

99-2722

Phase (check one)	Type (check one)
<input checked="" type="checkbox"/> Initial Site Investigation <input type="checkbox"/> Corrective Action Feasibility Investigation <input type="checkbox"/> Corrective Action Plan <input type="checkbox"/> Corrective Action Summary Report <input type="checkbox"/> Monitoring Report	<input type="checkbox"/> Work Scope <input checked="" type="checkbox"/> Technical Report <input type="checkbox"/> PCF Reimbursement Request <input type="checkbox"/> General Correspondence

INITIAL SITE INVESTIGATION REPORT

A.G. Anderson Concrete Plant
Railroad Street
Waterbury, VT

A Property Owned By:
A.G. Anderson, Inc.
58 South Main Street
Waterbury, Vermont 05676
(802) 244-7811

Prepared by:
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June 13, 2000

EXECUTIVE SUMMARY

On November 29 and 30, 1999 I conducted a closure inspection of two 4,000 gallon diesel USTs, one 1,000 gallon gasoline UST and one 2,000 gallon gasoline UST at the A.G. Anderson Plant in Waterbury, Vermont. The findings indicated that contamination was present below gasoline UST #2, and the extent of this contamination could not be determined due to limiting site conditions. In light of this, the Sites Management Section of the Vermont DEC required an initial site investigation at the property. This investigation was performed on May 23, 2000.

The investigation entailed the installation and sampling of three temporary monitoring wells. Volatile Organic Compound concentrations were measured with a photoionization detector in the field, with a high reading of 12 ppm detected in the 0-5 foot interval in SB-3. Three groundwater samples were analyzed using EPA method 8021-B. These results indicate that benzene and MTBE were present above the State of Vermont Groundwater Enforcement Standards (GWES) in SB-2, while benzene, 1,3,5-TMB and 1,2,4-TMB were above the GWES in SB-3.

The groundwater flow direction on May 23, 2000 appears to be to the southeast. The groundwater gradient of 20% is quite steep, and the reason for this is currently unclear. Both water and sewer underground service lines are present to the northwest and therefore upgradient of the contamination. There are no adjacent basements that are at risk from this contamination.

An Environmental Site Assessment performed as part of a real estate transaction in October 1999 at the property did not detect any VOCs in a groundwater sample collected from a boring located about 60 feet south of the closed gasoline UST #2. As this location was directly downgradient of the UST (based on groundwater elevations on May 23, 2000) it is reasonable to assume that the existing contamination associated with the UST is very localized.

However, as the VOC concentrations in groundwater are above Vermont's GWES, the extent of the contamination has not yet been defined. Therefore it appears that further investigation is warranted at the property. This investigation should consist of three permanent monitoring wells installed in downgradient locations as marked on the attached site map. These wells should be sampled quarterly for one year to identify trends in groundwater contamination.

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1.0 INTRODUCTION / SITE HISTORY

The A.G. Anderson Concrete Plant is located on Railroad Street in Waterbury, Vermont (see attached Site Location Map). On November 29 and 30, 1999 I conducted a closure inspection of two 4,000 gallon diesel USTs, one 1,000 gallon gasoline UST and one 2,000 gallon gasoline UST at the property. The findings indicated that contamination was present below gasoline UST #2, and the extent of this contamination could not be determined due to limiting site conditions. In light of this, the Sites Management Section of the Vermont DEC required an initial site investigation at the property. This investigation was performed on May 23, 2000 in the area of gasoline UST #2. This report details the methods and results of that investigation.

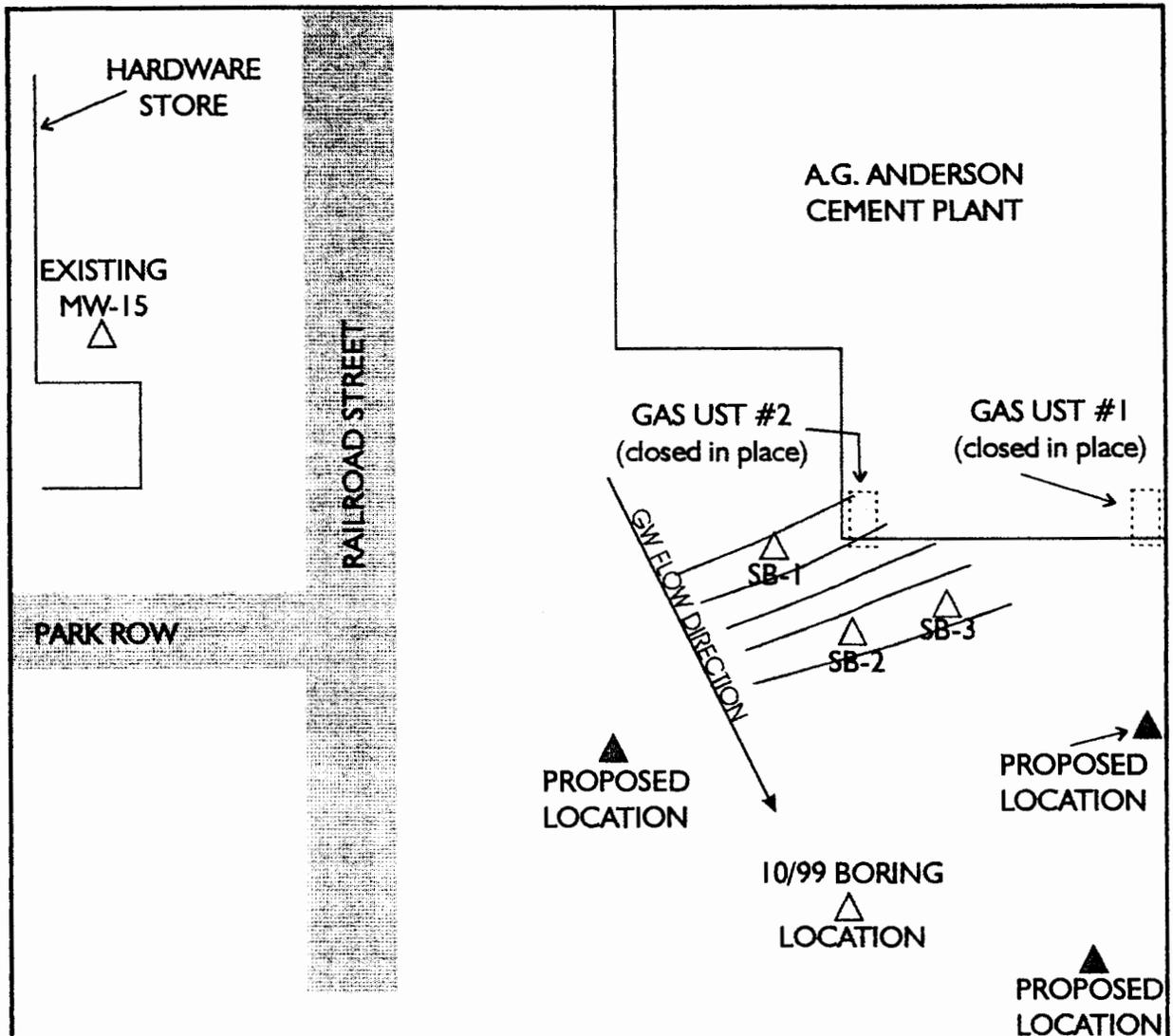
2.0 METHODOLOGY

On May 23, 2000 I supervised the installation of three temporary groundwater monitoring wells around gasoline UST #2. Adams Engineering of Underhill, Vermont performed the boring advancement. Each boring was advanced using Adam's vibratory rig with a 5 foot stainless steel coring device having a 2 3/8" inside diameter. The sampler was lined with a polyethylene bag, advanced in 5 foot increments into the water table, and then brought up to ground surface where the soils were removed for examination. The soil core was broken into either 1 foot increments or soil type during logging, placed in a freezer bag, and the headspace within the bag was then screened with an HnU photoionization detector (PID) for volatile organic compounds (VOCs). Once into the water table, a stainless steel temporary monitoring well was installed. Each well was purged using a peristaltic pump and disposable polyethylene tubing until the purge water was consistently non-turbid. A groundwater sample was then collected from each well, placed in an iced cooler, and delivered to Green Mountain Laboratories in Middlesex, Vermont for analysis using EPA Method 8021-B. The results are included in the attached pages, and they are tabulated below.

When the three temporary wells were completed, the top of each well's casing was surveyed relative to an arbitrary datum. Depth to groundwater measurements were collected from the temporary wells throughout the day, and when the measurements became consistent, they were recorded for later groundwater flow direction calculation. All borings were backfilled with bentonite and native soil at the end of the day.

3.0 RESULTS

The temporary well locations are shown in the attached site map. Based on a calculated groundwater flow direction to the southeast, SB-1 was located upgradient of the UST, while SB-2 and SB-3 were located on the downgradient side of the UST. The soil logs and PID results of each boring are as follows:



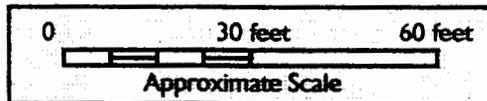
GROUNDWATER QUALITY

- SB-1: no contaminants detected
- SB-2: benzene = 750 ppb
MTBE = 78 ppb
- SB-3: benzene = 27 ppb
1,3,5-TMB = 33 ppb
1,2,4-TMB = 130
- MW-15: not sampled

GROUNDWATER ELEVATIONS

- SB-1 = 91.84'
- SB-2 = 88.52'
- SB-3 = 88.54'

NOTE: only contaminants detected above the GWES are listed



Site Map & Groundwater Flow Map - May 23, 2000

**A.G. Anderson Cement Plant
Waterbury, Vermont**

source: Field Survey by Jeff Kelley

Jeff Kelley, Consulting Geologist

GREEN MOUNTAIN LABORATORIES, INC.

27 Cross Road
Middlesex, Vermont 05602

Phone (802) 223-1468

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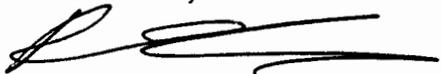
LABORATORY RESULTS

CLIENT NAME:	Jeff Kelley	REFERENCE NO.:	6365
ADDRESS:	P.O. Box 9 Roxbury, VT 05669	PROJECT NO.:	
SAMPLE LOCATION:	Anderson - Waterbury	DATE OF SAMPLE:	5/23/00
SAMPLER:	Jeff Kelley	DATE OF RECEIPT:	5/23/00
ATTENTION:	Jeff Kelley	DATE OF ANALYSIS:	6/2/00 - 6/4/00
		DATE OF REPORT:	6/5/00

Pertaining to the analyses of specimens submitted under the accompanying chain of custody form, please note the following:

- Water samples submitted for VOC analysis were preserved with HCl.
- Specimens were processed and examined according to the procedures outlined in the specified method.
- Holding times were honored.
- Instruments were appropriately tuned and calibrations were checked with the frequencies required in the specified method.
- Blank contamination was not observed at levels interfering with the analytical results.
- Continuing Calibration standards were monitored at intervals indicated in the specified method. The compound naphthalene exceeded laboratory QA/QC limits for percent deviation (D) from initial calibration. However, the average percent D for all target analytes was within acceptance limits and no naphthalene was detected in any of the samples submitted.
- The efficiency of analyte recovery for individual samples was monitored by the addition of surrogate analyte to all samples, standards, and blanks. Surrogate recoveries were found to be within laboratory QA/QC acceptance limits, unless noted otherwise.

Reviewed by:



Raul Sanchez
Chemical Services

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Middlesex, Vermont 05602

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LABORATORY RESULTS

GC/MS METHOD - 8260M

GML REF. # : 6365
SAMPLE ID: SB - 1
ANALYSIS DATE: 06/04/2000
SAMPLE DATE: 05/23/2000
SAMPLE TYPE: WATER

<u>PARAMETER</u>	<u>PQL (ug/L)</u>	<u>RESULT (ug/L)</u>
Benzene	1	ND
Toluene	1	ND
Ethylbenzene	1	ND
1,3,5-Trimethylbenzene	2	ND
1,2,4-Trimethylbenzene	2	ND
Xylenes	3	ND
Naphthalene	5	ND
MTBE	5	ND

Surrogate % Recovery: 105 %

ND = Not Detected

BPQL = Below Practical Quantitation Limit

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LABORATORY RESULTS

GC/MS METHOD - 8260M

GML REF. # : 6365
SAMPLE ID: SB - 2
ANALYSIS DATE: 06/03/2000
SAMPLE DATE: 05/23/2000
SAMPLE TYPE: WATER

<u>PARAMETER</u>	<u>PQL (ug/L)</u>	<u>RESULT (ug/L)</u>
Benzene	10	750
Toluene	10	ND
Ethylbenzene	10	ND
1,3,5-Trimethylbenzene	20	ND
1,2,4-Trimethylbenzene	20	ND
Xylenes	30	280
Naphthalene	50	ND
MTBE	50	78

Surrogate % Recovery: 102 %

ND = Not Detected

BPQL = Below Practical Quantitation Limit

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LABORATORY RESULTS

GC/MS METHOD - 8260M

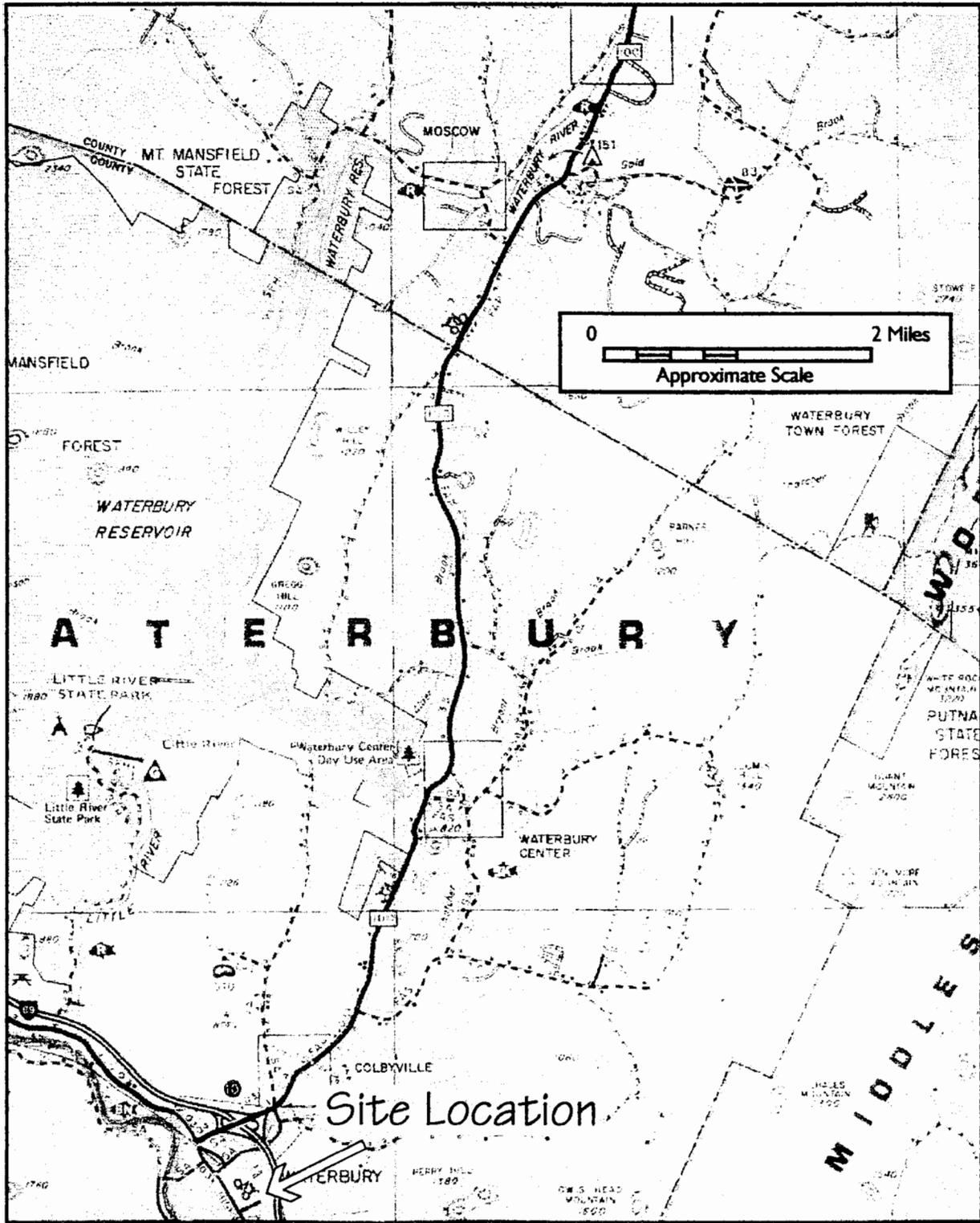
GML REF. # : 6365
SAMPLE ID: SB - 3
ANALYSIS DATE: 06/03/2000
SAMPLE DATE: 05/23/2000
SAMPLE TYPE: WATER

	<u>PQL (ug/L)</u>	<u>RESULT (ug/L)</u>
Benzene	1	27
Toluene	1	ND
Ethylbenzene	1	36
1,3,5-Trimethylbenzene	2	33
1,2,4-Trimethylbenzene	2	130
Xylenes	3	250
Naphthalene	5	13
MTBE	5	ND

Surrogate % Recovery: 105 %

ND = Not Detected

BPQL = Below Practical Quantitation Limit



Location Map
A.G. Anderson Concrete Plant
Waterbury, Vermont

source: The VT Atlas and Gazetteer by DeLorme

Jeff Kelley, Consulting Geologist