JAN 20 1994

Environmental Services of America, Inc.

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205 Main Street
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January 19, 1994

Andrew Cay
First Vermont Bank
Western Avenue
W. Brattleboro, VT 05301

RE: Subsurface Environmental Investigations at the Former Welch Property, Proctor, VT, (DEC #93-1370)

Dear Mr. Cay:

Please find enclosed our completed report on the above referenced site for your review.

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

Sincerely,
ENSA TRI-S, Inc. Environmental Consulting Division

Bruce Tease

Bruce Tease, Ph.D.
Senior Environmental Scientist

Enclosure

cc: Matt Germon, State of Vermont

BET:dn

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Subsurface Environmental Investigations

at

The Former Welch Property
48 East St. (Route 3)
Proctor, VT
Site #93-1370

for

First Vermont Bank
Western Avenue
W. Brattleboro, VT 05301

by

Environmental Services of America
TRI-S, Inc. Environmental Consulting Division
205 Main Street
Brattleboro, VT 05301

January 19, 1994

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APPENDICES

I. Introduction

Additional subsurface investigations were conducted at the former Welch property located in Proctor, Vermont, to assess the potential for on-site subsurface migration of fuel oil from an off-site location. It was determined that an underground fuel oil storage tank (UST) exists immediately upgradient from the subject property at the residence located at 6 Williams Street. The work was conducted to ascertain if the off-site fuel oil UST contributed to the soil contamination detected to date at the subject property.

The following report addresses the tasks requested by the VT SMS in their letter dated December 20, 1993, to Andrew Cay of First Vermont Bank:

- *Conduct a soil gas survey in the area between SB-2 and MW-2 and the fuel oil UST at 6 Williams Street. Soil Vapor probe locations should be approved by the SMS prior to conducting the survey.*
- *Inspect the basement for cracks or holes which may allow soil vapors to enter and seal these openings.*
- *Submit a summary report to the SMS which details the activity completed in the above tasks.*

The methodology used to perform the first task was slightly altered to adjust to the winter weather conditions at the site. A mobil drill rig was used to advance two soil borings along the southern property line, immediately downgradient of the 6 Williams Street property. On January 10, 1994, the Work Plan prepared by Environmental Services of America TRI-S, Inc. Environmental Consulting Division (ENSA-TEC) was approved by the Sites Management Section (SMS) of the Vermont Department of Environmental Conservation (VT DEC).

It is the understanding of ENSA-TEC that the work performed at the subject property shall be reimbursable from the Vermont Petroleum Cleanup Fund.

II. Work Summary

A. Soil Borings

On January 14, 1994, two (2) soil borings were advanced in the immediate vicinity of the southern property line upgradient of the site building and downgradient of a heating oil UST located at an abutting residence on Williams Street. Pursuant to the ENSA-TEC Work Plan, the borings were advanced to 15 feet and split spoon soil samples were collected and screened for volatile organic compounds (VOCs) using a Thermo Environmental Systems organic vapor meter Model 580B calibrated on-site to 250 ppm of Isobutylene. The manufacturer of this unit suggests multiplying direct readings by an adjustment factor of 0.5 when results are to based on calibration to Benzene.

Fine grained sand and silt predominated at the surface to approximately 10 feet below grade. Medium and coarse grained sands were detected at the 10-14 foot depth range. No VOCs were detected in any of the split spoon soil samples. Since no confining layer was observed, split spoon sampling was continued to a maximum depth of 20 feet, to determine if such a layer exists at a depth that could channel contamination towards the subject property. Soils consisting of fine to medium grained sand and silt with some gravel predominated at depths ranging from 16 feet to 20 feet below the ground surface. No VOCs were detected and drilling was halted at this depth for each boring. Soil Boring/Monitoring Well Logs are presented in Appendix A and a Site Sketch detailing the soil boring locations is presented in Appendix B.

B. Basement Inspection

During an earlier site visit, an inspection of the basement floor was conducted to assess the presence of cracks. The entire basement floor consisted of concrete. Two small areas were observed that could be considered entrance points for potential migration of petroleum vapors. First Vermont Bank has been notified that these cracks must be permanently sealed pursuant to the SMS December 20, 1993, letter. No other entrance points were observed during the basement inspection.

III. Conclusions

ENSA-TEC makes the following conclusions:

- Based on the location and depth of the two recently advanced soil borings and absence of VOCs detected in the split spoon soil samples collected, it would appear that the 6 Williams Street fuel oil UST has not contributed to the on-site contamination detected to date.

- Based on the vertical and horizontal extent of petroleum contamination detected in the site soils and the high percentage of Xylene comprising the Total BTEX compounds previously detected, the source of the petroleum related compounds appears to be the former fuel oil UST, previous removed from the subject property.

IV. Recommendations

ENSA-TEC recommends that a full round of sampling of the groundwater monitoring wells be performed in the spring of 1994 and one year following this sampling to monitor the potential for vertical migration of contamination at the site. The samples should be tested for Volatile Organic Compounds via EPA Method 8020. Based on the results of this testing, a decision regarding the need to conduct additional site work could be made.

Based on past communications with the VT SMS, the above recommended work should be completely reimbursable by the Vermont Petroleum Cleanup Fund.

Appendix A

Soil Boring/Monitoring Well Logs

TRI-S, INC. ENVIRONMENTAL CONSULTING
SOIL BORING/MONITORING WELL LOG

Project #: 303.03 Date: 1/14/94
Project Name: Welch Property
Location: Proctor, VT
Driller: T&K Drilling
TEC Personnel: PSR
Boring/Well #: SB-3 Sheet 1 of 1

SITE LOCUS

Depth	Blow Counts 0-6	6-12	12-18	18-24	Rec. (in.)	OVM (ppm)	Soil Characterization	As Built Diagram
0-2	frost 16	3	2	2	20	0.0	10" organic matter & silt	
							10" fine sand & reddish brown silt	
2-4	3	2	2	2	20	0.0	fine silty sand - light brown	
4-6	4	4	4	7	24	0.0	20" fine silty light brown sand	
							4" varved with red silt & brown silt	
							5" tight silt	
6-8	6	10	5	6	16	0.0	2" brown silt & clay	
							8" varved fine sand with dark brown silt	
8-10	4	6	4	6	20	0.0	10" fine sand & silt 10" fine to medium sand	
10-12	4	4	5	4	20	0.0	fine sand & silt	
12-14	6	5	6	6	24	0.0	6" fine sand & silt	
							2" medium to coarse sand & trace red silt	
							16" silt & fine sand	
14-16	4	4	8	18	20	0.0	6" fine to med. sand with varved red silt	
							1" brown silt	
							6" silty fine to med. sand	
							7" coarse to med. sand with trace gravel	
16-18	40	18	21	28	16	0.0	varved (with red silt) coarse to med. sand & trace gravel	
18-20	24	27	42	20	12	0.0	10" coarse sand & gravel	
							2" silt & med. to fine sand	

Drilling Method: _____
Total Well Depth: _____
Groundwater Depth: _____
PVC elevation: _____

Screen Diameter: _____ Length: _____
Riser Diameter: _____ Length: _____
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 Non-Detectable 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

TRI-S, INC. ENVIRONMENTAL CONSULTING
SOIL BORING/MONITORING WELL LOG

Project #: 303.03 Date: 1/14/94
Project Name: Welch Property
Location: Proctor, VT
Driller: T&K Drilling
TEC Personnel: PSR
Boring/Well #: SB-4 Sheet 1 of 1

SITE LOCUS

Depth	Blow Counts 0-6	6-12	12-18	18-24	Rec. (in.)	OVM (ppm)	Soil Characterization	As Built Diagram
0-2	3	2	1	1	24	0.0	6" organic matter & silt 18" reddish brown silt & fine sand	
2-4	1	3	3	4	20	0.0	2" reddish brown silt & fine sand 18" light brown silt & fine sand	
4-6	6	6	6	8	20	0.0	10" light brown silt & fine sand 10" tightly packed brown silt	
6-8	5	5	6	7	20	0.0	10" brown silt (tightly packed) 10" brown silt & fine sand	
8-10	4	6	5	7	22	0.0	10" fine sand with trace silt 10" medium to fine sand	
10-12	4	5	6	7	16	0.0	2" red silt & 12" coarse to med. grain sand varved with red silt & sand 4" tight brown silt & fine sand	
12-14	6	10	8	7	24	0.0	medium to fine brown sand	
14-16	6	5	9	9	20	0.0	3" medium to fine sand 2" fine sand & silt 15" varved fine to medium sand with red silt	
16-18	11	9	9	13	18	0.0	medium to fine sand	
18-20	12	15	15	17	20	0.0	10" medium to fine sand 1" fine sand & silt 4" medium to fine sand & silt 5" moist tight brown silt	

Drilling Method: _____
Total Well Depth: _____
Groundwater Depth: _____
PVC elevation: _____

Screen Diameter: _____ Length: _____
Riser Diameter: _____ Length: _____
Slot Size: _____
Ground Elevation: _____

Notes:
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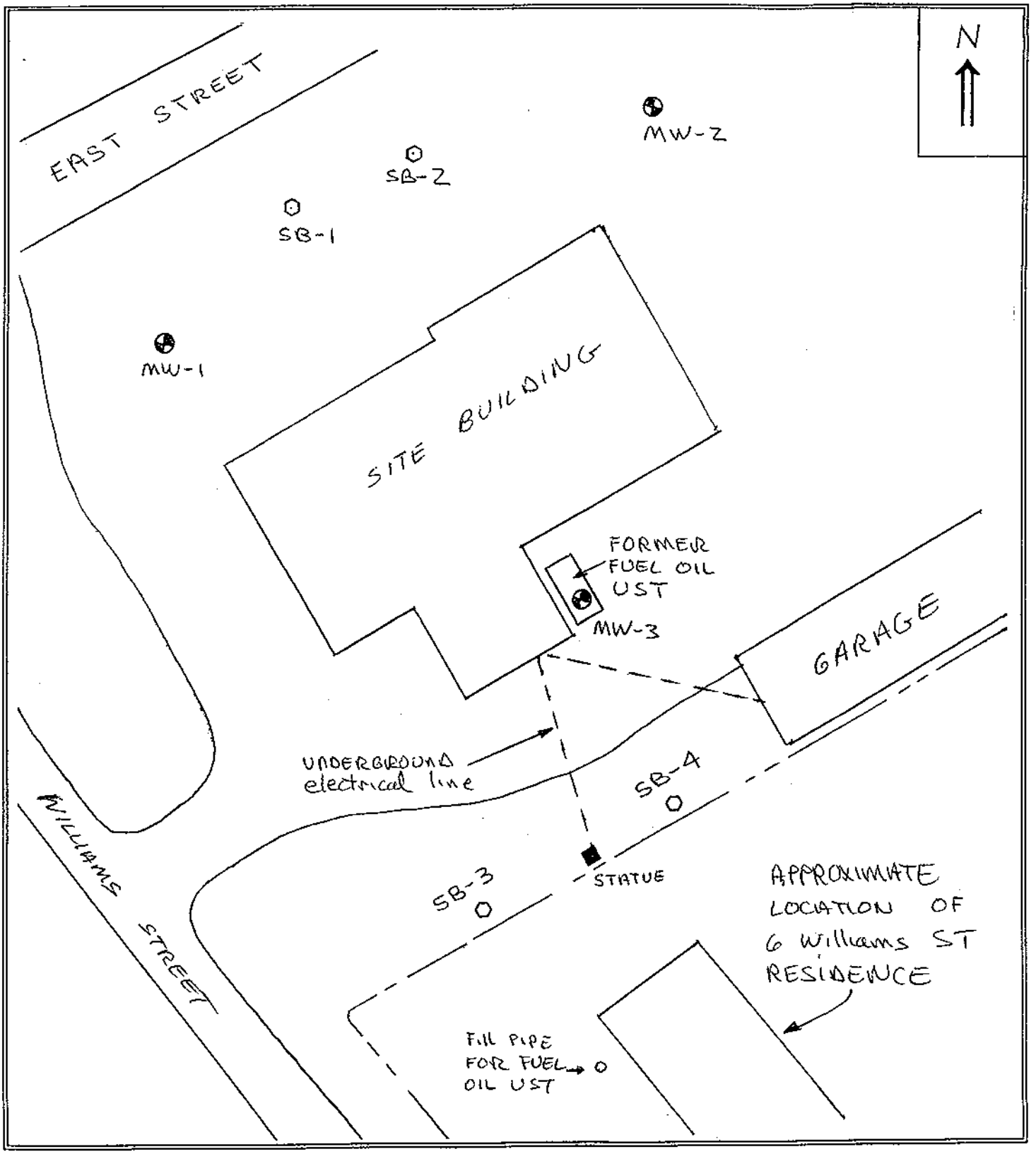
5. HSA = Hollow Stem Auger, AR = Air Rotary

Appendix B

Site Sketch

TRI-S, INC. ENVIRONMENTAL CONSULTING
1-(800)-359-3677

205 MAIN STREET
BRATTLEBORO, VT 05301



Site Sketch Map	Former Welch Property 48 East Street Proctor, Vermont	Approx. 1" = 20'