Chittenden County Brownfields Program
Site Nomination / Assistance Request Form

For information on types of assistance available and CCRPC's protocol for deciding if, and to what degree to assist a request, see:
http://www.ccrpcvt.org/our-work/economic-development/brownfields/

Site Name: 99 Intervale Road Site

Site's Street Address/Town/Zip Code: 99 Intervale Road, Burlington, VT 05401

Parcel Tax ID #: 040-001-000 Property Size (Acres): 4.59 acres

Zoning District: Enterprise-Agricultrual Processing and Energy (E-AE)

Describe current use(s): Soil bunkers and a parking area

Describe former use(s): Portion of former Calkins Farm, parking area

Are there plans for acquisition and/or redevelopment? X Yes ___ No

If yes, attach a separate one to two-page document describing the anticipated benefits of the redevelopment such as housing units, commercial development, jobs, economic impact, recreation, etc. (see Site Evaluation Criteria at link above for the types of information to provide).

Have studies been conducted to identify or assess contamination? X Yes ___ No

If yes, please identify the title, author and date of the report, and if available, send us a PDF:
Supplemental Site Investigation Work Plan prepared by Weston & Sampson dated October 28, 2021

Potential contaminants include: ___ Petroleum X Other contaminants

What type(s) of site assessment or cleanup planning assistance are you seeking? Circle all that apply

Phase I Environmental Site Assessment	(Phase II Environmental Site Assessment)
Soil Monitoring during Construction	Archeological Site Assessment / Recon
Historic Preservation issues	Cleanup / Corrective Action Planning

Other Supplemental site soil testing as identified in the Supplemental Site Investigation Work Plan noted above

Property Owner Information:

Name: City of Burlington / CEDO Director Brian Pine Signature: 

Mailing Address: Burlington City Hall, 149 Church Street, Burlington, VT 05401

Phone: 802-578-6953 Email: bpine@burlingtonvt.org

Nomination Submitted By:

Name or Office: Travis Marcotte, Ex. Director Date Submitted: 4/1/2022

Mailing Address: Intervale Center, 180 Intervale Road, Burlington, VT 05401

Phone: 802-660-0440 Email: travis@intervale.org

Please Return Site Nomination Form (via PDF is preferred) to:
Dan Albrecht, Senior Planner
Chittenden County Regional Planning Commission 110 West Canal St., Suite 202 Winooski, VT 05404
*Phone: (802) 846-4490 Ext. *29; Email: dalbrecht@ccrpcvt.org*

CONCEPT SKETCH

Community Food Center

99 Intervale Road Site

NTS

white + burke
REAL ESTATE ADVISORS

April 1, 2022

Mr. Dan Albrecht, Senior Planner
Chittenden County Regional Planning Commission
110 West Canal Street, Suite 202
Winooski, Vermont 05404-2109

RE: Chittenden County Brownfields Program Site Nomination / Assistance Request form for 99 Intervale Road site in Burlington, Vermont

Dear Dan:

On behalf of the Intervale Center and the City of Burlington, we are submitting the following information for the Chittenden County Brownfields Program Site Nomination for 99 Intervale Road in Burlington, Vermont:

- Application form. The City of Burlington is the owner of the land and the Intervale Center and Gardeners Supply Company currently lease the land,
- Supplemental Project Information and Preliminary Project Narrative document,
- *Data Gaps Analysis and Supplemental Site Investigation Work Plan* document prepared by Weston & Sampson,
- VT DEC BRELLA letter,
- Concept sketch for the proposed project, and
- 99 Intervale Road Site Map.

The Intervale Center and City of Burlington applied for the site to be included in the State DEC BRELLA program and they received a determination of eligibility to participate on February 18, 2022.

Since August of 2021, the Intervale Center retained Weston & Sampson to prepare a *Data Gaps Analysis and Supplemental Site Investigation Work Plan* for the site, which was completed in October of 2021. This work identified additional soil, surface and groundwater assessment and testing that is needed at the site. The anticipated cost for this work is $29,667.

There is an archaeologically sensitive area located on the western side of the site where four test pits are shown. Scott Dillon of the State Historic Preservation Office was contacted, and he determined that archaeology testing needs to happen prior to conducting the brownfield testing. The UVM CAP estimated the cost for the archaeology work to be $2,500. This would bring the total cost for the additional soil, surface and groundwater assessment and testing to $32,167.

Steve Shaw of Weston & Sampson has reached out to other regional planning commissions in the State to see if they have any available funding for brownfield assessment work. Unfortunately, no regional planning commissions have any remaining funds to contribute to this work. We also contacted the VT DEC about potentially contributing to funding this work. At this time, we do not have a specific amount of what they can contribute.

Based on this, we are requesting $32,167 from the CCRPC Brownfield program for this additional soil, surface and groundwater assessment and testing.

Please let me know if you have any questions or need additional information.

Sincerely,

Gail Henderson-King

Attachments

C: Travis Marcotte
Brian Pine
Samantha Dunn

99 Intervale Road Site – Intervale Community Food Center
Chittenden County Regional Planning Commission Brownfields Program Site Nomination Supplemental Project Information
March 31, 2022

Updated Brownfield Request

The Intervale Center and CEDO are requesting funding for additional environmental testing identified in the *Data Gaps Analysis and Supplemental Site Investigation Work Plan* prepared by Weston & Sampson dated October 28, 2021.

Preliminary Project Description

There is an updated Preliminary Project Description that is attached to this document that explains the proposed Community Food Center vision and benefits.

What is the need for these services and this project?
Currently there is no facility in this immediate area to handle the warehousing and distribution of locally grown food. The pandemic has shown that there is a need for addressing food insecurity and food deserts within Vermont. This proposed Community Food Center will strengthen and enhance the food systems in the greater Burlington area and northwestern Vermont.

Is there a place where this occurs now but needs a larger space? What is the goal of this project? Expanding operations, identified issues, etc.
As noted above, this type of facility does not exist. This will be a new facility that will expand upon the current operations of the Intervale Center and its partners.

Who is paying for the food to be distributed?
These would be covered in the operational costs of the Community Food Center similar to how each organization does today.

Who is paying the farmers supplying food and product?
This is addressed in the Preliminary Project Description.

Will there be more impervious surface as a result of this project?
This project will most likely result in more impervious surfaces including the proposed building, vehicular circulation and parking, and walkways as shown in the Concept Sketch. It is an early concept that includes landscape plantings and gardens in keeping with the surrounding Intervale Center and Gardeners' Supply sites and will most likely will be refined as the project moves forward. A goal of the project will be to utilize green stormwater infrastructure that

incorporates infiltration, evapotranspiration, store, and reuse where possible for a more naturalized system approach to addressing runoff management that complies with the Vermont Stormwater Management rules and design guidance manual.

Commercial Potential

Is the project a mixed-use project?
Yes. The Community Food Center project will consist of agricultural enterprises consisting of office and commercial spaces, warehousing and fulfillment areas, and expanded parking for access to nearby recreational and open space access at the Intervale.

Open Space and Recreation Potential

Will site cleanup enable improvement or construction of a park in an area where it can be readily accessed by an underserved population?
The site cleanup will enable the creation of the Community Food Center that will include an expanded parking area that will be available to residents to access the Intervale Center trails and open spaces. It can be accessed by residents in the Burlington area who may not be able to walk or bicycle to the Intervale. These trails also connect with the extensive Burlington Bike Path network as well as McKensie Park, the Ethan Allen Homestead, and the Winooski River.

Will site cleanup involve creating or improving open or recreational space as part of a housing or commercial project?
As noted above, this site borders the Intervale Center's extensive 350 acre campus that currently supports recreational opportunities in addition to a large variety of agricultural and food initiatives serving the greater Burlington area.

Project Economic Impact

Does the project have the potential to create or retain jobs?
Yes, as noted in the preliminary project description. While it is early in the planning process, a conservative estimate is that the proposed Community Food Center will maintain 12 jobs and create 13 new jobs in addition to the potential for additional job creation through farm expansion.

Does the project have other economic development benefits?
Yes. See the preliminary project description.

- An Intervale Food Hub relocated to this Facility will open the current warehouse (an historically restored Dairy Barn) to future uses that can include educational camps, winter retreats, more general education opportunities and community access to the one of a kind Intervale.

To proceed in earnest with the full project development, it is essential that the City of Burlington and the Intervale Center have a thorough understanding of the environmental challenges, needs and cost for remediation on this parcel.

Additional Information

Will site cleanup reduce contamination of surface water or groundwater?
Yes. Currently the extent of groundwater contamination is unknown. The resulting testing should be able to identify the issues and determine corrective actions for reducing and / or eliminating further contamination.

What will CCRPC get out of this investment?
Without knowing the extent of environmental issues that need to be addressed, the Intervale Center and its partners are reluctant to move beyond the due diligence planning stage for this project. The site is now enrolled in the State BRELLA program. The Intervale Center and the City are committed to getting a CAP and a Certification of Completion for the site.

With the completion of this additional testing, there will be a clear work plan outlining what additional work is needed to develop this site. The City of Burlington and the Intervale Center will then be able to determine how to move forward to achieve a clean site for development. The CCRPC will be contributing to the redevelopment of an underutilized site that will bring more economic benefits to the City, the county, and northern Vermont.

VERMONT

AGENCY OF NATURAL RESOURCES

State of Vermont
Department of Environmental Conservation
Waste Management & Prevention Division
1 National Life Drive – Davis 1
Montpelier, VT 05620-3704
(802) 522-5683
shawn.donovan@vermont.gov

February 18, 2022

Interval Center
Attn: Travis Marcotte, Executive Director
180 Intervale Road
Burlington, VT 05401

RE: Intervale Center Parking Lot Project, 99 Intervale Road, Burlington, VT - **SMS Site #2010-4040**

BROWNFIELDS REUSE AND LIABILITY LIMITATION ACT DETERMINATION OF ELIGIBILITY

Dear Mr. Marcotte:

The Vermont Department of Environmental Conservation (DEC) has determined that the Intervale Center (Applicant) is eligible to participate in the Brownfields Reuse and Environmental Liability Limitation Act "BRELLA" as a prospective purchaser of the above referenced property. This determination is based on the application and supporting documentation submitted on January 14, 2022.

BRELLA provides participants with DEC staff assistance in the review and oversight of activities to investigate, abate, remediate and monitor, when necessary, a Brownfields site. A Certificate of Completion is issued upon performance of all actions required to attain cleanup levels established in a corrective action plan developed for the property. Statutory liability protections become effective upon issuance of the Certificate of Completion. Forbearance from state enforcement action is in effect during BRELLA participation provided that all required activities are being implemented in good faith.

Submittal and approval of a corrective action plan will be required to adequately protect human health and the environment at this property. The above referenced SMS Site number should be included in all correspondence. A final redevelopment plan that shows the type and location of buildings and improvements, and describes their intended use, must be submitted with the proposed corrective action plan. BRELLA requires that the public be provided with an opportunity to comment on the proposed corrective action plan prior to approval. Experience has shown that early involvement of, and continued communication with the public is integral to ultimate project success. Please keep me involved in all site related activities that may inform corrective action at the site. Periodically we will hold technical review meetings with BRELLA participants to ensure successful completion of each project.

As a participant in BRELLA you are required to follow the statutory provisions for this program that are codified at 10 V.S.A. §6641-§6656. Specifically, under *§ 6644 - General Obligations*, any person participating in the program shall do all the following:

> (1) Not provide any information required under this subchapter by fraud, intentional misrepresentation, failure to disclose material information, or providing false certification.

Intervale Community Food Center
Preliminary Project Description
March 31, 2022

A new Community Food Center at the Intervale Center will strengthen the Vermont farm and food system and create significant value for Vermont from a currently underutilized parcel of land. Our vision includes the purchase and redevelopment of a 5-acre parcel of Burlington City owned land that can support up to 40,000 square feet of new office, processing, warehousing, and fulfillment space. This builds on Vermont's commitment to producing more local, fresh, foods for all citizens; our collective commitment as an agricultural state to ensuring that farms across Vermont have access to markets for their food and are able to provide the open spaces and vistas so central to our culture and recreation, tourism and agricultural economy; and aligns perfectly with complimentary initiatives of partners like the City of Burlington, Vermont Foodbank and Center for an Agricultural Economy.

This parcel of land is a City of Burlington Agriculture and Energy Enterprise District with elements of our vision noted in local, county and state plans as part of building a more sustainable community and economy. This development has the potential to create community and economic development value by:

- **Adding back to our economy the necessary aggregation and distribution infrastructure that supports Vermont's farms as they scale to support local and regional markets.** The Intervale Food Hub (local distribution and home delivery), Vermont Way Foods (Boston and New York regional area markets) and a host of conventional distributors will benefit from a larger and more efficient space in the Intervale that supports product aggregation, warehousing and distribution.
- **Adding fresh food warehousing, fulfillment, and community engagement capacity for Vermont Foodbank**. Vermont Foodbank is seeking to build on their successful programs that bring fresh, culturally appropriate and Vermont produced foods to their stakeholders in Northwestern Vermont through new infrastructure that will provide efficiencies for Vermont Foodbank partners. For example, the Intervale Center aggregates fresh vegetables for Vermonters Feeding Vermonters and delivers to the Barre facility. An Intervale-based facility will increase efficiency

and allow more Vermont farmers the opportunity to deliver directly to a facility within and designed to serve the most densely populated region of Vermont.

- **Adding local processing capacity that can turn Vermont produced ingredients into higher value and shelf/freezer stable products**. The Intervale Center is in discussion with the Center for an Agricultural Economy (CAE) about how to expand or create a satellite facility for their Just Cut enterprise, a line of ready-to-use vegetable products and Farm Connex their food aggregation and delivery service. Intervale Center currently distributes Just Cut products to Sodexo/UVM and CAE distributes them to other Vermont schools, hospitals, and other regional institutions. Farm Connex currently aggregates and delivers products for nearly 100 farm and food businesses in Vermont. The Farm Connex service range is currently 12 of Vermont's 14 counties and eastern NH. adding aggregation delivery capacity for Farm Connex at the Intervale would allow the service to expand statewide and allow farms great access to markets outside of the Champlain Valley
- **Create jobs and opportunity for workforce training**. The design and configuration of programs and enterprises in this facility are not complete and employment numbers will be refined. A conservative estimate is 12 jobs maintained and 14 new jobs will be created.
  - Intervale Center will relocate and grow the Intervale Food Hub, support more Food Access programming, and create an aggregating hub for Vermont Way Foods (maintain 6 FTEs and add 4 FTEs at opening of facility).
  - Vermont Foodbank expects to add warehousing and create permanent office space for Foodbank employees (maintain 6 FTEs and add 4+ FTEs at opening).
  - Center For Agricultural Economy/Intervale Center satellite facility for Just Cut processing and storage (4 new FTEs) and could stage freight functions at the Center.
  - General facility support and management (create 2 FTEs).
  - Increasing the food security of a population will enhance human health and labor productivity resulting in more indirect employment and higher quality of life.
- **Creating jobs and economic benefit on Vermont farms of all types and returning dollars to Vermont communities.** Farmers and food makers will have more opportunity to sell their products through the Intervale Food Hub, Foodbank, Just

Cut and/or through Vermont Way Foods. These entities serve both commercial retail/wholesale markets and support our local food access programs so all have access to more wholesome foods.

- **Being informed by an emerging Community Food Security Partner Survey and Discussion that is evaluating opportunities that can enhance food security for all members of the community**. Community greenhouse, processing space, job training, and food business development space have been identified as important needs to secure our food supply into the future.
- **Creating new value for the Burlington community and building on existing and planned initiatives**:
  - Creates new value on a currently underutilized parcel of land
  - Aligns food aggregation, value added processing and job creation/training opportunities in Burlington with the Intervale Center's 350+ acres with farm and community gardens, and leading-edge programs and Statewide leadership in farm and food business development, market development and ecosystem restoration.
  - Build on the Intervale Center's recent purchase of 88 acres of land in the Intervale and a commitment to developing the campus as a robust model for farm and food system transformation elsewhere.
  - Aligns with the City's receipt of $1.162 M of VTrans funding to develop pedestrian amenities along Intervale Road (also supported in the most recent Bond vote for City of Burlington infrastructure).
  - Sustains and enhances community access to the Intervale District by improving existing parking and integrating into pedestrian flows and associated running, walking, biking, skiing, and other recreational usage and natural area engagement. This parcel is part of the "gateway" to the broader 4,000-acre Intervale that straddles an important stretch of Winooski River and open space in Burlington, Colchester, and Winooski.
  - Aligns with the BED District Heating project and recent funding commitments and could be a contributor to Vermont's sustainable energy goals. The Intervale Center has been in talks with BED and district heating engineers to ensure that this new facility can readily plug into a new district heating system if developed.

(2) Not engage in any activity that is inconsistent or interferes with monitoring, investigation, abatement, removal, or remediation activities or the conditions or restrictions in a certificate of completion.

(3) Provide access to and cooperate with the secretary and any person liable pursuant to section 6615 of this title acting subject to the approval of the secretary for investigation, abatement, removal, remediation, or monitoring activities at the property. The grant of access and all other provisions that the secretary determines necessary may be memorialized in the form of an interest in real property that runs with the land and is binding against successors and assigns.

(4) Comply with all rules and procedures required by the secretary and obtain all necessary permits, certifications, and other required authorizations prior to beginning any site investigation or corrective action plan activities.

(5) If an innocent current owner, pay any additional costs of the secretary's review and oversight of the site investigation or corrective action plan, or both.

(6) Provide the secretary with all documents and information relating to the performance of the investigation, abatement, removal, remediation, and monitoring activities.

(7) Defend, indemnify, save, and hold harmless the state from all claims and causes of action related to, or arising from, acts or omissions of the applicant in performing the site investigation and corrective action plan except in the case of either of the following:

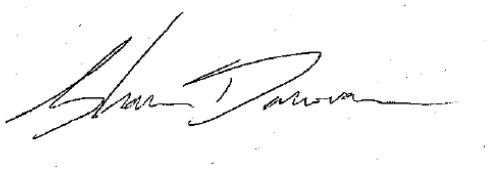
(A) Reimbursement of fees or costs improperly required by and paid to the secretary by the eligible person or successor.

(B) A cause of action related to the state's liability pursuant to subsection 6615(a) of this title.

Failure to adhere to the requirements dictated in the BRELLA statute may result in removal from the BRELLA program and all liability protection.

On behalf of the Vermont DEC, please accept my congratulations on this determination of eligibility. We greatly appreciate your interest and wish you success with your project. Brownfields redevelopment projects such as yours continue to revitalize and strengthen Vermont towns and communities. I am here to help make your project as effective and uncomplicated as possible. Please contact me if I can be of any assistance in this regard or to discuss any funding options that may be available for your project. I can be reached at 802-522-5683 and e-mail at shawn.donovan@vermont.gov.

Sincerely,



Shawn M. Donovan, Environmental Analyst
Sites Management Section, Brownfields Program
Waste Management and Prevention Division

cc: Sarah Bartlett, VTDEC (electronically)
Kristie Farnham, ACCD (electronically)
Brett Long, ACCD (electronically)
Dan Albrecht, CCRPC (electronically)

98 South Main Street, Suite 2, Waterbury, VT 05676
Tel: 802.244.5051

TASK ORDER REQUEST FORM

PROJECT NAME:	Supplemental Site Investigation – Phase A – Intervale Center					
LOCATION:	99 Intervale Road, Burlington, Vermont					
TASK DESCRIPTION: *(check one)*		Phase I ESA	X	Supplemental SI – Phase A		Groundwater Monitoring
		ECAA		CAP		Other
TO:	Dan Albrecht, Chittenden County Regional Planning Commission					
FROM:	Steven D. Shaw, PG, Weston & Sampson					
CC:	Travis Marcotte, Executive Director, Intervale Center					
DATE:	04/22/22					

Weston & Sampson Engineers, Inc. (Weston & Sampson), on behalf of the Intervale Center, prepared a Data Gaps Analysis and Supplemental Site Investigation (SSI) Work Plan for the Intervale Center Parking Lot Site (the Site; SMS # 2010-4040), located at 99 Intervale Road in Burlington, Vermont.

The Work Plan will be implemented in two phases. Phase A will include all soil borings and soil assessment. Phase B will include all groundwater monitoring and the final SSI report. The Work Plan, which covers both Phase A *and* Phase B, is provided as Attachment 1. Only the Phase A activities described below, and included in Table 1, will be completed under this contract.

Scope of Services:

Task 1 - Project Management: This task includes Weston & Sampson coordination with the VTDEC, CCRPC, and the Intervale Center. If the Work Plan must be reformatted as a Site-Specific Quality Assurance Project Plan (SSQAPP), this will be completed under this task.

Task 2: Field Activities – Phase A: Weston & Sampson will complete the following field activities pertinent to soil assessment. Descriptions of these activities are provided in the Work Plan.

- Boring markout
- Completing soil borings and well installation
- Soil Analysis
- Stockpile Sampling
- Sediment Sampling

Cost Estimate: Our Level of Effort and Cost Table (Table 1) is attached including a breakdown of work and basis of our estimated costs to be paid on a time and expenses basis in accordance with our existing contract.

Total Cost: $18,250

If the work scope terms and costing are acceptable, please sign below and return to our office. We are prepared to initiate this work immediately upon your approval.

Steven D. Shaw, P.G.
Regional Manager

_____

Charles Baker, Executive Director — Date
Chittenden County Regional Planning Commission

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TABLE 1
LEVEL OF EFFORT AND ESTIMATED COSTS
99 INTERVALE SUPPLEMENTAL SITE INVESTIGATION - PHASE A

4/22/2022

						Billing Costs		
TASK					**TOTAL**		**SUB-**	**TOTAL**
NO.	**TASK DESCRIPTION**	**PM**	**PM**	**SCI III**	**HOURS**	**EXPENSES**	**CONSULT.**	**COST**
1	Project Management	1	8	10	19			$2,090
2	Field Activities	2			2			$300
	-Drilling Contractor						$5,125	$5,125
	-Markout			4	4	$30		$390
	-Soil Borings/Well Installation		2	12	14			$1,340
	-Soil Analysis							
	Shallow Soil		2	12	14			$1,340
	-PAHs (8 + 1 duplicate)						$982	$982
	-RCRA 8 Metals (8 + 1 duplicate)						$872	$872
	-PFAS (1 + 1 duplicate)						$615	$615
	-PCBs (4 + duplciate)						$359	$359
	Soil Borings							
	-PAHs (6 samples + 1 duplicate)						$764	$764
	-RCRA 8 Metals (6 samples + 1 duplicate)						$678	$678
	-PFAS (2 samples)						$615	$615
	Stockpiles		1	2	3			$310
	-PAHs (4 samples)						$437	$437
	-RCRA 8 Metals (4 samples)						$387	$387
	-PFAS (4 samples)						$1,230	$1,230
	Sediment							
	-PAHs (1 sample + duplicate)						$218	$218
	-RCRA 8 Metals (1 sample + duplicate)						$194	$194
	TOTALS	**3**	**13**	**40**	**56**	**$30**	**$12,476**	**$18,246**
	LABOR BILLINGS PER STAFF MEMBER	**$450**	**$1,690**	**$3,600**				

Weston & Sampson

westonandsampson.com

98 South Main Street, Suite 2
Waterbury, VT 05676
tel: 802.244.5051

WORK PLAN

October 28, 2021

Intervale Center Parking Lot Site
(SMS# 2010-4040)
99 Intervale Road
Burlington, Vermont

Supplemental Site
Investigation Work Plan

Prepared for:
Intervale Center

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1.0 SITE BACKGROUND

Weston & Sampson Engineers, Inc. (Weston & Sampson), on behalf of the Intervale Center, has prepared this Data Gaps Analysis and Supplemental Site Investigation (SSI) Work Plan for the Intervale Center Parking Lot Site (the Site; SMS # 2010-4040), located at 99 Intervale Road in Burlington, Vermont (Figure 1). This Work Plan is provided for the Intervale Center to evaluate future potential costs for assessment and will need to be approved by the Vermont Department of Environmental Conservation (VTDEC) prior to implementation. We recommend the completion of a Phase I ESA and entry into the Vermont Brownfields Reuse and Environmental Liability Limitation Act (BRELLA) program prior to presenting the proposed work to the VTDEC, as the Site manager may change with entry into the program.

1.1 Site Location

Street Address: 99 Intervale Road
Latitude (North): 44.4920420 - 44˚ 29' 31.35''
Longitude (West): 73.2060970 - 73˚ 12' 21.94''
Universal Transverse Mercator: Zone 18
UTM X (Meters): 642631.0
UTM Y (Meters): 4928090.0
Elevation: 127 ft. above sea level
Site Owner: City of Burlington Community Economic Development Office (CEDO)
County: Chittenden
Parcel ID: 040-1-001-000
Size: 4.59 acres

1.2 Current Use of Property

The Site is developed with a gravel parking lot and several three-sided concrete-block "bunkers" used to store clean soil for the adjoining Gardner's Supply property (garden center). No other structures or buildings are present on the Site. Site features are shown on Figure 2.

1.3 Current Use of Adjacent Properties

The Site is zoned Enterprise – Agricultural Processing and Energy. The area surrounding the Site is primarily commercial and agricultural, with light manufacturing to the south. A rail line adjoins the property to the south.

1.4 Background

The Site is a former agricultural property at least as early as the mid-1800s. Agricultural buildings present on the Site appear to have been removed sometime in the 1970s. A Phase I Environmental Site Assessment (ESA) completed by Ross Environmental Associates (REA) states that the general area (the Intervale) has a known history of abandoned junk cars being present on several of the properties. They further note that biosolids were land-applied for agricultural use in the general area before the 1980's.

In 2015, a portion of the Site was redeveloped as a gravel parking lot, accomplished under a Soil Management Plan (SMP) approved by the VTDEC. The SMP included pre- and post- excavation sampling which indicated that arsenic concentrations in the removed soil exceeded the soil standards at that time. Excess soil was placed in two stockpiles on 6-millimeter (mil.) polyethylene sheeting, covered with a high-visibility indicator fabric and then covered with at least 12 inches of clean topsoil.

Several environmental assessments occurred at the Site prior to the construction of the parking lot. In January 2010, REA completed a Phase I ESA which identified several recognized environmental conditions (RECs) including potential impacts from nearby off-Site sources, and possible releases from agricultural/residential uses (petroleum or hazardous materials) and/or debris from the demolition of previous Site buildings.

In 2011, REA completed a Phase II ESA which included the assessment of soil and groundwater for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), metals, and total petroleum hydrocarbons (TPH). The Phase II identified arsenic, lead, and polycyclic aromatic hydrocarbons (PAHs) in shallow soil above the soil standards at that time. Several metals (arsenic, chromium, lead, and silver) were identified in groundwater above the groundwater standards at that time.

1.5 Data Gaps Analysis

Weston & Sampson has performed a review of existing Site information to identify potential data gaps that should be addressed through further assessment activities. This included a review of pertinent database listings, several historical data sources, and available Site environmental reports.

Weston & Sampson used a third-party data provider, Environmental Data Resources (EDR) of Shelton, Connecticut, to provide the database listing report as well as historical fire insurance maps, aerial photographs, topographic maps, and city directories for the area. Weston & Sampson also performed a review of the VTDEC Environmental Research Tool (ERT) and the online Vermont Agency of Natural Resources (ANR) Atlas. The ERT is updated daily and allows users to identify and check the status of hazardous waste sites and spill sites in Vermont. The Atlas provides geographic information about environmental features and Sites that the Vermont ANR manages, monitors, permits, or regulates. The reviewed database report and historical data sources are provided in Appendix A.

The review of database listings and historical data sources did not reveal any new information regarding past Site uses. As noted above, the Site is a former agricultural property at least as early as the mid-1800s and the Site buildings appear to have been removed sometime in the 1970s. A review of current database listings identified several potential off-Site sources, two of which were identified as potential sources in the original Phase I. Each listing was reviewed and listing summaries are provided in the table below.

Auto Repair - Various
Several auto repair facilities are located upgradient of the Site. Auto repair is considered a high-risk use, and potential releases are considered close enough to present a risk of impacting environmental media at the Site. Identified facilities include: • Charlebois Garage, ~500 feet upgradient: Petroleum releases identified which caused sheens on the Winooski River in 2000 and 2002. No additional information regarding the actual source was obtained. • Intervale Automotive, ~500 feet crossgradient: Reported use of benzene, trichloroethene (TCE), and tetrachloroethene (PCE). • Vermont Transit Company Garage, ~900 feet upgradient: Listed for several diesel underground storage tanks (USTs) removed in the 1980s and 1990s. • Fleetpride, Inc. ~800 feet upgradient: Used chemical such as lead, chromium, and benzene. • Good News Garage, ~1000 feet upgradient Auto repair activities. • Champlain Transmission, ~1,200 feet upgradient: listed for PAHs in soil and tetrachloroethene (PCE) in soil gas. Groundwater was not assessed as part of investigation due to an anticipated depth of approximately 100 feet below ground surface. • J&S Auto Repair, ~1,300 feet upgradient: Reported use of lead, benzene, TCE, and PCE.

Solid Waste Facility/Landfills - Various
Three nearby solid waste facilities were identified, including the McNeil Generating Station Wood Ash Landfill, Sleep Well Recycling center (which recycles mattresses and box springs), and Queen City Steel (which recycles steel and does onsite fabrication). Based on the types of materials disposed of at McNeil Generating Station and Sleep Well recycling center, these facilities are considered to present a low risk of impacting environmental media at the Site. Queen City Steel, based on its location adjoining the upgradient side of the Site, and potential for several septic systems identified by REA during their initial Phase I ESA, is considered to pose a risk for impacting environmental medial at the Site.
112-114 Archibald Street; 27 Bright Street, 35-39 Bright Street; 47 Bright Street
This property, locate approximately 1,200 feet south (upgradient) of the Site, consists of four adjoining properties listed for PAH impacts to soil and tetrachloroethene in soil gas at one of the properties (112-114 Archibald Street). The Site was remediated and received a Certificate of Completion in 2017. Based on the distance to the Site and the regulatory status, this property is considered to present a low risk of impacting environmental media at the Site.

As noted above, assessment activities have occurred at the Site. Soil and groundwater data collected during the Phase II ESA are presented in Tables 1 and 2. Soil results are compared to the current Vermont Soil Standards (VSS) for residential and non-residential use and groundwater results are compared to the current Vermont Groundwater Enforcement Standards (VGES). Shallow soil samples were collected at seven locations from the upper four inches. Eleven borings were completed for evaluating subsurface soil conditions, however only four soil samples were collected, one each from borings SB-2, SB-8, SB-11, and SB-12. Locations from which samples were collected are shown on Figure 2.

One shallow soil sample (SS-5) behind the current location of the soil bunkers, had concentration of polycyclic aromatic hydrocarbons (PAHs) greater than the current urban background value, but below the non-residential VSS. This location also had several elevated metals, with cadmium above ethe residential VSS and arsenic and lead above both the residential and non-residential VSS. This location is currently under one of the stockpiles of leftover soil from the construction of the parking lot.

Two other locations, SB-2 and SB-12, located in the central portion of the Site, also had arsenic exceedances of the residential and non-residential VSS. No other exceedances of the current VSS were observed, though the detection limit for arsenic at SS-3 (41.8 mg/kg) was well above the current VSS (16 mg/kg).

In groundwater, only metals (arsenic, chromium, and lead) were observed above the current VGES at MW-1 and MW-3. No exceedances were observed at MW-2. Reporting limits for several compounds 1,2,3-trichlorobenzene, 1,2,3-trichloroporpane, methylene chloride, bis(2-ethylhexyl)phthalate, and naphthalene were above the VGES, however only naphthalene is considered potential contaminant of concern.

During the Phase II assessment activities, an abandoned electrical transformer was observed near boring SB-12. No assessment activities of the transformer were performed.

Several data gaps were identified in the review of available documentation, including the following:

- The distribution of metals and/or PAH exceedances has not been delineated near SS-5, SB-2, and SB-12.
- The detection limit for arsenic at SS-3 (41.8 mg/kg) during previous assessment activities was above the current VSS (16 mg/kg).
- During the previous assessment, an abandoned transformer was observed in the vicinity of boring SB-12. No assessment activities of the transformer were performed. It is possible that PCB-containing mineral oil dielectric fluid (MODF) was released.
- No assessment activities have been completed in two areas of the Site, identified as "archeologically sensitive areas." Conceptual redevelopment plans identify a portion of these areas for the location of a proposed parking lot.
- Biosolids were historically applied to the land surface for agricultural purposes in the general area prior to 1980. Land application of biosolids is a common source of per- and poly-fluorinated alkyl substances (PFAS) and an impact both soil and groundwater.
- Two soil stockpiles on-Site were created when the parking lot was constructed. Concentrations of arsenic at the time of stockpiling were above the soil standards at the time. However, arsenic concentrations were below the current VSS for residential use. It is possible that this soil can be spread on-Site, however additional sampling of the stockpile will need to be completed. Potential contaminants that were not assessed (such as PFAS) should be included.
- On-Site sediment and surface water in low-lying wet areas has not been evaluated.
- Site groundwater has been assessed and has identified only metals in groundwater above the current VGES. However, detection limits for several compounds were higher than the current VGES. Of these contaminants, only naphthalene is considered a likely contaminant of concern.
- Site groundwater impacted with metals may be migrating off Site to the north, downgradient of monitoring well MW-3.
- Several current and former auto repair facilities and a solid waste facility are located within 1,300 feet upgradient of the Site. Potential releases at these facilities may have impacted Site groundwater since the previous work was completed.

1.6 Purpose

This SSI Work Plan has been developed to address the data gaps identified above.

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2.0 CONCEPTUAL SITE MODEL

2.1 Site Description

The Site is developed with a gravel parking lot and several three-sided concrete-block "bunkers" used to store clean soil for the adjoining Gardner's Supply property (garden center). No other structures or buildings are present on the Site. Former agricultural structures were likely removed in the 1970s.

The topography of the Site slopes from the south-southeast approximately 80 feet downwards from a large hill along the southern edge of the property towards the northern edge of the property.

Surficial geology on the site is mapped as alluvial deposits with sands and gravels. Phase II assessment activities reported that Site soil is consistent with mapped deposits. Mapped bedrock at the Site is a red quartzite interbedded with dolomite. Bedrock has not been encountered at the Site to a maximum boring depth of 24 ft. bgs.

The Site is located within a Designated Urban Soil Zone as defined by the VTDEC and shown on the online ANR Atlas. These are areas in which the use of VTDEC urban background values for concentrations of polycyclic aromatic hydrocarbons (PAHs) in soil may be used when evaluating contaminant concentrations.

Previous investigation indicates that local groundwater flow is to the north towards the Winooski River which flows to the north and is located approximately 650 feet east of the Site. Groundwater has been encountered between approximately 4 and 19 feet below ground surface (ft. bgs).

2.2 Contaminants of Concern, Distribution, and Potential Sources

Contaminants identified above applicable standards include the following:

- metals (arsenic, cadmium, and lead) and PAHs in shallow soil,
- metals (arsenic) in subsurface soil, and
- metals (arsenic, chromium, and lead) in groundwater.

Several additional contaminants of concern (COCs) added after a review of existing data gaps include PCBs in the vicinity of an abandoned transformer, PFAS due to the former land-application of sludge in the area, and VOCs, SVOCs, and metals in groundwater from potential off-Site releases south of the Site.

2.3 Migration Pathways

Releases at the Site would likely have occurred at the surface, by former uses (land application of biosolids and/or storage of junk cars). A source for metals impacts has not been identified. Contaminants would migrate downwards through the vadose (unsaturated) zone to the groundwater interface. Once in the groundwater, the contaminants will flow advectively with groundwater towards the southeast. Contaminants from nearby sources upgradient or cross-gradient of the Site could flow advectively with groundwater towards the Site.

2.4 Sensitive Receptors

A Sensitive Receptor Map, generated with the Agency of Natural Resources online Natural Resources Atlas, is provided as Figure 3.

The Site and properties adjoining to the north, east, and west are zoned "Enterprise – Agricultural Processing and Energy." Properties further north are zoned Recreation/Conservation - "RCO – Agriculture." The Winooski River is located approximately 650 feet east of the Site.

No public water sources or source protection areas are mapped downgradient of the Site. Several private wells are mapped within 2,000 feet downgradient of the Site. One wetland area is mapped on the Site and several wetlands or wetland advisory layers are mapped downgradient of the Site.

Potential human receptors include Site users (such as Intervale employees, visitors, or trespassers) construction workers and utility workers performing subsurface activities, and nearby residents and users of private drinking water wells downgradient of the Site. Potential ecological receptors include biota in on-Site/nearby wetland areas and aquatic biota in on-Site surface water and in the nearby Winooski River.

2.5 Exposure Pathways

Potential exposure pathways to sensitive receptors include direct contact or ingestion of contaminated soil, sediment, groundwater, or surface water and inhalation of indoor air. No buildings are present on the Site; therefore, this exposure pathway is considered incomplete.

Several complete or unknown exposure pathways have been identified:

- Site Users could encounter impacted surface soil:
  - Shallow soil is impacted with arsenic at one location (SB-12), and with arsenic, cadmium, lead, and cPAHs at one location (SS-5).
  - Shallow soil may be impacted with PFAS due to biosolid deposition.
  - Shallow soil in the vicinity of the former abandoned transformer (near SB-12) may be impacted with PCBs.
- Future Site Users performing subsurface work could encounter impacted subsurface soil:
  - Subsurface soil is impacted with arsenic at SB-2.
- Ecological receptors could encounter impacted sediment on-Site.
  - Sediment may be impacted with metals or PAHs identified in shallow soil.
- Future Site Users performing subsurface work and off-Site Users whose water source is a private drinking water well could encounter impacted groundwater.
  - Groundwater is impacted with arsenic, chromium, and lead.
  - Groundwater may be impacted with PFAS due to leaching from biosolid deposition.
  - Groundwater may be impacted with VOCs and/or SVOCs from off-Site sources.
- Users and aquatic biota could encounter impacted surface water in on-Site surface water and in the nearby Winooski River.
  - Surface water may be impacted with metals identified in shallow soil and groundwater.

The following table summarizes the potentially affected media, sensitive receptors that may be impacted and addresses whether each exposure pathway is considered complete, incomplete, or is currently unknown.

Impacted Media	Contaminants Of Concern	Sensitive Receptors	Exposure Pathways	Exposure Pathway Complete?
Surface Soil	PAHs, Metals, PCBs, PFAS	Site Users	Direct Contact, Ingestion	Complete
Subsurface Soil	Metals,	Future Site users (construction/utility workers)	Direct Contact, Ingestion	Complete
Sediment	PAHs, Metals	Biota	Direct Contact, Ingestion	Unknown
Groundwater	VOCs, SVOCs,(incl PAHs), Metals, PFAS	Site users	Direct Contact, Ingestion	Incomplete
		Future Site users (construction/utility workers)	Direct Contact, Ingestion	Complete
		Off-Site users (nearby residents)	Direct Contact, Ingestion	Unknown
Surface Water	PAHs, Metals,	Recreational Users	Direct Contact, Ingestion	Unknown
		Aquatic Biota	Direct Contact, Ingestion	Unknown
Indoor Air	'--	Site users	Inhalation	Incomplete
		Off-Site users (nearby residents)	Inhalation	Incomplete

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3.0 SITE CHARACTERIZATION STRATEGY

3.1 Applicable Standards

The screening criteria for soil will be the Vermont Soil Standards (VSS) for residential use published in the Vermont Investigation and Remediation of Contaminated Properties Rule (I-Rule), effective July 6, 2019.

The screening criteria for groundwater will be the Vermont Groundwater Enforcement Standards (VGES), published in Chapter 12: Groundwater Protection Rule and Strategy of the State of Vermont Environmental Protection Rules, effective July 6, 2019.

The screening criteria for sediment will be the Sediment Quality Guidelines (SQG) for the protection of aquatic biota in freshwater systems published in the I-Rule.

The screening criteria for surface water will be the Vermont Water Quality Standards (WQS) published in Chapter 29A: Vermont Water Quality Standards, of the State of Vermont Environmental Protection Rules, effective January 15, 2017.

3.2 Field Activities and Analytical Methods

Prior to subsurface field activities, the proposed boring location will be marked and Dig Safe and the local Department of Public Works will be notified to clear utilities.

3.2.1 Soil Assessment

Eleven (11) shallow soil borings (SS-100 through SS-110) are proposed (Figure 4). We anticipate these borings will be installed with a hand auger. During boring advancement, soil will be screened for visual or olfactory evidence of contamination and screened for VOCs with a PID.

One sample will be collected from each location from 0-1.5 feet below ground surface (ft. bgs). Locations SS-100, 101, and 102 have been chosen to delimit the extent of metals and PAH exceedances at former location SS-5 and will be analyzed for RCRA 8 metals with EPA Method 6010/7470 and PAHs with EPA Method 8270(SIM).

Locations SS-102 through 105 have been chosen to identify if PCBs are present in shallow soil near the former abandoned transformer and will be analyzed for PCBs with EPA Method 8082 with Soxhlet extraction.

Locations SS-105 through SS-109 have been chosen to identify if metals or PAHs are present around former location SS-3 (which had elevated detection limits for arsenic) or in the archeologically sensitive areas. Coordination with an archeologist will be necessary to determine if sampling in these areas can be completed. These samples will be analyzed for RCRA 8 Metals with EPA Method 6010/7470 and PAHs with EPA Method 8270(SIM).

The sample at SS-101 will also be analyzed for PFAS with Method 537.1 to determine if the potential application of biosolids at the Site has resulted in PFAS impacts

The following table summarizes the analyses for each location

Location	Analysis
SS-100	RCRA 8 Metals, PAHs
SS-101	RCRA 8 Metals, PAHs, PFAS
SS-102	RCRA 8 Metals, PAHs, PCBs
SS-103 through SS-105	PCBs
SS-106 through SS-110	RCRA 8 Metals, PAHs

Three on-Site soil borings (SB-100 through SB-102) are proposed (**Figure 4**). We anticipate that these borings will be advanced with direct push drilling. During boring advancement, soil will be screened for visual or olfactory evidence of contamination and screened for VOCs with a PID. Borings will be advanced to approximately 5 feet below the groundwater interface, anticipated to be between 4 and 19 ft bgs.

One soil sample will be collected from 0-1.5 ft. bgs and a second sample will be collected either at the interval with the highest evidence of contamination (visual, olfactory and/or PID reading) or just above the groundwater interface if no obvious contamination is identified. These samples will be analyzed for PAHs with EPA Method 8270(SIM) and RCRA 8 metals with EPA Method 6010/7470. The shallow samples at SB-100 and SB-102 will also be analyzed for PFAS with Method 537.1 to determine if the potential application of biosolids at the Site has resulted in PFAS impacts.

The following table summarizes the analyses for each location.

Location		Analysis
SB-100	0-1.5 ft. bgs **AND** Evidence of contamination **OR** just above groundwater interface	RCRA 8 Metals, PAHs (PFAS at upper interval **ONLY**)
SB-101	0-1.5 ft. bgs **AND** Evidence of contamination **OR** just above groundwater interface	RCRA 8 Metals, PAHs
SB-102	0-1.5 ft. bgs **AND** Evidence of contamination **OR** just above groundwater interface	RCRA 8 Metals, PAHs (PFAS at upper interval **ONLY**)

Four shallow soil borings will be advanced into the two on-Site stockpiles (SP-1 through SP-4). We anticipate that these samples will be collected with a hand auger. These borings will be advanced, and a sample collected from the 2-foot interval in the approximate center of the thickness of the stockpile. These samples will be analyzed for PAHs with EPA Method 8270(SIM), RCRA 8 metals with EPA Methods 6010/7471, and PFAS with Method 537.1.

3.2.2 Sediment Assessment

One sediment sample (SED-1) will be collected from the unmapped wetland area on the southwestern corner of the Site. The sample will be collected from the upper 0.5 foot of sediment and will be analyzed for PAHs with EPA Method 8270(SIM) and RCRA 8 metals with EPA Method 6010/7470.

3.2.3 Surface Water Assessment

One surface water sample (SW-1) will be collected from surface water in the southwestern corner of the Site. This sample will be analyzed for PAHs with EPA Method 8270(SIM), and total RCRA 8 metals with EPA Method 6010/7470.

3.2.4 Groundwater Monitoring Well Installation

Boring SB-100 will be completed as a replacement well for MW-2, which has been damaged, and the new well will be called MW-2R. Borings SB-101 and SB-102 will be completed as groundwater monitoring wells MW-4 and MW-5. Monitoring wells will be screened across the groundwater interface and will be constructed of 1.5" or 2" Schedule 40 PVC with 10-ft long 0.010" factory-slotted screens. Wells will be completed with stickup protective steel standpipes, secured in concrete.

After monitoring well installation, the wells will be developed by purging groundwater until the groundwater runs clear. Purged groundwater will be discharged to the ground surface in the vicinity of the monitoring well.

3.2.5 Groundwater Monitoring

The monitoring wells will be allowed to equilibrate for at least one week before sampling.

The two undamaged original Site wells (MW-1 and MW-3) and the newly installed wells, MW-2R, MW-4, and MW-5, will be sampled in conformance with EPA Region I "Low Stress (low flow) Purging and Sampling Procedure for the Collection of Groundwater Samples from Monitoring Wells", EQASOP-GW4 (Revision 4, September 19, 2017). Groundwater samples will be analyzed for VOCs with EPA Method 8260, SVOCs with EPA Method 8270, PAHs with EPA Method 8270(SIM), total RCRA 8 metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver) with EPA Methods 6010/7471, and PFAS with Method 537.1.

3.3 Sample Location Strategy

The field activities described in Section 3.2 are intended to address the data gaps identified in the review of existing data. A summary of the data gaps and the samples intended to address these gaps is provided in the table below.

Data Gap	Media to be Assessed	Sample Locations
Distribution of metals and/or PAH exceedances has not been fully delineated	Shallow or subsurface soil near SS-5, SB-2, and SB-12.	SS-102 through SS-105; SB-102
Arsenic detection limit at SS-3 was above the VSS.	Shallow soil near SS-3	SS-106 through SS-108
Potential releases from abandoned transformer	Shallow soil in the vicinity of the former transformer.	SS-100 through SS-105
Assessment in "archaeologically sensitive" areas.	Shallow soil in these areas	SS-106 through SS-110
Potential for impacts from biosolids possibly placed on the Site	Shallow soi, groundwater, and stockpile soil	SS-101; SB-100, SB-102; MW-1 through MW-5
Stockpile soil quality	Stockpiled soil	SP 1 through SP-4
On-Site sediment and surface water quality	On-Site sediment and surface water	SED-1; SW-1
Potential off-Site migration of impacted groundwater	Off-Site groundwater	Not planned this phase
Potential releases at upgradient facilities may have impacted Site groundwater since previous work.	Groundwater migrating from upgradient onto the Site from the south. .	MW-2R; MW-4; MW-5

One data gap (off-Site water quality downgradient of the Site) will not be addressed under this proposed scope of work. If impacted groundwater from an on-Site source is identified at MW-3 during this assessment, an additional off-Site well may need to be installed downgradient of this location.

3.4 Site Survey

The location of the new monitoring wells will be surveyed for inclusion on the Site map.

3.5 Standard Operating Procedures

The following Weston & Sampson Standard Operating Procedures will be used during this SSI. Copies of the SOPs were previously submitted to the VTDEC.

SOP-2	Jar Headspace Screening
SOP-3	Sampling Soil from Split Spoon/Direct Push Sampling Device
SOP-5	Pre-Marking Boring Locations
SOP-7	Observing Direct Push Soil Borings
SOP-8	Decontaminating Equipment
SOP-9	Measuring Groundwater Levels
SOP-10	Sampling Soil with a Scoop or Hand Auger
SOP-11	Low Flow Groundwater Sampling
SOP-12	Elevation Survey
SOP-13	Surface Water Sampling
SOP-25	Per- and Polyfluorinated Alkyl Substance-Related Sampling

3.6 Investigation Derived Waste

Soil cuttings will be used to fill well annuluses above bentonite seals. Purged groundwater from sampling activities will be returned to the well from which it was collected after sampling is complete.

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4.0 QUALITY ASSURANCE/QUALITY CONTROL PLAN

4.1 Data Usability

4.1.1 Laboratory Data Evaluation

Weston & Sampson will perform a Tier I evaluation of the data to identify bias or other interference that could affect the quality of sample results. Quality control (QC) components that will be evaluated include the following:

- Data completeness
- Holding times
- Sample preservation
- Blank results
- Surrogate recoveries
- Laboratory control sample results
- Field duplicates

The following QA/QC Samples will be collected:

Parameter	Matrix	Number of Samples	Trip Blanks	Blind Field Duplicates
VOCs	Groundwater	5	1	1
SVOCs (and/or PAHs)	Soil	18	0	2
	Sediment	1	0	1
	Surface Water	1	0	1
	Groundwater	5	0	1
RCRA 8 Metals	Soil	18	0	2
	Sediment	1	0	1
	Surface Water	1	0	1
	Groundwater	5	0	1
PCBs	Soil	4	0	1
PFAS	Soil	7	0	1
	Groundwater	5	0	1

4.1.2 PARCCS Evaluation

Weston & Sampson will evaluate the data in general accordance with the PARCCS (precision, accuracy, representativeness, completeness, comparability, and sensitivity) parameters outlined in the *U.S. Environmental Protection Agency Guidance on Quality Assurance Project Plans.*

Precision

Precision is a measure of agreement among individual measurements of the same property and is generally expressed as the reproducibility of the analytical result between initial sample and field duplicate as expressed by the relative percent difference (RPD). Precision is a measure of the reproducibility of sampling technique, matrix homogeneity, and analytical method. An RPD value of <50% is considered acceptable for soil and <30% is considered acceptable for groundwater.

Accuracy

Accuracy is the degree of measurement with an accepted reference or true value. Weston & Sampson will evaluate accuracy by reviewing surrogate results, laboratory control sample results, and calibration QC results.

Representativeness

Representativeness expresses the degree to which data accurately and precisely represent a characteristic of the population, parameter variation, or environmental condition. Weston & Sampson has designed the sampling protocol to ensure representativeness by incorporating factors such as site history, visual and olfactory observations, physical features, proper sample collection and preservation procedures, appropriate testing methodology, and field screening data.

Completeness

Completeness is a measure of whether enough data has been collected to support a regulatory opinion and is expressed as a percentage representing the ratio of valid data to expected data. Data may be considered invalid for reasons such as exceeding the holding time, poor calibration of analytical instruments, and poor surrogate or matrix spike recoveries.

Comparability

Comparability refers to the level of confidence with the correlation of data collected during separate events or by different persons or analyzed by different methods. This may be measured qualitatively based on a review of sampling and testing procedures or quantitatively by comparison of sample data collected at the same location using the same sampling and testing procedures. Sampling and testing procedures will use accepted standards for quality assurance and quality control and are expected to be comparable to any future data collected at the Site.

Sensitivity

Sensitivity is a measure of whether the laboratory method was sufficient to report detected contaminants at concentrations at or below the applicable regulatory criteria. The selected laboratory, Pace, can achieve the appropriate sensitivity for this project.

5.0 SCHEDULE AND COSTS

5.1 Project Timeline

The proposed timeline for this project is detailed in the table provided below, shaded cells indicate weeks of expected work:

Task	Weeks from Approval to Proceed									
	1	2	3	4	5	6	7	8	9	10
Workplan Approval										
Field Activities										
Laboratory Analysis										
Reporting										

5.2 Project Costs

The total anticipated cost for this work is $29,667. A breakdown of anticipated costs for this scope of work are provided in Table 3.

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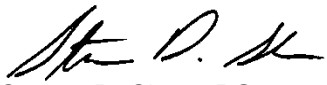
6.0 SIGNATURE OF ENVIRONMENTAL PROFESSIONAL

This report was prepared by the following individuals:

Margaret Reilly
Staff Scientist

I certify under penalty of perjury that I am an environmental professional and that all content contained within this deliverable is to the best of my knowledge true and correct.



Steven D. Shaw, PG
Project Manager

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FIGURES

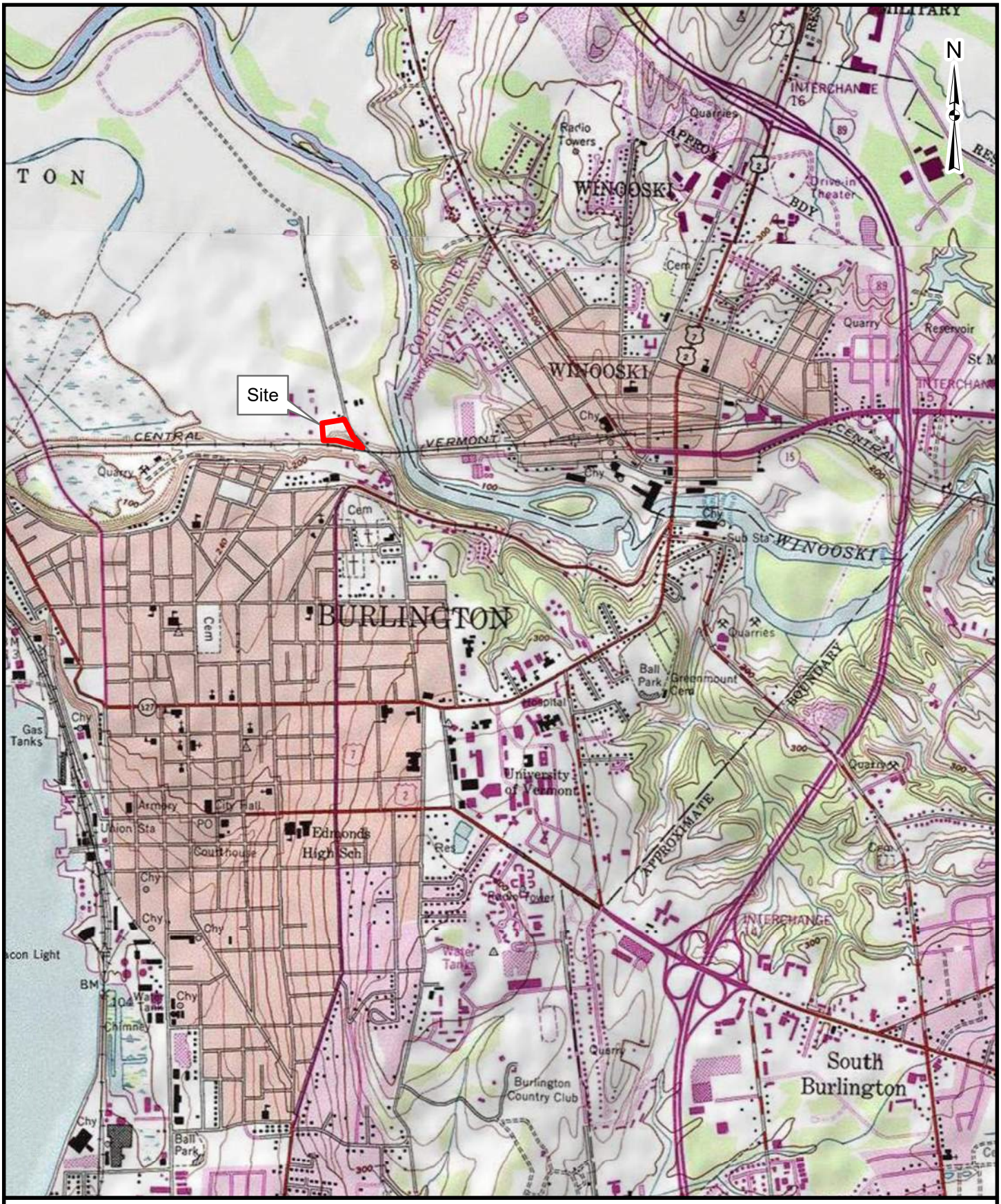
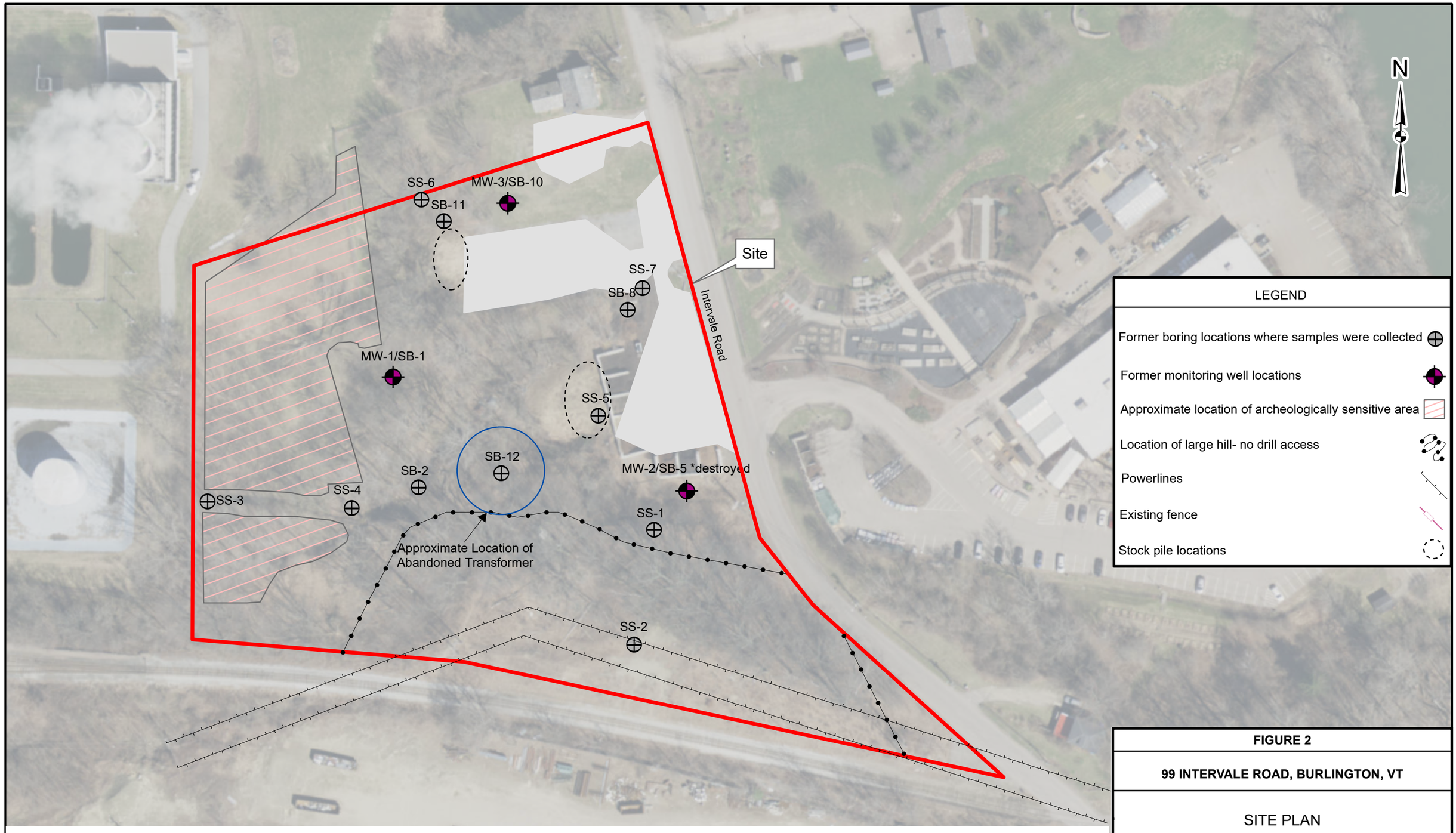


FIGURE 1
99 INTERVALE ROAD, BURLINGTON, VT

LOCUS MAP

1 in = 2,000 ft

Weston & Sampson



LEGEND

- Former boring locations where samples were collected
- Former monitoring well locations
- Approximate location of archeologically sensitive area
- Location of large hill- no drill access
- Powerlines
- Existing fence
- Stock pile locations

FIGURE 2

99 INTERVALE ROAD, BURLINGTON, VT

SITE PLAN

Weston & Sampson SM

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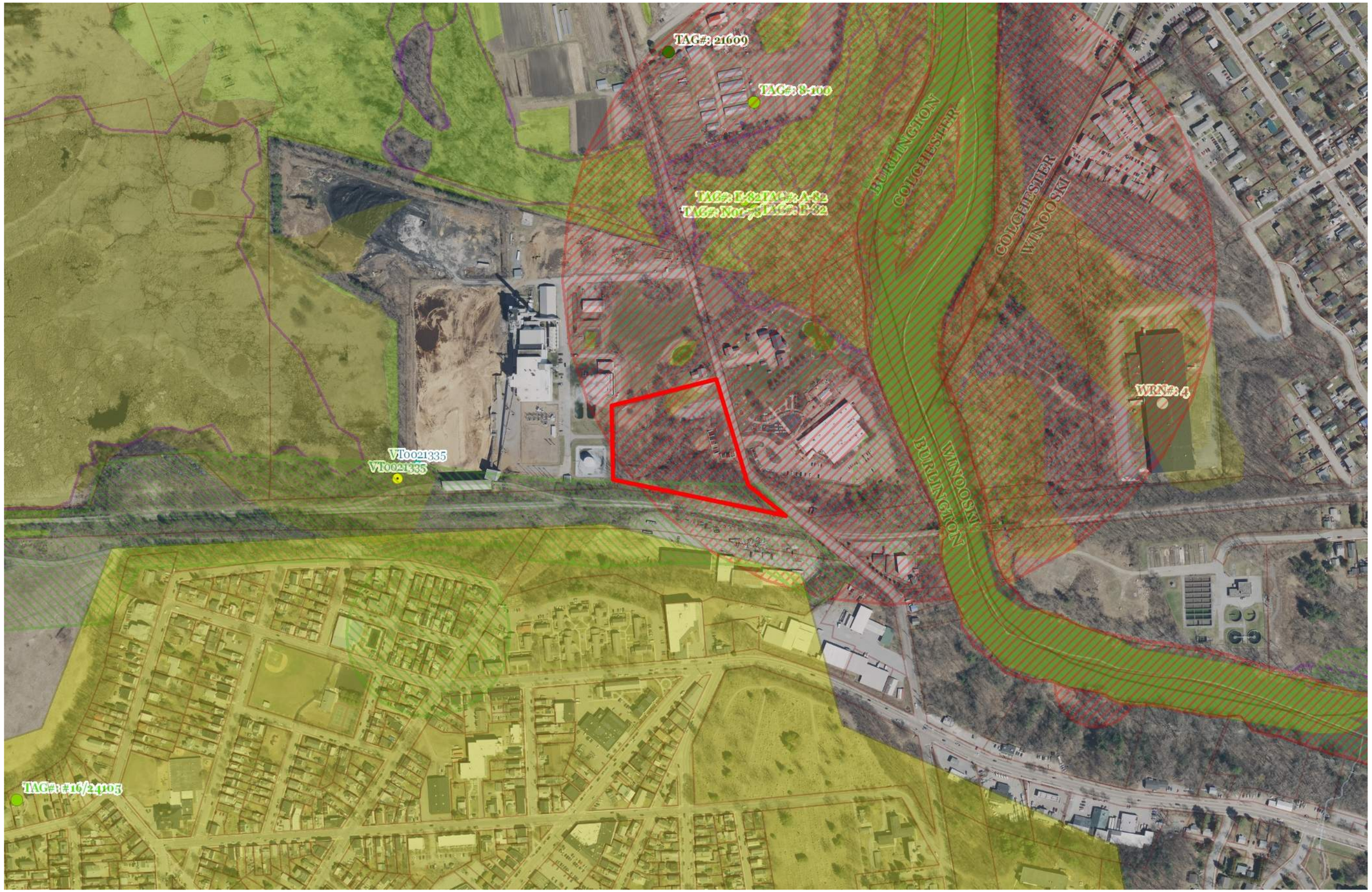
Natural Resources Atlas

Vermont Agency of Natural Resources

vermont.gov



LEGEND

- Rare Threatened Endangered Species
  - Threatened or Endangered
  - Rare
- Significant Natural Community
- Wetland - VSWI
  - Class 1 Wetland
  - Class 2 Wetland
  - Buffer
- Wetlands Advisory Layer
- Private Wells
  - Incorrectly Located
  - GPS Located
  - Screen Digitized
  - E911 Address Matched
  - Welldriller/Clarion
  - Unknown Location Method
- Public Water Sources
  - Active
  - Proposed
  - Inactive
- SurfaceWaterSPA
  - Active
  - Inactive
- Ground Water SPA
  - Active
  - Proposed
  - Inactive
- Parcels (standardized)
- Stream/River
  - Stream
  - Intermittent Stream
- Town Boundary

FIGURE 3
99 INTERVALE ROAD
SENSITIVE RECEPTORS MAP

1: 5,000

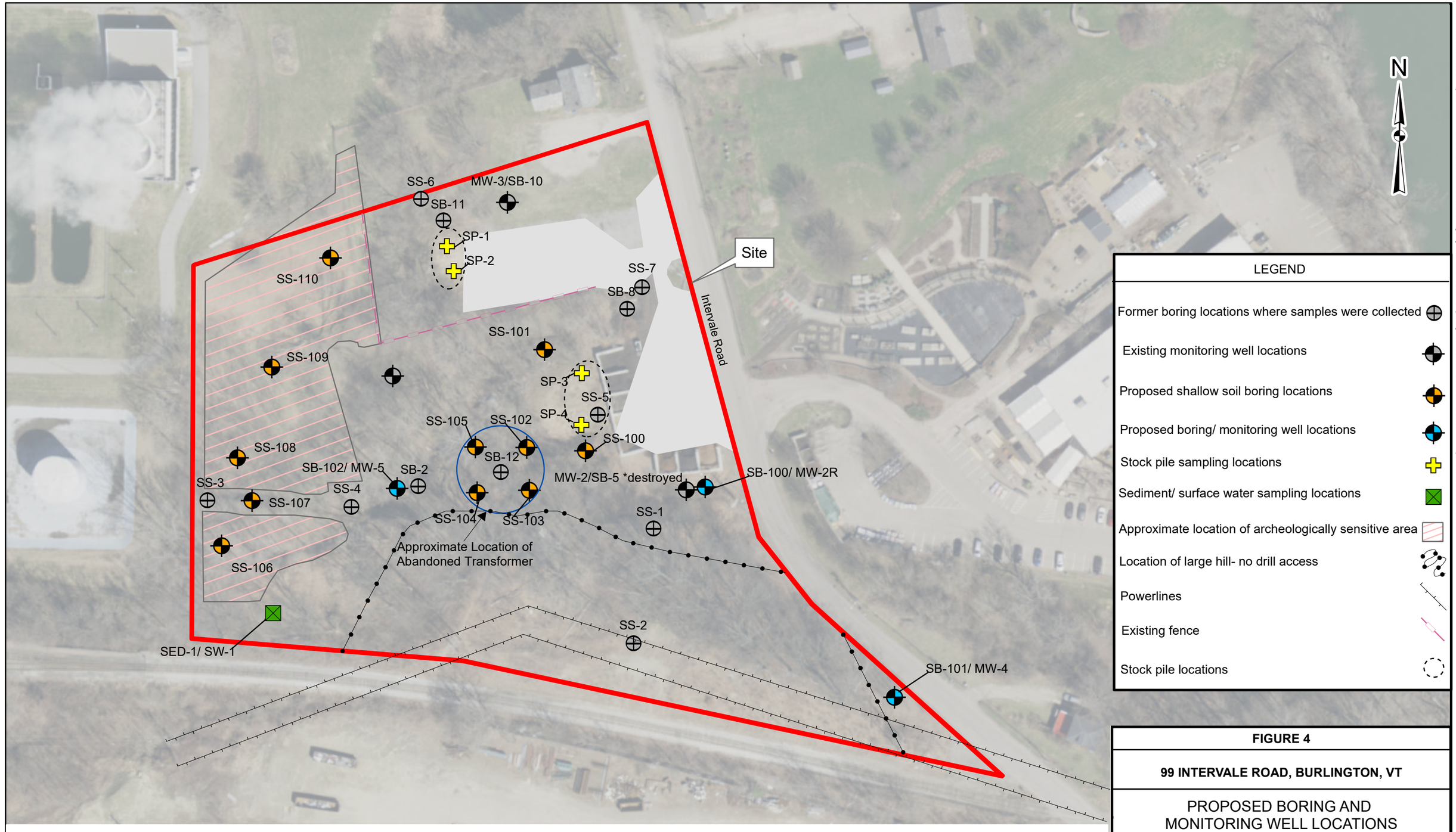
1in = 417 ft.
1cm = 50 meters

254.0 0 127.00 254.0 Meters

WGS_1984_Web_Mercator_Auxiliary_Sphere

NOTES

Map created using ANR's Natural Resources Atlas



LEGEND

- Former boring locations where samples were collected
- Existing monitoring well locations
- Proposed shallow soil boring locations
- Proposed boring/ monitoring well locations
- Stock pile sampling locations
- Sediment/ surface water sampling locations
- Approximate location of archeologically sensitive area
- Location of large hill- no drill access
- Powerlines
- Existing fence
- Stock pile locations

FIGURE 4

99 INTERVALE ROAD, BURLINGTON, VT

PROPOSED BORING AND
MONITORING WELL LOCATIONS

Weston & Sampson

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TABLES

TABLE 1
HISTORICAL SOIL RESULTS
99 INTERVALE ROAD
BURLINGTON, VERMONT

Sample	Units	RPF	EPA RSL Resident	EPA RSL Industrial	VSS Resident	VSS Non-Resident	SS-1		SS-2		SS-3		SS-4		SS-5		SS-6		SS-7	
							10/6/2010		10/6/2010		10/6/2010		10/6/2010		10/6/2010		10/6/2010		10/6/2010	
							Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
VOCs																				
1,1,1,2-Tetrachloroethane	mg/kg		2	8.8	1.3	8	0.027	U	0.013	U	0.031	U	0.045	U	0.087	U	0.023	U	0.028	U
1,1,1-Trichloroethane	mg/kg		8100	36000			0.027	U	0.013	U	0.031	U	0.045	U	0.087	U	0.023	U	0.028	U
1,1,2,2-Tetrachloroethane	mg/kg		0.6	2.7			0.027	U	0.013	U	0.031	U	0.045	U	0.087	U	0.023	U	0.028	U
1,1,2-Trichloroethane	mg/kg		1.1	5			0.027	U	0.013	U	0.031	U	0.045	U	0.087	U	0.023	U	0.028	U
1,1-Dichloroethane	mg/kg		3.6	16	2.1	13	0.027	U	0.013	U	0.031	U	0.045	U	0.087	U	0.023	U	0.028	U
1,1-Dichloroethene	mg/kg		230	1000			0.027	U	0.013	U	0.031	U	0.045	U	0.087	U	0.023	U	0.028	U
1,1-Dichloropropene	mg/kg						0.027	U	0.013	U	0.031	U	0.045	U	0.087	U	0.023	U	0.028	U
1,2,3-Trichlorobenzene	mg/kg		63	930			0.027	U	0.013	U	0.031	U	0.045	U	0.087	U	0.023	U	0.028	U
1,2,3-Trichloropropane (1*)	mg/kg		0.0051	0.11	0.00311	0.07	0.027	U	0.013	U	0.031	U	0.045	U	0.087	U	0.023	U	0.028	U
1,2,4-Trichlorobenzene	mg/kg		24	110			0.3	U	0.25	U	0.35	U	0.42	U	0.73	U	0.29	U	0.31	U
1,2-Dibromo-3-chloropropane	mg/kg						0.13	U	0.064	U	0.16	U	0.22	U	0.43	U	0.12	U	0.14	U
1,2-Dibromoethane (1*)	mg/kg		0.036	0.16	0.02	0.14	0.027	U	0.013	U	0.031	U	0.045	U	0.087	U	0.023	U	0.028	U
1,2-Dichlorobenzene	mg/kg		1800	9300			0.3	U	0.25	U	0.35	U	0.42	U	0.73	U	0.29	U	0.31	U
1,2-Dichloroethane	mg/kg		0.46	2	0.29	1.7	0.027	U	0.013	U	0.031	U	0.045	U	0.087	U	0.023	U	0.028	U
1,2-Dichloropropane	mg/kg		2.5	11	1.5	9.1	0.027	U	0.013	U	0.031	U	0.045	U	0.087	U	0.023	U	0.028	U
1,3-Dichlorobenzene	mg/kg						0.3	U	0.25	U	0.35	U	0.42	U	0.73	U	0.29	U	0.31	U
1,3-Dichloropropane	mg/kg		1600	23000			0.027	U	0.013	U	0.031	U	0.045	U	0.087	U	0.023	U	0.028	U
1,4-Dichlorobenzene	mg/kg		2.6	11			0.3	U	0.25	U	0.35	U	0.42	U	0.73	U	0.29	U	0.31	U
1-Methyl-4-(propan-2-yl)benzene	mg/kg						0.027	U	0.013	U	0.031	U	0.045	U	0.087	U	0.023	U	0.028	U
2,2-Dichloropropane	mg/kg						0.027	U	0.013	U	0.031	U	0.045	U	0.087	U	0.023	U	0.028	U
2-Chlorotoluene	mg/kg		1600	23000			0.027	U	0.013	U	0.031	U	0.045	U	0.087	U	0.023	U	0.028	U
2-Hexanone	mg/kg		200	1300			0.27	U	0.13	U	0.31	U	0.45	U	0.8700001	U	0.23	U	0.28	U
4-Chlorotoluene	mg/kg		1600	23000			0.027	U	0.013	U	0.031	U	0.045	U	0.087	U	0.023	U	0.028	U
4-Methyl-2-pentanone	mg/kg		33000	140000			0.27	U	0.13	U	0.31	U	0.45	U	0.8700001	U	0.23	U	0.28	U
Acetone	mg/kg		61000	670000	40609	100028	0.27	U	0.13	U	0.31	U	0.45	U	0.8700001	U	0.23	U	0.28	U
Bromobenzene	mg/kg		290	1800			0.027	U	0.013	U	0.031	U	0.045	U	0.087	U	0.023	U	0.028	U
Bromochloromethane	mg/kg		150	630	193	597	0.027	U	0.013	U	0.031	U	0.045	U	0.087	U	0.023	U	0.028	U
Bromodichloromethane	mg/kg		0.29	1.3			0.027	U	0.013	U	0.031	U	0.045	U	0.087	U	0.023	U	0.028	U
Bromoform	mg/kg		19	86			0.054	U	0.026	U	0.063	U	0.09	U	0.17	U	0.047	U	0.056	U
Bromomethane	mg/kg		6.8	30			0.054	U	0.026	U	0.063	U	0.09	U	0.17	U	0.047	U	0.056	U
Carbon disulfide	mg/kg		770	3500	608	662	0.054	U	0.026	U	0.063	U	0.09	U	0.17	U	0.047	U	0.056	U
Carbon tetrachloride	mg/kg		0.65	2.9	0.37	2.2	0.027	U	0.013	U	0.031	U	0.045	U	0.087	U	0.023	U	0.028	U
Chlorobenzene	mg/kg		280	1300	414	726	0.027	U	0.013	U	0.031	U	0.045	U	0.087	U	0.023	U	0.028	U
Chloroethane	mg/kg		14000	57000			0.054	U	0.026	U	0.063	U	0.09	U	0.17	U	0.047	U	0.056	U
Chloroform	mg/kg		0.32	1.4			0.027	U	0.013	U	0.031	U	0.045	U	0.087	U	0.023	U	0.028	U
Chloromethane	mg/kg		110	460			0.054	U	0.026	U	0.063	U	0.09	U	0.17	U	0.047	U	0.056	U
cis-1,2-Dichloroethene	mg/kg		160	2300	140	1814	0.027	U	0.013	U	0.031	U	0.045	U	0.087	U	0.023	U	0.028	U
cis-1,3-Dichloropropene	mg/kg		1.8	8.2			0.027	U	0.013	U	0.031	U	0.045	U	0.087	U	0.023	U	0.028	U
Dibromo(chloro)methane	mg/kg						0.027	U	0.013	U	0.031	U	0.045	U	0.087	U	0.023	U	0.028	U
Dibromomethane	mg/kg		24	99			0.027	U	0.013	U	0.031	U	0.045	U	0.087	U	0.023	U	0.028	U
Dichlorodifluoromethane	mg/kg		87	370			0.054	U	0.026	U	0.063	U	0.09	U	0.17	U	0.047	U	0.056	U
Diethyl Ether	mg/kg		16000	230000			0.27	U	0.13	U	0.31	U	0.45	U	0.8700001	U	0.23	U	0.28	U
Hexachlorobutadiene	mg/kg		1.2	5.3			0.3	U	0.25	U	0.35	U	0.42	U	0.73	U	0.29	U	0.31	U
Isopropylbenzene	mg/kg		1900	9900	256	264	0.027	U	0.013	U	0.031	U	0.045	U	0.087	U	0.023	U	0.028	U
Methyl ethyl ketone	mg/kg		27000	190000	16952	26991	0.27	U	0.13	U	0.31	U	0.45	U	0.8700001	U	0.23	U	0.28	U
Methyl tert butyl ether	mg/kg		47	210	649	4464	0.027	U	0.013	U	0.031	U	0.045	U	0.087	U	0.023	U	0.028	U
Methylene chloride	mg/kg		57	1000			**0.25**		**0.15**		0.063	U	0.09	U	0.17	U	**0.19**		**0.29**	
n-Butylbenzene	mg/kg		3900	58000	3504	51100	0.027	U	0.013	U	0.031	U	0.045	U	0.087	U	0.023	U	0.028	U
n-Propyl benzene	mg/kg		3800	24000	253	261	0.027	U	0.013	U	0.031	U	0.045	U	0.087	U	0.023	U	0.028	U
sec-Butylbenzene	mg/kg		7800	120000	7009	102200	0.027	U	0.013	U	0.031	U	0.045	U	0.087	U	0.023	U	0.028	U
Styrene	mg/kg		6000	35000			0.027	U	0.013	U	0.031	U	0.045	U	0.087	U	0.023	U	0.028	U
tert-Butylbenzene	mg/kg		7800	120000	7009	102200	0.027	U	0.013	U	0.031	U	0.045	U	0.087	U	0.023	U	0.028	U
Tetrachloroethene	mg/kg		24	100	2.4	14	0.027	U	0.013	U	0.031	U	0.045	U	0.087	U	0.023	U	0.028	U

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							10/6/2010		10/6/2010		10/6/2010		10/6/2010		10/6/2010		10/6/2010		10/6/2010	
							Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Tetrahydrofuran	mg/kg		18000	95000			0.27	U	0.13	U	0.31	U	0.45	U	0.8700001	U	0.23	U	0.28	U
trans-1,2-Dichloroethene	mg/kg		70	300	1402	18137	0.027	U	0.013	U	0.031	U	0.045	U	0.087	U	0.023	U	0.028	U
trans-1,3-Dichloropropene	mg/kg		1.8	8.2			0.027	U	0.013	U	0.031	U	0.045	U	0.087	U	0.023	U	0.028	U
Trichloroethene	mg/kg		0.94	6	0.68	6.5	0.027	U	0.013	U	0.031	U	0.045	U	0.087	U	0.023	U	0.028	U
Trichlorofluoromethane	mg/kg		23000	350000			0.054	U	0.026	U	0.063	U	0.09	U	0.17	U	0.047	U	0.056	U
Vinyl Chloride	mg/kg		0.059	1.7	0.1	0.59	0.027	U	0.013	U	0.031	U	0.045	U	0.087	U	0.023	U	0.028	U
Benzene	mg/kg		1.2	5.1	0.7	4.2	0.027	U	0.013	U	0.031	U	0.045	U	0.087	U	0.023	U	0.028	U
Ethylbenzene	mg/kg		5.8	25	3.7	22	0.027	U	0.013	U	0.031	U	0.045	U	0.087	U	0.023	U	0.028	U
m,p-Xylene	mg/kg		550	2400			**0.047**		**0.033**		**0.049**		0.045	U	0.087	U	0.023	U	0.028	U
o-Xylene	mg/kg		650	2800			0.027	U	**0.015**		0.031	U	0.045	U	0.087	U	0.023	U	0.028	U
Toluene	mg/kg		4900	47000	706	798	0.027	U	0.013	U	0.031	U	0.045	U	0.087	U	0.023	U	0.028	U
Xylenes (total)	mg/kg		580	2500	252	257	**0.047**	Y	**0.048**	Y	**0.049**	Y	0	U, Y	0	U, Y	0	U, Y	0	U, Y
1,2,4-Trimethylbenzene	mg/kg		300	1800			**0.034**		**0.023**		**0.062**		0.045	U	0.087	U	0.023	U	0.028	U
1,3,5-Trimethylbenzene	mg/kg		270	1500			0.027	U	0.013	U	0.031	U	0.045	U	0.087	U	0.023	U	0.028	U
SVOCs																				
1,2-Diphenylhydrazine (1*)	mg/kg		0.68	2.9			0.3	U	0.25	U	0.35	U	0.42	U	0.73	U	0.29	U	0.31	U
2,4,5-Trichlorophenol	mg/kg		6300	82000			0.3	U	0.25	U	0.35	U	0.42	U	0.73	U	0.29	U	0.31	U
2,4,6-Trichlorophenol	mg/kg		49	210			0.3	U	0.25	U	0.35	U	0.42	U	0.73	U	0.29	U	0.31	U
2,4-Dichlorophenol	mg/kg		190	2500			0.3	U	0.25	U	0.35	U	0.42	U	0.73	U	0.29	U	0.31	U
2,4-Dimethylphenol	mg/kg		1300	16000			0.3	U	0.25	U	0.35	U	0.42	U	0.73	U	0.29	U	0.31	U
2,4-Dinitrophenol	mg/kg		130	1600			0.6	U	0.51	U	0.71	U	0.84	U	1.5	U	0.57	U	0.62	U
2,4-Dinitrotoluene	mg/kg		1.7	7.4			0.3	U	0.25	U	0.35	U	0.42	U	0.73	U	0.29	U	0.31	U
2,6-Dinitrotoluene (1*)	mg/kg		0.36	1.5			0.3	U	0.25	U	0.35	U	0.42	U	0.73	U	0.29	U	0.31	U
2-Chloronaphthalene	mg/kg		4800	60000			0.3	U	0.25	U	0.35	U	0.42	U	0.73	U	0.29	U	0.31	U
2-Chlorophenol	mg/kg		390	5800			0.3	U	0.25	U	0.35	U	0.42	U	0.73	U	0.29	U	0.31	U
2-Methylnaphthalene	mg/kg		240	3000			0.3	U	0.25	U	0.35	U	0.42	U	0.73	U	0.29	U	0.31	U
2-Methylphenol	mg/kg		3200	41000			0.3	U	0.25	U	0.35	U	0.42	U	0.73	U	0.29	U	0.31	U
2-Nitroaniline	mg/kg		630	8000			0.6	U	0.51	U	0.71	U	0.84	U	1.5	U	0.57	U	0.62	U
2-Nitrophenol	mg/kg						0.3	U	0.25	U	0.35	U	0.42	U	0.73	U	0.29	U	0.31	U
3,3-Dichlorobenzidine	mg/kg		1.2	5.1			0.3	U	0.25	U	0.35	U	0.42	U	0.73	U	0.29	U	0.31	U
3-Nitroaniline	mg/kg						0.6	U	0.51	U	0.71	U	0.84	U	1.5	U	0.57	U	0.62	U
4,6-Dinitro-2-methylphenol	mg/kg		5.1	66			0.6	U	0.51	U	0.71	U	0.84	U	1.5	U	0.57	U	0.62	U
4-Bromophenyl phenyl ether	mg/kg						0.3	U	0.25	U	0.35	U	0.42	U	0.73	U	0.29	U	0.31	U
4-Chloroaniline	mg/kg		2.7	11			0.3	U	0.25	U	0.35	U	0.42	U	0.73	U	0.29	U	0.31	U
4-Chlorophenyl phenyl ether	mg/kg						0.3	U	0.25	U	0.35	U	0.42	U	0.73	U	0.29	U	0.31	U
4-Methylphenol	ug/kg		6300000	82000000			300	U	250	U	350	U	420	U	730	U	290	U	310	U
4-Nitroaniline	mg/kg		27	110			0.6	U	0.51	U	0.71	U	0.84	U	1.5	U	0.57	U	0.62	U
4-Nitrophenol	mg/kg						0.6	U	0.51	U	0.71	U	0.84	U	1.5	U	0.57	U	0.62	U
Acenaphthene	mg/kg		3600	45000			0.3	U	0.25	U	0.35	U	0.42	U	0.73	U	0.29	U	0.31	U
Acenaphthylene	mg/kg						0.3	U	0.25	U	0.35	U	0.42	U	0.73	U	0.29	U	0.31	U
Anthracene	mg/kg		18000	230000			0.3	U	0.25	U	0.35	U	0.42	U	0.73	U	0.29	U	0.31	U
Benzo(g,h,i)perylene	mg/kg						0.3	U	0.25	U	0.35	U	0.42	U	0.73	U	0.29	U	0.31	U
Benzoic acid	mg/kg		250000	3300000			0.6	U	0.51	U	0.71	U	0.84	U	1.5	U	0.57	U	0.62	U
Benzyl alcohol	mg/kg		6300	82000			0.6	U	0.51	U	0.71	U	0.84	U	1.5	U	0.57	U	0.62	U
bis(2-Chloroethoxy)methane	mg/kg		190	2500			0.3	U	0.25	U	0.35	U	0.42	U	0.73	U	0.29	U	0.31	U
bis(2-Chloroethyl)ether (1*)	mg/kg		0.23	1			0.3	U	0.25	U	0.35	U	0.42	U	0.73	U	0.29	U	0.31	U
bis(2-Chloroisopropyl)ether	mg/kg		3100	47000	2804	36274	0.3	U	0.25	U	0.35	U	0.42	U	0.73	U	0.29	U	0.31	U
bis(2-Ethylhexyl)phthalate	mg/kg		39	160	20	120	0.3	U	0.25	U	0.35	U	0.42	U	0.73	U	0.29	U	**0.42**	
Butyl benzyl phthalate	mg/kg						0.3	U	0.25	U	0.35	U	0.42	U	0.73	U	0.29	U	0.31	U
Carbazole	mg/kg						0.3	U	0.25	U	0.35	U	0.42	U	0.73	U	0.29	U	**0.55**	
Dibenzofuran	mg/kg		78	1200			0.3	U	0.25	U	0.35	U	0.42	U	0.73	U	0.29	U	0.31	U
Diethylphthalate	mg/kg		51000	660000			0.3	U	0.25	U	0.35	U	0.42	U	0.73	U	0.29	U	0.31	U
Dimethyl phthalate	mg/kg						0.3	U	0.25	U	0.35	U	0.42	U	0.73	U	0.29	U	0.31	U
Di-N-Butyl phthalate	mg/kg						0.3	U	0.25	U	0.35	U	0.42	U	0.73	U	0.29	U	**0.77**	

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							Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Di-n-octyl phthalate	mg/kg						0.3	U	0.25	U	0.35	U	0.42	U	0.73	U	0.29	U	0.31	U
Fluoranthene	mg/kg		2400	30000	2301	26371	0.3	U	0.25	U	0.35	U	0.42	U	0.73	U	0.29	U	0.31	U
Fluorene	mg/kg		2400	30000	2301	26371	0.3	U	0.25	U	0.35	U	0.42	U	0.73	U	0.29	U	0.31	U
Hexachlorobenzene (1*)	mg/kg		0.21	0.96	0.13	0.69	0.3	U	0.25	U	0.35	U	0.42	U	0.73	U	0.29	U	0.31	U
Hexachlorocyclopentadiene	mg/kg		1.8	7.5			0.3	U	0.25	U	0.35	U	0.42	U	0.73	U	0.29	U	0.31	U
Hexachloroethane	mg/kg		1.8	8			0.3	U	0.25	U	0.35	U	0.42	U	0.73	U	0.29	U	0.31	U
Isophorone	mg/kg		570	2400			0.3	U	0.25	U	0.35	U	0.42	U	0.73	U	0.29	U	0.31	U
Naphthalene	mg/kg		2	8.6	2.7	16	0.3	U	0.25	U	0.35	U	0.42	U	0.73	U	0.29	U	0.31	U
Nitrobenzene	mg/kg		5.1	22			0.3	U	0.25	U	0.35	U	0.42	U	0.73	U	0.29	U	0.31	U
N-Nitrosodi-n-propylamine (1*)	mg/kg		0.078	0.33			0.3	U	0.25	U	0.35	U	0.42	U	0.73	U	0.29	U	0.31	U
N-Nitrosodiphenylamine	mg/kg		110	470			0.3	U	0.25	U	0.35	U	0.42	U	0.73	U	0.29	U	0.31	U
p-Chloro-m-cresol	mg/kg		6300	82000			0.6	U	0.51	U	0.71	U	0.84	U	1.5	U	0.57	U	0.62	U
Pentachlorophenol (1*)	mg/kg		1	4	0.48	2.9	0.6	U	0.51	U	0.71	U	0.84	U	1.5	U	0.57	U	0.62	U
Phenanthrene	mg/kg						0.3	U	0.25	U	0.35	U	0.42	U	0.73	U	0.29	U	0.31	U
Phenol	mg/kg		19000	250000			0.3	U	0.25	U	0.35	U	0.42	U	0.73	U	0.29	U	0.31	U
Pyrene	mg/kg		1800	23000			0.3	U	0.25	U	0.35	U	0.42	U	0.73	U	0.29	U	0.31	U
cPAHs																				
Benz[a]anthracene	mg/kg	0.1	0.11	2.1			0.3	U	0.25	U	0.35	U	0.42	U	0.73	U	0.29	U	0.31	U
Benzo(a)pyrene	mg/kg	1	0.11	2.1			**0.11**		0.01	U	**0.042**		**0.037**		**0.12**		**0.032**		**0.15**	
Benzo(b)fluoranthene	mg/kg	0.1	1.1	21			0.3	U	0.25	U	0.35	U	0.42	U	0.73	U	0.29	U	0.31	U
Benzo(k)fluoranthene	mg/kg	0.01	11	210			0.3	U	0.25	U	0.35	U	0.42	U	0.73	U	0.29	U	0.31	U
Chrysene	mg/kg	0.001	110	2100			0.3	U	0.25	U	0.35	U	0.42	U	0.73	U	0.29	U	0.31	U
Dibenz(a,h)anthracene	mg/kg	1	0.11	2.1			0.3	U	0.25	U	0.35	U	0.42	U	0.73	U	0.29	U	0.31	U
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	1.1	21			0.3	U	0.25	U	0.35	U	0.42	U	0.73	U	0.29	U	0.31	U
Benzo(a)pyrene (BaP) TEQ	mg/kg				0.580*	1.54	**0.3**		0.2	U	**0.3**		**0.3**		0.60		**0.2**		**0.4**	
Metals																				
Arsenic	mg/kg		0.68	3	16	16	**11.3**		**6.37**		*41.8*	U	**10.5**		31		**8.22**		**13.9**	
Barium	mg/kg		15000	220000	11247	127382	**65.9**		25.1	U	167	U	40.5	U	**990**		**35.6**		**75.6**	
Cadmium	mg/kg		71	980	6.9	87	0.745	U	0.629	U	4.18	U	1.01	U	8.57		0.695	U	0.737	U
Chromium	mg/kg				40223	360223	**20**		**13.7**		**12.8**		**16.6**		**49.1**		**17.8**		**24.8**	
Lead	mg/kg		400	800	400	800	**77.1**		**8.71**		41.8	U	**17.5**		1690		**25.5**		**39.8**	
Mercury	mg/kg		11	46	3.1	3.1	**0.0716**		0.0497	U	0.0674	U	0.081	U	**0.187**		0.0557	U	0.059	U
Selenium	mg/kg		390	5800	366	4900	17.9	U	15.1	U	100	U	24.3	U	43.4	U	16.7	U	17.7	U
Silver	mg/kg		390	5800	237	2483	2.08	U	1.76	U	11.7	U	2.84	U	5.06	U	1.94	U	2.06	U

Notes:

VSS	Vermont Soil Standard (July 6, 2019)
EPA RSL	Environmental Protection Agency Regional Screening Level (November 2020)
RPF	Relative potency factor
*	Urban Background Value for BAP TEQ
--	No comparison because analytes were not detected above laboratory reporting limits
RPD	Relative Percent Difference between the sample result and the blind field duplicate result
mg/kg	milligrams per kilogram
U	not detected above laboratory reporting limit
Y	calculated value
E	result exceeded calibration range
J	estimated value less than the reporting limit, but greater than the method detection limit
NA	Not Analyzed
(*1)	Reporting limit is higher than screening level, however this compound is not considered a contaminant of concern
Bold	Detected above laboratory reporting limit
Bold	Exceedance of EPA RSL - Resident and/or of VSS - Resident
Bold	Exceedance of EPA RSL - Industrial and/or of VSS - Non-Resident

\\wse03.local\WSE\Projects\VT\Intervale Center\99 Intervale\2. Deliverables\2021_10_Data Gaps Analysis\Tables\[Table 1_Intervale_Soil.xlsx]Results

TABLE 1
HISTORICAL SOIL RESULTS
99 INTERVALE ROAD
BURLINGTON, VERMONT

Sample	Units	RPF	EPA RSL Resident	EPA RSL Industrial	VSS Resident	VSS Non-Resident	SB2-6		SB8-3		SB11-8		SB12-1	
							10/11/2010		10/11/2010		10/11/2010		10/11/2010	
							Result	Flag	Result	Flag	Result	Flag	Result	Flag
VOCs														
1,1,1,2-Tetrachloroethane	mg/kg		2	8.8	1.3	8	0.075	U	0.021	U	0.022	U	0.096	U
1,1,1-Trichloroethane	mg/kg		8100	36000			0.075	U	0.021	U	0.022	U	0.096	U
1,1,2,2-Tetrachloroethane	mg/kg		0.6	2.7			0.075	U	0.021	U	0.022	U	0.096	U
1,1,2-Trichloroethane	mg/kg		1.1	5			0.075	U	0.021	U	0.022	U	0.096	U
1,1-Dichloroethane	mg/kg		3.6	16	2.1	13	0.075	U	0.021	U	0.022	U	0.096	U
1,1-Dichloroethene	mg/kg		230	1000			0.075	U	0.021	U	0.022	U	0.096	U
1,1-Dichloropropene	mg/kg						0.075	U	0.021	U	0.022	U	0.096	U
1,2,3-Trichlorobenzene	mg/kg		63	930			0.075	U	0.021	U	0.022	U	0.096	U
1,2,3-Trichloropropane (1*)	mg/kg		0.0051	0.11	0.00311	0.07	0.075	U	0.021	U	0.022	U	0.096	U
1,2,4-Trichlorobenzene	mg/kg		24	110			0.83	U	0.29	U	0.26	U	0.68	U
1,2-Dibromo-3-chloropropane	mg/kg						0.38	U	0.11	U	0.11	U	0.49	U
1,2-Dibromoethane (1*)	mg/kg		0.036	0.16	0.02	0.14	0.075	U	0.021	U	0.022	U	0.096	U
1,2-Dichlorobenzene	mg/kg		1800	9300			0.83	U	0.29	U	0.26	U	0.68	U
1,2-Dichloroethane	mg/kg		0.46	2	0.29	1.7	0.075	U	0.021	U	0.022	U	0.096	U
1,2-Dichloropropane	mg/kg		2.5	11	1.5	9.1	0.075	U	0.021	U	0.022	U	0.096	U
1,3-Dichlorobenzene	mg/kg						0.83	U	0.29	U	0.26	U	0.68	U
1,3-Dichloropropane	mg/kg		1600	23000			0.075	U	0.021	U	0.022	U	0.096	U
1,4-Dichlorobenzene	mg/kg		2.6	11			0.83	U	0.29	U	0.26	U	0.68	U
1-Methyl-4-(propan-2-yl)benzene	mg/kg						0.075	U	0.021	U	0.022	U	0.096	U
2,2-Dichloropropane	mg/kg						0.075	U	0.021	U	0.022	U	0.096	U
2-Chlorotoluene	mg/kg		1600	23000			0.075	U	0.021	U	0.022	U	0.096	U
2-Hexanone	mg/kg		200	1300			0.7500001	U	0.21	U	0.22	U	0.96	U
4-Chlorotoluene	mg/kg		1600	23000			0.075	U	0.021	U	0.022	U	0.096	U
4-Methyl-2-pentanone	mg/kg		33000	140000			0.7500001	U	0.21	U	0.22	U	0.96	U
Acetone	mg/kg		61000	670000	40609	100028	0.7500001	U	0.21	U	0.22	U	0.96	U
Bromobenzene	mg/kg		290	1800			0.075	U	0.021	U	0.022	U	0.096	U
Bromochloromethane	mg/kg		150	630	193	597	0.075	U	0.021	U	0.022	U	0.096	U
Bromodichloromethane	mg/kg		0.29	1.3			0.075	U	0.021	U	0.022	U	0.096	U
Bromoform	mg/kg		19	86			0.15	U	0.044	U	0.044	U	0.2	U
Bromomethane	mg/kg		6.8	30			0.15	U	0.044	U	0.044	U	0.2	U
Carbon disulfide	mg/kg		770	3500	608	662	0.15	U	0.044	U	0.044	U	0.2	U
Carbon tetrachloride	mg/kg		0.65	2.9	0.37	2.2	0.075	U	0.021	U	0.022	U	0.096	U
Chlorobenzene	mg/kg		280	1300	414	726	0.075	U	0.021	U	0.022	U	0.096	U
Chloroethane	mg/kg		14000	57000			0.15	U	0.044	U	0.044	U	0.2	U
Chloroform	mg/kg		0.32	1.4			0.075	U	0.021	U	0.022	U	0.096	U
Chloromethane	mg/kg		110	460			0.15	U	0.044	U	0.044	U	0.2	U
cis-1,2-Dichloroethene	mg/kg		160	2300	140	1814	0.075	U	0.021	U	0.022	U	0.096	U
cis-1,3-Dichloropropene	mg/kg		1.8	8.2			0.075	U	0.021	U	0.022	U	0.096	U
Dibromo(chloro)methane	mg/kg						0.075	U	0.021	U	0.022	U	0.096	U
Dibromomethane	mg/kg		24	99			0.075	U	0.021	U	0.022	U	0.096	U
Dichlorodifluoromethane	mg/kg		87	370			0.15	U	0.044	U	0.044	U	0.2	U
Diethyl Ether	mg/kg		16000	230000			0.7500001	U	0.21	U	0.22	U	0.96	U
Hexachlorobutadiene	mg/kg		1.2	5.3			0.83	U	0.29	U	0.26	U	0.68	U
Isopropylbenzene	mg/kg		1900	9900	256	264	0.075	U	0.021	U	0.022	U	0.096	U
Methyl ethyl ketone	mg/kg		27000	190000	16952	26991	0.7500001	U	0.21	U	0.22	U	0.96	U
Methyl tert butyl ether	mg/kg		47	210	649	4464	0.075	U	0.021	U	0.022	U	0.096	U
Methylene chloride	mg/kg		57	1000			0.15	U	**0.23**		**0.18**		0.2	U
n-Butylbenzene	mg/kg		3900	58000	3504	51100	0.075	U	0.021	U	0.022	U	0.096	U
n-Propyl benzene	mg/kg		3800	24000	253	261	0.075	U	0.021	U	0.022	U	0.096	U
sec-Butylbenzene	mg/kg		7800	120000	7009	102200	0.075	U	0.021	U	0.022	U	0.096	U
Styrene	mg/kg		6000	35000			0.075	U	0.021	U	0.022	U	0.096	U
tert-Butylbenzene	mg/kg		7800	120000	7009	102200	0.075	U	0.021	U	0.022	U	0.096	U
Tetrachloroethene	mg/kg		24	100	2.4	14	0.075	U	0.021	U	0.022	U	0.096	U

TABLE 1
HISTORICAL SOIL RESULTS
99 INTERVALE ROAD
BURLINGTON, VERMONT

Sample	Units	RPF	EPA RSL Resident	EPA RSL Industrial	VSS Resident	VSS Non-Resident	SB2-6		SB8-3		SB11-8		SB12-1	
							10/11/2010		10/11/2010		10/11/2010		10/11/2010	
							Result	Flag	Result	Flag	Result	Flag	Result	Flag
Tetrahydrofuran	mg/kg		18000	95000			0.7500001	U	0.21	U	0.22	U	0.96	U
trans-1,2-Dichloroethene	mg/kg		70	300	1402	18137	0.075	U	0.021	U	0.022	U	0.096	U
trans-1,3-Dichloropropene	mg/kg		1.8	8.2			0.075	U	0.021	U	0.022	U	0.096	U
Trichloroethene	mg/kg		0.94	6	0.68	6.5	0.075	U	0.021	U	0.022	U	0.096	U
Trichlorofluoromethane	mg/kg		23000	350000			0.15	U	0.044	U	0.044	U	0.2	U
Vinyl Chloride	mg/kg		0.059	1.7	0.1	0.59	0.075	U	0.021	U	0.022	U	0.096	U
Benzene	mg/kg		1.2	5.1	0.7	4.2	0.075	U	0.021	U	0.022	U	0.096	U
Ethylbenzene	mg/kg		5.8	25	3.7	22	0.075	U	0.021	U	0.022	U	0.096	U
m,p-Xylene	mg/kg		550	2400			0.075	U	0.021	U	0.022	U	0.096	U
o-Xylene	mg/kg		650	2800			0.075	U	0.021	U	0.022	U	0.096	U
Toluene	mg/kg		4900	47000	706	798	0.075	U	0.021	U	0.022	U	0.096	U
Xylenes (total)	mg/kg		580	2500	252	257	0	U, Y	0	U, Y	0	U, Y	0	U, Y
1,2,4-Trimethylbenzene	mg/kg		300	1800			0.075	U	0.021	U	0.022	U	0.096	U
1,3,5-Trimethylbenzene	mg/kg		270	1500			0.075	U	0.021	U	0.022	U	0.096	U
SVOCs														
1,2-Diphenylhydrazine (1*)	mg/kg		0.68	2.9			0.83	U	0.29	U	0.26	U	0.68	U
2,4,5-Trichlorophenol	mg/kg		6300	82000			0.83	U	0.29	U	0.26	U	0.68	U
2,4,6-Trichlorophenol	mg/kg		49	210			0.83	U	0.29	U	0.26	U	0.68	U
2,4-Dichlorophenol	mg/kg		190	2500			0.83	U	0.29	U	0.26	U	0.68	U
2,4-Dimethylphenol	mg/kg		1300	16000			0.83	U	0.29	U	0.26	U	0.68	U
2,4-Dinitrophenol	mg/kg		130	1600			1.7	U	0.59	U	0.52	U	1.4	U
2,4-Dinitrotoluene	mg/kg		1.7	7.4			0.83	U	0.29	U	0.26	U	0.68	U
2,6-Dinitrotoluene (1*)	mg/kg		0.36	1.5			0.83	U	0.29	U	0.26	U	0.68	U
2-Chloronaphthalene	mg/kg		4800	60000			0.83	U	0.29	U	0.26	U	0.68	U
2-Chlorophenol	mg/kg		390	5800			0.83	U	0.29	U	0.26	U	0.68	U
2-Methylnaphthalene	mg/kg		240	3000			0.83	U	0.29	U	0.26	U	0.68	U
2-Methylphenol	mg/kg		3200	41000			0.83	U	0.29	U	0.26	U	0.68	U
2-Nitroaniline	mg/kg		630	8000			1.7	U	0.59	U	0.52	U	1.4	U
2-Nitrophenol	mg/kg						0.83	U	0.29	U	0.26	U	0.68	U
3,3-Dichlorobenzidine	mg/kg		1.2	5.1			0.83	U	0.29	U	0.26	U	0.68	U
3-Nitroaniline	mg/kg						1.7	U	0.59	U	0.52	U	1.4	U
4,6-Dinitro-2-methylphenol	mg/kg		5.1	66			1.7	U	0.59	U	0.52	U	1.4	U
4-Bromophenyl phenyl ether	mg/kg						0.83	U	0.29	U	0.26	U	0.68	U
4-Chloroaniline	mg/kg		2.7	11			0.83	U	0.29	U	0.26	U	0.68	U
4-Chlorophenyl phenyl ether	mg/kg						0.83	U	0.29	U	0.26	U	0.68	U
4-Methylphenol	ug/kg		6300000	82000000			830	U	290	U	260	U	680	U
4-Nitroaniline	mg/kg		27	110			1.7	U	0.59	U	0.52	U	1.4	U
4-Nitrophenol	mg/kg						1.7	U	0.59	U	0.52	U	1.4	U
Acenaphthene	mg/kg		3600	45000			0.83	U	0.29	U	0.26	U	0.68	U
Acenaphthylene	mg/kg						0.83	U	0.29	U	0.26	U	0.68	U
Anthracene	mg/kg		18000	230000			0.83	U	0.29	U	0.26	U	0.68	U
Benzo(g,h,i)perylene	mg/kg						0.83	U	0.29	U	0.26	U	0.68	U
Benzoic acid	mg/kg		250000	3300000			1.7	U	0.59	U	0.52	U	1.4	U
Benzyl alcohol	mg/kg		6300	82000			1.7	U	0.59	U	0.52	U	1.4	U
bis(2-Chloroethoxy)methane	mg/kg		190	2500			0.83	U	0.29	U	0.26	U	0.68	U
bis(2-Chloroethyl)ether (1*)	mg/kg		0.23	1			0.83	U	0.29	U	0.26	U	0.68	U
bis(2-Chloroisopropyl)ether	mg/kg		3100	47000	2804	36274	0.83	U	0.29	U	0.26	U	0.68	U
bis(2-Ethylhexyl)phthalate	mg/kg		39	160	20	120	0.83	U	0.29	U	0.26	U	0.68	U
Butyl benzyl phthalate	mg/kg						0.83	U	0.29	U	0.26	U	0.68	U
Carbazole	mg/kg						0.83	U	0.29	U	0.26	U	0.68	U
Dibenzofuran	mg/kg		78	1200			0.83	U	0.29	U	0.26	U	0.68	U
Diethylphthalate	mg/kg		51000	660000			0.83	U	0.29	U	0.26	U	0.68	U
Dimethyl phthalate	mg/kg						0.83	U	0.29	U	0.26	U	0.68	U
Di-N-Butyl phthalate	mg/kg						0.83	U	0.29	U	0.26	U	0.68	U

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99 INTERVALE ROAD
BURLINGTON, VERMONT

Sample	Units	RPF	EPA RSL Resident	EPA RSL Industrial	VSS Resident	VSS Non-Resident	SB2-6		SB8-3		SB11-8		SB12-1	
							10/11/2010		10/11/2010		10/11/2010		10/11/2010	
							Result	Flag	Result	Flag	Result	Flag	Result	Flag
Di-n-octyl phthalate	mg/kg						0.83	U	0.29	U	0.26	U	0.68	U
Fluoranthene	mg/kg		2400	30000	2301	26371	0.83	U	0.29	U	0.26	U	0.68	U
Fluorene	mg/kg		2400	30000	2301	26371	0.83	U	0.29	U	0.26	U	0.68	U
Hexachlorobenzene (1*)	mg/kg		0.21	0.96	0.13	0.69	0.83	U	0.29	U	0.26	U	0.68	U
Hexachlorocyclopentadiene	mg/kg		1.8	7.5			0.83	U	0.29	U	0.26	U	0.68	U
Hexachloroethane	mg/kg		1.8	8			0.83	U	0.29	U	0.26	U	0.68	U
Isophorone	mg/kg		570	2400			0.83	U	0.29	U	0.26	U	0.68	U
Naphthalene	mg/kg		2	8.6	2.7	16	0.83	U	0.29	U	0.26	U	0.68	U
Nitrobenzene	mg/kg		5.1	22			0.83	U	0.29	U	0.26	U	0.68	U
N-Nitrosodi-n-propylamine (1*)	mg/kg		0.078	0.33			0.83	U	0.29	U	0.26	U	0.68	U
N-Nitrosodiphenylamine	mg/kg		110	470			0.83	U	0.29	U	0.26	U	0.68	U
p-Chloro-m-cresol	mg/kg		6300	82000			1.7	U	0.59	U	0.52	U	1.4	U
Pentachlorophenol (1*)	mg/kg		1	4	0.48	2.9	1.7	U	0.59	U	0.52	U	1.4	U
Phenanthrene	mg/kg						0.83	U	0.29	U	0.26	U	0.68	U
Phenol	mg/kg		19000	250000			0.83	U	0.29	U	0.26	U	0.68	U
Pyrene	mg/kg		1800	23000			0.83	U	0.29	U	0.26	U	0.68	U
cPAHs														
Benz[a]anthracene	mg/kg	0.1	0.11	2.1			0.83	U	0.29	U	0.26	U	0.68	U
Benzo(a)pyrene	mg/kg	1	0.11	2.1			0.83	U	0.29	U	0.26	U	0.68	U
Benzo(b)fluoranthene	mg/kg	0.1	1.1	21			0.83	U	0.29	U	0.26	U	0.68	U
Benzo(k)fluoranthene	mg/kg	0.01	11	210			0.83	U	0.29	U	0.26	U	0.68	U
Chrysene	mg/kg	0.001	110	2100			0.83	U	0.29	U	0.26	U	0.68	U
Dibenz(a,h)anthracene	mg/kg	1	0.11	2.1			0.83	U	0.29	U	0.26	U	0.68	U
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	1.1	21			0.83	U	0.29	U	0.26	U	0.68	U
Benzo(a)pyrene (BaP) TEQ	mg/kg				0.580*	1.54	1.0	U	0.3	U	0.3	U	0.8	U
Metals														
Arsenic	mg/kg		0.68	3	16	16	**28.1**		**7.33**	U	**7.62**		**24.9**	
Barium	mg/kg		15000	220000	11247	127382	80.5	U	29.3	U	26.1	U	**364**	
Cadmium	mg/kg		71	980	6.9	87	2.01	U	0.733	U	0.652	U	**2.38**	
Chromium	mg/kg				40223	360223	**106**		**10.8**		**15.9**		**16.7**	
Lead	mg/kg		400	800	400	800	20.1	U	7.33	U	6.52	U	**139**	
Mercury	mg/kg		11	46	3.1	3.1	0.171	U	0.0568		0.0519	U	0.136	U
Selenium	mg/kg		390	5800	366	4900	48.3	U	17.6	U	15.7	U	40.9	U
Silver	mg/kg		390	5800	237	2483	5.62	U	2.05	U	1.82	U	4.75	U

Notes:

VSS	Vermont Soil Standard (July 6, 2019)
EPA RSL	Environmental Protection Agency Regional Screening Level
RPF	Relative potency factor
*	Urban Background Value for BAP TEQ
--	No comparison because analytes were not detected above l
RPD	Relative Percent Difference between the sample result and th
mg/kg	milligrams per kilogram
U	not detected above laboratory reporting limit
Y	calculated value
E	result exceeded calibration range
J	estimated value less than the reporting limit, but greater thar
NA	Not Analyzed
(*1)	Reporting limit is higher than screening level, however this c
Bold	Detected above laboratory reporting limit
Bold	Exceedance of EPA RSL - Resident and/or of VSS - Residen
Bold	Exceedance of EPA RSL - Industrial and/or of VSS - Non-Re

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TABLE 2
HISTORICAL GROUNDWATER RESULTS
99 INTERVALE ROAD
BURLINGTON, VERMONT

Parameter	Units	VGES	MW-1 10/13/2010		MW-2 10/13/2010		MW-3 10/13/2010	
			Result	Flag	Result	Flag	Result	Flag
Volatile Organic Compounds (VOCs) - 8260								
1,1,1,2-Tetrachloroethane	ug/l	70	2	U	2	U	2	U
1,1,1-Trichloroethane	ug/l	200	2	U	2	U	2	U
1,1,2,2-Tetrachloroethane	ug/l		2	U	2	U	2	U
1,1,2-Trichloroethane	ug/l	5	2	U	2	U	2	U
1,1-Dichloroethane	ug/l	70	2	U	2	U	2	U
1,1-Dichloroethene	ug/l	7	1	U	1	U	1	U
1,1-Dichloropropene	ug/l		2	U	2	U	2	U
1,2,3-Trichlorobenzene (1*)	ug/l	0.9	2	U	2	U	2	U
1,2,3-Trichloropropane (1*)	ug/l	0.02	2	U	2	U	2	U
1,2,4-Trichlorobenzene	ug/l	70	10	U	10	U	10	U
1,2-Dibromo-3-chloropropane	ug/l		0.1	U	0.1	U	0.1	U
1,2-Dibromoethane	ug/l		2	U	2	U	2	U
1,2-Dichlorobenzene	ug/l	600	10	U	10	U	10	U
1,2-Dichloroethane	ug/l	5	2	U	2	U	2	U
1,2-Dichloropropane	ug/l	5	2	U	2	U	2	U
1,3-Dichlorobenzene	ug/l	600	10	U	10	U	10	U
1,3-Dichloropropane	ug/l		2	U	2	U	2	U
1,4-Dichlorobenzene	ug/l	75	10	U	10	U	10	U
1,4-Dioxane (1*)	ug/l	0.3	2	U	2	U	2	U
1-Methyl-4-(propan-2-yl)benzene	ug/l		2	U	2	U	2	U
2,2-Dichloropropane	ug/l		2	U	2	U	2	U
2-Chlorotoluene	ug/l		2	U	2	U	2	U
2-Hexanone	ug/l		10	U	10	U	10	U
4-Chlorotoluene	ug/l		2	U	2	U	2	U
4-Methyl-2-pentanone	ug/l		10	U	10	U	10	U
Acetone	ug/l	950	10	U	10	U	10	U
Bromobenzene	ug/l		2	U	2	U	2	U
Bromochloromethane	ug/l	8	2	U	2	U	2	U
Bromodichloromethane	ug/l		2	U	2	U	2	U
Bromoform	ug/l		2	U	2	U	2	U
Bromomethane	ug/l	5	2	U	2	U	2	U
Carbon disulfide	ug/l		2	U	2	U	2	U
Carbon tetrachloride	ug/l	5	2	U	2	U	2	U
Chlorobenzene	ug/l	100	2	U	2	U	2	U
Chloroethane	ug/l		5	U	5	U	5	U
Chloroform	ug/l		2	U	2	U	2	U
Chloromethane	ug/l		5	U	5	U	5	U
cis-1,2-Dichloroethene	ug/l	70	2	U	2	U	2	U
cis-1,3-Dichloropropene	ug/l		1	U	1	U	1	U
Dibromo(chloro)methane	ug/l		2	U	2	U	2	U
Dibromomethane	ug/l		2	U	2	U	2	U
Dichlorodifluoromethane	ug/l		5	U	5	U	5	U
Diethyl Ether	ug/l		5	U	5	U	5	U
Hexachlorobutadiene	ug/l		0.1	U	0.1	U	0.1	U
Isopropylbenzene	ug/l		2	U	2	U	2	U
Methyl ethyl ketone	ug/l	511	10	U	10	U	10	U
Methyl tert butyl ether	ug/l	11	2	U	2	U	2	U
Methylene chloride (1*)	ug/l	5	5	U	5	U	5	U
n-Butylbenzene	ug/l		2	U	2	U	2	U
n-Propyl benzene	ug/l		2	U	2	U	2	U
sec-Butylbenzene	ug/l		2	U	2	U	2	U
Styrene	ug/l	100	2	U	2	U	2	U
tert-Butylbenzene	ug/l		2	U	2	U	2	U
Tetrachloroethene	ug/l	5	2	U	2	U	2	U
Tetrahydrofuran	ug/l		10	U	10	U	10	U
trans-1,2-Dichloroethene	ug/l	100	2	U	2	U	2	U
trans-1,3-Dichloropropene	ug/l		1	U	1	U	1	U
Trichloroethene	ug/l	5	2	U	2	U	2	U
Trichlorofluoromethane	ug/l		2	U	2	U	2	U
Vinyl Chloride	ug/l	2	2	U	2	U	2	U
Benzene	ug/l	5	1	U	1	U	1	U
Ethylbenzene	ug/l	700	2	U	2	U	2	U
Toluene	ug/l	1000	2	U	2	U	2	U
m,p-Xylene	ug/l		2	U	2	U	2	U
o-Xylene	ug/l		2	U	2	U	2	U
Xylenes (total)	ug/l	10000	0	U, Y	0	U, Y	0	U, Y
1,2,4-Trimethylbenzene	ug/l		2	U	2	U	2	U
1,3,5-Trimethylbenzene	ug/l		2	U	2	U	2	U
Semi-Volatile Organic Compounds (SVOCs) - 8270								
1,2-Diphenylhydrazine	ug/l		10	U	10	U	10	U
2,4,5-Trichlorophenol	ug/l		10	U	10	U	10	U
2,4,6-Trichlorophenol	ug/l		10	U	10	U	10	U
2,4-Dichlorophenol	ug/l		10	U	10	U	10	U
2,4-Dimethylphenol	ug/l		10	U	10	U	10	U
2,4-Dinitrophenol	ug/l		20	U	20	U	20	U
2,4-Dinitrotoluene	ug/l		10	U	10	U	10	U
2,6-Dinitrotoluene	ug/l		10	U	10	U	10	U
2-Chloronaphthalene	ug/l		10	U	10	U	10	U
2-Chlorophenol	ug/l		10	U	10	U	10	U
2-Methylnaphthalene	ug/l		10	U	10	U	10	U
2-Methylphenol	ug/l		10	U	10	U	10	U
2-Nitroaniline	ug/l		20	U	20	U	20	U
2-Nitrophenol	ug/l		10	U	10	U	10	U
3,3-Dichlorobenzidine	ug/l		10	U	10	U	10	U
3-Nitroaniline	ug/l		20	U	20	U	20	U
4,6-Dinitro-2-methylphenol	ug/l		20	U	20	U	20	U
4-Bromophenyl phenyl ether	ug/l		10	U	10	U	10	U
4-Chloroaniline	ug/l		10	U	10	U	10	U
4-Chlorophenyl phenyl ether	ug/l		10	U	10	U	10	U
4-Methylphenol	ug/l		10	U	10	U	10	U
4-Nitroaniline	ug/l		20	U	20	U	20	U
4-Nitrophenol	ug/l		20	U	20	U	20	U
Acenaphthene	ug/l		10	U	10	U	10	U
Acenaphthylene	ug/l		10	U	10	U	10	U
Anthracene	ug/l	343	10	U	10	U	10	U
Benzo(g,h,i)perylene	ug/l		10	U	10	U	10	U
Benzoic acid	ug/l		20	U	20	U	20	U
Benzyl alcohol	ug/l		20	U	20	U	20	U
bis(2-Chloroethoxy)methane	ug/l		10	U	10	U	10	U
bis(2-Chloroethyl)ether	ug/l		10	U	10	U	10	U
bis(2-Chloroisopropyl)ether	ug/l	46	10	U	10	U	10	U
bis(2-Ethylhexyl)phthalate (1*)	ug/l	6	10	U	10	U	10	U
Butyl benzyl phthalate	ug/l		10	U	10	U	10	U
Carbazole	ug/l		10	U	10	U	10	U
Dibenzofuran	ug/l		10	U	10	U	10	U
Diethylphthalate	ug/l		10	U	10	U	10	U
Dimethyl phthalate	ug/l		10	U	10	U	10	U
Di-N-Butyl phthalate	ug/l		10	U	10	U	10	U
Di-n-octyl phthalate	ug/l		10	U	10	U	10	U
Fluoranthene	ug/l	46	10	U	10	U	10	U
Fluorene	ug/l	46	10	U	10	U	10	U
Hexachlorobenzene	ug/l	1	0.1	U	0.1	U	0.1	U
Hexachlorocyclopentadiene	ug/l	50	10	U	10	U	10	U
Hexachloroethane	ug/l		10	U	10	U	10	U
Isophorone	ug/l		10	U	10	U	10	U
Naphthalene	ug/l	0.5	10	U	10	U	10	U
Nitrobenzene	ug/l		10	U	10	U	10	U
N-Nitrosodi-n-propylamine	ug/l		10	U	10	U	10	U
N-Nitrosodiphenylamine	ug/l		10	U	10	U	10	U
p-Chloro-m-cresol	ug/l		20	U	20	U	20	U
Pentachlorophenol	ug/l	1	0.2	U	0.2	U	0.2	U
Phenanthrene	ug/l		10	U	10	U	10	U
Phenol	ug/l		10	U	10	U	10	U
Pyrene	ug/l		10	U	10	U	10	U
Benza]anthracene	ug/l		10	U	10	U	10	U
Benzo(a)pyrene	ug/l	0.2	0.1	U	0.1	U	0.1	U
Benzo(b)fluoranthene	ug/l		10	U	10	U	10	U
Benzo(k)fluoranthene	ug/l		10	U	10	U	10	U
Chrysene	ug/l		10	U	10	U	10	U
Dibenz(a,h)anthracene	ug/l		10	U	10	U	10	U
Indeno(1,2,3-cd)pyrene	ug/l		10	U	10	U	10	U
Metals - 6010/7471								
Arsenic	ug/l	10	**140**		**6**		**13**	
Barium	ug/l	2000	**1050**		200	U	200	U
Cadmium	ug/l	5	20	U	4	U	4	U
Chromium	ug/l	100	**879**		**16.2**		**18.4**	
Lead	ug/l	15	**468**		12.5	U	**15.5**	
Mercury	ug/l	2	**0.862**		0.2	U	0.2	U
Selenium	ug/l	50	5	U	5	U	5	U
Silver	ug/l		**1.3**		1	U	1	U

NOTES:

VGES	Groundwater: Vermont Groundwater Enforcement Standard (I-Rule; July 6, 2019)
ug/L	micrograms per liter
U	not detected above laboratory reporting limit
Y	calculated value
(*1)	Reporting limit is higher than screening level, however this compound is not considered a contaminant of concern
Bold	Detected above laboratory reporting limit
Bold	Exceedance of VGES

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