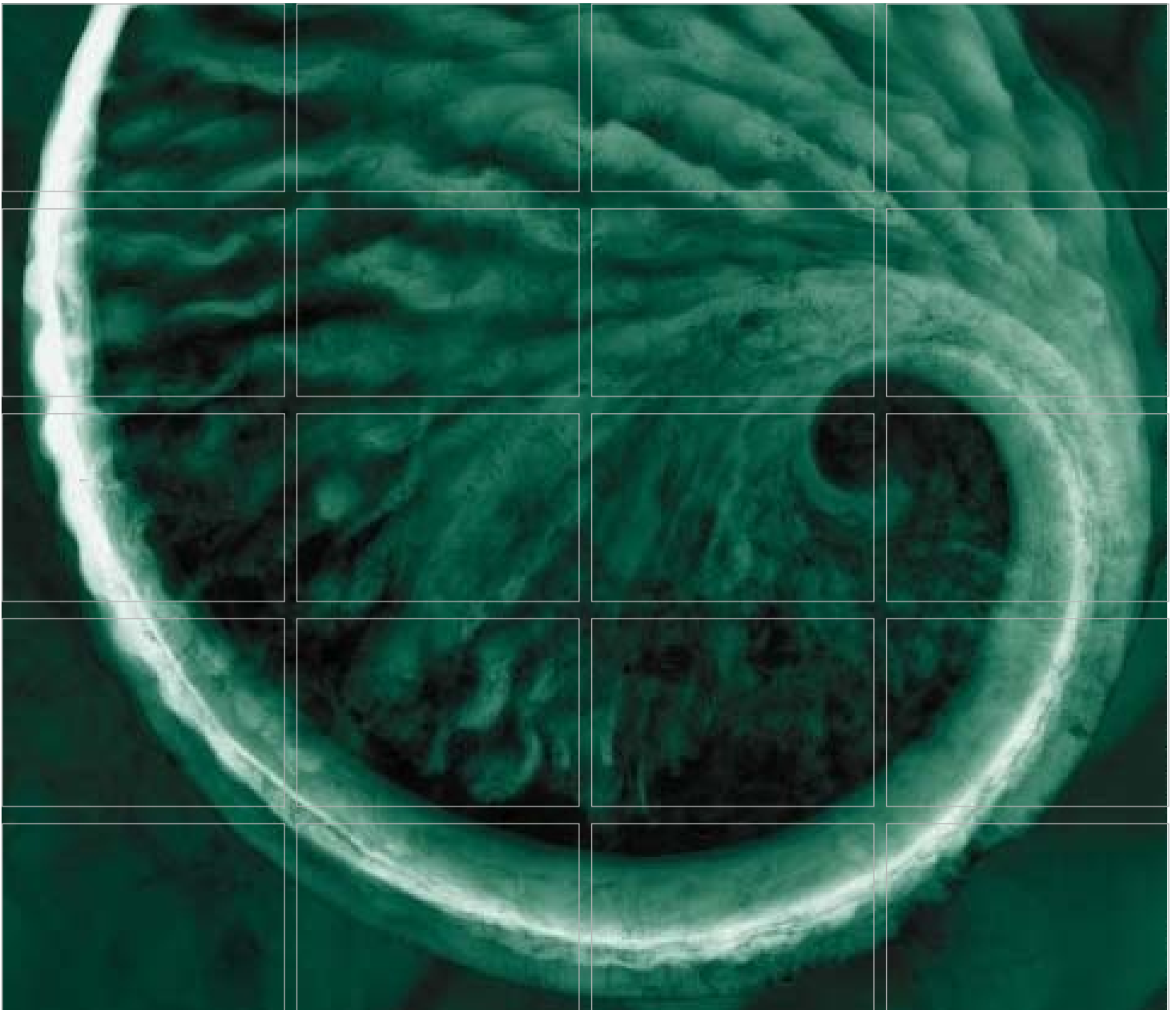




Interim Remedial Measure and Corrective Action Plan Operations, Maintenance, and Monitoring Report #2

**SMS #2006-3509
401 Gage Street
Bennington, Vermont**

**Prepared for:
Energizer Battery Manufacturing, Inc.
401 Gage Street
Bennington, Vermont 05201
(802) 442-6301**

**ERM Reference 0081293
8 August 2008**



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Environmental Resources Management

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TABLE OF CONTENTS

EXECUTIVE SUMMARY	1
1.0 INTRODUCTION	1
1.1 OVERVIEW	1
1.2 SITE BACKGROUND	1
1.3 PURPOSE AND SCOPE	2
1.4 REPORT ORGANIZATION	3
2.0 REMEDIATION SYSTEM OPERATION AND MAINTENANCE	4
2.1 SOIL VAPOR EXTRACTION	4
2.2 AIR SPARGING	5
2.3 GENERAL SYSTEM PARAMETERS	5
2.4 STEAM INJECTION	5
2.5 STEAM INJECTION - FUEL AND WATER USE	6
2.6 MONITORING WELL DECOMMISSIONING	7
3.0 OUTDOOR AMBIENT AIR MONITORING	8
4.0 SOIL GAS MONITORING	9
5.0 GROUNDWATER MONITORING	10
6.0 RESULTS AND RECOMMENDATIONS	11
6.1 REMEDIATION SYSTEM OPERATION	11
6.1.1 IRM & CAP AS/SVE Systems	11
6.1.2 CAP Steam Injection System	11
6.2 SVE AIR MONITORING	12

6.3	<i>SOIL GAS MONITORING</i>	13
6.4	<i>GROUNDWATER MONITORING</i>	13
6.5	<i>RECOMMENDATIONS</i>	13
	<i>REFERENCES</i>	15

LIST OF FIGURES

<i>Figure 1</i>	<i>Site Locus Map</i>
<i>Figure 2</i>	<i>Site Plan</i>
<i>Figure 3</i>	<i>IRM & CAP Well Locations</i>
<i>Figure 4</i>	<i>SVE System - VGAC Cumulative Mass Removal</i>
<i>Figure 5</i>	<i>Steam System - Cumulative Steam Use</i>
<i>Figure 6</i>	<i>TMP-53 - Temperature vs Time Graph</i>
<i>Figure 7</i>	<i>TMP-56 - Temperature vs Time Graph</i>
<i>Figure 8</i>	<i>TMP-57 - Temperature vs Time Graph</i>
<i>Figure 9</i>	<i>SVE System - Former Degreaser Room Cumulative Mass Removal</i>
<i>Figure 10</i>	<i>PCE and TCE Concentrations in Active Soil Gas Samples - June 2008</i>
<i>Figure 11</i>	<i>PCE & TCE in Groundwater Samples - June 2008</i>

LIST OF TABLES

<i>Table 1</i>	<i>SVE Wells – Vacuum Gauge Data</i>
<i>Table 2</i>	<i>SVE Wells – Differential Pressure and Flow Data</i>
<i>Table 3</i>	<i>SVE System - VGAC Cumulative Mass Removal Data</i>
<i>Table 4</i>	<i>Air Sparge Wells – Pressure Gauge Data</i>
<i>Table 5</i>	<i>Air Sparge Wells – Flow Data</i>
<i>Table 6</i>	<i>General System Parameters</i>
<i>Table 7</i>	<i>Steam Injection System – Fuel and Water Use</i>
<i>Table 8</i>	<i>SVE System – AOC-1 (Former Degreaser Room) Mass Removal</i>
<i>Table 9</i>	<i>Summary of Active Soil Gas Analytical Results</i>
<i>Table 10</i>	<i>Summary of Groundwater Analytical Results</i>

LIST OF APPENDICES

Appendix A Air Analytical Results (SVE & Soil Gas)

Appendix B Groundwater Analytical Results

EXECUTIVE SUMMARY

Environmental Resources Management (ERM) has prepared this Monitoring Report #2 for the Interim Remedial Measure (IRM) and Corrective Action Plan (CAP) remediation systems on behalf of Energizer Battery Manufacturing, Inc. (Energizer) for the Energizer facility at 401 Gage Street, Bennington, Vermont (the "Site"). The Vermont Department of Environmental Conservation (VTDEC), Sites Management Section has assigned the Site Number 2006-3509.

The IRM remediation system was designed and installed to contain tetrachloroethene (PCE) and trichloroethene (TCE) impacts to groundwater and soil gas along the northern Energizer facility property line. The CAP remediation system was designed and installed to abate PCE and TCE impacts to soil, groundwater, and soil gas in selected Areas of Concern (AOCs) at the Site. The remedial objective is to achieve applicable regulatory cleanup standards at the Energizer facility property line.

The IRM system consists of air sparging (AS) and soil vapor extraction (SVE) components. The CAP system consists of integrated steam injection, AS, and SVE components. The IRM system has been operating since September 2007 and the CAP system began operation in April 2008.

The purpose of this report is to document the operations, maintenance, and monitoring (OM&M) data collected for the IRM and CAP remediation systems during the period of April through June 2008.

1.0 INTRODUCTION

1.1 OVERVIEW

Environmental Resources Management (ERM) has prepared this Operations, Maintenance, and Monitoring (OM&M) Report #2 for the Interim Remedial Measure (IRM) and Corrective Action Plan (CAP) remediation systems on behalf of Energizer Holdings (Energizer) for the Energizer facility located at 401 Gage Street, Bennington, Vermont (the "Site"). The Vermont Department of Environmental Conservation (VTDEC), Sites Management Section has assigned the Site Number 2006-3509. This OM&M Report #2 documents relevant remediation and monitoring activities conducted from April through June 2008. A Site Locus Map is provided as [Figure 1](#).

1.2 SITE BACKGROUND

In February 2006, ERM conducted a limited soil and shallow groundwater investigation to determine if chlorinated solvents were present in the subsurface in the vicinity of an active vapor degreaser located in the northeast corner of Plant I ([Figure 2](#)). Operation of this degreaser was subsequently discontinued in 2007. The results of this initial investigation indicated that both tetrachloroethene (PCE) and trichloroethene (TCE) were present in soil and groundwater in the vicinity of the degreaser (ERM, 2006). Energizer verbally notified VTDEC of the findings of the initial investigation on 6 March 2006. Subsequently, written notification was provided to the VTDEC on 16 March 2006.

Site investigation activities focused on delineation of the extent of PCE and TCE impacts in soil, groundwater and soil gas. ERM has identified six potential Areas of Concern (AOCs), which correspond to areas of former solvent usage at the facility ([Figure 2](#)):

- AOC-1: Former degreaser area;
- AOC-2: Former machine shop;
- AOC-3: Current production area;
- AOC-4: Former loading dock area;
- AOC-5: Former drain line; and

- AOC-6: Former process area sump.

During 2006 and early 2007, ERM conducted a dynamic Triad site investigation in accordance with the VTDEC Site Investigation Procedure (VTDEC, 2005). In June 2007, ERM submitted a Site Investigation Report (SIR, ERM 2007a) to the VTDEC documenting the methods, results, and conclusions of the site investigation. The SIR concluded that remediation and/or management of Site soil, groundwater and soil gas was necessary.

The Corrective Action Feasibility Investigation (CAFI) was submitted to the VTDEC as part of the SIR. The CAFI documented a formal evaluation of potential Site remedial alternatives. Based on the results of the CAFI, ERM recommended implementation of the following remedial alternatives:

- A containment remedy consisting of focused shallow soil excavation and air sparge/soil vapor extraction (AS/SVE) along the northern Site boundary; and
- A source abatement remedy consisting of a combination of AS/SVE, steam-enhanced SVE, and possibly in-situ chemical oxidation (ISCO).

The containment remedy design is documented in the CAFI as an Interim Remedial Measure (IRM). The source area abatement remedy design is documented in the Corrective Action Plan Report (CAP, ERM 2007b). A Final Construction Report (ERM, 2008a) was submitted on 20 June 2008 to document the construction of the IRM and CAP remediation systems.

1.3 PURPOSE AND SCOPE

The purpose of this report is to document the operations, maintenance, and monitoring (OM&M) data collected for the IRM and CAP remediation systems from April through June 2008. The following activities were conducted during this reporting period:

- Continued operation of the IRM and CAP AS/SVE system;
- Submitted a Vapor Intrusion Investigation report to the DEC on 30 April 2008 (ERM, 2008b);
- Commenced full-scale CAP steam operation in April 2008;
- Conducted OM&M of the IRM and CAP remediation systems; and
- Completed monthly and quarterly soil gas and groundwater monitoring.

1.4

REPORT ORGANIZATION

The remainder of this report is divided into the following sections:

- Section 2.0 – Remediation System Operation and Maintenance
- Section 3.0 – Outdoor Ambient Air Sampling
- Section 4.0 – Soil Gas Monitoring
- Section 5.0 – Groundwater Monitoring
- Section 6.0 – Results and Recommendations

2.0

REMEDATION SYSTEM OPERATION AND MAINTENANCE

[Figure 3](#) shows the locations of the remediation wells.

2.1

SOIL VAPOR EXTRACTION

There are 18 SVE wells (SVE-1 through SVE-18) that are part of the IRM system. Start-up of these wells occurred in September 2007. There are an additional 12 SVE wells (SVE-19 through SVE-27; SVE-30 through SVE-32) associated with the CAP system, which became operational in January 2008.

Vacuum, flow and differential pressure readings from the SVE system collected during this reporting period are summarized in [Tables 1 and 2](#).

There are three 5,000-pound vapor-phase carbon vessels (VGAC-301, -302, and -303) on-site. Two vessels are operated in parallel at one time, with the third vessel on stand-by.

Monthly grab air samples were collected from the inlet, midpoint and outlet air streams of the carbon vessels using clean, laboratory-certified, stainless steel Summa-type canisters. The air samples were analyzed by Alpha Woods Hole Laboratories of Westborough, Massachusetts (Alpha) for chlorinated volatile organic compounds (CVOCs) by Method TO-15. These data are used to estimate the contaminant mass removed by the SVE system over time.

Laboratory analytical results of the off-gas treatment system samples for this reporting period are summarized in [Table 3](#). These results are compared to previous reporting period results to show the change in mass removal over time. Laboratory analytical reports for these air samples are attached as [Appendix A](#). A graph showing total CVOCs removed since start-up is provided as [Figure 4](#).

Vessels VGAC-301 and -302 were operational from the start-up and testing of the IRM system in September 2007 through 1 April 2008. Based on the data collected on 25 March 2008, it was determined that the carbon in VGAC-301 was spent and that vessel was taken out of service. On 2 April 2008, the vessels were reconfigured such that VGAC-302 and -303 were on-line. The carbon was replaced in VGAC-301 on 3 June 2008.

2.2 *AIR SPARGING*

There are 45 AS wells (AS-1 through AS-45) associated with the IRM system. Start-up of these wells occurred in September 2007. There are an additional 12 active AS wells (AS-53 through AS-57; AS-59 through AS-64; AS-66) associated with the CAP system, which became operational in January 2008. There are also five inactive AS wells in AOC-2 (AS-69 through AS-71, AS-74; AS-75), which can become operational, if needed.

Pressure and flow readings from the AS system during this reporting period are summarized in [Tables 4 and 5](#), respectively.

On 18 April 2008, AS-54 was taken out of service. A preferential pathway was formed between AS-54 and SIW-13 causing steam to enter the air sparge piping. The point was turned off and isolated at the well head and no further issues have been reported. On 12 June 2008, AS-5 was inadvertently decommissioned during monitoring well decommissioning activities. Monitoring well decommissioning activities are detailed in [Section 2.6](#).

2.3 *GENERAL SYSTEM PARAMETERS*

Additional system measurements are collected to monitor the operation of the AS/SVE remediation equipment. The measurements include:

- temperature of the AS and SVE blower effluent;
- temperature and pressure of the non-contact cooling water and effluent air at the air-to-water heat exchangers; and
- total combined flow of the SVE system.

A summary of these measurements for this reporting period is provided in [Table 6](#).

2.4 *STEAM INJECTION*

There are 14 steam injection wells (SIW-8 through SIW-21) associated with the CAP system to accelerate contaminant mass removal. A calibration test of the steam injection system was conducted between 10 and 14 March 2008, which was summarized in the OM&M Report #1 (ERM, 2008c). Full-scale steam operation commenced on 17 April 2008.

Full-scale steam injection was initiated with the operation of four steam wells, SIW-10, SIW-11, SIW-12 and SIW-13. These steam injection wells are located in AOC-1, in the Former Degreaser Room (Figure 3).

SIW-12 was taken out of service on 25 April 2008 as a result of short circuiting between the steam injection well and the subsurface formation. The short circuiting caused increased shallow subsurface temperatures as well as high temperatures on the concrete floor. SIW-10, SIW-11 and SIW-13 remained operational, and on 19 June 2008, steam injection commenced at SIW-9.

Total steam injection mass per well per day was recorded using steam flow totalizers. The cumulative steam injection per well is summarized in [Figure 5](#).

To determine the subsurface temperatures during steam injection, temperature sensors were installed at various depths in 12 locations (TMP-1, TMP-2, TMP-11 through TMP-13, TMP-46, TMP-53, TMP-56, TMP-57, TMP-59, TMP-61, and TMP-64). On 12 June 2008, a temperature string, TMP-3, was installed in former monitoring well ERM-3M.

The relevant temperature readings for this reporting period are summarized as temperature versus time graphs in [Figures 6](#) through [8](#). Temperature graphs are shown only for temperature points near the current steam injection wells, SIW-10, SIW-11 and SIW-13. These temperature points are TMP-53, TMP-56 and TMP-57.

Soil gas samples were collected from four SVE wells (SVE-24 through 27) located within AOC 1 on a monthly basis to estimate the localized mass of contaminants removed. The air samples were analyzed by Alpha for CVOCs by Method TO-15. Laboratory analytical results for this reporting period are summarized in [Table 8](#). Laboratory analytical reports for these air samples are attached as [Appendix A](#).

Results of the steam injection temperatures and the VOC mass removed through the SVE system are discussed in [Section 6.0](#).

2.5

STEAM INJECTION - FUEL AND WATER USE

As stated in the OM&M Report #1 (ERM, 2008c), the calibration test indicated that fuel and water use during full-scale steam remediation would be less than previously predicted. [Table 7](#) reports the fuel and water used to generate steam injected into the steam injection wells

between the start of full-scale steam injection on 17 April 2008 and 30 June 2008. Data used to complete these calculations was taken from the steam totalizer readings collected daily from each operating steam injection well.

Water use is calculated using the assumption that 1 pound of steam is approximately equivalent to 1 pound of water. Fuel usage is estimated using the following fuel assumptions:

- Latent heat of vaporization = 905.25 BTU/lb
- Heat value of No. 4 fuel oil = 145,000 BTU/gal
- Boiler efficiency = 85%
- Boiler water enthalpy (60 psig) = 276.79 BTU/lb
- Makeup water enthalpy (60°F) = 28.08 BTU/lb

Using the above assumptions an energy balance equation was used to calculate the amount of energy needed to convert water into saturated steam (latent heat of vaporization) and the gallons of fuel required for that amount of energy.

2.6 *MONITORING WELL DECOMMISSIONING*

On 12 June 2008, ERM decommissioned three monitoring wells, ERM -3S, ERM-3M and ERM-1 located in the alley, north of the Former Degreaser Room. These wells were decommissioned to minimize the potential for short circuiting of steam during operation of steam injection wells SIW-14, SIW-15 and SIW-16 located in this area.

ERM subcontracted decommissioning activities to Geosearch Environmental Contractors located in Fitchburg, MA. Grout was injected into each location at high pressure using a tremi tube. The Portland cement grout consisted of 35-40% silica flour by weight to resist the potential high temperatures generated by the steam injection.

During decommissioning of ERM-3M, a string of temperature sensors was installed to monitor temperatures at various depths. This temperature monitoring point is labeled TMP-3.

3.0

OUTDOOR AMBIENT AIR MONITORING

No indoor air or outdoor ambient air sampling activities was conducted during this reporting period.

ERM has conducted active soil gas sampling since July 2006 to delineate the extent of CVOC impacts to soil gas on- and off-site. [Figure 10](#) shows the locations of the 33 active soil gas locations (ASG-1 through ASG-33). Quarterly active soil gas samples were collected from locations ASG-14, -32, and -33 on 17 June 2008.

Prior to collection of the soil gas samples, the soil gas probes and tubing were purged of a minimum of three tubing volumes at a rate not exceeding 0.2 liters per minute. Helium was used as a tracer gas to determine whether ambient air was being drawn into the sampling zone. Samples were collected using clean, laboratory-certified, 6-liter, Summa-type canisters with two-hour calibrated regulators connected to the dedicated polyethylene tubing with a “swagelok®-type” fitting.

Soil gas samples were submitted to Alpha for analysis of CVOCs using EPA Method TO-15. Results were reported for site-specific target analytes. [Table 9](#) presents a summary of active soil gas sample results collected since startup and [Figure 10](#) shows the results from this reporting period. Laboratory analytical reports are attached as [Appendix A](#). Results of the soil gas sampling are discussed in [Section 6.0](#).

Quarterly groundwater monitoring commenced in March 2008. The SIR (ERM, 2007a) showed groundwater elevations at the site. Quarterly groundwater samples were collected from monitoring wells ERM-12, ERM-13, ERM-14, ERM-16, ERM-17, ERM-18, ERM-19 and ERM-20 on 16 and 17 June 2008. Samples were collected using low-flow sampling techniques and submitted to Alpha for analysis of CVOCs by EPA Method 8260.

Groundwater monitoring analytical results are summarized in [Table 10](#). [Figure 11](#) shows PCE and TCE concentrations, at these monitoring wells for June 2008. Laboratory reports for groundwater analytical results are provided in [Appendix B](#). Results of the groundwater sampling are discussed in [Section 6.0](#).

6.0 RESULTS AND RECOMMENDATIONS

6.1 REMEDIATION SYSTEM OPERATION

6.1.1 IRM & CAP AS/SVE Systems

Based on the OM&M data collected during this reporting period, the following conclusions can be made regarding the operation of the remediation systems:

- Based on SVE system vacuum data, the SVE system is adequately capturing vapors within the vadose zone including vapor generated by the steam injection system.
- The vapor-phase activated carbon is effective in treating the SVE off-gas.
- The remediation equipment (i.e., blowers, moisture separators, heat exchangers) is operating as designed and has adequate capacity for operating the AS and SVE wells.
- The remediation water treatment system is operating as designed and has adequate capacity for treating water entering the system through the SVE moisture separators.

6.1.2 CAP Steam Injection System

Full-scale steam injection commenced on 17 April 2008. The following conclusions can be made regarding the operation of the steam system:

- The average steam injection rate ranges between 250 and 700 lb/hr.
- Short circuiting around the SIW-12 injection well prevents operation of that well. A consistent back pressure, however, is observed at SIW-12 indicating that the steam bubble has extended laterally to that area. Operation of SIW-10, SIW-11 and SIW-13 is sufficient to cover the former degreaser area and SIW-12 is not needed to maintain subsurface steam temperatures.
- Subsurface temperatures within the silt layer (~21 ft) have been above the boiling point of PCE since 30 April 2008 at TMP-53 and

since 5 May 2008 at TMP-56. Temperatures at the 24-ft depth have been consistently increasing, indicating ongoing conductive heating within the silt layer.

- Silt layer temperatures near TMP-57 have not reached the PCE boiling point but have been increasing since start-up.
- Fuel and water use increased between May 2008 and June 2008 (first two complete months of steam injection). The total monthly fuel and water usage rates are less than originally estimated and the system is running efficiently.
- Groundwater extraction wells EW-3, EW-4, and EW-5 are no longer in operation. The horizontal extent of the steam has reached the extraction well locations and displaced the groundwater. The wells no longer pump water and have thus been shut down and isolated from the system at the well head.

6.2 *SVE AIR MONITORING*

The following conclusions can be made relative to the vapor-phase activated carbon and the SVE well-head sampling completed during this reporting period:

- PCE and TCE concentrations in soil gas measured in the SVE wells located within the steam injection area (Table 9) increased by one to three orders of magnitude since steam start-up of the CAP steam injection system.
- An increase in PCE and TCE mass removal rates in the SVE wells located within the steam injection area (Figure 9) is noted following start-up of the CAP steam injection system.
- The VGAC air sampling results show an increase in influent PCE and TCE concentrations since start up of the CAP steam injection system (Table 3).
- An increase in PCE and TCE mass removal rates in the VGAC influent (Figure 4) coincides with start-up of the CAP steam injection system, indicating that the system is effective in enhancing source zone mass removal.

6.3 *SOIL GAS MONITORING*

The following conclusions can be made relative to the active soil gas sampling completed during this reporting period:

- PCE and TCE concentrations at ASG-14, ASG-32 and ASG-33 in June 2008 are lower than concentrations measured prior to start-up of the IRM system but concentrations have increased since the last quarterly sampling event.
- ASG-14, ASG-32 and ASG-33 have now been sampled for one year and PCE and TCE concentrations over time suggest that there may be seasonal variability in the soil gas concentrations. Additional sampling data will be needed to further assess the potential for seasonal trends in soil gas concentrations.

6.4 *GROUNDWATER MONITORING*

The following conclusions can be made relative to the groundwater sampling completed during this reporting period:

- ERM-12, ERM-13, ERM-17, ERM-19 and ERM-20 have now been sampled for approximately one year and PCE and TCE concentrations over time suggest that there may be seasonal variability in the groundwater concentrations. Additional sampling data will be needed to further assess the potential for seasonal trends in groundwater concentrations.
- PCE concentrations in groundwater have remained generally constant at ERM-14, ERM-15 and ERM-16, the locations most downgradient from the source area.
- TCE concentrations are non-detect in all wells except ERM-13. Concentrations in ERM-13 have decreased from 1.2 ug/L (February 2007) to 0.61 ug/L (June 2008).

6.5 *RECOMMENDATIONS*

The following are recommended for the next reporting period:

- Continue operation and maintenance of the IRM and CAP systems;

- As a result of the efficient fuel and water use during steam injection, we propose to augment the steam system to include the following eight steam injections wells: SIW-8, SIW-9, SIW-10, SIW-11, SIW-13, SIW-14, SIW-15, and SIW-16;
- Continue active soil gas sampling at ASG-14, ASG-32, and ASG-33 to assess the seasonality of soil gas conditions; and
- Continue groundwater monitoring at ERM-12, ERM-13, ERM-14, ERM-15, ERM-16, ERM-17, ERM-19, and ERM-20 to assess the seasonality of groundwater conditions.

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Tables

Table 1
SVE Wells - Vacuum Gauge Data
Energizer Facility
401 Gage Street Bennington, VT

WELL-ID	Gauge Location	14-Apr-08	29-Apr-08	1-May-08	4-Jun-08
335	North Basement	NR	No Gauge	NR	NR
313	North Basement	8	8	NR	9
317	North Basement	20	10	NR	18
312	North Basement	7	4	NR	14
318	North Basement	10	6	NR	9
315	North Basement	14	6	NR	8
311	North Basement	16	12	NR	5
316	North Basement	13	4	NR	6
314	North Basement	14	6	NR	8
307	Room 24	12	NR	13	NR
308	Room 24	11	NR	11	NR
309	Room 24	12	NR	18	NR
310	Room 24	14	NR	16	NR
319	Room 24	4	NR	6.0	NR
320	Room 24	35	NR	16	NR
321	Room 24	22	NR	NR	NR
322	Room 24	0	NR	2	NR
323	Room 24	10	NR	NR	NR
302	Room 24	20	NR	14	NR
306	Room 24	20	NR	20	NR
303	Room 24	10	NR	10	NR
301	Room 24	42	NR	NR	NR
304	Room 24	30	NR	40	NR
305	Room 24	38	NR	14	NR
326	Degreaser	30	NR	20	18
327	Degreaser	28	NR	20	19
325	Degreaser	28	NR	22	20
324	Degreaser	19	NR	22	23
331	Bldg 14	24	NR	20	16
332	Bldg 14	11	NR	10	10
330	Bldg 14	23	NR	20	18

Notes:

Readings are in inches of water.

The last 2 digits of the Well ID correspond to the SVE well ID (i.e., 301 is for SVE-01).

NA - SVE well not operational at time of reading

NR - no reading

Table 2
SVE Wells - Differential Pressure and Flow Data
Energizer Facility
401 Gage Street Bennington, VT

WELL-ID	Gauge Location	14-Apr-08		29-Apr-08		1-May-08		4-Jun-08	
		Differential Pressure	Flow Rate	Differential Pressure	Flow Rate	Differential Pressure	Flow Rate	Differential Pressure	Flow Rate
335	North Basement	NR	NR	No Gauge	NR	NR	NR	NR	NR
313	North Basement	7	43	8	46	NR	NR	7.5	45
317	North Basement	8.5	48	10	52	NR	NR	7.5	45
312	North Basement	7	43	4	33	NR	NR	7.5	45
318	North Basement	7.5	45	6	40	NR	NR	6.5	42
315	North Basement	9	49	6	40	NR	NR	7.25	44
311	North Basement	8.5	48	12	56	NR	NR	6.5	42
316	North Basement	8.5	48	4	33	NR	NR	5.5	39
314	North Basement	7.5	45	6	40	NR	NR	9	49
307	Room 24	14	61	NR	NR	15	63	NR	NR
308	Room 24	7	42	NR	NR	7	42	NR	NR
309	Room 24	2	20	NR	NR	7	43	NR	NR
310	Room 24	9	48	NR	NR	10	52	NR	NR
319	Room 24	8	46	NR	NR	9	49	NR	NR
320	Room 24	3	26	NR	NR	4	31	NR	NR
321	Room 24	0	0	NR	NR	NR	NR	NR	NR
322	Room 24	NR	NR	NR	NR	2	24	NR	NR
323	Room 24	NR	NR	NR	NR	NR	NR	NR	NR
302	Room 24	11	54	NR	NR	7	43	NR	NR
306	Room 24	8.5	48	NR	NR	9	48	NR	NR
303	Room 24	9.5	50	NR	NR	10	52	NR	NR
301	Room 24	2	24	NR	NR	2	24	NR	NR
304	Room 24	11	54	NR	NR	1	17	NR	NR
305	Room 24	0	0	NR	NR	7	43	NR	NR
326	Degreaser	1	17	NR	NR	1	17	1	17
327	Degreaser	2.2	25	NR	NR	1.5	20	1	17
325	Degreaser	13	59	NR	NR	9	49	6.5	42
324	Degreaser	15	63	NR	NR	15	63	20	72
331	Bldg 14	6	40	NR	NR	5	37	5	37
332	Bldg 14	8.5	48	NR	NR	8	46	7	43
330	Bldg 14	5	37	NR	NR	5	37	4.5	35

Notes:

Differential pressure readings are in inches of water.

Flow rate readings are in standard cubic feet per mintue (scfm).

The last 2 digits of the Well ID correspond to the SVE well ID
(i.e., 301 is for SVE-01).

NA - SVE well not installed at time of reading

NR - no reading

Table 3
SVE System - VGAC Cumulative Mass Removal
Energizer Facility
401 Gage Street, Bennington, VT

Parameter	Sample Loc	SVE-INF	SVE-MID	SVE-EFF	Mass	SVE-INF	SVE-MID	SVE-EFF	Mass
	Date Sampled	21-Apr-08	21-Apr-08	21-Apr-08	Removed	16-May-08	16-May-08	16-May-08	Removed
	Laboratory	Alpha	Alpha	Alpha		Alpha	Alpha	Alpha	
		N	N	N		N	N	N	
Volatile Organic Compounds (VOCs, ug/m³) (EPA Method TO-15)									
Tetrachloroethene		1460	-	-		4630	3.18	-	
Trichloroethene		469	-	-		950	5.54	-	
Cis-1,2-dichloroethene		4.65	-	-		8.54	-	-	
Trans-1,2-dichloroethene		-	-	-		-	-	-	
					100%				100%

Notes:

Units are in micrograms per cubic meter (ug/m3)

N = Normal Sample.

- = Non Detect

Table 3
SVE System - VGAC Cumulative Mass Removal
Energizer Facility
401 Gage Street, Bennington, VT

Parameter	Sample Loc Date Sampled Laboratory	SVE-INF 20-Jun-08 Alpha N	SVE-MID 20-Jun-08 Alpha N	SVE-EFF 20-Jun-08 Alpha N	Mass Removed
Volatile Organic Compounds (VOCs, $\mu\text{g}/\text{m}^3$) (EPA Method TO-15)					
Tetrachloroethene		2880	470	-	
Trichloroethene		763	1100	-	
Cis-1,2-dichloroethene		16.9	30.1	6.00	
Trans-1,2-dichloroethene		1.12	1.91	0.820	
					99.8%

Notes:

Units are in micrograms per cubic meter ($\mu\text{g}/\text{m}^3$)

N = Normal Sample.

- = Non Detect

Table 4
Air Sparge Wells - Pressure Gauge Data
Energizer Facility
401 Gage Street Bennington, VT

Air Sparge Well-ID	Gauge Location	14-Apr-08	29-Apr-08	1-May-08	4-Jun-08
245	North Basement	4.5	4	NR	4
244	North Basement	4	3	NR	3.75
242	North Basement	4	3	NR	3.75
235	North Basement	3.2	3	NR	3
248	North Basement	NR	NR	NR	NR
247	North Basement	NR	NR	NR	NR
234	North Basement	2.5	3.0	NR	2.5
233	North Basement	2.2	2.0	NR	2
232	North Basement	1.6	2.0	NR	1.5
230	North Basement	2.5	3.0	NR	2
225	North Basement	4.7	4.0	NR	4.5
226	North Basement	0.9	0.0	NR	0
227	North Basement	2.5	3.0	NR	2.5
228	North Basement	2.5	3.0	NR	1.5
229	North Basement	2.9	3.0	NR	2.5
231	North Basement	4.2	4.0	NR	4
239	North Basement	3.8	4.0	NR	3.5
238	North Basement	3.5	4.0	NR	3.5
237	North Basement	3.0	3.0	NR	2.5
243	North Basement	4.5	4.0	NR	4.5
241	North Basement	2.5	3.0	NR	1.5
240	North Basement	4.2	4.0	NR	4
236	North Basement	3.0	3.0	NR	3
246	Room 24	NR	NR	NR	NR
213	Room 24	2.8	3.0	3.5	NR
212	Room 24	3.7	4.0	4.5	NR
211	Room 24	3.7	4.0	4.5	NR
210	Room 24	2.2	2.5	NR	NR
209	Room 24	3.5	3.5	NR	NR
208	Room 24	3.2	3.5	NR	NR
207	Room 24	4.5	6.0	NR	NR
206	Room 24	2.6	3.0	NR	NR
201	Room 24	4.3	4.0	NR	NR
205	Room 24	5.0	6.5	6.5	NR
204	Room 24	3.5	4.0	4	NR
215	Room 24	3.5	4.0	5	NR
203	Room 24	3.8	4.0	4.5	NR
224	Room 24	0.0	0.0	0	NR

Table 4
Air Sparge Wells - Pressure Gauge Data
Energizer Facility
401 Gage Street Bennington, VT

Air Sparge Well-ID	Gauge Location	14-Apr-08	29-Apr-08	1-May-08	4-Jun-08
202	Room 24	3.8	4.0	4.5	NR
223	Room 24	3.0	3.0	3.5	NR
214	Room 24	2.7	3.0	3.5	NR
222	Room 24	3.7	4.0	4.5	NR
219	Room 24	2.4	3.0	3	NR
221	Room 24	3.8	4.0	3.5	NR
220	Room 24	4.6	5.0	5.5	NR
218	Room 24	2.5	2.5	3	NR
217	Room 24	3.3	3.0	3.5	NR
216	Room 24	2.3	2.5	3.0	NR
266	Degreaser	4	NR	4	4
256	Degreaser	3.8	NR	4	4.75
263	Degreaser	1.2	NR	0	1.5
262	Degreaser	4.2	NR	4	4
264	Degreaser	3.6	NR	4	3.5
261	Degreaser	3.7	NR	3.5	4
253	Degreaser	4	NR	4	5.5
260	Degreaser	4	NR	4	4.5
259	Degreaser	0.7	NR	4	3.5
254	Degreaser	2.7	NR	NR	NR
255	Degreaser	3.2	NR	3	3.25
257	Degreaser	3.9	NR	3.5	4.5

Notes:

Readings are in pounds per square inch (psi).

The last 2 digits of the Well ID correspond to the AS well ID (i.e., 201 is for AS-01).

NA - AS well not installed at time of reading

NR - no reading

Table 5
Air Sparge Wells - Flow Data
Energizer Facility
401 Gage Street Bennington, VT

Air Sparge Well-ID	Gauge Location	14-Apr-08	29-Apr-08	1-May-08	4-Jun-08
245	North Basement	10	10	NR	10
244	North Basement	10	10	NR	10
242	North Basement	10	10	NR	9.5
235	North Basement	10	10	NR	10
248	North Basement	10	NR	NR	NR
247	North Basement	10	NR	NR	NR
234	North Basement	10	10	NR	10
233	North Basement	10	10	NR	9.5
232	North Basement	10	10	NR	10
230	North Basement	10	10	NR	10
225	North Basement	10	10	NR	10
226	North Basement	10.5	11	NR	10.5
227	North Basement	10	10	NR	9.5
228	North Basement	10	10	NR	10
229	North Basement	10.5	11	NR	10
231	North Basement	10	10	NR	10
239	North Basement	10	10	NR	10
238	North Basement	10	10	NR	10
237	North Basement	10	10	NR	9.5
243	North Basement	10	10	NR	10
241	North Basement	10	10	NR	10
240	North Basement	10	10	NR	9.5
236	North Basement	10	10	NR	10
246	Room 24	NR	NR	NR	NR
213	Room 24	10	10	10	NR
212	Room 24	9	9	9	NR
211	Room 24	9	10	9.5	NR
210	Room 24	10	10	NR	NR
209	Room 24	9.5	10	NR	NR
208	Room 24	10	10	NR	NR
207	Room 24	11	11.5	NR	NR
206	Room 24	9.5	10	NR	NR
201	Room 24	10.5	11	NR	NR
205	Room 24	10.5	11	10.5	NR
204	Room 24	10	10	10	NR
215	Room 24	10	10	10	NR
203	Room 24	10	10	10	NR
224	Room 24	10	10	10	NR
202	Room 24	8.5	9	9	NR
223	Room 24	10	10	10	NR

Table 5
Air Sparge Wells - Flow Data
Energizer Facility
401 Gage Street Bennington, VT

Air Sparge Well-ID	Gauge Location	14-Apr-08	29-Apr-08	1-May-08	4-Jun-08
214	Room 24	10.5	10.5	11	NR
222	Room 24	10	10	10	NR
219	Room 24	10.5	10.5	10	NR
221	Room 24	11	11.5	11.5	NR
220	Room 24	8	8	8	NR
218	Room 24	10	10	10	NR
217	Room 24	10	10	10	NR
216	Room 24	10	10	10	NR
266	Degreaser	7.5	NR	5	5
256	Degreaser	5	NR	10	7
263	Degreaser	6	NR	5	7
262	Degreaser	5	NR	5	5
264	Degreaser	6	NR	5	5
261	Degreaser	6	NR	5	7
253	Degreaser	5	NR	12.5	5
260	Degreaser	5.5	NR	11.5	10
259	Degreaser	8	NR	8	8
254	Degreaser	6.5	NR	NR	NR
255	Degreaser	10	NR	9	10
257	Degreaser	6.5	NR	10.5	8

Notes:

Readings are in standard cubic feet per minute (scfm).

The last 2 digits of the Well ID correspond to the AS well ID (i.e., 301 is for AS-01).

NA - air sparge well not installed at time of reading

NR - no reading

Table 6
General System Parameters
Energizer Facility
401 Gage Street Bennington, VT

		4-Apr-08	9-Apr-08	14-Apr-08	21-Apr-08	25-Apr-08	1-May-08	2-May-08	9-May-08
Temperature Transmitter									
TT-200	(°F)	147	139	150	166	157	131	154	173
TT-201		146	138	150	166	158	130	155	174
TT-202		108	104	111	96	93	82	91	98
TT-300		118	121	126	131	121	115	122	131
TT-301		117	119	124	129	118	115	121	129
TT-302		88	90	93	79	72	74	76	77
TT-500		60	60	61	61	60	61	62	64
TT-501		98	96	103	84	80	69	76	82
Pressure Gauge									
200	PSI	7.0	7.0	6.5	7.0	6.0	8.5	8.0	6.0
201		7.0	6.0	6.5	7.0	6.0	8.0	8.0	7.0
202		6.0	6.0	6.0	6.0	6.5	7.0	6.0	6.0
500		40.0	40.0	39.0	35.0	34.0	36.0	36.0	30.0
501		1.0	1.0	0.0	0.0	0.0	0.0	0.0	3.0
Pressure Gauge									
300	in .wc.	28	30	30	30	20	26	28	28
301		NR	NR	NR	NR	NR	NR	NR	NR
302		0	0	NR	0	0	NR	0	0
303		10	10	NR	10	5	10	10	9
304		4	5	NR	5	3	2	4	4
Temperature Gauge									
200	(°F)	145	140	150	170	160	125	100	175
201		150	140	150	170	160	135	140	175
202		108	104	110	96	92	80	90	98
500		60	60	62	62	60	62	64	64
501		95	96	100	80	78	70	76	80
502		64	64	65	66	64	62	64	68
300		88	90	92	70	74	75	76	78
Vacuum Transmitter									
300	in .wc.	55	56	55	55	56	55	55	56
Pressure Transmitter									
200	PSI	6	6	6	6	6	6	6	6
Air Velocity Transmitter									
300	FPM								
	CFM	1533	1552	1611	1629	1254	1490	1541	1518
301	FPM								
	CFM	1653	1684	1746	1752	1370	1542	1572	1627

Notes:

- -- not collected
- °F - degrees Fahrenheit
- CFM - cubic feet per minute
- FPM - feet per minute
- PSI - pounds per square inch
- IN $\frac{WC}{IRM}$ - inches of water column

Table 6
General System Parameters
Energizer Facility
401 Gage Street Bennington, VT

		16-May-08	22-May-08	4-Jun-08
Temperature Transmitter				
TT-200	(°F)	157	152	168
TT-201		159	153	169
TT-202		91	89	96
TT-300		122	122	121
TT-301		120	120	119
TT-302		74	73	77
TT-500		59	59	60
TT-501		74	74	77
Pressure Gauge				
200	PSI	8.0	8.0	8.5
201		8.0	7.0	7.8
202		7.0	7.0	7.0
500		38.0	37.0	43.0
501		0.0	0.0	0.0
Pressure Gauge				
300	in .wc.	29	29	26
301		NR	NR	NR
302		0	0	NR
303		10	10	NR
304		3	4	NR
Temperature Gauge				
200	(°F)	130	160	175
201		170	150	175
202		90	90	96
500		60	60	62
501		74	73	78
502		62	61	63
300		78	77	78
Vacuum Transmitter				
300	in .wc.	56	56	55
Pressure Transmitter				
200	PSI	6	6	6
Air Velocity Transmitter				
300	FPM			
	CFM	1558	1540	NR
301	FPM			
	CFM	1650	1610	1517.7

Notes:

- -- not collected
- °F - degrees Fahrenheit
- CFM - cubic feet per minute
- FPM - feet per minute
- PSI - pounds per square inch
- IN $\frac{WC}{ERM}$ - inches of water column

Table 7
Steam Injection System - Fuel and Water Use
Energizer Facility
401 Gage Street Bennington, VT

	Apr-08	May-08	Jun-08	Quarter Total
<i>Steam Use (lbs)</i>				
SIW-10	30,292	84,441	107,067	221,800
SIW-11	12,577	75,827	157,962	246,366
SIW-12/14/9	22,128	600	50,815	73,543
SIW-13/14	41,871	67,458	65,736	175,065
<i>Totals</i>				
Total Steam (lbs)	106,868	228,326	381,580	716,774
Total Water Used (gal)	14,292	30,534	51,029	95,856
Total Fuel Used (gal)	1,001	2,138	3,573	6,711

Assumptions:

average boiler pressure = 60 psig
latent heat of vaporization = 905.25 BTU/lb
makeup water enthalpy (60°F) = 28.08 BTU/lb
boiler water enthalpy (60 psig) = 276.79 BTU/lb
water density = 7.48 lb/gal
heat value No. 4 fuel oil = 145,000 BTU/gal
boiler efficiency = 85 %

Notes:

SIW-12 spool piece moved to SIW-14 on 6/3/08 and then SIW-9 on 6/18/08.
SIW-13 spool piece moved to SIW-14 on 6/30/08.
Assumed average boiler pressure
Assumed preheated 60°F makeup water in deaerator; heat to assumed avg pressure for saturated steam in boiler
Assumed makeup water is 60°F

Table 8
SVE System - AOC-1 (Former Degreaser Room)
Mass Removal
Energizer Facility
401 Gage Street, Bennington, VT

Location ID:	SVE-24	SVE-24	SVE-24	SVE-25	SVE-25	SVE-25
Sample Date:	18-Apr-2008	13-May-2008	17-Jun-2008	18-Apr-2008	13-May-2008	17-Jun-2008
Sample Type:	N	N	N	N	N	N
Volatile Organic Compounds (VOCs, ug/m³) (EPA Method TO-15)						
Tetrachloroethylene	410	104,000	148,000	621	14,700	21,900
Trichloroethylene	520	4,300	5,330	697	4,510	2,220
Cis-1,2-Dichloroethene	2.19	28.6	200	-	7.72	-
Trans-1,2-Dichloroethene	-	2.9	-	-	1.04	-

Notes:

Units are in ug/m³.

ug/m³ = micrograms per cubic meter.

Values in bold indicate concentrations above
method detection limit

- = Not Detected.

Analyses performed by Alpha Analytical Laboratories
of Westboro, MA.

Tabulated results include only those values reported
above method detection limits.

Table 8
SVE System - AOC-1 (Former Degreaser Room)
Mass Removal
Energizer Facility
401 Gage Street, Bennington, VT

Location ID:	SVE-26	SVE-26	SVE-26	SVE-27	SVE-27	SVE-27
Sample Date:	18-Apr-2008	13-May-2008	17-Jun-2008	18-Apr-2008	13-May-2008	17-Jun-2008
Sample Type:	N	N	N	N	N	N
Volatile Organic Compounds (VOCs, ug/m³) (EPA Method TO-15)						
Tetrachloroethylene	3,050	4,160	14,500	28.1	224	166
Trichloroethylene	2,060	2,880	7,740	362	334	687
Cis-1,2-Dichloroethene	16.5	29.2	107	-	-	5.13
Trans-1,2-Dichloroethene	1.03	1.6	-	-	-	-

Notes:

Units are in ug/m³.

ug/m³ = micrograms per cubic meter.

Values in bold indicate concentrations above
method detection limit

- = Not Detected.

Analyses performed by Alpha Analytical Laboratories
of Westboro, MA.

Tabulated results include only those values reported
above method detection limits.

Table 9
Summary of Active Soil Gas Analytical Results
Energizer Facility
401 Gage Street, Bennington, VT

	Location ID:	ASG-14	ASG-14	ASG-14	ASG-14	ASG-14
	Sample Date:	27-Jul-2006	17-May-2007	5-Sep-2007	11-Mar-2008	17-Jun-2008
	Sample Type:	N	N	N	N	N
Volatile Organic Compounds (VOCs, ug/m³) (EPA Method TO-15)						
Tetrachloroethylene		7890	602	50.4	3.2	354
Trichloroethylene		222	38.4	20.9	6.38	1.55
Cis-1,2-Dichloroethene		< 19.8	< 1.98	0.515	< 0.792	< 0.792
Trans-1,2-Dichloroethene		< 19.8	< 1.98	0.4	< 0.792	< 0.792
Vinyl chloride		< 12.8	< 1.28	0.243	< 0.511	< 0.511

Notes:

ug/m³ = micrograms per cubic meter.

Values in bold indicate concentrations above
method detection limit

Table 9
Summary of Active Soil Gas Analytical Results
Energizer Facility
401 Gage Street, Bennington, VT

Location ID: Sample Date: Sample Type:	ASG-32 26-Jul-2007 N	ASG-32 17-Oct-2007 N	ASG-32 14-Nov-2007 N	ASG-32 18-Dec-2007 N	ASG-32 19-Feb-2008 N	ASG-32 17-Jun-2008 N
Volatile Organic Compounds (VOCs, ug/m³) (EPA Method TO-15)						
Tetrachloroethylene	332	41.2	24.2	12.3	6.14	250
Trichloroethylene	162	70.8	1.84	0.256	< 1.07	< 1.07
Cis-1,2-Dichloroethene	< 1.98	< 1.98	< 0.079	< 0.079	< 0.792	< 0.792
Trans-1,2-Dichloroethene	< 1.98	< 1.98	< 0.079	< 0.079	< 0.792	< 0.792
Vinyl chloride	< 1.28	< 1.28	< 0.051	< 0.051	< 0.511	< 0.511

Notes:

ug/m³ = micrograms per cubic meter.

Values in bold indicate concentrations above
method detection limit

Table 9
Summary of Active Soil Gas Analytical Results
Energizer Facility
401 Gage Street, Bennington, VT

Location ID:	ASG-33	ASG-33	ASG-33	ASG-33	ASG-33	ASG-33
Sample Date:	26-Jul-2007	17-Oct-2007	14-Nov-2007	18-Dec-2007	19-Feb-2008	17-Jun-2008
Sample Type:	N	N	N	N	N	N
Volatile Organic Compounds (VOCs, ug/m³) (EPA Method TO-15)						
Tetrachloroethylene	5530	602	73.4	78.3	6.8	4070
Trichloroethylene	109	65.9	2.69	1.09	< 1.07	8.01
Cis-1,2-Dichloroethene	3.8	< 1.98	< 0.079	< 0.079	< 0.792	< 0.792
Trans-1,2-Dichloroethene	< 1.98	< 1.98	< 0.079	< 0.079	< 0.792	< 0.792
Vinyl chloride	< 1.28	< 1.28	< 0.051	< 0.051	< 0.511	< 0.511

Notes:

ug/m³ = micrograms per cubic meter.

Values in bold indicate concentrations above
method detection limit

Table 10
Summary of Groundwater Analytical Results
Energizer Facility
401 Gage Street, Bennington, VT

Location ID: Sample Date: Laboratory Sample Type:	Primary Groundwater Quality Standards Enforcement Standard	ERM-12 27-Feb-07 Alpha N	ERM-12 4-Sep-07 Stone N	ERM-12 4-Sep-07 Stone FD	ERM-12 18-Dec-07 Alpha N	ERM-12 10-Mar-08 Alpha N	ERM-12 10-Mar-08 Alpha FD	ERM-12 16-Jun-08 Alpha N
Parameter								
Volatile Organics (VOCs) (ug/l)								
Tetrachloroethylene	5	120	210	180	150	72	69	190
Trichloroethylene	5	< 2.0	< 10	< 10	< 2.0	0.5	< 0.5	< 1.0
Cis-1,2-Dichloroethene	70	< 2.0	< 10	< 10	< 2.0	< 0.5	< 0.5	< 1
Trans-1,2-Dichloroethene	100	< 3.0	< 10	< 10	< 3.0	< 0.75	< 0.75	< 1.5

Notes:

Units are in ug/l.

ug/l = micrograms per liter.

< = Compound not detected. Method detection limit shown.

Blank Cell: Not analyzed.

NS: No standard available.

Bold cells indicate concentrations greater than the laboratory detection limits.

Shaded cells indicate exceedances of Primary Groundwater Quality Standards Enforcement Standard.

Tabulated results include only those analytes detected at least once above method detection limits.

Alpha is the Lab designation for Alpha Woods Hole Laboratory Westboro, MA.

Stone is the Lab designation for Stone Environmental, Inc. Montpelier, VT.

Analyses for VOCs performed by Alpha (EPA Method SW8260) and Stone (EPA Method SW8260B). See Table for distinction.

FD = Field Duplicate

N- Normal Sample

Table 10
Summary of Groundwater Analytical Results
Energizer Facility
401 Gage Street, Bennington, VT

Location ID: Sample Date: Laboratory Sample Type:	Primary Groundwater Quality Standards Enforcement Standard	ERM-13 27-Feb-07 Alpha N	ERM-13 5-Sep-07 Stone N	ERM-13 10-Mar-08 Alpha N	ERM-13 16-Jun-08 Alpha N
Parameter					
Volatile Organics (VOCs) (ug/l)					
Tetrachloroethylene	5	16	40	15	23
Trichloroethylene	5	1.2	< 10	0.71	0.61
Cis-1,2-Dichloroethene	70	< 0.50	< 10	< 0.5	< 0.5
Trans-1,2-Dichloroethene	100	< 0.75	< 10	< 0.75	< 0.75

Notes:

Units are in ug/l.

ug/l = micrograms per liter.

< = Compound not detected. Method detection limit shown.

Blank Cell: Not analyzed.

NS: No standard available.

Bold cells indicate concentrations greater than the laboratory detection limits.

Shaded cells indicate exceedances of Primary Groundwater Quality Standards Enforcement Standard.

Tabulated results include only those analytes detected at least once above method detection limits.

Alpha is the Lab designation for Alpha Woods Hole Laboratory Westboro, MA.

Stone is the Lab designation for Stone Environmental, Inc. Montpelier, VT.

Analyses for VOCs performed by Alpha (EPA Method SW8260) and Stone (EPA Method SW8260B). See Table for distinction.

FD = Field Duplicate

N- Normal Sample

Table 10
Summary of Groundwater Analytical Results
Energizer Facility
401 Gage Street, Bennington, VT

Location ID: Sample Date: Laboratory Sample Type:	Primary Groundwater Quality Standards Enforcement Standard	ERM-14 22-May-07 Alpha N	ERM-14 4-Sep-07 Stone N	ERM-14 10-Mar-08 Alpha N	ERM-14 16-Jun-08 Alpha N
Parameter					
Volatile Organics (VOCs) (ug/l)					
Tetrachloroethylene	5	3.6	12	5.7	6.9
Trichloroethylene	5	< 0.50	< 10	< 0.5	< 0.5
Cis-1,2-Dichloroethene	70	< 0.50	< 10	< 0.5	< 0.5
Trans-1,2-Dichloroethene	100	< 0.75	< 10	< 0.75	< 0.75

Notes:

Units are in ug/l.

ug/l = micrograms per liter.

< = Compound not detected. Method detection limit shown.

Blank Cell: Not analyzed.

NS: No standard available.

Bold cells indicate concentrations greater than the laboratory detection limits.

Shaded cells indicate exceedances of Primary Groundwater Quality Standards Enforcement Standard.

Tabulated results include only those analytes detected at least once above method detection limits.

Alpha is the Lab designation for Alpha Woods Hole Laboratory Westboro, MA.

Stone is the Lab designation for Stone Environmental, Inc. Montpelier, VT.

Analyses for VOCs performed by Alpha (EPA Method SW8260) and Stone (EPA Method SW8260B). See Table for distinction.

FD = Field Duplicate

N- Normal Sample

Table 10
Summary of Groundwater Analytical Results
Energizer Facility
401 Gage Street, Bennington, VT

Location ID: Sample Date: Laboratory Sample Type:	Primary Groundwater Quality Standards Enforcement Standard	ERM-15 22-May-07 Alpha N	ERM-15 4-Sep-07 Stone N	ERM-15 11-Mar-08 Alpha N	ERM-15 16-Jun-08 Alpha N
Parameter					
Volatile Organics (VOCs) (ug/l)					
Tetrachloroethylene	5	3.3	< 10	1.1	1.8
Trichloroethylene	5	0.63	< 10	< 0.5	< 0.5
Cis-1,2-Dichloroethene	70	< 0.50	< 10	< 0.5	< 0.5
Trans-1,2-Dichloroethene	100	< 0.75	< 10	< 0.75	< 0.75

Notes:

Units are in ug/l.

ug/l = micrograms per liter.

< = Compound not detected. Method detection limit shown.

Blank Cell: Not analyzed.

NS: No standard available.

Bold cells indicate concentrations greater than the laboratory detection limits.

Shaded cells indicate exceedances of Primary Groundwater Quality Standards Enforcement Standard.

Tabulated results include only those analytes detected at least once above method detection limits.

Alpha is the Lab designation for Alpha Woods Hole Laboratory Westboro, MA.

Stone is the Lab designation for Stone Environmental, Inc. Montpelier, VT.

Analyses for VOCs performed by Alpha (EPA Method SW8260) and Stone (EPA Method SW8260B). See Table for distinction.

FD = Field Duplicate

N- Normal Sample

Table 10
Summary of Groundwater Analytical Results
Energizer Facility
401 Gage Street, Bennington, VT

Location ID: Sample Date: Laboratory Sample Type:	Primary Groundwater Quality Standards Enforcement Standard	ERM-16 22-May-07 Alpha N	ERM-16 4-Sep-07 Stone N	ERM-16 11-Mar-08 Alpha N	ERM-16 16-Jun-08 Alpha N
Parameter					
Volatile Organics (VOCs) (ug/l)					
Tetrachloroethylene	5	54	38	31	54
Trichloroethylene	5	1.5	< 10	< 0.5	< 0.5
Cis-1,2-Dichloroethene	70	< 0.50	< 10	< 0.5	< 0.5
Trans-1,2-Dichloroethene	100	< 0.75	< 10	< 0.75	< 0.75

Notes:

Units are in ug/l.

ug/l = micrograms per liter.

< = Compound not detected. Method detection limit shown.

Blank Cell: Not analyzed.

NS: No standard available.

Bold cells indicate concentrations greater than the laboratory detection limits.

Shaded cells indicate exceedances of Primary Groundwater Quality Standards Enforcement Standard.

Tabulated results include only those analytes detected at least once above method detection limits.

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Stone is the Lab designation for Stone Environmental, Inc. Montpelier, VT.

Analyses for VOCs performed by Alpha (EPA Method SW8260) and Stone (EPA Method SW8260B). See Table for distinction.

FD = Field Duplicate

N- Normal Sample

Table 10
Summary of Groundwater Analytical Results
Energizer Facility
401 Gage Street, Bennington, VT

Location ID: Sample Date: Laboratory Sample Type:	Primary Groundwater Quality Standards Enforcement Standard	ERM-17 22-May-07 Alpha N	ERM-17 5-Sep-07 Stone N	ERM-17 11-Mar-08 Alpha N	ERM-17 16-Jun-08 Alpha N
Parameter					
Volatile Organics (VOCs) (ug/l)					
Tetrachloroethylene	5	100	100	72	150
Trichloroethylene	5	< 1.2	< 10	0.63	< 1.0
Cis-1,2-Dichloroethene	70	< 1.2	< 10	< 0.5	< 1.0
Trans-1,2-Dichloroethene	100	< 1.9	< 10	< 0.75	< 1.5

Notes:

Units are in ug/l.

ug/l = micrograms per liter.

< = Compound not detected. Method detection limit shown.

Blank Cell: Not analyzed.

NS: No standard available.

Bold cells indicate concentrations greater than the laboratory detection limits.

Shaded cells indicate exceedances of Primary Groundwater Quality Standards Enforcement Standard.

Tabulated results include only those analytes detected at least once above method detection limits.

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Stone is the Lab designation for Stone Environmental, Inc. Montpelier, VT.

Analyses for VOCs performed by Alpha (EPA Method SW8260) and Stone (EPA Method SW8260B). See Table for distinction.

FD = Field Duplicate

N- Normal Sample

Table 10
Summary of Groundwater Analytical Results
Energizer Facility
401 Gage Street, Bennington, VT

Location ID: Sample Date: Laboratory Sample Type:	Primary Groundwater Quality Standards Enforcement Standard	ERM-19 25-Jul-07 Alpha N	ERM-19 17-Oct-07 Alpha N	ERM-19 15-Nov-07 Alpha N	ERM-19 18-Dec-07 Alpha N	ERM-19 11-Mar-08 Alpha N	ERM-19 17-Jun-08 Alpha N	ERM-19 17-Jun-08 Alpha FD
Parameter								
Volatile Organics (VOCs) (ug/l)								
Tetrachloroethylene	5	170	240	140	130	77	170	180
Trichloroethylene	5	< 2.0	1.5	< 2.5	< 2.5	< 1	< 1.0	< 2.0
Cis-1,2-Dichloroethene	70	< 2.0	< 0.50	< 2.5	< 2.5	< 1	< 1	< 2.0
Trans-1,2-Dichloroethene	100	< 2.0	< 0.75	< 3.8	< 3.8	< 1.5	< 1.5	< 3.0

Notes:

Units are in ug/l.

ug/l = micrograms per liter.

< = Compound not detected. Method detection limit shown.

Blank Cell: Not analyzed.

NS: No standard available.

Bold cells indicate concentrations greater than the laboratory detection limits.

Shaded cells indicate exceedances of Primary Groundwater Quality Standards Enforcement Standard.

Tabulated results include only those analytes detected at least once above method detection limits.

Alpha is the Lab designation for Alpha Woods Hole Laboratory Westboro, MA.

Stone is the Lab designation for Stone Environmental, Inc. Montpelier, VT.

Analyses for VOCs performed by Alpha (EPA Method SW8260) and Stone (EPA Method SW8260B). See Table for distinction.

FD = Field Duplicate

N- Normal Sample

Table 10
Summary of Groundwater Analytical Results
Energizer Facility
401 Gage Street, Bennington, VT

Location ID: Sample Date: Laboratory Sample Type:	Primary Groundwater Quality Standards Enforcement Standard	ERM-20 25-Jul-07 Alpha N	ERM-20 17-Oct-07 Alpha N	ERM-20 15-Nov-07 Alpha N	ERM-20 18-Dec-07 Alpha N	ERM-20 11-Mar-08 Alpha N	ERM-20 17-Jun-08 Alpha N
Parameter							
Volatile Organics (VOCs) (ug/l)							
Tetrachloroethylene	5	190	280	160	74	96	150
Trichloroethylene	5	< 4.0	< 2.0	< 2.5	< 1.2	< 1	< 1.0
Cis-1,2-Dichloroethene	70	< 4.0	< 2.0	< 2.5	< 1.2	< 1	< 1.0
Trans-1,2-Dichloroethene	100	< 4.0	< 3.0	< 3.8	< 1.9	< 1.5	< 1.5

Notes:

Units are in ug/l.

ug/l = micrograms per liter.

< = Compound not detected. Method detection limit shown.

Blank Cell: Not analyzed.

NS: No standard available.

Bold cells indicate concentrations greater than the laboratory detection limits.

Shaded cells indicate exceedances of Primary Groundwater Quality Standards Enforcement Standard.

Tabulated results include only those analytes detected at least once above method detection limits.

Alpha is the Lab designation for Alpha Woods Hole Laboratory Westboro, MA.

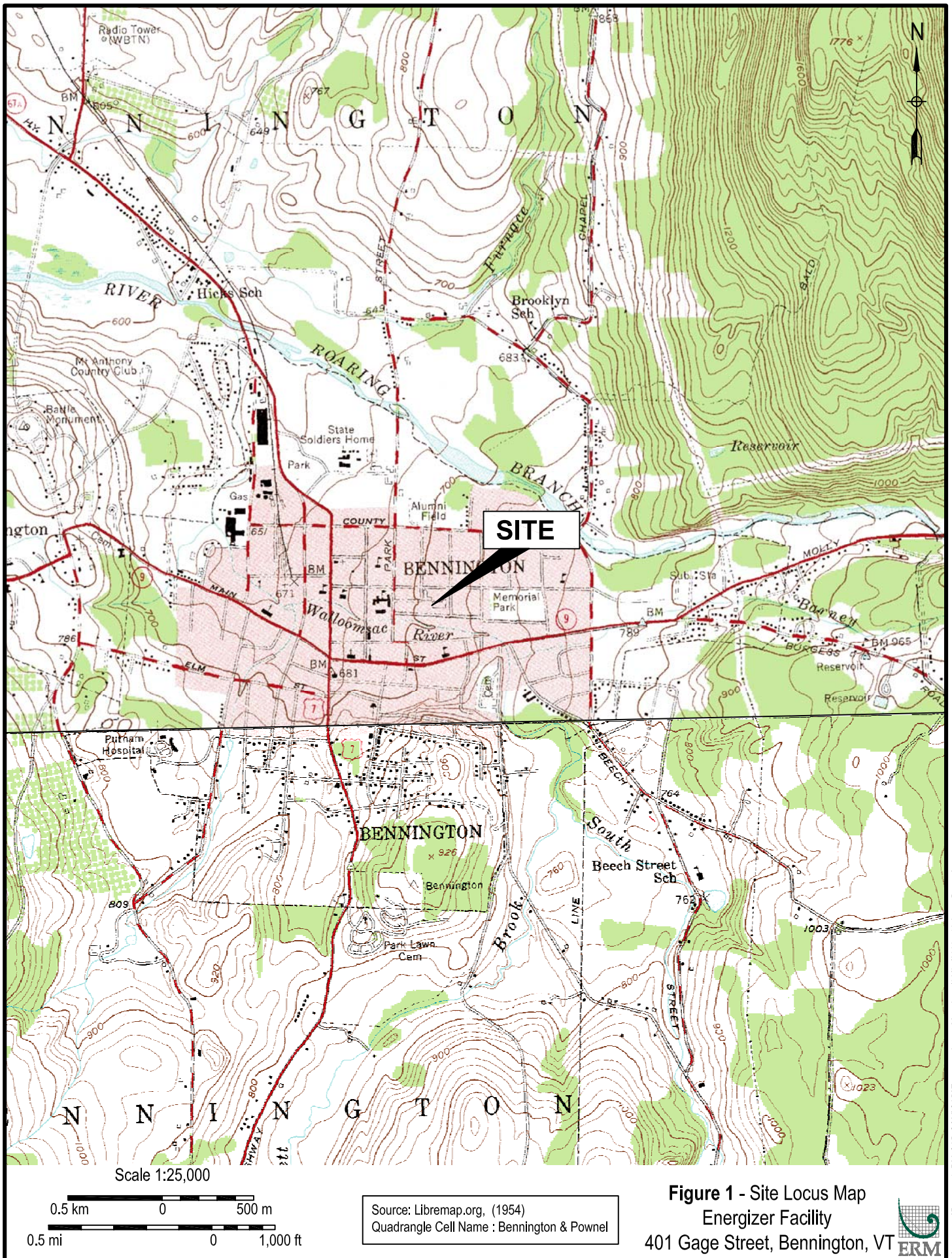
Stone is the Lab designation for Stone Environmental, Inc. Montpelier, VT.

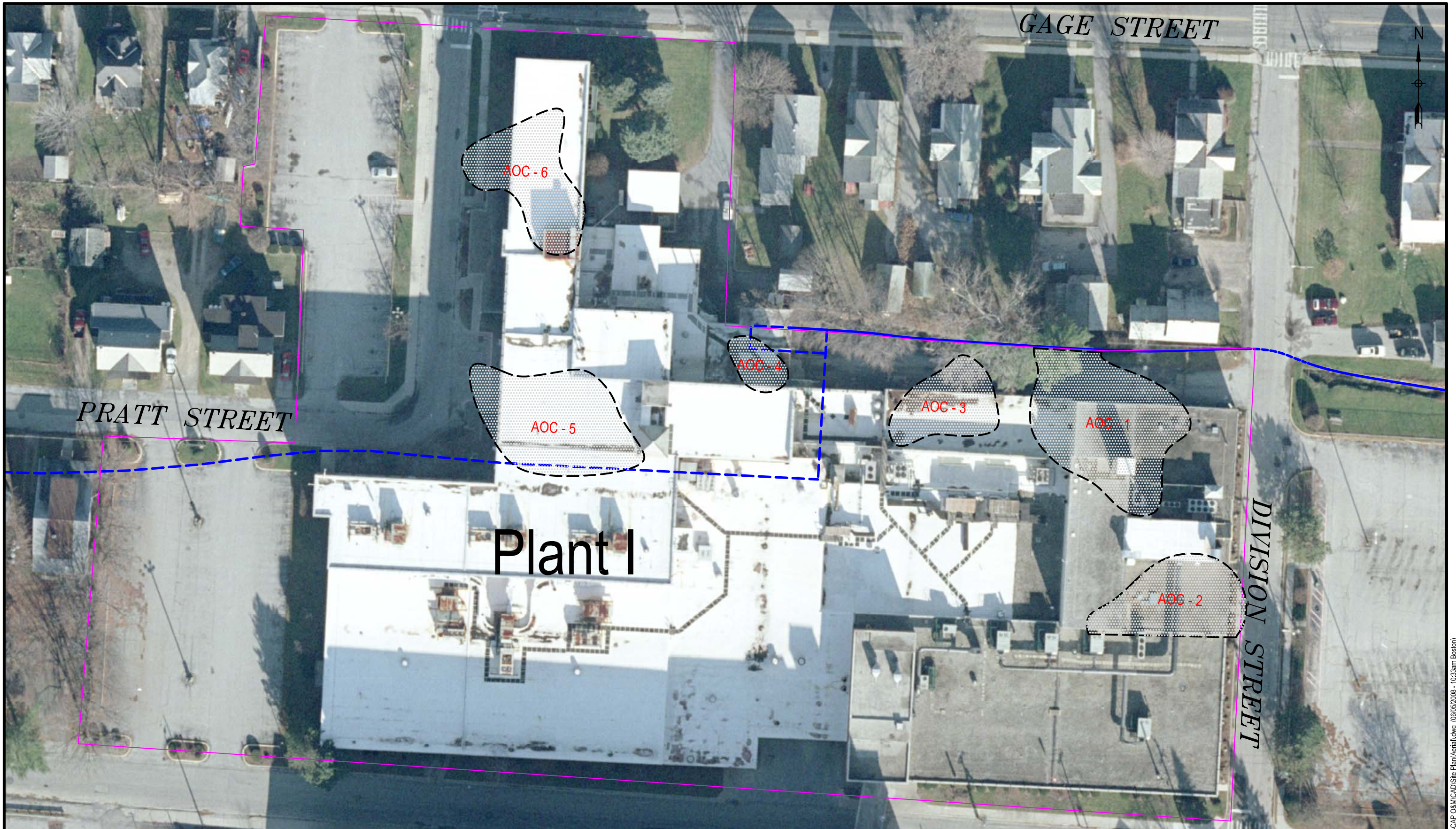
Analyses for VOCs performed by Alpha (EPA Method SW8260) and Stone (EPA Method SW8260B). See Table for distinction.

FD = Field Duplicate

N- Normal Sample

Figures





- Legend
- Site Boundary
 - - - Morgan Brook (Dashed Where Culverted)
 - AOC - 1 Areas of Concern (AOC)
 - Potential Source Area

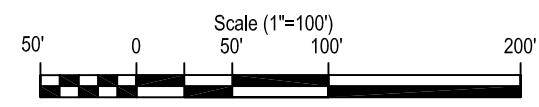


Figure 2 - Site Plan
 Energizer Facility
 401 Gage Street, Bennington, VT



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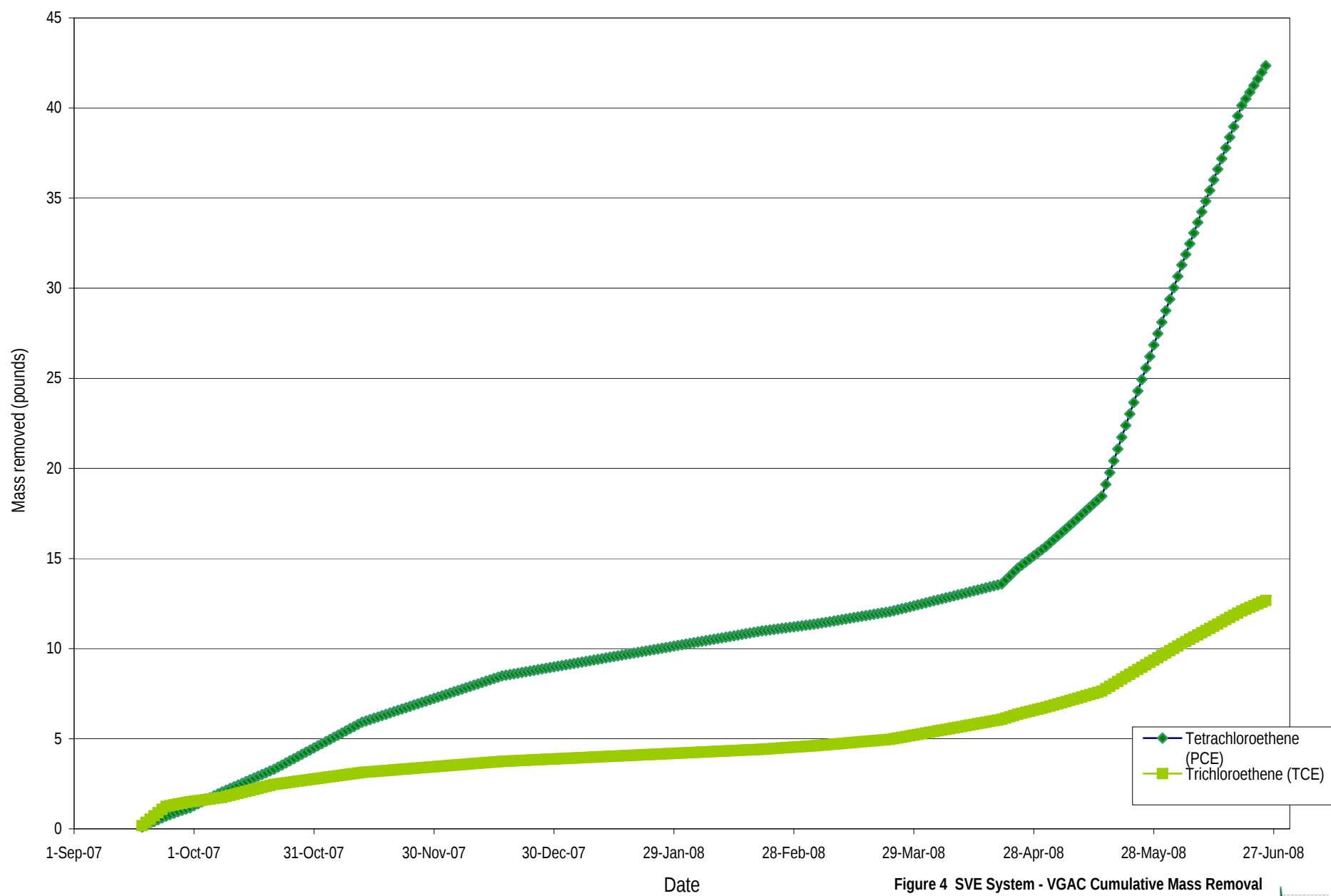


Figure 4 SVE System - VGAC Cumulative Mass Removal

Energizer Facility
401 Gage St, Bennington, VT



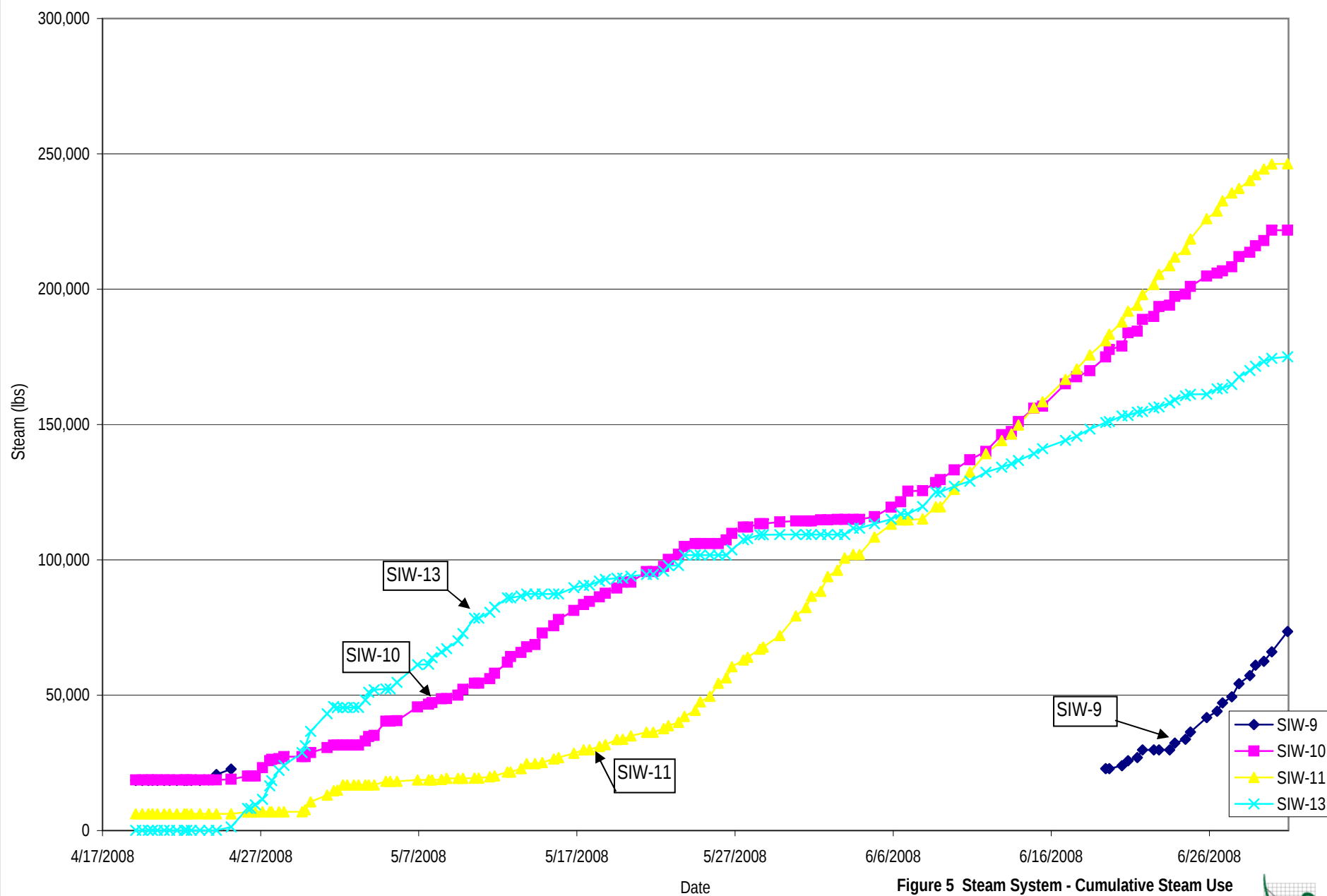


Figure 5 Steam System - Cumulative Steam Use
 Energizer Facility
 401 Gage Street, Bennington, VT



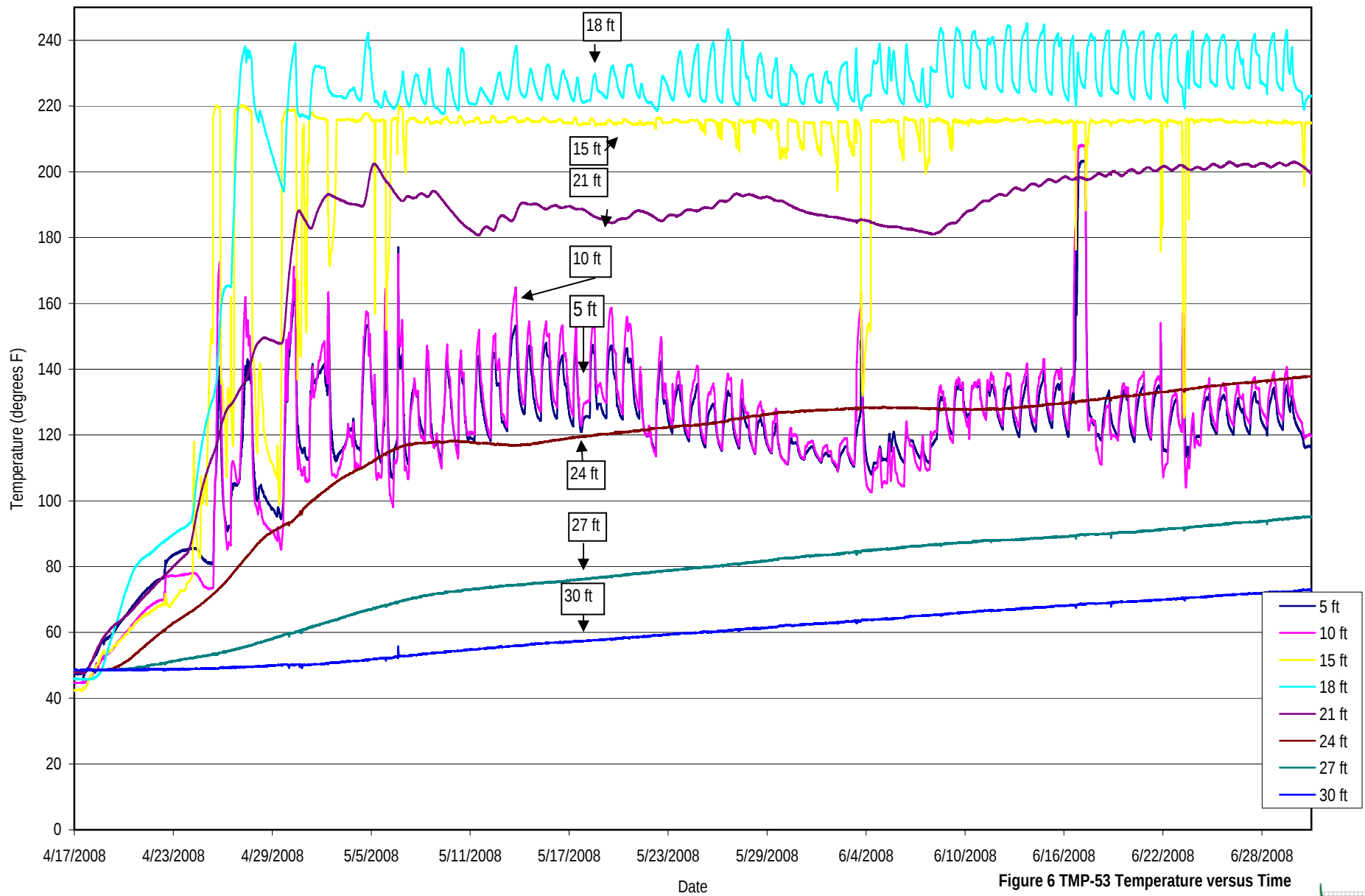


Figure 6 TMP-53 Temperature versus Time
Energizer Facility
401 Gage Street, Bennington, VT



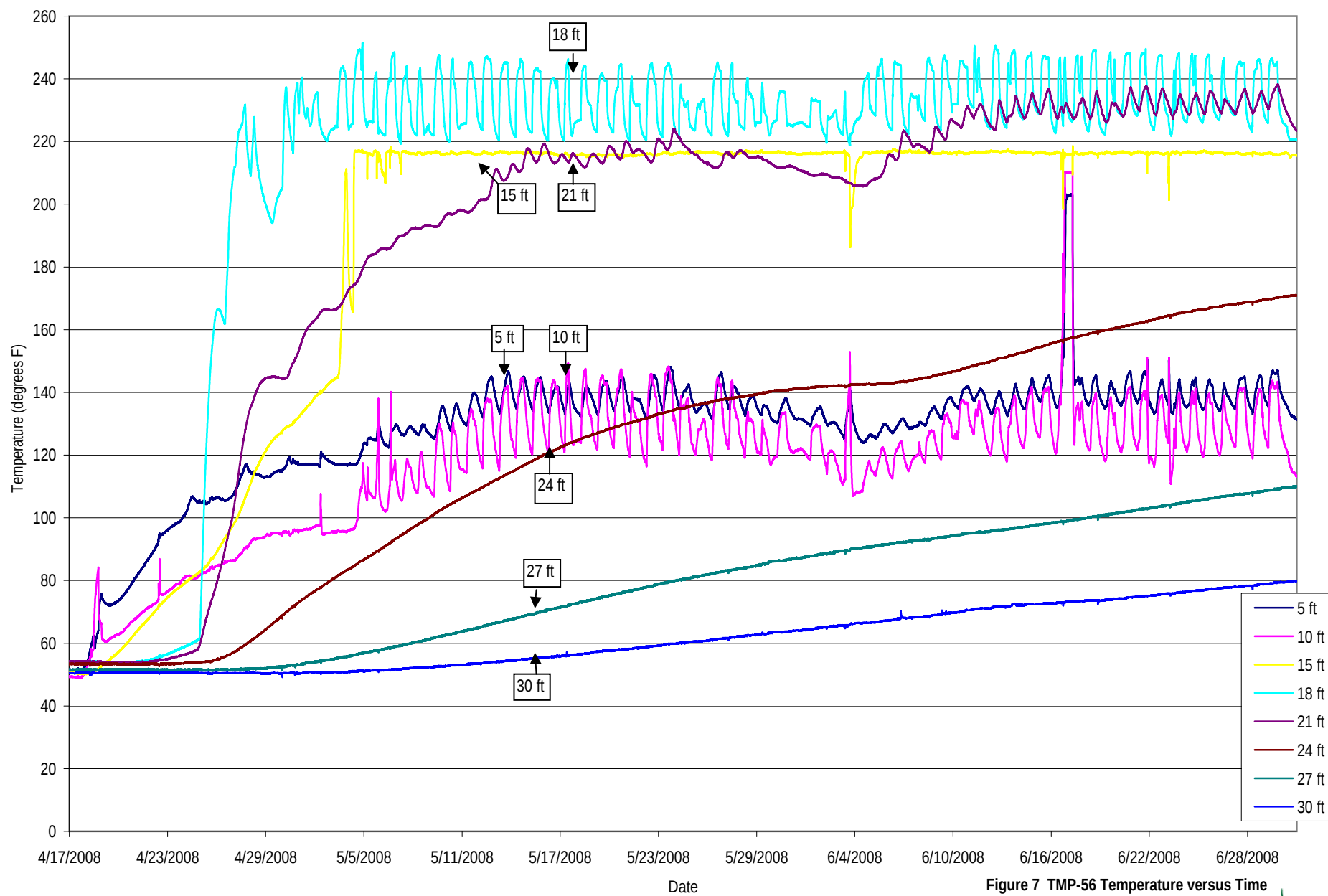


Figure 7 TMP-56 Temperature versus Time

Energizer Facility
401 Gage Street, Bennington, VT



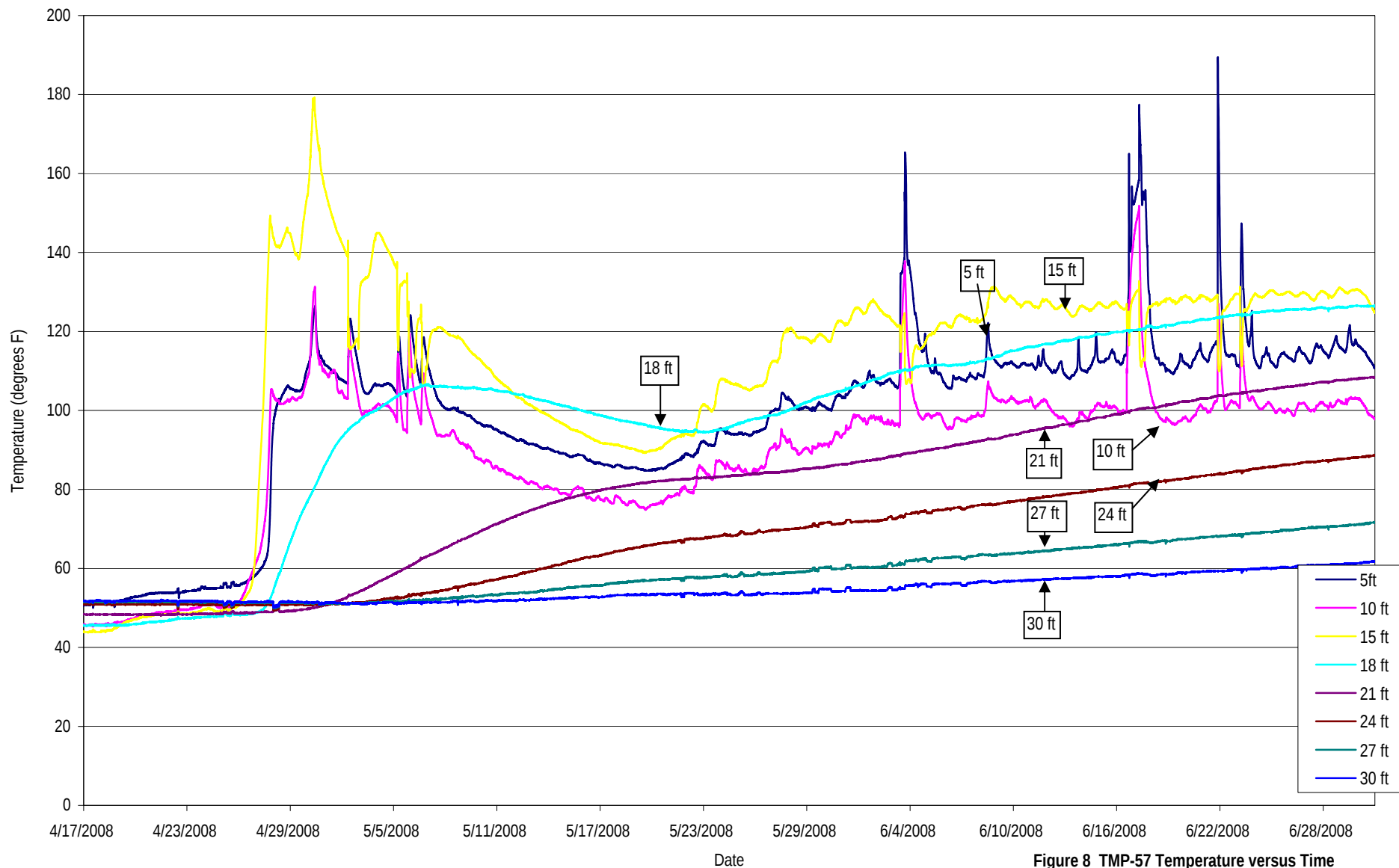


Figure 8 TMP-57 Temperature versus Time

Energizer Facility
401 Gage Street, Bennington, VT



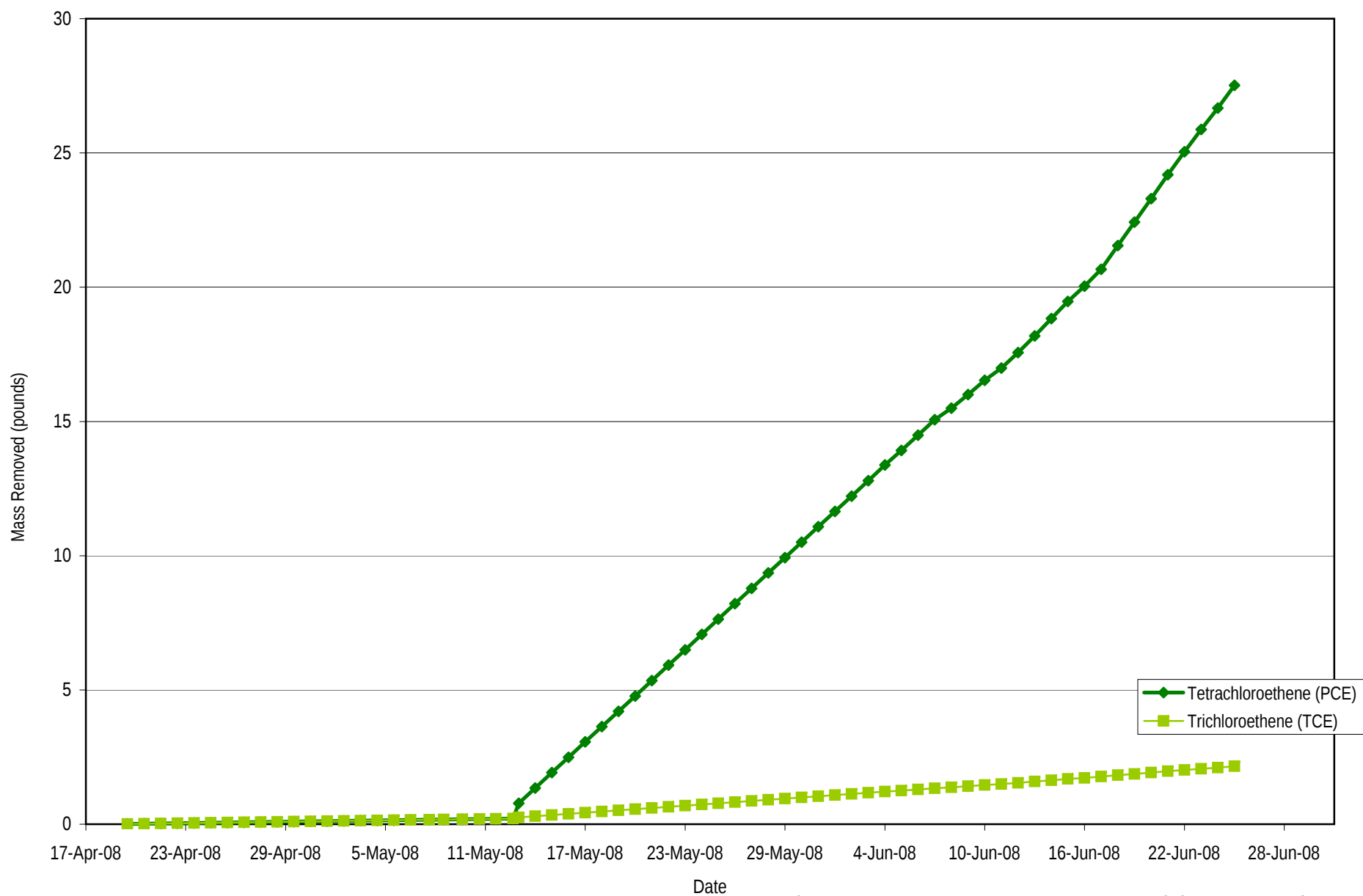


Figure 9 SVE System - Former Degreaser Room Cumulative Mass Removal

Energizer Facility
401 Gage Street, Bennington, VT



