATORY ANALYSES RESULTS

GTEL
ENVIRONMENTAL
LABORATORIES, INC.

Northeast Region
Meadowbrook Industrial Park
Milford, NH 03055
(603) 672-4835
(603) 673-8105 (FAX)

Project Number: 112-250-4656
Work Order Number: M9-12-508

December 18, 1989

John Johnson
Groundwater Technology, Inc.
32 Avenue C
Williston, VT 05495

Dear Mr. Johnson:

Attached please find the analytical results for the samples received by GTEL on 12/16/89. The samples were received and analyzed as indicated on chain of custody number 20936, which is attached.

GTEL maintains a formal quality assurance program to ensure the integrity of the analytical results. All quality assurance criteria were achieved during the analysis unless otherwise noted in the footnotes to the analytical report.

The specific analytical methods used and cited in this report are approved by state and federal regulatory agencies.

If you have any questions regarding this analysis, or if we may service any additional analytical needs, please give us a call.

Sincerely,
GTEL Environmental Laboratories, Inc.

Bob Edwards
Gas Chromatography Manager

Table 1

ANALYTICAL RESULTS

Aromatic Volatile Organics in Water
Modified EPA Method 602[a]

GTEL Sample Number		01	02	03	04
Client Identification		MW-6	MW-4	MW-3	MW-2
Date Analyzed		12/16/89	12/16/89	12/16/89	12/16/89
Analyte	Detection Limit, ug/L	Concentration, ug/L			
Benzene	0.2	0.8	11	110	560
Toluene	0.5	1.5	12	36	630
Ethyl Benzene	0.8	1.2	4.3	97	540
Xylenes (total)	1.7	< 1.7	25	280	1300
BTEX (total)	--	3.5	52	520	3000
Misc. Aliphatics (C_4-C_{12})	15	490	690	10000	6200
Misc. Aromatics (C_8-C_{10})	10	< 10	34	2400	2500
Total Hydrocarbons	--	490	780	13000	12000
Detection Limit Multiplier		1.00	5.00	5.00	5.00

a Federal Register, Vol. 49, October 26, 1984. Method modified to include additional compounds.

GTEL ENVIRONMENTAL LABORATORIES, INC.

Table 2

ANALYTICAL RESULTS

Aromatic Volatile Organics in Water
Modified EPA Method 602[a]

GTEL Sample Number		05	06	07	--
Client Identification		MW-1	MW-5	MW-7	--
Date Analyzed		12/16/89	12/16/89	12/16/89	--
Analyte	Detection Limit, ug/L	Concentration, ug/L			
Benzene	0.2	240	14	1.5	--
Toluene	0.5	110	5.9	< 0.5	--
Ethyl Benzene	0.8	500	6.0	< 0.8	--
Xylenes (total)	1.7	810	32	20	--
BTEX (total)	--	1700	58	22	--
Misc. Aliphatics (C_4-C_{12})	15	11000	1200	660	--
Misc. Aromatics (C_8-C_{10})	10	2000	100	26	--
Total Hydrocarbons	--	15000	1400	710	--
Detection Limit Multiplier		5.00	1.00	1.00	--

a Federal Register, Vol. 49, October 26, 1984. Method modified to include additional compounds.

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