

March 1, 2016

Mr. George Pratt
Bradford Oil Company
PO Box 394
Bradford, VT 05033

RE: Eden General Store, Eden, Vermont
December 2015 Biennial Site Status Report
VTDEC Site #95-1883
LAG Project #00172

Dear Mr. Pratt:

Lincoln Applied Geology, Inc. is pleased to present the results of the recent biennial groundwater monitoring and sampling event performed at the above referenced site. Groundwater elevation measurements, photoionization detector headspace assays, and groundwater quality sampling were performed on December 22, 2015.

If you have any questions, please feel free to contact us at your convenience at 1-800-477-4384.

Respectfully,
Lincoln Applied Geology, Inc.

Devon Neary
Staff Geologist

DN/BE:ih
Enclosures

cc: Mr. Jeff Holmes
Mr. James Donaldson, VTDEC

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December 2015 Biennial Summary Report

**Eden General Store
2918 VT Route 100
Eden, Vermont**

**VTDEC SMS Site #95-1883
LAG Project #00172**

March 1, 2016

**Prepared for:
Bradford Oil Company
P.O. Box 394
Bradford, Vermont 05033**

**Prepared by:
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TABLE OF CONTENTS

<u>Section</u>	<u>Page</u>
1.0 INTRODUCTION.....	1
2.0 MONITORING ACTIVITIES.....	1
2.1 Groundwater Elevation Data and Site Hydrogeology	1
2.2 Well Headspace Monitoring Results and Vapor Intrusion Assessment.....	2
2.3 Groundwater Quality Results	2
2.4 Drinking Water Quality Results	3
3.0 CONCLUSIONS	3
4.0 RECOMMENDATIONS	4

Tables

Table 1	Liquid Level Monitoring Data
Table 2	Historical Groundwater Elevation Data
Table 3	Photoionization Detector Readings
Table 4	Groundwater Quality Results

Charts

Chart 1- 2	Groundwater Elevations vs. Total VOCs for Select Monitoring Wells
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Figures

Figure 1	Groundwater Contour Map for December 22, 2015
Figure 2	Total Targeted VOCs Map for December 22, 2015

Appendixes

Appendix A	Laboratory Analytical Reports for December 22, 2015
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1.0 INTRODUCTION

In 1995, Lincoln Applied Geology, Inc. (LAG) was contracted by Bradford Oil Company to oversee the removal of two 4,000 gallon and one 5,000 gallon underground storage tanks (USTs) at Eden General Store located at 2918 VT Route 100 in Eden, Vermont (the "Site"). After removing the USTs, it was apparent that soils and groundwater were impacted by gasoline. As a result, soil borings and groundwater monitoring wells were installed to define the extent and magnitude of the subsurface contamination.

On June 7, 2007, a release of approximately 70 gallons of #2 fuel oil occurred at the Site due to a leaking Aboveground Storage Tank (AST). The Verterre Group performed the initial spill response and subsequent Site assessment which included a limited soil boring investigation and the installation of one groundwater monitoring well (MW-101). LAG has incorporated Verterre's final recommendation to include MW-101 and an additional basement sump (Sump 2) to our established monitoring and sampling regime.

No corrective actions have been initiated to date. However, in 2003 a multi-phase extraction (MPE) pilot test was conducted. The results of the pilot test proved to be ineffective due to the low amounts of vapor phase contamination recovered. Additionally, LAG conducted a pilot test using In-Situ Submerged Oxygen Curtain (iSOC[®]) technology that injected dissolved oxygen into the aquifer to enhance biologic degradation. The pilot test began in December 2007 and was complete in June 2008. According to the pilot test, the use of iSOC[®] technology to remediate the residual adsorbed and dissolved phase contamination at the Site did not appear to be effective based on unfavorable subsurface conditions.

Groundwater monitoring and sampling has been conducted on a biennial basis since 2009 to track contaminant degradation.

2.0 MONITORING ACTIVITIES

Monitoring activities include groundwater level measurements from all existing monitoring wells, photoionization detector (PID) well headspace assays, and groundwater quality sampling.

2.1 Groundwater Elevation Data and Site Hydrogeology

On December 22, 2015, depth to groundwater measurements were collected from monitoring wells MW-1, MW-2, MW-3, MW-7, MW-101, and HA-1. Monitoring wells MW-4, MW-5, MW-6, and EGS Sump 2 have been removed from the monitoring and sampling scheduled. Water levels ranged from 0.50 (HA-1) to 6.05 feet (MW-1) below top of casing across the Site. Groundwater elevation data for the December 2015 monitoring event are presented in Table 1. Historical groundwater elevation data since October 2003 are presented in Table

2. The December 2015 groundwater elevation data were used to generate a Groundwater Contour Map presented as Figure 1.

Groundwater flows beneath the site in a northerly direction at an average hydraulic gradient of 1.8% (0.018 ft/ft) calculated between MW-101 and MW-3. Groundwater flow direction has varied widely since monitoring began in 1995.

2.2 Well Headspace Monitoring Results and Vapor Intrusion Assessment

On December 22, 2015 a PID was utilized to screen the headspace of each monitoring well for vapor phase volatile organic compounds (VOCs). PID data are presented in Table 3. Monitoring wells MW-2 and MW-3 reported VOCs at concentrations of 1159 and 505 parts per million (ppm), respectively. VOCs were not reported (0.0 ppm) in the remaining monitoring wells screened during the December 2015 event. Significant residual adsorbed contamination continues to persist in the vicinity of MW-2 and MW-3 which correlates with on-going groundwater impacts in the area.

Based on guidance in the VTDEC's Investigation and Remediation of Contaminated Properties Procedure (IRCPP), a vapor intrusion assessment is not warranted due to lack of VOC contamination in basement sump groundwater.

2.3 Groundwater Quality Results

On December 22, 2015, groundwater samples were collected from monitoring wells MW-1, MW-2, MW-3, MW-7, MW-101, HA-1, and the Eden General Store Sump. Groundwater samples were analyzed at Green Mountain Laboratories, Inc. in Montpelier, Vermont for VTDEC Petroleum Target Compound List per EPA method 8021B. Water quality results are summarized in Table 4, and the laboratory analytical report is included in Appendix A. The December 2015 water quality data were used to generate the Total Targeted VOC Map presented as Figure 2.

Select petroleum compounds were reported above their respective Vermont Groundwater Enforcement Standard (VGES) in monitoring wells MW-2 and MW-3. Monitoring well MW-2 reported the highest total VOC concentration of 21,340 parts per billion (ppb). MW-3 reported a total VOC concentration of 8,410 ppb. The remaining monitoring wells sampled on December 22, 2015 did not report VOCs above laboratory detection limits, except MW-1 where MTBE was below VGES.

Charts 1 and 2 display groundwater elevations and total VOC concentrations for MW-2 and MW-3 since April 2000. VOCs fluctuate seasonally with groundwater elevations, but there appears to be no clear trend between the two. However, the chart does seem to depict VOC concentration stabilizing within both wells over the last several sampling events.

The December 2015 water quality data indicate that the core of the dissolved phase contaminant plume remains in the vicinity of source area monitoring wells MW-2 and MW-3. The residual adsorbed source persisting in the subsurface is continuing to leach from soils and impact the underlying groundwater system. The contaminant plume appears to be stable as its intensity and orientation have remained unchanged. However, contaminant reduction within the source area has been minimal over time.

2.4 Drinking Water Quality Results

The on-site drinking water supply was sampled on December 22, 2015 and analyzed for VOCs per EPA Method 524.2. VOCs were not reported above laboratory detection limits. VOCs have never been reported in the on-site drinking water supply.

3.0 CONCLUSIONS

Based on the results presented herein, LAG provides the following conclusions:

- On December 22, 2015, depth to groundwater ranged from 0.50 (AH-1) to 6.05 (MW-1) feet below TOC. Groundwater flows in a general northerly direction beneath the Site at an average hydraulic gradient of 1.8% (0.018 ft/ft).
- Vapor phase VOCs were recorded with a PID in monitoring wells MW-2 and MW-3 at 1159 and 505 ppm. The remaining monitoring wells screened on December 22, 2015 did not report VOCs (0.0 ppm). Residual absorbed contamination persists in the source area.
- Several VOCs were reported above their respective VGES in monitoring wells MW-2 and MW-3. MW-2 reported the highest total targeted VOC concentration of 22,790 ppb. The remaining monitoring wells and the on-site drinking water supply sampled during the December 2015 event did not report VOCs above laboratory detection limits. The contaminant plume in the vicinity of MW-2 and MW-3 appears to be stable in its orientation and intensity. However, monitored natural attenuation has had minimal impact on contaminant reduction.
- The site is not eligible for a Sites Management Activity Completed (SMAC) due to VGES exceedances in compliance point monitoring wells MW-2 and MW-3 near the property boundary.
- A vapor intrusion assessment is not warranted, based on IROCP guidance.

4.0 RECOMMENDATIONS

Based on the above conclusions, LAG recommends continuing the current biennial monitoring and sampling program. Biennial monitoring activities will consist of collecting water level measurements from all accessible wells, well headspace PID screening, and collecting groundwater samples from monitoring wells MW-1, MW-2, MW-3, MW-7, MW-101, HA-1, the Eden General Store Sump. LAG will also sample the Eden General Store's drinking supply well. The next event will be scheduled for December 2017.

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Tables

Project: Eden General Store
 Location: Eden, Vermont
 LAG Project #00172

Liquid Level Monitoring Data

Table 1
 VTDEC Site #95-1883

December 22, 2015

Well ID	TOC Elevation	Total Well Depth	Depth to Product	Depth to Water	Product Thickness	Water Table Elevation
MW-1	99.00	18.0	-	6.05	-	92.95
MW-2	98.27	17.0	-	5.30	-	92.97
MW-3	97.72	17.0	-	5.05	-	92.67
MW-4	99.97	16.0	-	-	-	-
MW-5	99.05	13.5	-	-	-	-
MW-6	98.28	9.5	-	-	-	-
MW-7	99.25	10.0	-	3.85	-	95.40
MW-101	99.65	20.0	-	2.18	-	97.47
HA-1	94.75	5.7	-	0.50	-	94.25
EGS Supply Well	102.51	475.0	-	46.8	-	55.71
EGS Sump 1	95.17	-	-	0.30	-	94.87
EGS Sump 2	95.20	-	-	-	-	-

NOTES:

TOC - Reference elevation is elevation of top of PVC well casing relative to an arbitrary datum on-site

All data measured in feet.

Dark Grey - Inaccessible

Light Grey - Dry

Project: Eden General Store
 Location: Eden, Vermont
 LAG Project # 00172

Table 2
 VTDEC Site # 95-1883

Historical Groundwater Elevations

Data Point	TOC	11-21-03	11-23-04	5-3-05	10-17-05	11-27-06	12-4-07	11-13-08	11-24-09	11-22-11	12-5-13	12-22-15
MW-1	99.00	96.11	92.86	94.69	93.66	94.14	93.25	92.59	92.92	91.09	90.98	92.95
MW-2	99.27	95.76	94.25	92.67	91.67	94.28	94.27	93.7		92.25	92.24	92.97
MW-3	99.72	95.56	93.47	94.30	93.07	95.02	94.92	93.84	94.49	92.64	91.72	92.67
MW-4	99.97	98.20	93.37			94.36						
MW-5	99.05	96.87	94.15									
MW-6	98.28	97.33	94.24			95.76	96.58	96.33				
MW-7	99.25	98.55	94.57		99.25	95.34	95.75	95.4	95.98	93.22	94.13	95.40
MW-101	99.65						95.65	94.9	94.92	92.82	94.88	94.25
HA-1	94.75		93.75		Flooded 94.75	Flooded 94.75	Flooded 94.75	93.65	94.35	94.45	93.57	97.47
EGS Supply Well	102.51											55.71
EGS Sump 1	95.17	94.92			94.87	94.57	94.67			94.77	94.32	94.87
EGS Sump 2	95.2						94.75	95.0	95.1			

NOTES:

TOC - Reference elevation is elevation of top of PVC well casing compared to an arbitrary datum at the Site

All data measured in feet.

Dark Grey - Inaccessible

Light Grey - Dry

Project: Eden General Store
 Location: Eden, Vermont
 LAG Project # 00172

Table 3
 VTDEC Site # 95-1883

Historical Photoionization Detector Readings (PID - ppm)

Data Point	11/23/04	05/03/05	10/17/05	11/27/06	12/04/07	11/13/08	11/24/09	11/22/11	12/05/13	12/22/15
MW-1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	39.9	0.0
MW-2	300	244	179	5.7	169	104.5		731	1050	1159
MW-3	132	3.6	95	0.4	318	187.6	923.0	0.0	434	505
MW-4	0.0			0.0						
MW-5	0.0									
MW-6	0.0			0.0	0.0	0.0				
MW-7	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MW-101					0.0	0.0	0.0	0.0	0.0	0.0
HA-1	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EGS Supply Well					0.0	0.0	0.0	0.0	0.0	0.0
EGS Sump 1	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EGS Sump 2					0.0	0.0	0.0	0.0	0.0	
Basement	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	

NOTES:

BG - Background

SL - Saturated Lamp

NM - Not Measured

Dark Grey = Inaccessible

Historical Groundwater Quality Results (ppb)

Data Point	Compound	*VGES	05/18/07	12/04/07	05/16/08	06/09/08	11/13/08	05/26/09	11/24/09	11/22/11	12/05/13
MW-1	Benzene	5		2.8			<1		<1	<1	<1
	Toluene	1,000		<1			<1		<1	<1	<1
	Ethylbenzene	700		<1			<1		<1	<1	<1
	Xylenes	10,000		<2			<3		<3	<3	<3
	Total BTEX			2.8			ND/BQL		ND/BQL	ND/BQL	ND/BQL
	1,3,5 TMB	350		<1			<2		<2	<2	<2
	1,2,4 TMB			<1			<2		<2	<2	<2
	Naphthalene	20		<2			<5		<5	<5	<5
	MTBE	40		18.7			<5		<5	21	<5
	Total Targeted VOCs			21.5			ND/BQL		ND/BQL	21	ND/BQL
MW-2	Benzene	5		29.2		2,020	3,400			1,300	3,100
	Toluene	1,000		63.5		6,730	9,500			4,400	360
	Ethylbenzene	700		18.6		601	1,100			2,700	3,400
	Xylenes	10,000		97		3,770	6,400			11,000	11,000
	Total BTEX			208		13,121	20,400			19,400	17,860
	1,3,5 TMB	350		5.8		140	<200			1,800	1,000
	1,2,4 TMB			17.7		462	220			1,400	3,300
	Naphthalene	20		<4		410	<500			<500	630
	MTBE	40		<4		<100	<500			<500	<500
	Total Targeted VOCs			231.8		14,133	20,620			22,600	22,790
MW-3	Benzene	5		1,560		1,070	1,400		1,300	2,000	650
	Toluene	1,000		265		262	480		140	96	72
	Ethylbenzene	700		1,470		1,230	1,300		1,400	450	980
	Xylenes	10,000		9,930		8,710	8,200		8,700	1,600	5,900
	Total BTEX			13,225		11,272	11,380		11,540	4,146	7,602
	1,3,5 TMB	350		1,300		1,010	65		77	860	1,400
	1,2,4 TMB			4,210		3,460	970		3,800	750	4,100
	Naphthalene	20		623		1,100	900		2,100	550	570
	MTBE	40		165		568	760		150	1,600	120
	Total Targeted VOCs			19,523		17,410	14,075		17,667	7,906	13,792
MW-7	Benzene	5		<1			<1		<1	<1	<1
	Toluene	1,000		<1			<1		<1	<1	<1
	Ethylbenzene	700		<1			<1		<1	<1	<1
	Xylenes	10,000		<3			<3		<3	<3	<3
	Total BTEX			ND/BQL			ND/BQL		ND/BQL	ND/BQL	ND/BQL
	1,3,5 TMB	350		<2			<2		<2	<2	<2
	1,2,4 TMB			<2			<2		<2	<2	<2
	Naphthalene	20		<5			<5		<5	<5	<5
	MTBE	40		<5			<5		<5	<5	<5
	Total Targeted VOCs			ND/BQL			ND/BQL		ND/BQL	ND/BQL	ND/BQL
HA-1	Benzene	5		<1			<1		<1	<1	<1
	Toluene	1,000		<1			<1		<1	<1	<1
	Ethylbenzene	700		<1			<1		<1	<1	<1
	Xylenes	10,000		<3			<3		<3	<3	<3
	Total BTEX			ND/BQL			ND/BQL		ND/BQL	ND/BQL	ND/BQL
	1,3,5 TMB	350		<2			<2		<2	<2	<2
	1,2,4 TMB			<2			<2		<2	<2	<2
	Naphthalene	20		<5			<5		<5	<5	<5
	MTBE	40		<5			<5		<5	<5	<5
	Total Targeted VOCs			ND/BQL			ND/BQL		ND/BQL	ND/BQL	ND/BQL
MW-101 (Verterre)	Benzene	5		<1			<1		<1	<1	<1
	Toluene	1,000		<1			<1		<1	<1	<1
	Ethylbenzene	700		<1			<1		<1	<1	<1
	Xylenes	10,000		<3			<3		<3	<3	<3
	Total BTEX			ND/BQL			ND/BQL		ND/BQL	ND/BQL	ND/BQL
	1,3,5 TMB	350		<2			<2		<2	<2	<2
	1,2,4 TMB			<2			<2		<2	<2	<2
	Naphthalene	20		<5			<5		<5	<5	<5
	MTBE	40		<5			<5		<5	<5	<5
	Total Targeted VOCs			ND/BQL			ND/BQL		ND/BQL	ND/BQL	ND/BQL
Basement Sump 1	Benzene	5		<1						<1	<1
	Toluene	1,000		<1						<1	<1
	Ethylbenzene	700		<1						<1	<1
	Xylenes	10,000		<3						<3	<3
	Total BTEX			ND/BQL						ND/BQL	ND/BQL
	1,3,5 TMB	350		<2						<2	<2
	1,2,4 TMB			<2						<2	<2
	Naphthalene	20		<5						<5	<5
	MTBE	40		<5						<5	<5
	Total Targeted VOCs			ND/BQL						ND/BQL	ND/BQL

NOTES:
 ND - (Non-Detect)
 Light Grey Cell - constituent exceeds Vermont Groundwater Enforcement Standards (VGES)
 Dark Grey - Well Inaccessible
 BQL/ND - Below Quantitation Limit/Non-Detect

Historical Groundwater Quality Results (ppb)

Data Point	Compound	*VGES	05/18/07	12/04/07	05/16/08	06/09/08	11/13/08	05/26/09	11/24/09	11/22/11	12/05/13
Basement Sump 2	Benzene	5		<1			<1		<1		
	Toluene	1,000		<1			<1		<1		
	Ethylbenzene	700		<1			<1		<1		
	Xylenes	10,000		<3			<3		<3		
	Total BTEX			ND/BQL			ND/BQL		ND/BQL		
	1,3,5 TMB	350		<2			<2		<2		
	1,2,4 TMB			<2			<2		<2		
	Naphthalene	20		<5			<5		<5		
	MTBE	40		<5			<5		<5		
	Total Targeted VOCs			ND/BQL			ND/BQL		ND/BQL		
Eden General Store Tap	Benzene	5	<1	<1	<1		<1	<1	<1	<1	<1
	Toluene	1,000	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Ethylbenzene	700	<1	<1	<1		<1	<1	<1	<1	<1
	Xylenes	10,000	<3	<3	<3		<3	<3	<3	<3	<3
	Total BTEX		ND/BQL	ND/BQL	ND/BQL		ND/BQL	ND/BQL	ND/BQL	ND/BQL	ND/BQL
	1,3,5 TMB	350	<2	<2	<2		<2	<2	<2	<2	<2
	1,2,4 TMB		<2	<2	<2		<2	<2	<2	<2	<2
	Naphthalene	20	<5	<5	<5		<5	<5	<5	<5	<5
	MTBE	40	<5	<5	<5		<5	<5	<5	<5	<5
	Total Targeted VOCs		ND/BQL	ND/BQL	ND/BQL		ND/BQL	ND/BQL	ND/BQL	ND/BQL	ND/BQL

NOTES:
 ND - (Non-Detect)
 Light Grey Cell - constituent exceeds Vermont Groundwater Enforcement Standards (VGES)
 Dark Grey - Well Inaccessible
 BQL/ND - Below Quantitation Limit/Non-Detect

Historical Groundwater Quality Results (ppb)

Data Point	Compound	*VGES	12/22/15
MW-1	Benzene	5	<1
	Toluene	1,000	<1
	Ethylbenzene	700	<1
	Xylenes	10,000	<3
	Total BTEX		ND/BQL
	1,3,5 TMB		<2
	1,2,4 TMB	350	<2
	Naphthalene	20	<5
	MTBE	40	6.9
	Total Targeted VOCs		6.9
MW-2	Benzene	5	1,700
	Toluene	1,000	1,800
	Ethylbenzene	700	1,900
	Xylenes	10,000	11,000
	Total BTEX		16,400
	1,3,5 TMB		1,200
	1,2,4 TMB	350	3,000
	Naphthalene	20	740
	MTBE	40	<500
	Total Targeted VOCs		21,340
MW-3	Benzene	5	2,700
	Toluene	1,000	140
	Ethylbenzene	700	460
	Xylenes	10,000	770
	Total BTEX		4,070
	1,3,5 TMB		540
	1,2,4 TMB	350	950
	Naphthalene	20	550
	MTBE	40	2,300
	Total Targeted VOCs		8,410
MW-7	Benzene	5	<1
	Toluene	1,000	<1
	Ethylbenzene	700	<1
	Xylenes	10,000	<3
	Total BTEX		ND/BQL
	1,3,5 TMB		<2
	1,2,4 TMB	350	<2
	Naphthalene	20	<5
	MTBE	40	<5
	Total Targeted VOCs		ND/BQL
HA-1	Benzene	5	<1
	Toluene	1,000	<1
	Ethylbenzene	700	<1
	Xylenes	10,000	<3
	Total BTEX		ND/BQL
	1,3,5 TMB		<2
	1,2,4 TMB	350	<2
	Naphthalene	20	<5
	MTBE	40	<5
	Total Targeted VOCs		ND/BQL
MW-101 (Verterre)	Benzene	5	<1
	Toluene	1,000	<1
	Ethylbenzene	700	<1
	Xylenes	10,000	<3
	Total BTEX		ND/BQL
	1,3,5 TMB		<2
	1,2,4 TMB	350	<2
	Naphthalene	20	<5
	MTBE	40	<5
	Total Targeted VOCs		ND/BQL
Basement Sump 1	Benzene	5	<1
	Toluene	1,000	<1
	Ethylbenzene	700	<1
	Xylenes	10,000	<3
	Total BTEX		ND/BQL
	1,3,5 TMB		<2
	1,2,4 TMB	350	<2
	Naphthalene	20	<5
	MTBE	40	<5
	Total Targeted VOCs		ND/BQL

NOTES:
 ND - (Non-Detect)
 Light Grey Cell - constituent exceeds Vermont Groundwater Enforcement Standards (VGES)
 Dark Grey - Well Inaccessible
 BQL/ND - Below Quantitation Limit/Non-Detect

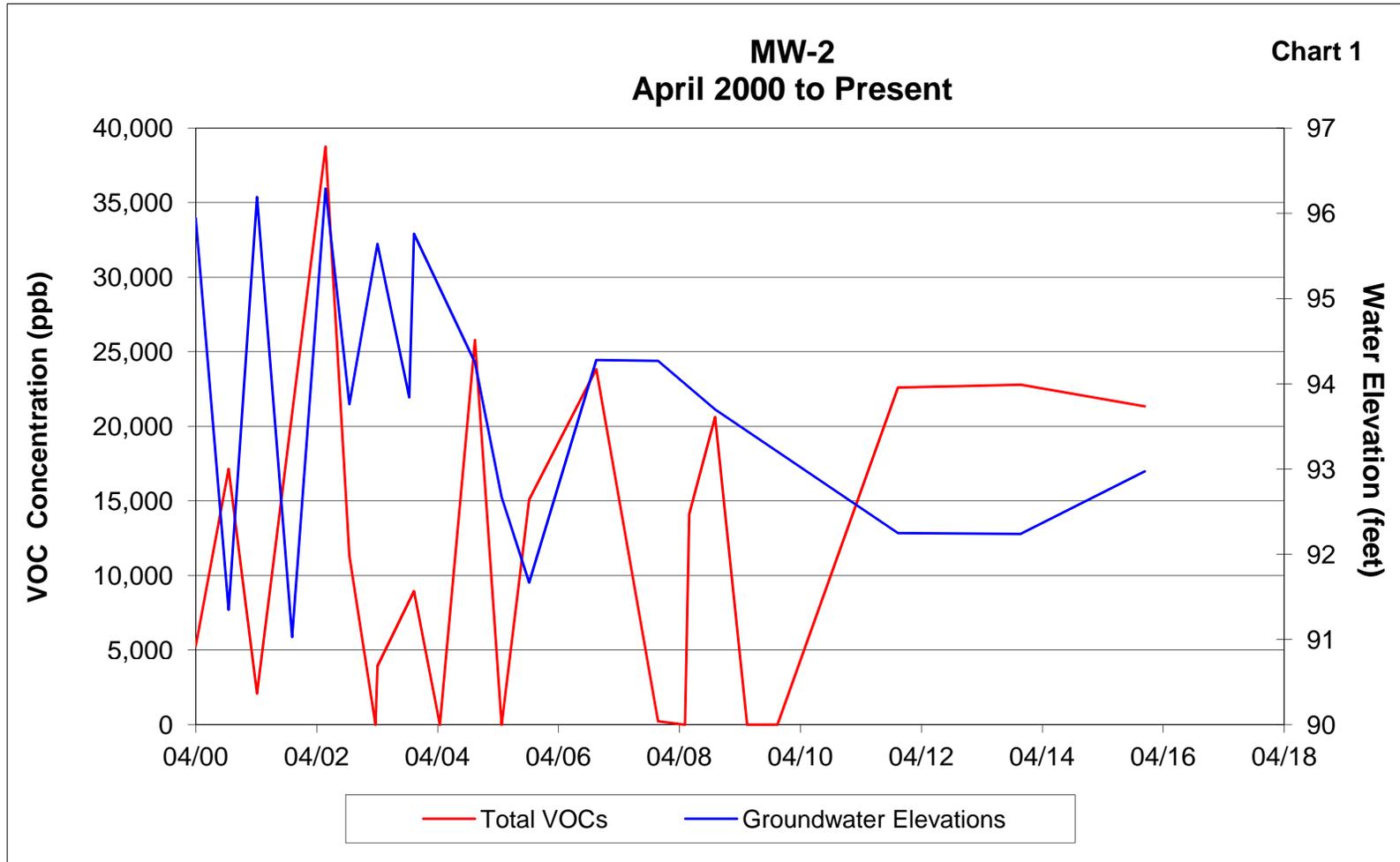
Historical Groundwater Quality Results (ppb)

Data Point	Compound	*VGES	12/22/15
Basement Sump 2	Benzene	5	
	Toluene	1,000	
	Ethylbenzene	700	
	Xylenes	10,000	
	Total BTEX		
	1,3,5 TMB	350	
	1,2,4 TMB		
	Naphthalene	20	
	MTBE	40	
	Total Targeted VOCs		
Eden General Store Tap	Benzene	5	<1
	Toluene	1,000	<1
	Ethylbenzene	700	<1
	Xylenes	10,000	<3
	Total BTEX		ND/BQL
	1,3,5 TMB	350	<2
	1,2,4 TMB		<2
	Naphthalene	20	<5
	MTBE	40	<5
	Total Targeted VOCs		ND/BQL

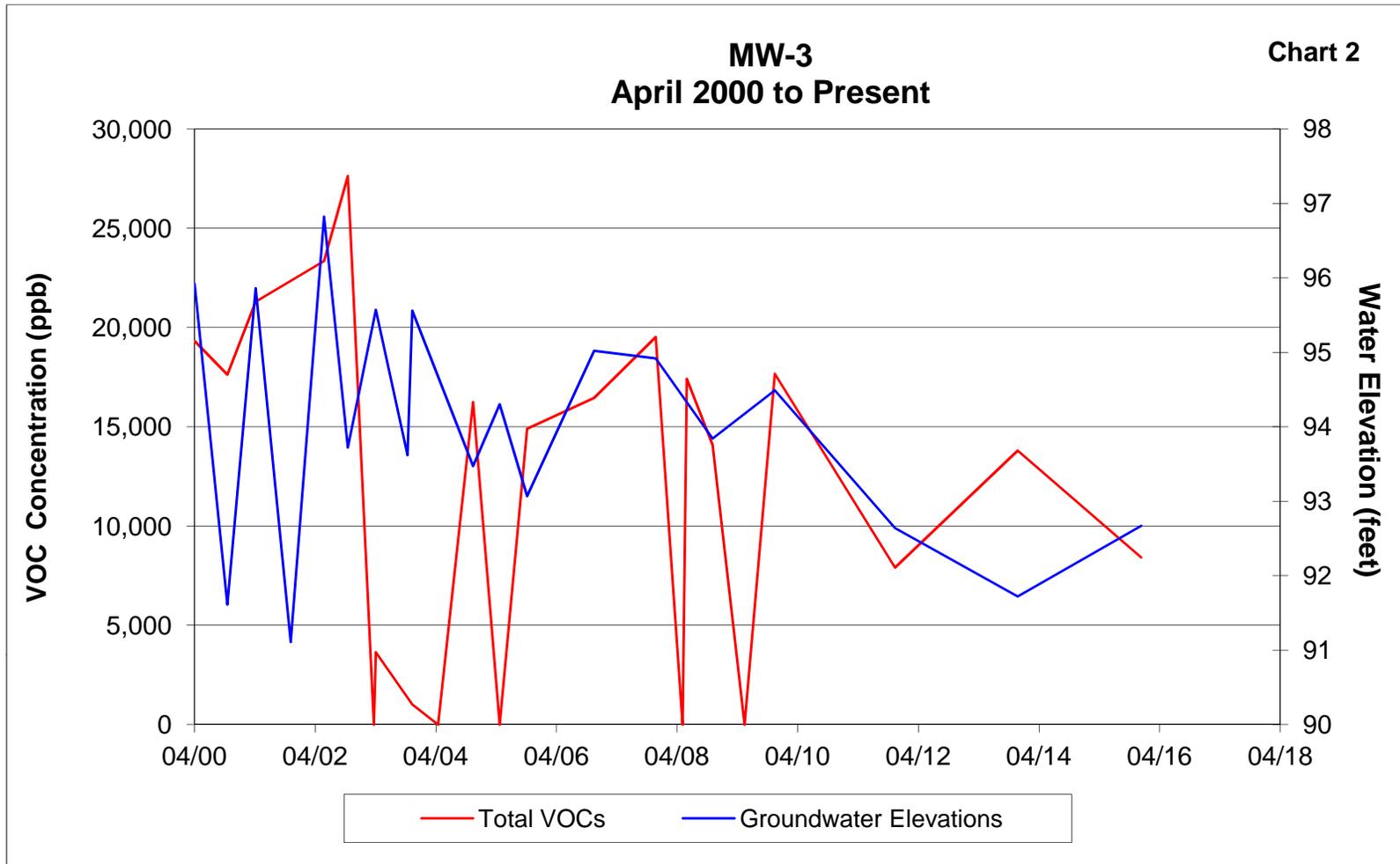
NOTES:
 ND - (Non-Detect)
 Light Grey Cell - constituent exceeds Vermont Groundwater Enforcement Standards (VGES)
 Dark Grey - Well Inaccessible
 BQL/ND - Below Quantitation Limit/Non-Detect

Charts

Groundwater Elevations vs. Totals VOCs



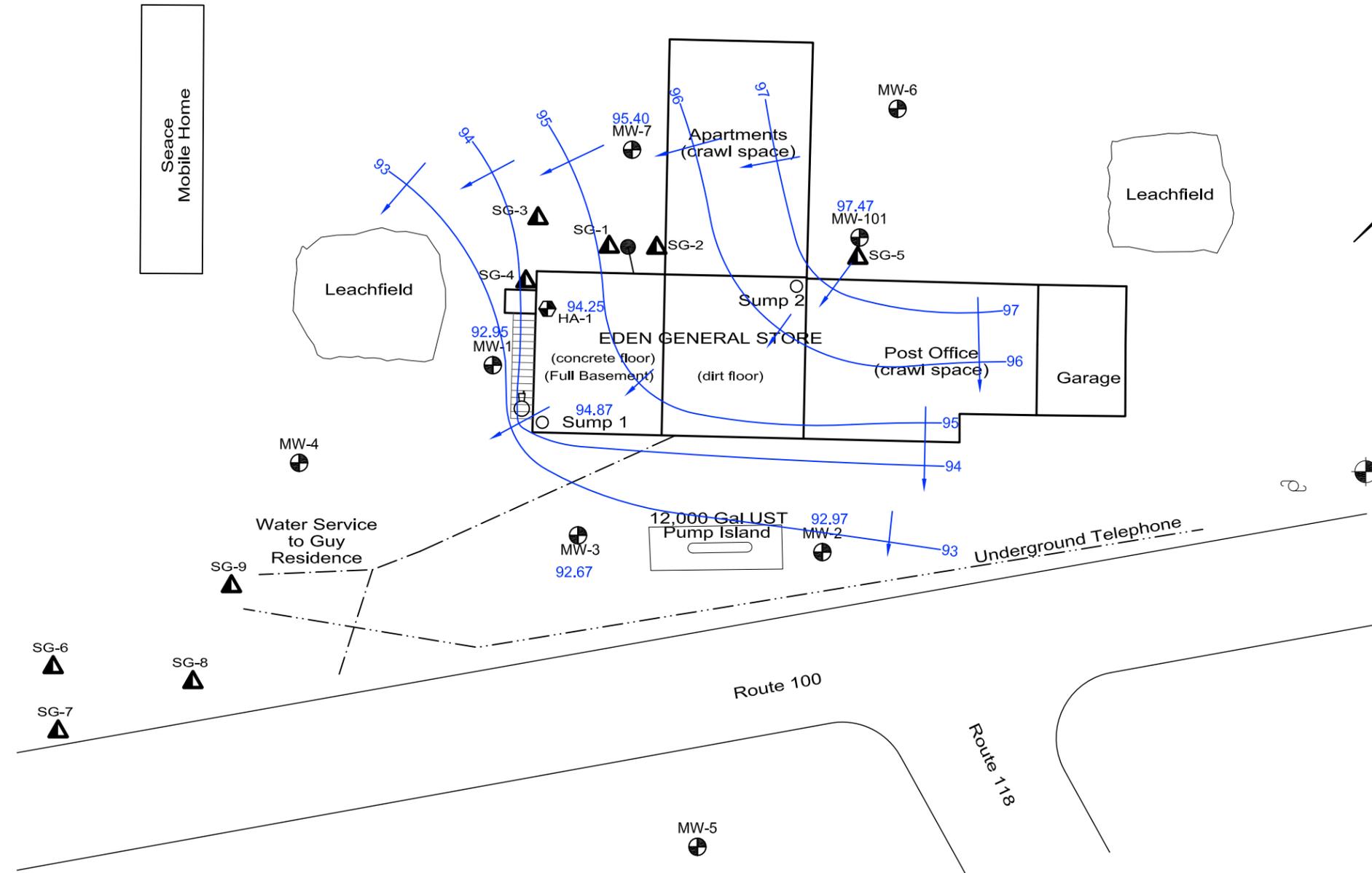
Groundwater Elevations vs. Totals VOCs

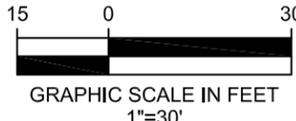


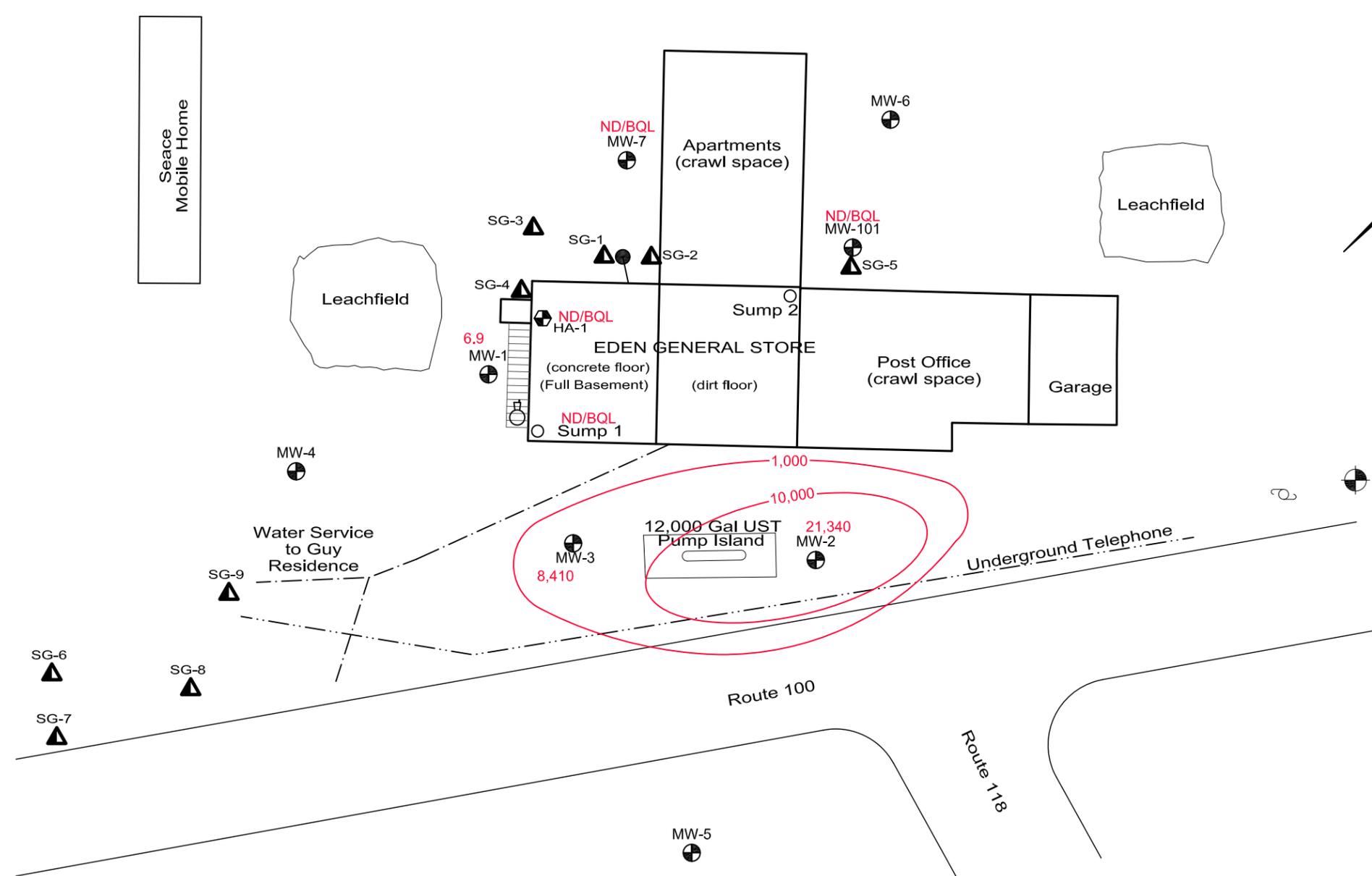
Figures

LEGEND

-  2" PVC Monitor Well
-  2" PVC Hand Augered Monitoring Well
-  Supply Well
-  Groundwater Contour Line
-  Groundwater Flow Line
-  Groundwater Elevation
-  Bench Mark



 <p>GRAPHIC SCALE IN FEET 1"=30'</p>	 <p>LINCOLN APPLIED GEOLOGY, INC. Environmental Consultants</p>
<p>Eden General Store 2918 VT Route 100 Eden, Vermont</p>	<p>LAG PROJECT # 00172</p> <p>DATE Feb. 2016</p> <p>PROJECT MANAGER DN</p> <p>DRAWN BY TAM</p> <p>FIGURE 1</p>
<p>Groundwater Contour Map for December 22, 2015</p>	
<p>VTDEC SMS SITE NUMBER 95-1883</p>	



LEGEND	
	2" PVC Monitor Well
	Supply Well
	2" PVC Hand Augered Monitoring Well
21,340	Total VOC Concentration (ppb)
	Bench Mark
ND/BQL	Non Detect/ Below Quantifiable Limits
10,000	VOC Isoconcentration Contour

<p>GRAPHIC SCALE IN FEET 1"=30'</p>	<p>LINCOLN APPLIED GEOLOGY, INC. Environmental Consultants</p>
<p>Total Targeted VOC Map for December 22, 2015</p>	
<p>VTDEC SMS SITE NUMBER 95-1883</p>	

Appendix A

Laboratory Analytical Reports

December 22, 2015

GREEN MOUNTAIN LABORATORIES, INC.

2 Moonlight Terrace
Montpelier, VT 05602
Phone (802) 262-2004

LABORATORY RESULTS

CLIENT NAME:	Lincoln Applied Geology	GML REFERENCE NO.:	150F
ADDRESS:	163 Revell Drive Lincoln, VT 05443	PROJECT NO.:	0 0192
SAMPLE LOCATION:	Eden General Store	DATE OF SAMPLE:	12/22/2015
SAMPLER:	Devon Neary	DATE OF RECEIPT:	12/22/2015
ATTENTION:	Devon Neary	DATE OF ANALYSIS:	12/30/2015
		DATE OF REPORT:	12/31/2015

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. The trip blank was prepared by the client with reagent water supplied by the laboratory.
- 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 resulting analytical precision and accuracy were determined to be within method QA/QC acceptance limits.
- 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

GREEN MOUNTAIN LABORATORIES, INC.

2 Moonlight Terrace
Montpelier, VT 05602
Phone (802) 262-2004

LABORATORY RESULTS

GC/MS METHOD - 8260M

GML REF. #	150F
SAMPLE ID:	TRIP BLANK
ANALYSIS DATE:	12/30/2015
SAMPLE TYPE:	WATER

<u>PARAMETER</u>	<u>PQL (µg/L)</u>	<u>RESULT (µg/L)</u>
Methl t-butyl Ether (MTBE)	5	ND
Benzene	1	ND
Toluene	1	ND
Ethylbenzene	1	ND
Xylenes	3	ND
1,3,5-trimethylbenzene	2	ND
1,2,4-Trimethylbenzene	2	ND
Naphthalene	5	ND

Surrogate % Recovery: 101%

ND = Not Detected

BPQL = Below Practical Quantitation Limit

GREEN MOUNTAIN LABORATORIES, INC.

2 Moonlight Terrace
Montpelier, VT 05602
Phone (802) 262-2004

LABORATORY RESULTS

GC/MS METHOD - 8260M

GML REF. # 150F
SAMPLE ID: HA-1
ANALYSIS DATE: 12/30/2015
SAMPLE TYPE: WATER

<u>PARAMETER</u>	<u>PQL (µg/L)</u>	<u>RESULT (µg/L)</u>
Methl t-butyl Ether (MTBE)	5	ND
Benzene	1	ND
Toluene	1	ND
Ethylbenzene	1	ND
Xylenes	3	ND
1,3,5-trimethylbenzene	2	ND
1,2,4-Trimethylbenzene	2	ND
Naphthalene	5	ND

Surrogate % Recovery: 101%

ND = Not Detected

BPQL = Below Practical Quantitation Limit

GREEN MOUNTAIN LABORATORIES, INC.

2 Moonlight Terrace
Montpelier, VT 05602
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LABORATORY RESULTS

GC/MS METHOD - 8260M

GML REF. # 150F
SAMPLE ID: EGS SUMP
ANALYSIS DATE: 12/30/2015
SAMPLE TYPE: WATER

<u>PARAMETER</u>	<u>PQL (µg/L)</u>	<u>RESULT (µg/L)</u>
Methyl t-butyl Ether (MTBE)	5	ND
Benzene	1	ND
Toluene	1	ND
Ethylbenzene	1	ND
Xylenes	3	ND
1,3,5-trimethylbenzene	2	ND
1,2,4-Trimethylbenzene	2	ND
Naphthalene	5	ND

Surrogate % Recovery: 101%

ND = Not Detected

BPQL = Below Practical Quantitation Limit

GREEN MOUNTAIN LABORATORIES, INC.

2 Moonlight Terrace
Montpelier, VT 05602
Phone (802) 262-2004

LABORATORY RESULTS

GC/MS METHOD - 8260M

GML REF. # 150F
SAMPLE ID: MW-101
ANALYSIS DATE: 12/30/2015
SAMPLE TYPE: WATER

<u>PARAMETER</u>	<u>PQL (µg/L)</u>	<u>RESULT (µg/L)</u>
Methyl t-butyl Ether (MTBE)	5	ND
Benzene	1	ND
Toluene	1	ND
Ethylbenzene	1	ND
Xylenes	3	ND
1,3,5-trimethylbenzene	2	ND
1,2,4-Trimethylbenzene	2	ND
Naphthalene	5	ND

Surrogate % Recovery: 98%

ND = Not Detected

BPQL = Below Practical Quantitation Limit

GREEN MOUNTAIN LABORATORIES, INC.

2 Moonlight Terrace
Montpelier, VT 05602
Phone (802) 262-2004

LABORATORY RESULTS

GC/MS METHOD - 8260M

GML REF. # 150F
SAMPLE ID: MW-7
ANALYSIS DATE: 12/30/2015
SAMPLE TYPE: WATER

<u>PARAMETER</u>	<u>PQL (µg/L)</u>	<u>RESULT (µg/L)</u>
Methyl t-butyl Ether (MTBE)	5	ND
Benzene	1	ND
Toluene	1	ND
Ethylbenzene	1	ND
Xylenes	3	ND
1,3,5-trimethylbenzene	2	ND
1,2,4-Trimethylbenzene	2	ND
Naphthalene	5	ND

Surrogate % Recovery: 98%

ND = Not Detected

BPQL = Below Practical Quantitation Limit

GREEN MOUNTAIN LABORATORIES, INC.

2 Moonlight Terrace
Montpelier, VT 05602
Phone (802) 262-2004

LABORATORY RESULTS

GC/MS METHOD - 8260M

GML REF. # 150F
SAMPLE ID: EGS WATER SUPPLY
ANALYSIS DATE: 12/30/2015
SAMPLE TYPE: WATER

<u>PARAMETER</u>	<u>PQL (µg/L)</u>	<u>RESULT (µg/L)</u>
Methyl t-butyl Ether (MTBE)	5	ND
Benzene	1	ND
Toluene	1	ND
Ethylbenzene	1	ND
Xylenes	3	ND
1,3,5-trimethylbenzene	2	ND
1,2,4-Trimethylbenzene	2	ND
Naphthalene	5	ND

Surrogate % Recovery: 98%

ND = Not Detected

BPQL = Below Practical Quantitation Limit

GREEN MOUNTAIN LABORATORIES, INC.

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Montpelier, VT 05602
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LABORATORY RESULTS

GC/MS METHOD - 8260M

GML REF. # 150F
SAMPLE ID: MW-1
ANALYSIS DATE: 12/30/2015
SAMPLE TYPE: WATER

<u>PARAMETER</u>	<u>PQL (µg/L)</u>	<u>RESULT (µg/L)</u>
Methi t-butyl Ether (MTBE)	5	6.9
Benzene	1	BPQL
Toluene	1	ND
Ethylbenzene	1	ND
Xylenes	3	ND
1,3,5-trimethylbenzene	2	ND
1,2,4-Trimethylbenzene	2	ND
Naphthalene	5	ND

Surrogate % Recovery: 98%

ND = Not Detected

BPQL = Below Practical Quantitation Limit

GREEN MOUNTAIN LABORATORIES, INC.

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Montpelier, VT 05602
Phone (802) 262-2004

LABORATORY RESULTS

GC/MS METHOD - 8260M

GML REF. # 150F
SAMPLE ID: MW-3
ANALYSIS DATE: 12/30/2015
SAMPLE TYPE: WATER

<u>PARAMETER</u>	<u>PQL (µg/L)</u>	<u>RESULT (µg/L)</u>
Methyl t-butyl Ether (MTBE)	125	2300
Benzene	25	2700
Toluene	25	140
Ethylbenzene	25	460
Xylenes	75	770
1,3,5-trimethylbenzene	50	540
1,2,4-Trimethylbenzene	50	950
Naphthalene	125	550

Surrogate % Recovery: 104%

ND = Not Detected

BPQL = Below Practical Quantitation Limit

GREEN MOUNTAIN LABORATORIES, INC.

2 Moonlight Terrace
Montpelier, VT 05602
Phone (802) 262-2004

LABORATORY RESULTS

GC/MS METHOD - 8260M

GML REF. # 150F
SAMPLE ID: MW-2
ANALYSIS DATE: 12/30/2015
SAMPLE TYPE: WATER

<u>PARAMETER</u>	<u>PQL (µg/L)</u>	<u>RESULT (µg/L)</u>
Methyl t-butyl Ether (MTBE)	500	ND
Benzene	100	1700
Toluene	100	1800
Ethylbenzene	100	1900
Xylenes	300	11000
1,3,5-trimethylbenzene	200	1200
1,2,4-Trimethylbenzene	200	3000
Naphthalene	500	740

Surrogate % Recovery: 100%

ND = Not Detected

BPQL = Below Practical Quantitation Limit

