DEC 2 1 1994

Environmental Services of America, Inc.

ENSA Environmental, Inc.
205 Main Street
P.O. Box 1760
Brattleboro, VT 05302
Phone: (802) 254-3677
1-800-359-3677
Fax: (802) 254-7630

Expressway Notification on June

December 20, 1994

Richard Spiese
VT DEC HMMD SMS
103 South Main Street/West Building
Waterbury VT 05671-0404

RE: Summary Report for Fleming Texaco, Bennington, Vermont
DEC Site #94-~~1582~~ 1597

Dear Mr. Spiese:

Enclosed please find the above-referenced report for your review.

Should you have any questions please call me at 254-3677.

Sincerely,
ENSA Environmental, Inc.

Susan L. Chaffee

Susan L. Chaffee
Project Manager

Enclosure

SLC/taw

\415\approval.let

Environmental Site Investigation Report
for
Fleming Texaco
305 South Street
Bennington, Vermont
DEC Site # 94-1582

for

Fleming Oil Company
1 Putney Road
Brattleboro, VT 05301

by

ENSA Environmental, Inc
205 Main Street
Brattleboro, VT 05301

December 12, 1994

EXECUTIVE SUMMARY

In a letter dated May 24, 1994, the Sites Management Section (SMS) of the Vermont Department of Environmental Conservation (VT DEC) requested additional investigation of the extent of petroleum related contamination in the soils and groundwater at the Fleming Texaco site located on South Street in Bennington, Vermont. The letter was issued to Fleming Oil Company of Brattleboro, Vermont as owners of three former underground gasoline storage tanks (USTs) that, based on earlier findings, contributed to a release of gasoline at the site.

A total of approximately 330 tons of gasoline-contaminated soils, excavated during the tank removals, has been disposed of at MTS of Epsom, New Hampshire.

Four groundwater monitoring wells were installed at the site on July 13 and 14, 1994. Groundwater samples from each of these wells, and from a previously existing well, were analyzed via US EPA Method 8020 for Aromatic Volatile Organic Compounds. Contaminants were detected in groundwater samples from three of the five wells. Groundwater flow direction was determined to be to the northwest. Average depth to groundwater was 3.5 feet below grade.

A soil gas survey was conducted along the downgradient (north and west) property lines on November 16 and 21, 1994. No VOC contamination was detected in soil vapors west of the site (residence). VOCs were detected in soil vapors beneath the landscaped islands on the northern boundary of the site. Therefore, additional soil gas survey work was performed on the property of the Bennington Police Station, located directly across Elm Street to the north of Fleming Texaco. No VOCs were detected in soil gas survey points advanced on Police Station property.

The subject property is served by the municipal drinking water and sewer systems of Bennington. No private drinking water wells are known to be located in the immediate vicinity of the site. Use potential for site groundwater is considered to be low.

Conclusions and recommendations for site monitoring are presented at the end of this report.

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TABLES

APPENDICES

I. INTRODUCTION

A. Setting and Layout

The subject property is the site of a Texaco gasoline station owned by Fleming Oil Company of Brattleboro, Vermont. It is located on the west side of South Street (Route 7) in Bennington, Vermont, at the corner of South and Elm Streets. Site Location and Site Vicinity maps are presented in Appendix A of this report.

The site is in an area of mixed commercial and residential development. There are residential properties immediately to the south and west of the site. The Sheriff's office and Friendly's restaurant are located across South Street, to the east. Across Elm Street, to the north, is the Bennington Police station. Northwest of the site, along Elm Street, are houses in use as professional office buildings. The Wallomsac River is approximately 1,780 feet to the north of the site.

The layout of the site itself, including current and former UST locations, is shown on the Groundwater Potentiometric Map presented in Appendix B of this report.

B. Background Information

On April 4, 1994, a 10,000 gallon gasoline UST was removed from the site. Two additional gasoline USTs, 6,000 and 10,000 gallons in size, were removed on April 13, 1994. Contaminated soil was encountered during the excavation of the tanks. Approximately 200 tons were disposed of at MTS of Epsom, New Hampshire. An additional 130 tons were temporarily stored in roll-offs on property of Fleming Oil Company in Brattleboro, Vermont. This soil was also recycled by MTS.

Due to collapse of the walls at the base of the UST excavation, an accurate assessment of the extent of soil and/or groundwater contamination could not be made at that time.

In a letter to Rick Fleming of Fleming Oil Company, dated May 24, 1994, the VT DEC SMS requested that additional investigations be conducted at the subject property. Based on a review of the tank closure report submitted by ENSA, the VT SMS required the following:

1. Further definition of the degree and extent of soil contamination at the site.

2. Determination of the degree and extent of groundwater contamination at the site, if any.

3. Identification of sensitive receptors with potential to have been impacted by the contamination.

4. Development of a plan to treat and/or monitor the 130 tons of soils stored in Brattleboro.

5. Determination of the need for long term treatment and/or monitoring at the site.

6. Submission of a summary report outlining work performed and presenting appropriate conclusions and recommendations.

ENSA Environmental, Inc. submitted a Site Investigation Expressway Notification to the SMS, and began the additional work outlined above.

II. FIELD PROCEDURES

On July 13 and 14, 1994, ENSA Environmental, Inc. and T&K Drilling of Troy, NH completed the installation of four groundwater monitoring wells at the site. Well locations are shown on the Groundwater Potentiometric Map presented in Appendix B of this report. Soil samples collected during the advancement of the well borings were screened onsite according to headspace analysis protocol with a Thermo Environmental Instruments Model 580B Organic Vapor Meter (OVM) calibrated to 250 ppm of an Isobutylene span gas. Results of the sample headspace screenings are discussed below and included on the Soil Boring/Monitoring Well Construction Logs presented in Appendix C of this report.

On July 19, 1994, the site monitoring wells and other pertinent features were surveyed, and gauging of groundwater levels was conducted. Data were collected from the newly installed monitoring wells (FT-1, -2, -3, and -4) and from a previously existing, upgradient well (designated FT-5). Depth to groundwater was measured at each well using a Solinist Model 101 electronic water level indicator accurate to 0.01 foot. After removal of three well volumes of groundwater from each of the wells, groundwater samples were collected for laboratory analysis of Volatile Organic Compounds (VOCs). All samples were refrigerated and sent to Alpha Analytical Laboratories in Westborough, Massachusetts for analysis via EPA Method 8020.

III. RESULTS

A. Site Hydrology

Depths from the top of the PVC well heads to groundwater in the monitoring wells (as measured on July 19, 1994) ranged from 1.99 feet to 4.69 feet. Groundwater elevations are presented in Table 1, below.

Table 1. Groundwater Potentiometric Data from Fleming Texaco, Bennington, Vermont, July 19, 1994.

Elevation of:	FT-1	FT-2	FT-3	FT-4	FT-5
Top of PVC	99.28	97.00	98.83	95.70	99.93
Groundwater	96.70	95.01	94.14	91.60	95.94
Depth to GW	2.58	1.99	4.69	4.10	3.99

All elevations are reported in feet from an arbitrary datum.

A groundwater potentiometric map (Appendix B) was constructed based on this information. At the time of data collection, groundwater flow was to the northwest across the site.

Soils encountered during the advancement of the borings consisted primarily of silts with some fine sands and traces of gravel. More detailed soil descriptions are included with the Soil Boring/Monitoring Well Construction Logs presented in Appendix C of this report.

The hydraulic gradient between wells FT-1 and FT-4 was determined to be 0.05 cm/cm. Based on an hydraulic conductivity value of 10^{-5} cm/sec for sandy silts and an effective porosity estimate of 35% for soils in the vicinity of the groundwater table, groundwater velocity was determined using this variation of Darcy's Equation:

GW_{vel} = Hydraulic Gradient x Hydraulic Conductivity/Effective Porosity
GW_{vel} = 0.05 cm/cm x 0.00001 cm/sec / 0.35
GW_{vel} = 1.4 x 10^{-6} cm/sec
GW_{vel} = 0.12 cm/day

Based on a velocity of 0.12 cm/day to the northwest, contaminated groundwater at monitoring well FT-3 would take approximately 42 years to migrate beyond the Fleming Texaco property.

B. Analytical Testing

Soil Contamination

Split spoon soil samples with the highest levels of VOCs, as detected via headspace screening with an OVM, were found at the location of monitoring well FT-3, which was installed near the limit of the former UST excavation. OVM readings of soil samples from FT-3 ranged from 605 ppm at a depth of 10-12 feet below grade to 1,026 ppm at the 0-2 foot depth range. OVM readings from samples from the other borings ranged from 0.2 ppm to 23 ppm. The highest reading in each boring was obtained from the 0-2 foot depth range.

Groundwater Contamination

The results of the analytical testing performed on the groundwater samples collected on July 19, 1994 are summarized in Table 2, below.

Table 2. Results of laboratory analysis by US EPA Method 8020 of groundwater samples from Fleming Texaco, Bennington, Vermont. ND = Not Detected.

Aromatic Volatile Organic Compound Concentrations in Groundwater (ug/l)					
Compound	**FT-1**	**FT-2**	**FT-3**	**FT-4**	**FT-5**
Benzene	ND	ND	5,200	ND	1.8
Toluene	ND	ND	72,000	ND	2.2
Ethylbenzene	ND	ND	ND	ND	2.1
Xylenes	ND	ND	56,000	ND	22
Methyl tert butyl ether (MTBE)	ND	ND	ND	1,000	64

Complete laboratory data sheets and chain of custody statement are included in Appendix D.

Based on the above information, a contaminant isoconcentration map was generated and is presented in Appendix E of this report. The highest concentrations of contaminants were detected in groundwater from monitoring well FT-3. This well is located near the limit of the former UST excavation. Soils from FT-3 showed high levels of VOCs when screened with the OVM during drilling. Groundwater from the most downgradient well, FT-4, contained MTBE rather than BTEX, and had a much lower total contaminant level than the FT-3 sample. It is possible that the existing UST is influencing the path and/or extent of contaminant migration. Groundwater contamination was also detected in FT-5, which was the previously existing well, located upgradient of the UST area.

Groundwater samples from the east side of the property (monitoring wells FT-1 and FT-2) were free of contaminants tested for.

IV. SOIL GAS SURVEY PROCEDURES AND RESULTS

In order to assess the current potential for impact of site contamination on sensitive receptors, a soil gas survey was conducted along the north and west property lines on November 16 and 21, 1994. The Bennington Police Department is located across Elm Street to the north of the site. The adjacent property to the west of the site is a residence.

Soil gas survey (SGS) points were advanced at the locations shown on the map in Appendix F. The points were driven using hollow stem steel rods connected to a

retractable, screened sampling tip. The tip was connected to polyethylene tubing which was fed through the rods up to the ground surface. Vapors were drawn into the exposed screen and through the tubing, and VOC levels at the depth of the exposed screen were then measured with an OVM. All equipment was throughly decontaminated between points at which VOCs were detected.

SGS points advanced along the west side of the site encountered sewer and/or drainage pipes which run parallel to the property line. Points advanced over the pipes reached refusal at approximately 2.5 feet below ground surface. OVM readings taken of soil vapors at that depth were 0.0 ppm in all cases. SGS points were advanced to the groundwater table (approximately 4 feet) on both sides of the pipes; readings at 2-, 3-, and 4-foot depths were 0.0 ppm in each instance.

VOCs were detected at each of the three SGS points advanced beneath the landscaped islands on the north (Elm Street) side of the property. Results are presented in Table 3, below. A groundwater sample was obtained from Point #1, located near the northwest corner of the site. Groundwater was encountered at about 4.5 feet below grade. A sample was collected in a Ziploc bag; sample headspace was screened with the OVM and a reading of 25.8 ppm was obtained. No groundwater samples were obtained from any other SGS points.

Table 3. VOC levels detected at Soil Gas Survey points along the north property line of Fleming Texaco, Bennington, Vermont.

Depth (feet)	Point #1 (ppm)	Point #2 (ppm)	Point #3 (ppm)
2	0.0	25	0.0
2.5	-	28.0	9.2
3	0.0	29.9	0.0
3.5	-	-	4.6
4	4.6	groundwater	13.0
4.5	groundwater sample screened: 25.8	-	-

Additional soil gas survey work was performed on the Police station property across Elm Street on November 21, 1994, to determine whether contamination had migrated to that site. No VOCs were detected in either of two points advanced in the grass area directly across from the Fleming Texaco property. Attempts to advance points in the Police station parking lot, directly downgradient of Fleming Texaco according to the northwesterly groundwater flow direction, were unsuccessful.

V. INITIAL RISK EVALUATION

The site is served by municipal drinking water and sewer systems. There are no private drinking water wells known to be located in the vicinity if the site.

The nearest sensitive human receptors would be occupants and residents of buildings located downgradient of the subject property. With groundwater flow direction to the northwest, the most directly downgradient property is the Bennington Police station parking lot across Elm Street. However, underground utilities, and water and sewer lines beneath Elm Street, might intersect a direct pathway for contaminants migrating in the direction of groundwater flow.

The nearest sensitive environmental receptor appears to be the Wallomsac River, which flows to the west-northwest approximately 1,780 feet to the north of the site.

Gasoline-related contamination has been detected in site soils and groundwater. Potential for use of site groundwater, however, appears to be low. Additionally, because the contamination detected to date is located beneath paved or otherwise covered surfaces, the potential for contact with the contaminants is considered to be low.

VI. CONCLUSIONS AND RECOMMENDATIONS

The conclusions and recommendations of ENSA Environmental, Inc. are based on the premise that all information obtained during these environmental investigations is accurate. Conditions may change with time that may necessitate a re-evaluation of certain conclusions and recommendations made regarding the site.

A. Conclusions

A release of gasoline has occurred in the area of three former gasoline USTs which were removed from the site in April, 1994. No compounds were tested for that would suggest other contributing sources of contamination.

All gasoline-contaminated soils which were excavated from the site have been disposed of at MTS of Epsom, NH.

Groundwater contamination still exists at the site. Groundwater is located 2 to 5 feet below ground surface, and flows to the northwest at a rate of 0.12 cm/day.

Contamination appears to be largely concentrated in the vicinity of monitoring well FT-3, located near the edge of the former UST excavation. Soil gas survey data indicate that contamination has not migrated in the direction of the residential property west of the site.

VOCs were detected in vadose zone soil vapors along the north side of the property, but not at the Bennington Police station across Elm Street to the north.

B. Recommendations

Based on the limited horizontal extent of contamination relative to sensitive receptors, and on the very slow flow rate calculated for groundwater at this site, ENSA Environmental, Inc. recommends that samples from the five onsite monitoring wells be analyzed via US EPA Method 8020 on a quarterly basis. Data from quarterly gauging and sampling of the monitoring wells will show trends in contaminant levels. Therefore, contaminant migration, if any, will be quantifiable.

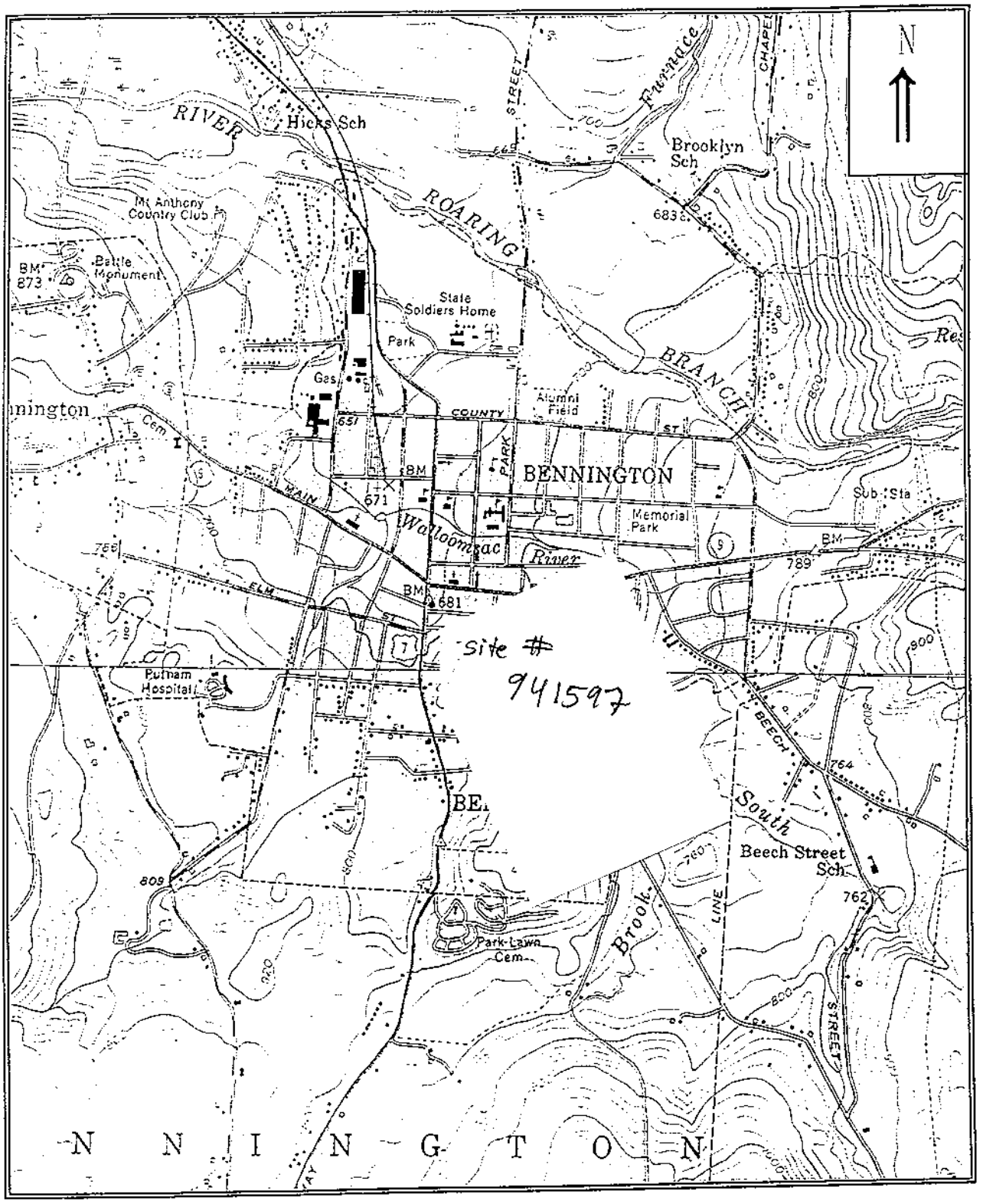
There is currently no monitoring point directly downgradient (northwest) of the site. If contaminant levels are observed to increase significantly in groundwater samples from FT-4, the most downgradient well, then a monitoring well should be installed farther downgradient, on the property of the Bennington Police station.

Appendix A

Site Location Map
Site Vicinity Map

TRI-S, INC. ENVIRONMEN[illegible] CONSULTING
1-(800)-359-3677

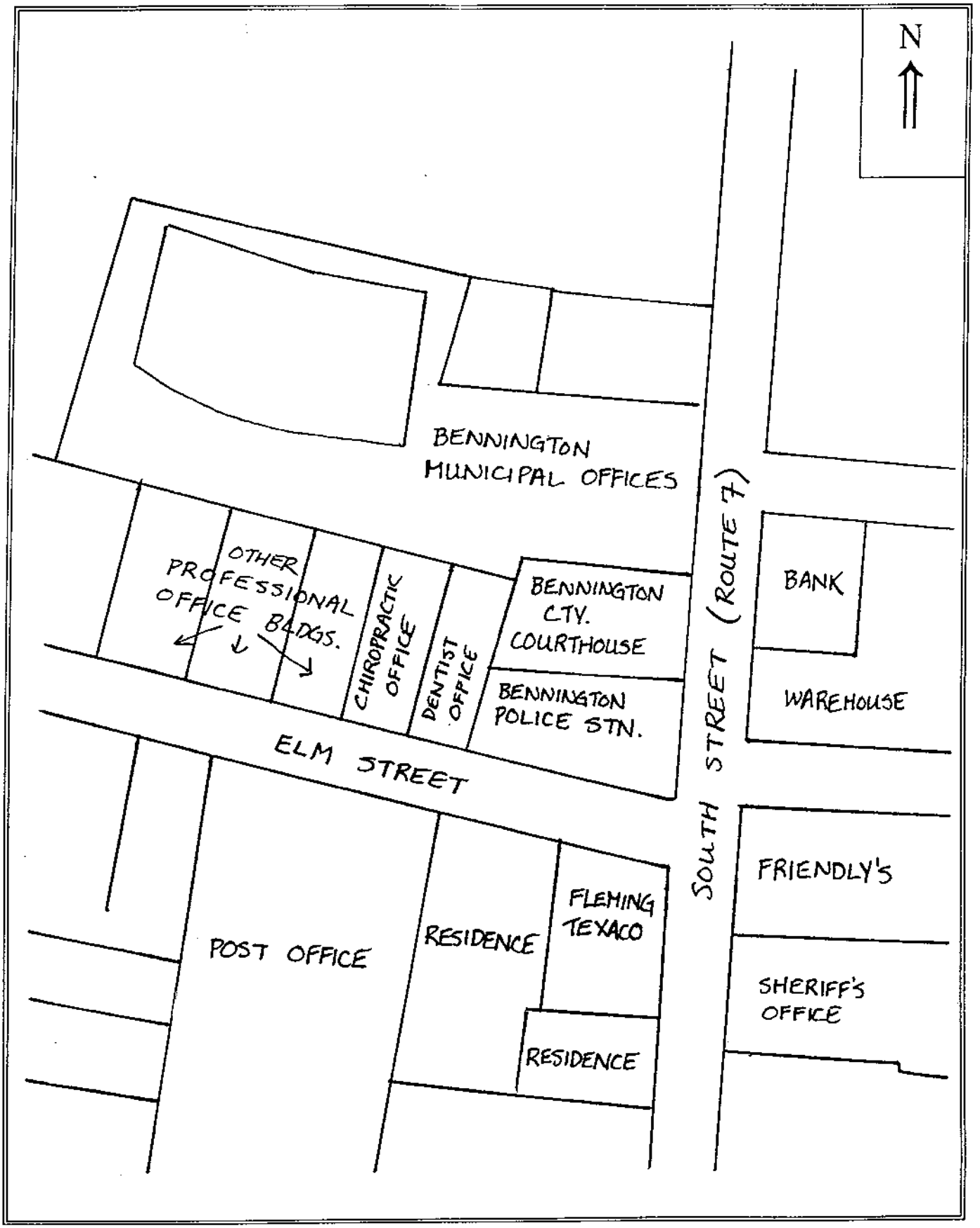
205 MAIN STREET
BRATTLEBORO, VT 05301



Site Locus	USGS Topographic Map Bennington, VT & Pownal, VT Revised: 1954 Scale 1: 24000	Fleming Texaco 305 South Street Bennington, VT

ENSA ENVIRONMENTAL, INC.
1-(800)-359-3677

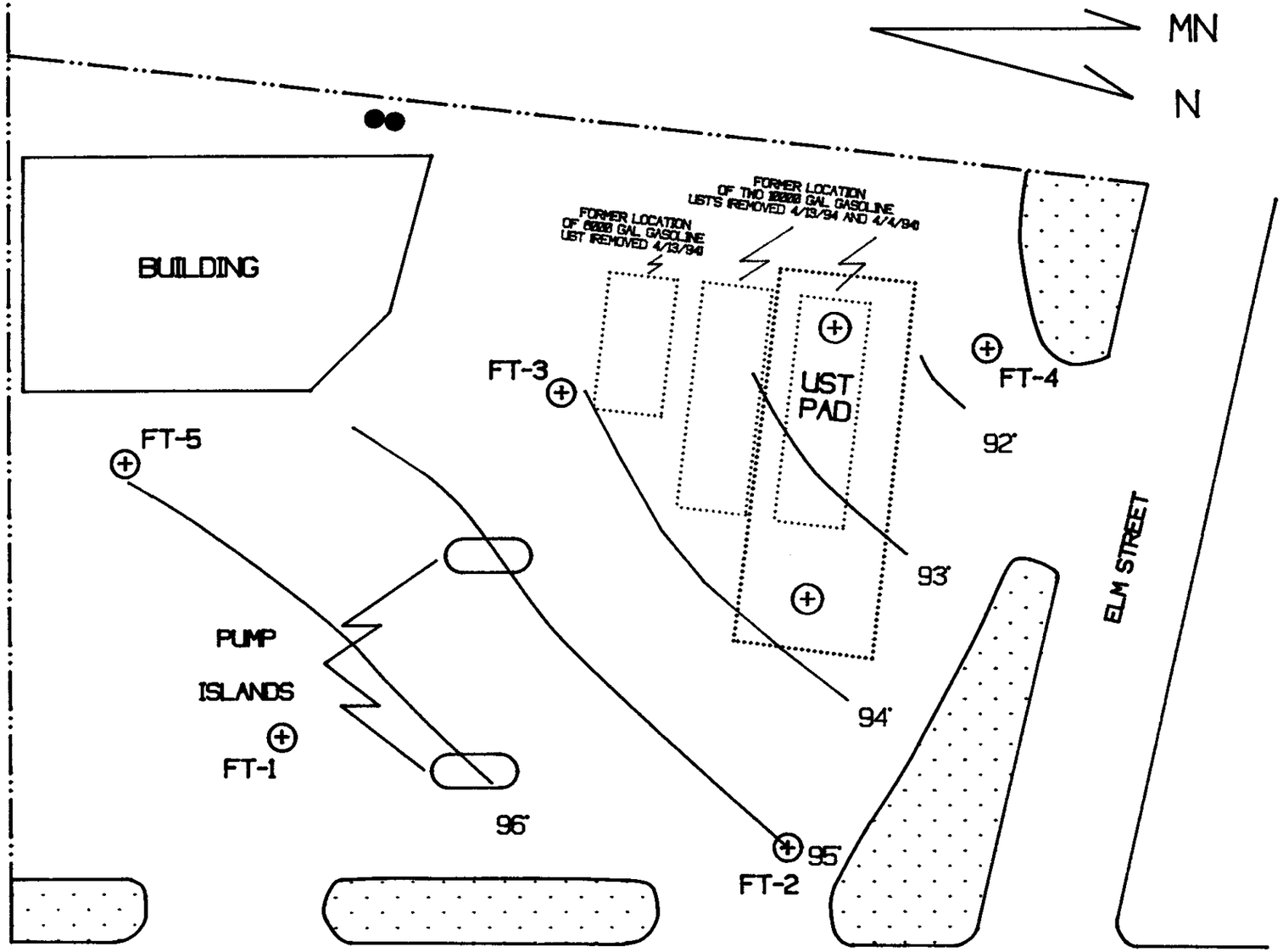
205 Main Street
Brattleboro, VT 05301



Site Vicinity Map 1 inch = 100 +/- feet	After Bennington Tax Map Sheet 56	Fleming Texaco South and Elm Streets

Appendix B

Groundwater Potentiometric Map



GROUNDWATER POTENTIOMETRIC MAP FOR 07/19/94

BENNINGTON TEXACO
SOUTH STREET
BENNINGTON, VERMONT

LEGEND

- ⊕ FT-1 — MONITORING WELL FT-1
- 95' — GROUNDWATER CONTOUR AT 95 FEET
- ●● — SOIL VAPOR EXTRACTION POINTS
- ⊕ — 4" PVC UST LEAK DETECTION
- ⬚ — FORMER LOCATION OF GASOLINE UST

MONITORING WELL GROUNDWATER ELEVATIONS (IN FEET)

FT-1	96.70	FT-4	91.60
FT-2	95.01	FT-5	95.94
FT-3	94.14		

SCALE 1 : 360

0 30 60 FEET

415G79

PREPARED BY:
ENSA ENVIRONMENTAL
P.O. BOX 1760, 205 MAIN STREET
BRATTLEBORO, VT 05302

Appendix C

Soil Boring/Monitoring Well Construction Logs

ENSA ENVIRONMENTAL, INC.
SOIL BORING/MONITORING WELL LOG

Project #: 415 Date: 7/13/94
Project Name: Fleming Texaco/Bennington
Location: Bennington, VT
Driller: T & K Drilling
TEC Personnel: KHJW
Boring/Well #: FT-1 Sheet 1 of 1

SITE LOCUS

See Appendix B.

Depth	Blow Counts 0-6	6-12	12-18	18-24	Rec.	OVM	Soil Characterization	As Built
0-2	Grab	Sample				2ppm	Brown - F -C Sand, F-C gravel and cobbles to 3'	
							3' to 5 - fine to medium sand and silt Some fine gravel	
5-7	5	4	6	7	12"	0.2ppm	Brown Fine sand and silt Some fine gravel Little clay	
10-12	6	10	31	27	14"	0.2ppm	Brown Silt and clay Little fine gravel	

Drilling Method: HSA
Total Well Depth: 10'
Groundwater Depth: 4-5'
PVC Elevation:

Screen Diameter: 2" Length: 7
Riser Diameter: 2" Length: 3
Slot Size: 10
Ground Elevation:

Notes:
1. Split spoon soil samples are screened for organic vapors via headspace method using a Thermo Environmental Instruments Inc. Organic Vapor Meter Model 580B.
2. ND indicates nondetectable contaminant concentrations as read by the OVM.
3. Samples are collected using a Split Spoon Sampler unless otherwise indicated.
4. Split Spoon Sampler has a 2" diameter and is driven using a 140 lb. hammer falling 30 inches.
5. HSA = Hollow Stem Auger, AR = Air Rotary

ENSA ENVIRONMENTAL, INC.
SOIL BORING/MONITORING WELL LOG

Project #: 415 Date: 7/14/94
Project Name: Fleming Texaco/Bennington
Location: Bennington, VT
Driller: T & K Drilling
TEC Personnel: PSR
Boring/Well #: FT-2 Sheet 1 of 1

SITE LOCUS

See Appendix B.

Depth	Blow Counts				Rec.	OVM	Soil Characterization	As Built
	0-6	6-12	12-18	18-24				
0-2	Grab	Sample				1.6	Yellow orange medium to fine sand and cobbles	
							1" y.o. fine sand and silt 2" broken cobble	
5-7	15	6	6	5	18	0.2		
							11" silt and some fine sand	
10-12	8	11	15	20	20	0.6	Light brown tightly packed silt and trace coarse sand	

Drilling Method: HSA
Total Well Depth: 13"
Groundwater Depth: _____
PVC Elevation: _____

Screen Diameter: 2" Length: 10
Riser Diameter: 2" Length: 3
Slot Size: _____
Ground Elevation: _____

Notes:
1. Split spoon soil samples are screened for organic vapors via headspace method using a Thermo Environmental Instruments Inc. Organic Vapor Meter Model 580B.
2. ND indicates nondetectable contaminant concentrations as read by the OVM.
3. Samples are collected using a Split Spoon Sampler unless otherwise indicated.
4. Split Spoon Sampler has a 2" diameter and is driven using a 140 lb. hammer falling 30 inches.
5. HSA = Hollow Stem Auger, AR = Air Rotary

ENSA ENVIRONMENTAL, INC.
SOIL BORING/MONITORING WELL LOG

Project #: 415 Date: 7/14/94
Project Name: Fleming Texaco/Bennington
Location: Bennington, VT
Driller: T & K Drilling
TEC Personnel: PSR
Boring/Well #: FT-3 Sheet 1 of 1

SITE LOCUS

See Appendix B.

Depth	Blow Counts 0-6	6-12	12-18	18-24	Rec.	OVM	Soil Characterization	As Built
0-2	Grab	Sample				1026	Silt fine to medium sand with trace cobbles	
							Coarse and medium sand and gravel	
5-7	7	7	6	5	10	579		
							Wet medium to fine silty sand	
10-12	1	1	1	1	10	605		

Drilling Method: HSA
Total Well Depth: 10"
Groundwater Depth: _____
PVC Elevation: _____

Screen Diameter: 2" Length: 7
Riser Diameter: 2" Length: 3
Slot Size: _____
Ground Elevation: _____

Notes:
1. Split spoon soil samples are screened for organic vapors via headspace method using a Thermo Environmental Instruments Inc. Organic Vapor Meter Model 580B.
2. ND indicates nondetectable contaminant concentrations as read by the OVM.
3. Samples are collected using a Split Spoon Sampler unless otherwise indicated.
4. Split Spoon Sampler has a 2" diameter and is driven using a 140 lb. hammer falling 30 inches.
5. HSA = Hollow Stem Auger, AR = Air Rotary

ENSA ENVIRONMENTAL, INC.
SOIL BORING/MONITORING WELL LOG

Project #: 415 Date: 7/14/94
Project Name: Fleming Texaco/Bennington
Location: Bennington, VT
Driller: T & K Drilling
TEC Personnel: PSR
Boring/Well #: FT-4 Sheet 1 of 1

SITE LOCUS

See Appendix B.

Depth	Blow Counts 0-6	6-12	12-18	18-24	Rec.	OVM	Soil Characterization	As Built
0-2	Grab	Sample				23.0	Medium to coarse silty sand with gravel	
							Tightly packed silt with trace gravel	
5-7	10	12	12	14	12"	3.0		
							Tightly packed silt with trace gravel	
10-12	3	6	5	27	2"	6.0		

Drilling Method: HSA
Total Well Depth: 10"
Groundwater Depth: ____
PVC Elevation: ____

Screen Diameter: 2" Length: 7'
Riser Diameter: 2" Length: 3'
Slot Size: 10
Ground Elevation: ____

Notes:
1. Split spoon soil samples are screened for organic vapors via headspace method using a Thermo Environmental Instruments Inc. Organic Vapor Meter Model 580B.
2. ND indicates nondetectable contaminant concentrations as read by the OVM.
3. Samples are collected using a Split Spoon Sampler unless otherwise indicated.
4. Split Spoon Sampler has a 2" diameter and is driven using a 140 lb. hammer falling 30 inches.
5. HSA = Hollow Stem Auger, AR = Air Rotary

Appendix D

Analytical Laboratory Reports

ALPHA ANALYTICAL LABORATORIES

Eight Walkup Drive
Westborough, Massachusetts 01581-1019
(508) 898-9220

MA 086 NH 198958-A CT PH-0574 NY 11148 NC 320 SC 88006 RI A65

CERTIFICATE OF ANALYSIS

Client: Tri-S, Inc.
Address: 205 Main Street; 3rd Floor
Brattleboro, VT 05301
Attn: Susan Chaffee
Project Number: 415
Site: Fleming Texaco

Laboratory Job Number: L9405797
Invoice Number: 65238
Date Received: 20-JUL-94
Date Reported: 03-AUG-94
Delivery Method: Alpha

ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L9405797-01	FT-1-71994-415	Bennington
L9405797-02	FT-2-71994-415	Bennington
L9405797-03	FT-3-71994-415	Bennington
L9405797-04	FT-4-71994-415	Bennington
L9405797-05	FT-5-71994-415	Bennington
L9405797-06	FT-01-71994-415	Bennington
L9405797-07	FT-02-71994-415	Bennington
L9405797-08	FT-03-71994-415	Bennington

Authorized by: _____

Scott McLean - Laboratory Director

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

RECEIVED AUG 08 94

MA 086 NH 198958-A CT PH-0574 NY 11148 NC 320 SC 88006 RI A65

Laboratory Sample Number: L9405797-01
Sample Matrix: FT-1-71994-415 WATER
Condition of Sample: Satisfactory
Number & Type of Containers: 2 Vial

Date Received: 20-JUL-94
Date Reported: 03-AUG-94
Field Prep: None

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATES PREP	DATES ANALYSIS
Aromatic Volatile Organics						
Benzene	ND	ug/l	1.0	1 8020		28-JUL
Toluene	ND	ug/l	1.0			
Ethylbenzene	ND	ug/l	1.0			
Xylenes	ND	ug/l	1.0			
1,2-Dichlorobenzene	ND	ug/l	1.0			
1,3-Dichlorobenzene	ND	ug/l	1.0			
1,4-Dichlorobenzene	ND	ug/l	1.0			
Chlorobenzene	ND	ug/l	1.0			
Methyl tert butyl ether	ND	ug/l	1.0			

ments: * Complete list of References found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

RECEIVED AUG 08 1994

MA 086 NH 198958-A CT PH-0574 NY 11148 NC 320 SC 88006 RI A65

Laboratory Sample Number: L9405797-02
FT-2-71994-415
Date Received: 20-JUL-94

Sample Matrix: WATER
Date Reported: 03-AUG-94

Condition of Sample: Satisfactory
Field Prep: None

Number & Type of Containers: 2 Vial

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATES PREP ANALYSIS
Aromatic Volatile Organics				1 8020	28-JUL
Benzene	ND	ug/l	1.0		
Toluene	ND	ug/l	1.0		
Ethylbenzene	ND	ug/l	1.0		
Xylenes	ND	ug/l	1.0		
1,2-Dichlorobenzene	ND	ug/l	1.0		
1,3-Dichlorobenzene	ND	ug/l	1.0		
1,4-Dichlorobenzene	ND	ug/l	1.0		
Chlorobenzene	ND	ug/l	1.0		
Methyl tert butyl ether	ND	ug/l	1.0		

Comments: * Complete list of References found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA 086 NH 198958-A CT PH-0574 NY 11148 NC 320 SC 88006 RI A65

Laboratory Sample Number: L9405797-03
FT-3-71994-415
Date Received: 20-JUL-94

Sample Matrix: WATER
Date Reported: 03-AUG-94

Condition of Sample: Satisfactory
Field Prep: None

Number & Type of Containers: 2 Vial

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP	DATES ANALYSIS
Aromatic Volatile Organics				1	8020		29-JUL
Benzene	5200	ug/l	5000				
Toluene	72000	ug/l	5000				
Ethylbenzene	ND	ug/l	5000				
Xylenes	56000	ug/l	5000				
1,2-Dichlorobenzene	ND	ug/l	5000				
1,3-Dichlorobenzene	ND	ug/l	5000				
1,4-Dichlorobenzene	ND	ug/l	5000				
Chlorobenzene	ND	ug/l	5000				
Methyl tert butyl ether	ND	ug/l	5000				

Comments: * Complete list of References found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA 086 NH 198958-A CT PH-0574 NY 11148 NC 320 SC 88006 RI A65

Laboratory Sample Number: L9405797-04
FT-4-71994-415
Sample Matrix: WATER
Condition of Sample: Satisfactory
Number & Type of Containers: 2 Vial

Date Received: 20-JUL-94
Date Reported: 03-AUG-94
Field Prep: None

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP	DATES ANALYSIS
Aromatic Volatile Organics				1	8020		29-JUL
Benzene	ND	ug/l	500				
Toluene	ND	ug/l	500				
Ethylbenzene	ND	ug/l	500				
Xylenes	ND	ug/l	500				
1,2-Dichlorobenzene	ND	ug/l	500				
1,3-Dichlorobenzene	ND	ug/l	500				
1,4-Dichlorobenzene	ND	ug/l	500				
Chlorobenzene	ND	ug/l	500				
Methyl tert butyl ether	1000	ug/l	500				

Comments: * Complete list of References found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA 086 NH 198958-A CT PH-0574 NY 11148 NC 320 SC 88006 RI A65

Laboratory Sample Number: L9405797-05
FT-5-71994-415
Sample Matrix: WATER
Condition of Sample: Satisfactory
Number & Type of Containers: 2 Vial

Date Received: 20-JUL-94
Date Reported: 03-AUG-94
Field Prep: None

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATES PREP ANALYSIS
Aromatic Volatile Organics				1 8020	26-JUL
Benzene	1.8	ug/l	1.0		
Toluene	2.2	ug/l	1.0		
Ethylbenzene	2.1	ug/l	1.0		
Xylenes	22.	ug/l	1.0		
1,2-Dichlorobenzene	ND	ug/l	1.0		
1,3-Dichlorobenzene	ND	ug/l	1.0		
1,4-Dichlorobenzene	ND	ug/l	1.0		
Chlorobenzene	ND	ug/l	1.0		
Methyl tert butyl ether	64.	ug/l	1.0		

Comments: * Complete list of References found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA 086 NH 198958-A CT PH-0574 NY 11148 NC 320 SC 88006 RI A65

Laboratory Sample Number: L9405797-06
FT-01-71994-415
Date Received: 20-JUL-94

Sample Matrix: WATER
Date Reported: 03-AUG-94

Condition of Sample: Satisfactory
Field Prep: None

Number & Type of Containers: 1 Vial

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATES PREP ANALYSIS
Aromatic Volatile Organics				1 8020	28-JUL
Benzene	ND	ug/l	1.0		
Toluene	3.0	ug/l	1.0		
Ethylbenzene	ND	ug/l	1.0		
Xylenes	2.3	ug/l	1.0		
1,2-Dichlorobenzene	ND	ug/l	1.0		
1,3-Dichlorobenzene	ND	ug/l	1.0		
1,4-Dichlorobenzene	ND	ug/l	1.0		
Chlorobenzene	ND	ug/l	1.0		
Methyl tert butyl ether	ND	ug/l	1.0		

Comments: * Complete list of References found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA 086 NH 198958-A CT PH-0574 NY 11148 NC 320 SC 88006 RI A65

Laboratory Sample Number: L9405797-07
FT-02-71994-415
Sample Matrix: WATER
Condition of Sample: Satisfactory
Number & Type of Containers: 1 Vial

Date Received: 20-JUL-94
Date Reported: 03-AUG-94
Field Prep: None

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP	DATES ANALYSIS
Aromatic Volatile Organics				1	8020		29-JUL
Benzene	ND	ug/l	1.0				
Toluene	3.0	ug/l	1.0				
Ethylbenzene	ND	ug/l	1.0				
Xylenes	2.4	ug/l	1.0				
1,2-Dichlorobenzene	ND	ug/l	1.0				
1,3-Dichlorobenzene	ND	ug/l	1.0				
1,4-Dichlorobenzene	ND	ug/l	1.0				
Chlorobenzene	ND	ug/l	1.0				
Methyl tert butyl ether	ND	ug/l	1.0				

Comments: * Complete list of References found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA 086 NH 198958-A CT PH-0574 NY 11148 NC 320 SC 88006 RI A65

Laboratory Sample Number: L9405797-08
FT-03-71994-415
Date Received: 20-JUL-94

Sample Matrix: WATER
Date Reported: 03-AUG-94

Condition of Sample: Satisfactory
Field Prep: None

Number & Type of Containers: 2 Vial

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP	DATES ANALYSIS
Aromatic Volatile Organics				1	8020		29-JUL
Benzene	ND	ug/l	5000				
Toluene	32000	ug/l	5000				
Ethylbenzene	ND	ug/l	5000				
Xylenes	12000	ug/l	5000				
1,2-Dichlorobenzene	ND	ug/l	5000				
1,3-Dichlorobenzene	ND	ug/l	5000				
1,4-Dichlorobenzene	ND	ug/l	5000				
Chlorobenzene	ND	ug/l	5000				
Methyl tert butyl ether	ND	ug/l	5000				

Comments: * Complete list of References found in Addendum I

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE MS/MSD ANALYSIS

Laboratory Job Number: L9405797

Parameter	MS %	MSD %	RPD
Volatile Organics Spike Recovery by GC MS/MSD for sample(s) 01-08			
1,1-Dichloroethene	91	88	3
Trichloroethene	110	114	4
Chlorobenzene	93	90	3
Benzene	104	100	4
Toluene	109	105	4
Ethylbenzene	94	89	5

1. Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. 1986.

Analytical Laboratories, Inc. | 508-898-9220 FAX 508-898-9193 | and ANALYSIS REQUEST RECORD | Sheet 1 of 1

Company Name: TRI-S, Inc. Environmental Consulting	Project Number: 415 P.O. Number: 2388	Project Name / Location: FLEMING TEXACO (BENNINGTON	Date Received in Lab: 7/20	Date Due: 8/3
Company Address: 205 Main Street 3rd Floor Brattleboro, VT 05301	Phone Number: (802) 254-3677 FAX No.: 254-7630	Project Manager: SUSAN CHAFFEE	Alpha Job Number: (Lab use only) 9405797	

Container Codes: P = Plastic V = Vial C = Cube G = Glass A = Amber Glass B = Bacteria Container O = Other

MATRIX / SOURCE CODES: MW = Monitoring Well, RO = Runoff, O = Outfall, W = Well, LF = Landfill, L = Lake/Pond/Ocean, I = Influent, E = Effluent, DW = Drinking Water, R = River Stream, S = Soil, SG = Sludge, B = Bottom Sediment, X1 = Other, X2 = Other

ALPHA Lab # (Lab Use Only)	Sample I.D.	Containers (number/type)	Matrix / Source	Method Preserve. (number of containers): Unpres.	Ice	Nitric	Sulfuric	HCl	Other	Solubles - F.F.	Sampling: Date	Time	Analysis Requested
5797.1	FT-1-71994-415	2/V	mw					X			7/19	12:32	8070
2	FT-2-71994-415	2/V	mw					X				12:43	
3	FT-3-71994-415	2/V	mw					X				12:44	
4	FT-4-71994-415	2/V	mw					X				12:49	
5	FT-5-71994-415	2/V	mw					X				12:33	
6	FT-01-71994-415	1/V	mw					X				12:53	N/C
7	FT-02-71994-415	1/V	mw					X				9:00	N/C
8	FT-03-71994-415	2/V	mw					X				12:44	N/C

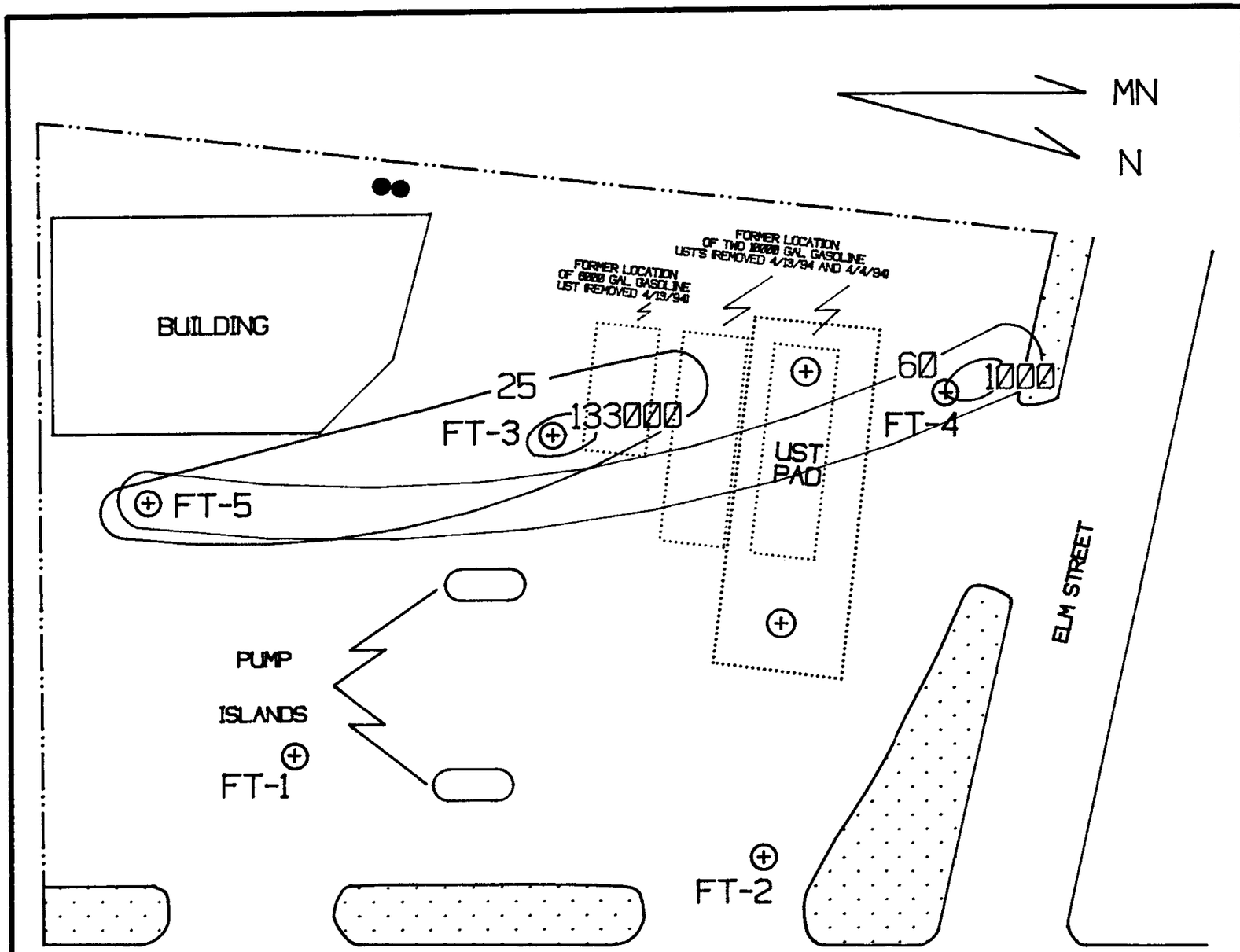
Sampler's Signature	Affiliation	Date	Time
	TRI-S	7/19/94	4:50

NUMBER	TRANSFERS RELINQUISHED BY	TRANSFERS ACCEPTED BY	DATE	TIME
1	Tonya Wonder	C. Dow	7/20	1:0
2	C Dow	Johnson	7/20	am
3				
4				

ADDITIONAL COMMENTS:
TB. field blank + dup. included

Appendix E

Groundwater Isoconcentration Map



SCALE 1 : 360

0 30 60 FEET

4151794

GROUNDWATER ISOCONCENTRATION MAP FOR 07/19/94

BENNINGTON TEXACO
SOUTH STREET
BENNINGTON, VERMONT

LEGEND

- ⊕ FT-1 MONITORING WELL FT-1
- 25 BTEX ISOCONCENTRATION (IN PPB)
- 60 MTBE ISOCONCENTRATION (IN PPB)
- ●● SOIL VAPOR EXTRACTION POINTS
- ⊕ 4" PVC UST LEAK DETECTION
- ⬚ FORMER LOCATION OF GASOLINE UST

MONITORING WELL CONTAMINANT CONCENTRATIONS (IN PPB)

BTEX		MTBE	
FT-1	ND	FT-1	ND
FT-2	ND	FT-2	ND
FT-3	133200	FT-3	ND
FT-4	ND	FT-4	1000
FT-5	28.1	FT-5	64

ND = NONDETECTABLE

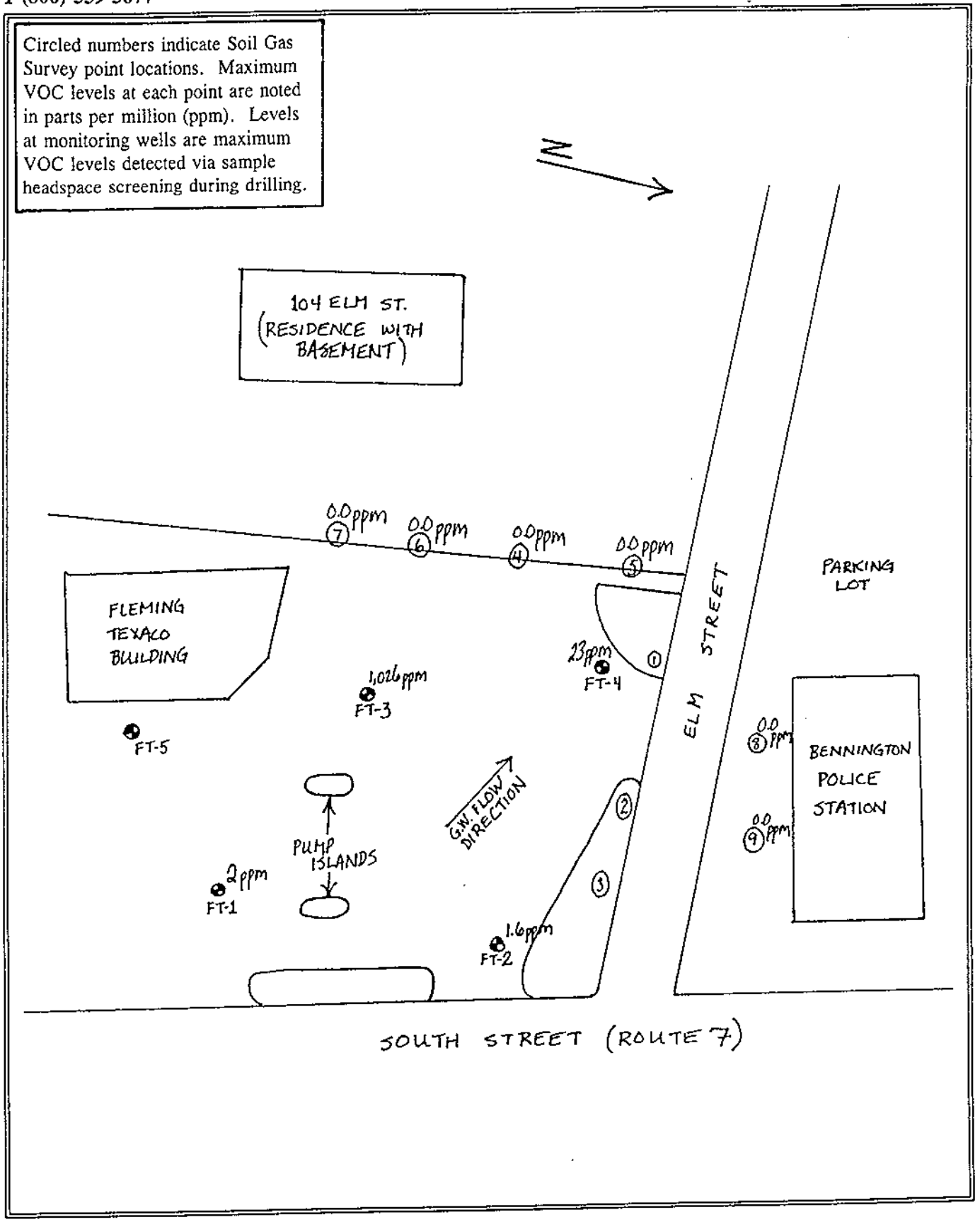
PREPARED BY:
ENSA ENVIRONMENTAL
P.O. BOX 1760, 205 MAIN STREET
BRATTLEBORO, VT 05302

Appendix F

Soil Gas Survey Results

ENSA ENVIRONMENTAL, INC.
1-(800)-359-3677

205 Main Street
Brattleboro, VT 05301



Soil Gas Survey Results Not to scale.	Prepared by: SLC	Fleming Texaco South and Elm Streets Bennington, Vermont