ENVIRONMENTAL SITE INVESTIGATION SUMMARY REPORT

Former Brickyard Tavern and Municipal Parking Lot No. 1 St. Albans, Vermont

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February 27, 2009

EXECUTIVE SUMMARY

TRC Environmental Corporation (TRC) performed an environmental site investigation for the property referred to as the Former Brickyard Tavern, located at 27-33 Federal Street, and the Municipal Parking Lot No. 1, located at 25, 39, and 41 Federal Street, 28 Kingman Street, and 19-27 Lake Street, in the City of St. Albans, Franklin County, Vermont (the "Site"). TRC performed this Site investigation on behalf of the Northwest Regional Planning Commission (NRPC) as part of NRPC's Brownfields Assessment Program funded by a grant from the United States Environmental Protection Agency (EPA). The City of St. Albans currently owns this Site and plans to demolish the Former Brickyard Tavern building and redevelop the Municipal Parking Lot No. 1 into a multi-tiered parking garage with potential retail establishments.

TRC's Site investigation was designed to assess current environmental conditions at the Site and to evaluate several *Recognized Environmental Conditions* (RECs) as identified in an American Society for Testing and Materials (ASTM) Phase I Environmental Site Assessment (ESA) completed by Weston & Sampson Engineers, Inc. for the Municipal Parking Lot No. 1 portion of Site in October 2007. The Phase I Report identified one REC in connection with the Site related to the following property conditions:

> "*Historic industrial and commercial use at the Site and abutting properties. In particular, some of the land uses have included a foundry, auto dealerships and garages and a sheet metal shop. Also, a significant fire in 1895 destroyed several building within the city block. The potential contaminants of concern from these activities include: metals; volatile organic compounds; semi-volatile organic compounds (specifically polynuclear aromatic hydrocarbons); petroleum distillates (gasoline and various oils – heating, lubricating, cutting, motor, and hydraulic); solvents; and polychlorinated biphenyls (PCBs)*" (Weston & Sampson, 2007).

A Phase I ESA was also completed by The Johnson Company in May 2008 for the Former Brickyard Tavern portion of the Site. The May 2008 Phase I ESA indicated that the Site was formerly used as a sheet metal shop suggesting the possible former on-site use of solvents and degreasers. The Phase I ESA identified the following REC for the property:

> *"The Site is located in a downtown area that was once relatively industrial, surrounded by a former foundry, railroad station, automotive repair shop, and other facilities. In addition, the Site's own short use as a sheet metal shop presents some risk for releases of solvents and degreasers."*

The Johnson Company Phase I ESA also included an inspection of the interior of the on-site building, including colorimetric tests of various painted surfaces for the presence of lead paint, and a visual assessment for the possible presence of asbestos containing material (ACM). The colorimetric tests for lead all yielded positive results indicating the likely presence of lead paint within the building. The visual inspection also identified several materials that were suspected to be ACM including floor tiles and wall coverings. The Phase I ESA recommended additional

sampling of the building interior by Vermont-licensed lead and asbestos inspectors to more conclusively evaluate whether lead paint and/or ACM are present in the building.

Site investigation activities were conducted by TRC between January 18, 2008 and October 22, 2008 in accordance with the EPA-approved Quality Assurance Project Plan (QAPP) dated May 23, 2008 and QAPP Addendum A, dated September 3, 2008. The investigation included a geophysical survey followed by a subsurface investigation program including the installation of fifteen soil borings, seven of which were completed as groundwater monitoring wells. Soil samples were collected from each boring during drilling activities, and groundwater samples were subsequently collected from the newly-installed monitoring wells.

The soil sample results were compared to EPA's Region IX Project Remediation Goals (PRGs), per VTDEC's requirements. The groundwater samples were compared to Vermont's Groundwater Enforcement Standards.

A hazardous building materials survey, including an asbestos and lead-based paint survey, was conducted of the Former Brickyard Tavern building by TRC on September 18 through 19, 2008 (TRC, 2008).

The following summarizes TRC's conclusions based on the results of Site investigation activities:

Geophysical Survey

- Two potential USTs were identified on the Site; one in the southern portion of the lot (near Lake Street), and the other in the southwest portion of the lot. Other unknown anomalies were also identified, but are considered unlikely to be USTs.

Soil Quality

- No VOCs, TPH or PCBs were identified above the applicable PRGs in the soil samples analyzed.

- Five PAHs benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene and four metals arsenic, iron, manganese, lead were identified above the applicable PRGs in the majority of the soil samples analyzed. However, the majority of these constituents are typically found in low concentrations in soils consisting of urban fill material, containing coal, coal ash, and wood ash, which is present at the Site. In addition, the current use of the Site partially restricts direct contact with Site soils beneath pavement and a small gravel parking area in the southern portion of the Site. Future use of this Site will restrict direct contact with Site soils with a combination of pavement and buildings.

Groundwater Quality

- Of the 15 metals analyzed in groundwater, two metals, manganese and molybdenum were identified in on-Site monitoring wells at concentrations above Vermont's Groundwater Enforcement Standards. Molybdenum was identified at elevated concentrations in wells MW-9 and MW-12. Manganese was identified at elevated concentrations in wells MW-1, MW-10, MW-13, and MW-14.

    - Based upon the direction of groundwater flow, the elevated concentrations of molybdenum identified at levels exceeding Vermont's Groundwater Enforcement Standards in MW-9 and MW-12 may be attributed to an off-Site source. These wells are not located in a drinking water source area.

    - The elevated concentrations of manganese identified in wells MW-1, MW-10, MW-13, and MW-14 are located near and/or downgradient of storm sewer lines.

<u>Building Materials Survey</u>

- The results of the building materials survey revealed multiple materials within the Former Brickyard Tavern Building containing ACM, ranging in concentration from non-detect to 80% chrysotile (found in glue used to mount wood paneling). Other ACM found within the building include floor tiles, glues, flashing tar on the roof, rib sealant on the boiler, and mastic used for the floor tiles. Lead was also detected in 60 of the 108 paint samples collected. Results of PCB sampling indicated that all glazing/caulks sampled within the building were below 50 ppm, and are therefore not considered hazardous waste. However, window glazing samples taken from third-floor windows indicated that low levels of PCBs are present. For additional details regarding the concentration and amount of ACM within the Site building, refer to TRC's 2008 Pre-Renovation Investigative Survey for ACM and Lead Based Paint.

The following recommendations are based on the results of TRC's investigative activities and comments received by VTDEC:

- The two potential UST areas identified by the geophysical survey should be investigated by digging test pits to confirm or deny the presence of USTs at the Site in these two areas. If one or more USTs are discovered, TRC recommends that the USTs (including their contents) be properly removed and disposed and confirmation samples be collected and analyzed.

- A notice stating that the concentrations of manganese and molybdenum were identified in Site groundwater above Vermont's Groundwater Enforcement Standards may be required to be amended to the property deed.

- Additional soil borings and groundwater monitoring wells should be installed in the vicinity of well MW-9 to further evaluate the source and extent of the low-level petroleum-related compounds (and elevated PID measurements) identified in the soil from 7-9 ft bgs and the source and extent of the elevated concentration of molybdenum

identified in the groundwater at this location. A groundwater sample should be collected from well MW-9 and analyzed for SVOCs.

- The redevelopment plans for the Site should include commercial/industrial uses only. A detailed risk evaluation should be performed after the redevelopment plans for the Site have been finalized. Furthermore, TRC recommends that the redevelopment plans exclude subsurface levels in future structure(s) (due to the shallow depth to groundwater and necessity to manage excavated Site soils) and should include a protective barrier over existing Site soils (e.g., pavement, concrete, buildings, clean loam, etc.). To reduce cost, TRC also recommends that all excavated Site soils be re-used on Site wherever possible.

- Develop a Soil and Groundwater Management Plan and a Health and Safety Plan prior to any construction activities on the Site to provide appropriate procedures for testing, handling, and disposition of potential construction derived materials containing detectable hazardous materials and ACM.

- EPA Hazard Communication Regulations require that contractors responsible for impacting the low-level PCB-contaminated glazings shall be informed of the presence of PCBs so that the contractor can take the necessary steps to protect workers per the OSHA Construction Regulations.

- ACM to be impacted by renovation activities of the Former Brickyard Tavern Building must be removed prior to disturbance in accordance with OSHA, USEPA, VTDPH, and VTDEC standards for asbestos abatement/disposal.

- Construction activities disturbing surfaces containing lead paint which are likely to be employed, such as grinding, cutting, and demolishing, have been know to expose workers to airborne levels of lead in excess of the permissible exposure limit (PEL). The Contractor should conduct demolition work in conformance with the OSHA regulations, utilizing engineering controls and personal protective equipment. Additionally, disposal of construction waste containing lead paint is subject to regulation under the VTDEC Hazardous Waste Management Regulations (7-204) and USEPA RCRA Hazardous Waste Management (40 CFR Parts 260 through 274) regulations. Scrap metals is exempt from regulation under the VTDEC/USEPA Hazardous Waste Regulations provided it is properly recycled.

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1.0 INTRODUCTION

1.1 Objective

TRC Environmental Corporation (TRC) performed an environmental Site investigation for the property referred to as the Former Brickyard Tavern, located at 27-33 Federal Street, and the Municipal Parking Lot No. 1, located at 25, 39, and 41 Federal Street, 28 Kingman Street, and 19-27 Lake Street, in the City of St. Albans, Franklin County, Vermont (the "Site"). TRC performed this Site investigation on behalf of the Northwest Regional Planning Commission (NRPC) as part of NRPC's Brownfields Assessment Program funded by a grant from the United States Environmental Protection Agency (EPA). The City of St. Albans currently owns this Site and plans to demolish the Former Brickyard Tavern building and redevelop the Municipal Parking Lot No. 1 into a multi-tiered parking garage with potential retail establishments.

The Site investigation was designed to assess current environmental conditions at the Site and address two *Recognized Environmental Conditions* (RECs) identified in an American Society for Testing and Materials (ASTM) Phase I Environmental Site Assessment (ESA) completed by Weston & Sampson for the Site in October 2007, and a Phase I ESA completed by The Johnson Company in May 2008. A summary of the 2007 and 2008 Phase I ESAs and identified RECs is provided in Section 2.2.

1.2 Site Description

The St. Albans City Municipal Parking Lot No. 1 portion of the Site consists of five parcels totaling approximately 106,156 square feet (sf) (2.4 acres), and is surrounded by Kingman Street, Federal Street, Lake Street, and North Main Street. The Site is also bordered by a variety of residential and commercial buildings. The majority of the parking lot portion of the Site is covered with asphalt with the exception of several small landscaped areas and a gravel parking area along the southern side of the Site. According to a May 2008 Phase I ESA completed by The Johnson Company on behalf of NRPC, the Former Brickyard Tavern portion of the Site consists of two adjoining buildings: one 2-story building encompassing approximately 375 square feet (sf) and one 3-story building encompassing approximately 1,150 sf. The Site is owned by the City of St. Albans (the "City") and located in the City's downtown historic district. This section of downtown St. Albans is on the National Register of historic places and is a Vermont Designated Downtown, and consists of moderately dense residential and commercial development.

The central portion of the Site is entirely paved and has been used as a municipal parking lot for over 50 years. The ground floor of the Former Brickyard Tavern building was recently occupied by a bar/tavern and the upper floors were residential apartments, although the building is not currently in use. Vehicular access to the Site is provided via three paved driveways on the northern, western, and southern sides of the Site, which connect to Kingman Street, Federal Street, and Lake Street, respectively. A covered footpath also provides walking access from North Main Street along the eastern side of the Site.

A Site Location Map identifying the general Site vicinity is provided as Figure 1 and a Site Plan, illustrating the features and layout of the Site, is provided as Figure 2.

1.3 Description of Structures and Site Improvements

The Former Brickyard Tavern portion of the Site consists of two adjoining buildings: one 2-story vinyl-clad building encompassing approximately 375 sf and one 3-story brick building encompassing approximately 1,150 sf. The finishes on the exterior of the building vary from painted wood and brick to vinyl siding over brick. A bar, small kitchen, restrooms, and a furnace are located on the ground floor. Sewer and water services are supplied to the Former Brickyard Tavern building by the City of St. Albans, in addition to natural gas supplied by Vermont Gas Systems and electric which is supplied by Central Vermont Public Service. The central portion of the Site is entirely paved and is void of structures.

1.4 Surrounding Area Description

Nearby/adjoining properties are primarily occupied by apartment buildings and commercial properties including restaurants, gas stations, and retail stores. Specifically, the Site is bordered to the east by commercial and residential structures and North Main Street; to the north by commercial/residential structures and Kingman Street; to the south by commercial and residential structures and Lake Street; and to the west by commercial and residential structures and Federal Street.

1.5 Site Environmental Setting

The City of St. Albans supplies drinking water to the Site and surrounding area. According to Weston & Sampson's 2007 Phase I ESA, there are no private water supply sources, public water supply protection areas, or surface water protection areas within one mile of the Site. Storm water reportedly flows towards Federal Street to the west, and is collected in four storm drains. Stevens Brook is located approximately ¼-mile west of the Site, which ultimately discharges into St. Albans Bay of Lake Champlain. The Flood Insurance Rate Map for St. Albans lists the area at and around the Site as Zone C – "Areas of minimal flooding' (Weston & Sampson, 2007).

1.6 Geologic and Hydrologic Conditions

Based on observations made by TRC field personnel during soil boring activities, the Site is underlain by surficial layers of urban fill material comprised of brick fragments, coal, and coal ash. This urban fill is underlain by layers of glacial till, which gradually becomes denser at depths, and consists of fine sand, silt, and gravel. Copies of soil boring and monitoring well construction logs are provided in Appendix C.

Stevens Brook is located approximately 2,500 feet south and 2,000 feet west of the Site, and ultimately discharges into St. Albans Bay of Lake Champlain. The brook flows east to west from its point of origin until a point approximately 3,000 feet southwest of the Site, where

changes direction and flows south-to-north past the western side of the Site. Based on a review of monitoring well gauging information obtained during the course of this assessment, direction of groundwater flow in the vicinity of the Site flows to the west-southwest.

Groundwater elevations across the Site ranged from approximately two to five feet below grade as measured on October 22, 2008. Actual groundwater measurements and elevations are presented on Table 3. A groundwater contour map depicting groundwater elevations and flow direction is provided as Figure 3. Additional information regarding Site-specific hydrogeologic data is provided in Section 3.4.

2.0 SITE HISTORY

2.1 Historic Site Use

According to the Weston & Sampson Phase I ESA, the Municipal Parking Lot No. 1 and general vicinity has been developed for over 150 years and there have been numerous buildings and businesses on and surrounding the Site. These properties have been used for industrial, commercial, and residential purposes. In particular, some of the land uses have included a foundry, auto dealerships, garages, and a sheet metal shop.

According to interviews conducted by Weston & Sampson, the former foundry historically manufactured mechanical equipment for farm and rail use. Although the foundry was located just off-Site at the corner of Federal and Lake Streets, a flask yard (an area were flasks are stored related to the foundry process) was identified on Sanborn Maps in the central portion of the Site.

Interviews with local town officials also revealed that a laundry facility formerly occupied the parcel of land on Federal Street, which has since burned down and has been converted to a gravel parking area located along the western side of the Site. The Phase I ESA also mentions a laundry facility which reportedly operated at the Site on Kingman Street for a short period in the 1970s. The building housing the laundry facility has since burned down and is now part of the parking lot. Site investigations conducted by Weston & Sampson did not reveal the presence of USTs or ASTs on the Site. However, two potential USTs were identified on the Site from a geophysical survey performed by TRC in March 2008, as discussed in Section 3.1. The central area of the Site has been used as a municipal parking lot for the last 50 years (Weston & Sampson, 2007).

According to The Johnson Company Phase I ESA, historical Site uses of the Former Brickyard Tavern Building have included a paint shop, photo shop, fruit and tobacco store, confectionary, tailor, and restaurant. Although an 1895 fire reportedly destroyed all of the building on the block on which the Site resides, Sanborn Fire Insurance Maps depict the Site as occupied in both 1895 and 1896.

2.2 Previous Environmental Site Investigations

Two environmental investigations have been previously conducted at the Site which are summarized below.

Phase I Environmental Site Assessment, St. Albans Municipal Parking Lot No. 1, Saint Albans, Vermont, dated October 2007, prepared by Weston & Sampson Engineers, Inc. of Waterbury, Vermont.

The October 2007 Phase I Environmental Site Assessment (ESA) completed by Weston & Sampson Engineers, Inc. (Weston and Sampson) indicates that the property has been used as a municipal parking lot for approximately the past 50 years. Other historic uses of the property included an auto storage shed and apparent storage of lumber and other items associated with an

adjacent foundry operation. A former foundry and machine shop operated in the southwest corner of the city block that encompasses the property as well as small auto repair garages. An automobile sales and service facility formerly operated along the western portion of the City block. A laundry facility formerly operated in the northwest portion of the city block; however information presented in the Phase I ESA indicates that no dry cleaning took place at this facility. The Phase I ESA did not identify any underground storage tanks (USTs) at the property. The nearest UST was reported to be located across Kingman Street to the north.

A copy of the 2007 Weston & Sampson Phase I ESA is provided on compact disk in Appendix A.

Phase I Environmental Site Assessment, Brickyard Tavern Building, 29-33 Federal Street, Saint Albans, Vermont, dated May 2008, prepared by The Johnson Company of Montpelier, Vermont.

The May 2008 Phase I ESA indicated that the Site was formerly used as a sheet metal shop, suggesting the possible former on-site use of solvents and degreasers. The Phase I ESA identified the following Recognized Environmental Condition (REC) for the property:

> *"The Site is located in a downtown area that was once relatively industrial, surrounded by a former foundry, railroad station, automotive repair shop, and other facilities. In addition, the Site's own short use as a sheet metal shop presents some risk for releases of solvents and degreasers."*

The May 2008 Phase I ESA also included an inspection of the interior of the on-site building including colorimetric tests of various painted surfaces for the presence of lead paint, and a visual assessment for the possible presence of asbestos containing material (ACM). The colorimetric tests for lead all yielded positive results indicating the likely presence of lead paint within the building. The visual inspection also identified several materials that are suspected to be ACM including floor tiles and wall coverings. The Phase I ESA recommended additional sampling of the building interior by Vermont-licensed lead and asbestos inspectors to more conclusively evaluate whether lead paint and/or ACM are present in the building.

A copy of the 2008 The Johnson Company report is provided in Appendix A.

2.3 Compliance History

Weston & Sampson and The Johnson Company performed a review of historical reports and other documentation from public sources during their 2007 and 2008 Phase I ESAs. The Site was not identified in any Federal or state databases searched by EDR.

3.0 TECHNICAL APPROACH

The following section summarizes activities performed as part of TRC's Phase II Site investigation. Unless otherwise specified, work was performed in accordance with the EPA-approved QAPP (dated May 23, 2008) and QAPP Addendum A for this Site (dated September 3, 2008) for the NRPC Brownfields Assessment Program.

3.1 Geophysical Survey

TRC subcontracted with Hager GeoSciences, Inc. (HGI) to conduct a geophysical survey at the Site on March 18-19, 2008. The objectives of the geophysical survey were to locate subsurface anomalies of potential environmental concern, such as buried tanks or drums, as well as to assist in locating subsurface utilities. The geophysical survey was completed using a combination of electro-magnetometer (EM) and ground-penetrating radar (GPR), with EM as the primary investigation technique, followed by focused GPR at the locations of EM anomalies.

EM data was collected along survey grids laid out with measuring tapes and spray paint, using a Geonics EM61 time domain metal detector. Following completion of data collection, the data were downloaded to a PC. High-conductivity anomalies are typically associated with metal or iron-rich soils. GPR was used as a supplement to EM at the Site to better characterize anomalies detected via the EM method, as GPR can typically be used to better define the size, depth, and cross-sectional geometry of an anomaly. GPR data was collected using a GSSI SIR 3000 acquisition system with a 500-MHz antenna and survey wheel.

3.2 Soil Boring Installation and Soil Sampling

TRC's soil boring program was performed from October 7 to 9, 2008. The locations of the soil borings and monitoring wells installed during TRC's subsurface investigation are depicted on Figure 2. The soil samples submitted for laboratory analysis are provided on Table 1. Soil boring logs and well construction diagrams are presented in Appendix C.

The program consisted of the installation of 15 soil borings (B-1 to B-15), seven of which were completed as monitoring wells. The seven borings completed as monitoring wells were advanced using hollow stem auger (HSA) drilling techniques. These borings were advanced using 8¼-inch diameter augers, and the wells were constructed with two-inch diameter polyvinyl chloride (PVC) screened risers. The remaining eight borings were installed using GeoProbe® direct push drilling techniques, with the exception of B-15, which was advanced using a hand-auger under the Former Brickyard Tavern Building. Borings were generally completed to a depth of approximately 10 feet below grade, and monitoring wells were advanced to depths of nine to 13 feet below grade, depending upon the depth to groundwater encountered during drilling.

Continuous soil samples were collected during drilling activities using two-foot long, stainless steel split spoons (in the case of HSA) or four-foot long acetate sleeves (in the case of direct-push) at each soil boring. Soil samples were generally collected continuously from the ground

surface and continued approximately eight feet into the water table for those locations where a monitoring well was installed, and were continued approximately five feet into the water table at the remaining boring locations. Soil samples were screened in the field using jar headspace analysis for the presence of VOCs with a photo ionization detector (PID). Organic vapor concentrations and visual observations of contamination were used to select laboratory samples.

Laboratory samples were submitted to an off-Site analytical laboratory for testing as set forth in the EPA-approved QAPP. Generally, two soils samples were collected from each boring at depth intervals of either one to three feet below grade (below the pavement in most areas) and/or greater than three feet below grade, depending on field observations. Soil samples collected for laboratory analysis were biased to the depth intervals corresponding to the highest PID headspace reading and/or visual/olfactory evidence of contamination. If no PID, visual or olfactory evidence of contamination was observed during drilling activities, a soil sample was collected from the capillary fringe immediately above the observed groundwater table for laboratory analysis. A summary of the soil samples collected for laboratory analysis is provided in Table 1. The rationale for each of the soil borings installed at the Site is provided in the EPA-approved QAPP and QAPP Addendum A for the Site.

Soil samples submitted for analysis were compared to EPA's Region IX Preliminary Remediation Goals (PRGs) as directed by VTDEC (Table 4). EPA's Regional Screening Levels for Chemical Contaminants at Superfund Sites (EPA, 2008) are provided on Table 4 for informational purposes only.

3.3 Groundwater Monitoring Well Installation, Development, and Sampling

The locations of seven groundwater monitoring wells (MW-1, MW-2, MW-9, MW-10, MW-12, MW-13, and MW-14) installed by TRC are depicted on Figure 2. Please note that the labeling designations of the monitoring wells correspond to the soil boring number; therefore, the seven monitoring wells installed at the Site are not labeled in numerical order from MW-1 to MW-7. The monitoring wells were constructed of two-inch outside diameter PVC riser pipe with a 10-slot (0.010-inch machine slotted) screen spanning the surface of the groundwater table as observed during drilling activities. The screened interval was surrounded by a filter pack of silica sand extending to a level approximately one foot above the top of the screen. Up to two feet of granular bentonite was installed above the sand pack to create a seal. Any remaining space in the annulus around the well was backfilled with native soil cuttings. The monitoring wells were completed at surface grade using heavy-duty steel, locking stick-up protective casings.

Monitoring wells were developed on October 8 to 10, 2008 using a submersible centrifugal (whale) pump to remove fine particles from around the sand pack and well screen. Each well was purged dry three times due to the slow recharge of the wells. After development, monitoring wells were allowed to stabilize for one week before samples were collected.

TRC collected groundwater samples from the newly-installed monitoring wells on October 20 and 21, 2008. Prior to sampling groundwater, TRC screened for non-aqueous phase liquid

(NAPL) using an oil/water interface probe. Subsequent groundwater sampling utilized a submersible QED™ bladder pump in accordance with EPA Region 1 Low Stress (Low Flow) guidelines. The pump was placed down each well so that it was entirely within the screened section of the well. Water was then pumped (using an air compressor and MP3 controller) through a flow through cell where water quality parameters were recorded using an YSI© 600XL water quality meter. Parameters recorded included temperature, conductivity, pH, dissolved oxygen (DO), and oxygen reduction potential (ORP). A separate turbidity meter was used for turbidity measurements. Groundwater samples were collected after the water quality parameters stabilized as set in the EPA-approved QAPP Addendum A.

Groundwater samples were collected and submitted for laboratory analysis of VOCs, extractable SVOCs, total petroleum hydrocarbons – diesel range organics (TPH DRO), and total and dissolved metals as summarized on Table 2. Dissolved metals samples were filtered on Site upon collection using a 0.45-micron (µm) in-line filter. Samples collected for dissolved metals were not analyzed unless the total metal results were identified above Vermont Primary Groundwater Quality Enforcement Standards, unless otherwise noted.

3.4 Groundwater Elevation Survey and Separate Phase Hydrocarbon Measurement

A relative elevation survey was conducted of the seven newly-installed monitoring wells of inner PVC well risers by TRC on October 22, 2008. The depth to groundwater was subsequently gauged in the seven wells and the wells were screened for NAPL using an oil/water interface probe.

Groundwater depths from the top of the PVC well riser ranged from 2.46 feet (MW-10) to 5.90 feet (MW-9). NAPL was not detected in the newly installed monitoring wells. Based on a review of hydrogeologic data collected during the course of this assessment, direction of local groundwater flow in the vicinity of the Site was determined to be to the west-southwest. A groundwater contour map depicting groundwater elevations and flow direction is provided as Figure 3. A summary of monitoring well construction details and relative groundwater elevation data for on-Site monitoring wells installed by TRC is provided on Table 3.

3.5 Applicable Soil and Groundwater Standards

Soil sample results were compared to EPA Regional Screening Levels for Chemical Contaminants at Superfund Sites (July 7, 2008) for residential soil. The 2008 updates to these levels replaced the previously used PRGs. Groundwater sample results were compared to Vermont Groundwater Enforcement Standards.

4.0 RESULTS OF INVESTIGATION

4.1 Geophysical Survey Results

TRC contracted with HGI to provide geophysical services at the Site on March 18-19, 2008. The objectives of the geophysical survey were to locate subsurface anomalies of potential environmental concern, such as buried tanks or drums, as well as to assist in locating subsurface utilities.

The results of the geophysical survey identified several subsurface anomalies in the parking lot. Two of the anomalies were identified as suspected USTs; one in the southern portion of the lot (near Lake Street), and the other in the southwest portion of the lot (Figure 2). The other anomalies identified were considered unlikely to be USTs. A copy of the geophysical survey report is provided in Appendix B.

4.2 Soil Conditions and Screening Results

Based on the boring logs for the borings advanced between October 7 and October 9, 2008 by TRC, the soil stratigraphy at the Site generally consists of urban fill material in the top four feet near the surface, followed by dense glacial till material consisting of fine sand, silt, clay, and angular gravel. Urban fill material typically consisted of coal and coal ash, in addition to brick and glass fragments. Auger and/or split spoon refusal was encountered during drilling activities at nine feet bgs at locations B-12/MW-12 and B-8. Boring logs are provided in Appendix C

Soil samples were continuously screened from each two-foot interval during soil boring and soil sampling activities using a PID. The vast majority of PID readings were measured at concentrations below 10 parts per million by volume (ppmv). The soil samples screened during the installation of the two borings installed near the potential UST locations (MW-10 and MW-12) yielded PID reading of less than 3 ppmv, suggesting that these potential USTs may not have impacted the soil quality. PID readings above 10 ppmv were measured from soil samples screened from three borings, B-1, B-3 and MW-9 at sporadic intervals from 4-10 ft. The highest PID reading of 682 ppmv (the only reading recorded above 25 ppmv) was recorded from 7-9 ft in boring MW-9. Petroleum-stained soil and odor and a sheen was noted at this depth interval. A soil sample was collected from this depth interval (7-9 ft) and submitted for laboratory analysis of VOCs, PAHs, TPH, and metals. No VOCs, PAHs or TPH were identified above the applicable PRGs as presented in Table 4. These soil data coupled with the Site groundwater flow direction (to the west/southwest) and groundwater data (Table 5), suggest that the petroleum contamination at this location may be limited in area and may be attributed to an off-Site source.

4.3 Soil Analytical Results

Soil sample results were compared to EPA Regional Screening Levels for Chemical Contaminants at Superfund Site (July 7, 2008) for residential soil (i.e. PRGs). Polychlorinated biphenyls (PCBs) were not detected in either of the two soil samples for which it was analyzed (MW-9 and MW-10). Soil samples analyzed for VOCs were either below laboratory detection limits or the applicable PRGs.

Concentrations of VOCs, SVOCs (including PAHs), TPH, PCBs and metals were reported below the applicable PRGs in the soil samples collected from 15 borings across the Site except for five PAHs (benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, and dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene) and four metals (arsenic, iron, manganese, and lead). The presence of these PAH and metals compounds is likely attributable to the presence of urban fill consisting of urban fill material, including coal, coal ash, and wood ash, observed in surficial soils in multiple locations across the Site. TPH was also detected at B-7, B-11, MW-10, and MW-9, but at levels below the PRGs. A summary of the soil analytical results from the soil samples collected at the Site is presented in Table 4. Copies of the associated laboratory analytical reports are provided in Appendix D.

4.4 Groundwater Analytical Results

Laboratory analytical results of groundwater samples collected from the Site were compared to Vermont's Groundwater Enforcement Standards. Concentrations of VOCs, SVOCs (including PAHs), and metals were reported below the applicable standards except for two metals, manganese and molybdenum. Molybdenum was identified at elevated concentrations in MW-9 and MW-10. Manganese was identified at elevated concentrations in MW-1, MW-10, MW-13, and MW-14. Based upon the direction of groundwater flow, the concentrations of molybdenum may be attributed to an off-Site source. The elevated concentrations of manganese identified in wells MW-1, MW-10, MW-13, and MW-14 are located near and/or downgradient of storm sewer lines. Site monitoring wells are not located in a drinking water source area.

A summary of the groundwater analytical results from the groundwater samples collected at the Site is presented in Table 5, and copies of the associated laboratory analytical reports are provided in Appendix D.

4.5 Separate Phase Hydrocarbon Measurement

The seven newly-installed monitoring wells were screened for NAPL using an oil/water interface probe prior to sampling activities. NAPL was not detected in any of the on-Site monitoring wells.

4.6 Data Usability Assessment

The data associated with soil samples collected on October 7, 8 and 9, 2008 and groundwater samples collected on October 20 and 21, 2008 were reviewed. In general, the data are usable for

project decisions based on a review of accuracy, precision, and sensitivity of the data. Although there were select quality control (QC) nonconformances, the data are valid as reported and may be used for decision-making purposes with the exception of the cautions and/or limitations listed below.

- Potential uncertainty exists for the results for lead in samples B-4/1-3, MW-10/7-9, and MW-12/3-5 due to variability in the laboratory duplicate analyses. These results are slightly below the project action level. Caution should be used with these results as the actual results may be higher and above the project action level.

- Potential uncertainty exists for the results for lead in samples B-8/1-3 and MW-12/1-3 due to variability in the laboratory duplicate analyses. These results are slightly above the project action level. Caution should be used with these results as the actual results may be lower and below the project action level.

Details on the data usability assessment are provided in Appendix E.

4.7 Risk Evaluation

To provide perspective on the risk posed to human health from hazardous material detected in soil at the site, a qualitative risk approach has been used for data interpretation. Because the site is planned for commercial/industrial development, EPA risk-based industrial soil screening levels (EPA, 2008), set at a hazard quotient of 1 and an incremental lifetime cancer risk of 1×10^{-6}, have been used for the risk-based screening. The soil screening levels are developed assuming exposures to soil contaminants 250 days of the year for 25 years. Exposure is assumed to occur by incidental soil ingestion, dermal contact, inhalation of fugitive dusts and volatile compounds released from soil.

The Corrective Action Guidance (VTDEC, 1997) states that if contaminant concentrations identified by sampling are approximately an order of magnitude less than the risk-based concentrations, then it can be concluded that there is little risk posed by the hazardous compounds. If the concentrations identified by sampling are approximately an order of magnitude greater than the risk-based concentrations, then it will be concluded that there may be an unacceptable risk posed by the hazardous compounds that will require additional work. If the concentrations identified by sampling are between an order of magnitude less than and an order of magnitude greater than the risk-based concentrations, then the risk that the contamination poses is unclear. In these cases, additional evaluation concerning risk posed by the hazardous compounds may again be necessary. However, compounds that exceed risk-based screening levels but are present at levels consistent with background conditions may not require further evaluation or action.

Sample-specific soil results for detected compounds are compared to the risk-based standards in Table 6. Background soil concentrations, obtained from the Massachusetts Department of Environmental Protection (MassDEP), are also presented in Table 6, as available. The MassDEP background concentrations are 90th percentile values for naturally-occurring and anthropogenic

compounds found in natural soil (MassDEP, 2002). Sample results that are boxed off exceed the MassDEP background concentrations. Sample results are compared to risk-based screening levels using the following color code:

- No highlighting: Concentrations not highlighted are more than 10-fold below the risk-based screening level. These compounds clearly pose no risk to human health.

- Green highlighting: Concentrations in green are up to 10-fold less than their respective risk-based screening level. These compounds are likely to pose little risk to human health.

- Yellow highlighted: Concentrations in yellow exceed their risk-based screening levels by less than 10-fold. It is unclear whether these compounds present a risk to human health and further evaluation of this potential risk may be necessary unless the concentration is consistent with background levels.

- Red highlighting: Concentrations in red exceed their risk-based screening levels by more than 10-fold. These compounds may pose an unacceptable risk to human health. Further evaluation of these compounds may be required unless the concentration is consistent with background levels.

As shown on Table 6, very few compound-specific results exceed both the risk-based screening levels and the MassDEP background concentrations. Benzo(a)pyrene and/or benzo(b)fluoranthene slightly exceed both the risk-based screening levels (by less than 10-fold) and MassDEP background concentrations at locations B-3 (6-8') and MW-10 (1-3'). Soil sampling location MW-13 (1-3') indicates exceedances of the risk-based screening levels and background concentrations for benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene and lead. In most cases, the exceedances of the screening levels are by less than 10-fold. However, the benzo(a)pyrene concentration in this samples (6.5 mg/kg) exceeds the risk-based screening level (0.21 mg/kg) by more than 30-fold.

It should be noted that the majority of Site soils are currently covered by bituminous pavement, except for a small area in the southern portion of the Site which is covered by gravel, and the future redevelopment plans also call for the Site to be covered by a combination of pavement and buildings. This cover material will prevent direct contact exposure to Site soils and drastically limit the leaching potential of Site constituents of concern to groundwater.

4.8 Management of Investigation Derived Waste

The Investigation Derived Waste (IDW) generated during the implementation of the Phase II at the Site included excess soil cuttings during drilling activities and groundwater from well development and groundwater sampling. IDW were screened with a PID during intrusive and sampling activities. Due to elevated PID readings (above 100 ppmv) measured during the drilling of soil boring MW-9 (located on the eastern side of the Site), the excess soil was containerized in one 55-gallon Department of Transportation approved drum. As a

precautionary measure, the groundwater generated during well development and purging of this well (approximately four gallons) was also containerized in the same drum. TRC, on behalf of NRPC and the City of St. Albans, are currently evaluating options to properly transport and dispose of this drum of IDW.

5.0 SITE INVESTIGATION FINDINGS

The results of TRC's Site investigation activities are summarized below:

- **Overburden Geology** – The Site is underlain by surficial layers of urban fill material comprised of brick fragments, coal, and coal ash. This urban fill is underlain by layers of glacial till, which gradually becomes denser at depth, and consists of fine sand, silt, and gravel.

- **Groundwater Depth and Flow Direction** – Groundwater depths at the Site range from approximately three to five feet below grade. NAPL was not detected in the newly-installed groundwater monitoring wells. Based on groundwater gauging data from the seven monitoring wells at the Site, direction of groundwater flow at the Site is approximately to the west-southwest, generally following the topography of the Site which gently slopes from east to west.

- **Geophysical Survey** – The results of the geophysical survey identified several subsurface anomalies in the parking lot. Two of the anomalies were identified as suspected USTs; one in the southern portion of the lot (near Lake Street), and the other in the southwest portion of the lot. Other unknown anomalies were also identified, but are considered unlikely to be USTs.

- **Soil Analytical Results –** Concentrations of VOCs, SVOCs (including PAHs), TPH, PCBs and metals were reported below the applicable PRGs in the soil samples collected from 15 borings across the Site except for five PAHs (benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, and dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene,) and four metals (arsenic, iron, manganese, and lead). PAHs and lead are typically found in low concentrations in soils consisting of urban fill material, including coal, coal ash, and wood ash, which was documented at the Site.

- Direct contact with the Site soils is currently restricted by pavement and a small gravel parking area in the southern portion of the Site. Future redevelopment plans for the Site include commercial uses including a paved parking area, a multi-tiered parking garage and potential retail establishments. Considering that the vast majority of the Site is currently paved and future redevelopment plans include the Site to be covered with pavement and buildings, the presence of these compounds may not represent a health concern at the Site because direct contact with Site soils is restricted.

- **Groundwater Analytical Results –** Concentrations of VOCs, SVOCs (including PAHs), and metals were reported below Vermont's Groundwater Quality Enforcement Standards except for two metals, manganese and molybdenum. Manganese and molybdenum were identified in two on-Site monitoring wells (MW-9 and MW-12) at concentrations above the applicable standards. Based upon the direction of groundwater flow, the elevated concentrations of molybdenum may be attributed to an off-Site source. The elevated

concentrations of manganese were identified at locations near/downgradient of storm sewer lines.Site monitoring wells are not located in a drinking water source area.

- **Building Materials Survey –** The results of the building materials survey identified multiple materials within the Former Brickyard Tavern Building containing ACM, ranging in concentration from non-detect to 80% chrysotile (found in glue used to mount wood paneling). Other ACM found within the building include floor tiles, glues, flashing tar on the roof, rib sealant on the boiler, and mastic used for the floor tiles. Lead was also detected in 60 of the 108 paint samples collected. Results of PCB sampling indicated that all glazing/caulks sampled within the building were below 50 ppm, and are therefore not considered hazardous waste. However, window glazing samples taken from third-floor windows indicated that low levels of PCBs are present. For additional details regarding the concentration and amount of ACM within the Site building, refer to TRC's 2008 Pre-Renovation Investigative Survey for ACM and Lead Based Paint (TRC, 2008c).

6.0 CONCLUSIONS AND RECOMMENDATIONS

The following conclusions and recommendations are based on the results of TRC's Site investigation activities and upon comments by VTDEC.

6.1 Conclusions

Geophysical Survey

- Two potential USTs were identified on the Site; one in the southern portion of the lot (near Lake Street), and the other in the southwest portion of the lot. Other unknown anomalies were also identified, but are considered unlikely to be USTs.

Soil Quality

- No VOCs, TPH or PCBs were identified above the applicable PRGs in the soil samples analyzed.

- Five PAHs (benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenz(a,h)anthracene, and indeno(1,2,3-cd)pyrene) and four metals (arsenic, iron, manganese, and lead) were identified above the applicable PRGs in the majority of the soil samples analyzed. However, the majority of these constituents are typically found in low concentrations in soils consisting of urban fill material containing coal, coal ash, and wood ash. Urban fill was present across the Site and the current and use of this Site partially restricts direct contact with Site soils beneath pavement. Future use of the Site will restrict direct contact with Site soils with a combination of pavement and buildings.

Groundwater Quality

- No VOCs and SVOCs (including PAHs), were identified above Vermont's Groundwater Enforcement Standards in the groundwater samples analyzed.

- Of the 15 metals analyzed in groundwater, two metals, manganese and molybdenum were identified in on-Site monitoring wells at concentrations above Vermont's Groundwater Quality Enforcement Standards. Molybdenum was identified at elevated concentrations in wells MW-9 and MW-12. Manganese was identified at elevated concentrations in wells MW-1, MW-10, MW-13, and MW-14.

    - Based upon the direction of groundwater flow, the elevated concentrations of molybdenum identified at levels exceeding Vermont's Groundwater Quality Enforcement Standards in MW-9 and MW-12 may be attributed to an off-Site source. These wells are not located in a drinking water source area. Refer to Table 5 for a summary of TRC's groundwater analytical results.

- The elevated concentrations of manganese identified in wells MW-1, MW-10, MW-13, and MW-14 are located near and/or downgradient of storm sewer lines.

Building Materials Survey

- The results of the building materials survey revealed multiple materials within the Former Brickyard Tavern Building containing ACM, ranging in concentration from non-detect to 80% chrysotile (found in glue used to mount wood paneling). Other ACM found within the building include floor tiles, glues, flashing tar on the roof, rib sealant on the boiler, and mastic used for the floor tiles. Lead was also detected in 60 of the 108 paint samples collected. Results of PCB sampling indicated that all glazing/caulks sampled within the building were below 50 ppm, and are therefore not considered hazardous waste. However, window glazing samples taken from third-floor windows indicated that low levels of PCBs are present. For additional details regarding the concentration and amount of ACM within the Site building, refer to TRC's 2008 Pre-Renovation Investigative Survey for ACM and Lead Based Paint.

6.2 Recommendations

- The two potential UST areas identified by the geophysical survey should be investigated by digging test pits to confirm or deny the presence of USTs at the Site in these two areas. If one or more USTs are discovered, TRC recommends that the USTs (including their contents) be properly removed and disposed and confirmation samples be collected and analyzed.

- Additional soil borings and groundwater monitoring wells should be installed in the vicinity of well MW-9 to further evaluate the source and extent of the low-level petroleum-related compounds (and elevated PID measurements) identified in the soil from 7-9 ft bgs and the source and extent of the elevated concentration of molybdenum identified in the groundwater at this location. A groundwater sample should also be collected from well MW-9 and analyzed for SVOCs.

- A notice stating that the concentrations of manganese and molybdenum identified in Site groundwater above Vermont's Groundwater Enforcement Standards may be required to be amended to the property deed.

- A Corrective Action Plan (CAP) should be prepared after the additional investigation activities noted above have been completed and evaluated.

- The redevelopment plan for the Site should include commercial/industrial uses only. If alternate uses are considered, an evaluation on the impact to cleanup and construction costs would be warranted. A detailed risk evaluation should be performed after the redevelopment plans for the Site have been finalized. TRC recommends that the Site redevelopment plans also consider the potential impact of the shallow water table and the need to manage excavated Site soils on the feasibility and cost of building structures with

subsurface levels at the Site. The future Site development should include a protective barrier over existing Site soils (e.g., pavement, concrete, buildings, clean fill, etc.) to limit direct contact with residual contaminated soils. TRC also recommends that excavated Site soils be re-used on Site the extent possible to reduce construction costs.

- Develop a Soil and Groundwater Management Plan and a Health and Safety Plan prior to any construction activities on the Site to provide appropriate procedures for testing, handling, and disposition of potential construction derived materials containing detectable hazardous materials and ACM.

- EPA Hazard Communication Regulations require that contractors responsible for impacting the low-level PCB-contaminated glazings shall be informed of the presence of PCBs so that the contractor can take the necessary steps to protect workers per the OSHA Construction Regulations.

- ACM to be impacted by renovation activities of the Former Brickyard Tavern Building must be removed prior to disturbance in accordance with OSHA, USEPA, VTDPH, and VTDEC standards for asbestos abatement/disposal.

- Construction activities disturbing surfaces containing lead paint which are likely to be employed, such as grinding, cutting, and demolishing, have been know to expose workers to airborne levels of lead in excess of the permissible exposure limit (PEL). The Contractor should conduct demolition work in conformance with the OSHA regulations, utilizing engineering controls and personal protective equipment. Additionally, disposal of construction waste containing lead paint is subject to regulation under the VTDEC Hazardous Waste Management Regulations (7-204) and USEPA RCRA Hazardous Waste Management (40 CFR Parts 260 through 274) regulations. Scrap metals is exempt from regulation under the VTDEC/USEPA Hazardous Waste Regulations provided it is properly recycled.

7.0 REFERENCES

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TABLES

Table 1:
Summary of Soil Samples Collected and Chemical Analytical Parameters

Municipal Parking Lot No. 1 and
Former Brickyard Tavern Site
St. Albans, Vermont

Soil Samples	Chemical Analytical Parameters						
Sample I.D.	**Sample Depth (ft bgs)**	**VOCs**	**SVOCs**	**Metals**	**TPH DRO**	**PAHs**	**PCB Aroclors**
MW-1 (1-3')	1-3'		X	X		X	
MW-1 (7-9'/8')	7-9'/8'	X	X	X	X		
MW-2 (1-3')	1-3'		X	X			
MW-2 (3-5'/4.5')	3-5'/4.5'	X		X	X	X	
MW-9 (1-3'/2')	1-3'/2'	X		X		X	X
MW-9 (7-9'/8')	7-9'/8'	X		X	X	X	
MW-10 (1-3'/2')	1-3'/2'	X	X	X			X
MW-10 (7-9'/8')	7-9'/8'	X		X	X		
MW-12 (1-3'/2')	1-3'/2'	X		X		X	
MW-12 (3-5'/3.5')	3-5'/3.5'			X	X	X	
MW-13 (1-3')	1-3'		X	X			
MW-13 (4-5'/5')	4-5'	X	X	X	X		
MW-14 (1-3'/1')	1-3'/1'	X	X				
MW-14 (3-5'/5')	3-5'/5'	X		X	X		
B-3 (1-3'/3')	1-3'/3'	X		X		X	
B-3 (6-8'/8')	6-8'/8'	X		X		X	
B-4 (1-3'/2')	1-3'/2'	X		X	X	X	
B-4 (7-9'/8')	7-9'/8'	X		X		X	
B-5 (1-3')	1-3'			X		X	
B-6 (1-3')	1-3'			X		X	
B-7 (1-3')	1-3'			X	X	X	
B-8 (1-3')	1-3'			X		X	
B-11 (1-3')	1-3'			X	X	X	
Soil Quality Assurance/Quality Control Samples							
MW-9 (1-3') (10/8/08)) (MW-90) Field Duplicate	1-3'	X					X

Table 1:
Summary of Soil Samples Collected and Chemical Analytical Parameters

Municipal Parking Lot No. 1 and
Former Brickyard Tavern Site
St. Albans, Vermont

Soil Samples	**Chemical Analytical Parameters**						
Sample I.D.	**Sample Depth (ft bgs)**	**VOCs**	**SVOCs**	**Metals**	**TPH DRO**	**PAHs**	**PCB Aroclors**
MW-10 (1-3') (10/8/08) (MW-100) Field Duplicate	1-3'		X				
MW-10 (8') (10/8/08) (MW-100) Field Duplicate	8'	X					
MW-1 (7-9') (10/7/08) (MW-11) Field Duplicate	7-9'		X				
MS/MSD or MS/DUP collected at MW-13 (1-3')	1-3'		X				
MS/MSD or MS/DUP collected at MW-14 (3-5')	3-5'			X	X		
MS/MSD or MS/DUP collected at MW-14 (5')	5'	X					
TOTAL							

Notes:
VOCs - Volatile Organic Compounds
SVOCs – Semi Volatile Organic Compounds
TPH DRO – Total Petroleum Hydrocarbons – Diesel Range Organics
bgs - below ground surface
MS/MSD - Matrix Spike/Matrix Spike Duplicate
MS/DUP - Matrix Spike/ Duplicate
PAHs – Polyaromatic Hydrocarbons

Table 2
Summary of Groundwater Samples Collected and Chemical Analytical Parameters

Municipal Parking Lot No. 1 and
Former Brickyard Tavern Site
St. Albans, Vermont

Groundwater Samples	**Chemical Analytical Parameters**		
Sample I.D./Sample Location	**VOCs**	**Metals**	**SVOCs**
MW-1	X	X	
MW-2	X	X	
MW-9	X	X	
MW-10	X	X	X
MW-12	X	X	X
MW-13	X	X	
MW-14	X	X	X
Groundwater Quality Assurance/Quality Control Samples			
Field Duplicate (MW-10)	X	X	X
MS/MSD or MS/Dup (MW-14)		X	X
Trip Blanks	X		
TOTAL	**9**	**9**	**5**

Notes:
VOCs - Volatile Organic Compounds
SVOC – Semi-Volatile Organic Compounds
MS/MSD - Matrix Spike/Matrix Spike Duplicate
MS/Dup - Matrix Spike/Duplicate

Table 3:
Monitoring Well Construction, Groundwater Elevation, and Survey Data

Municipal Parking Lot No. 1 and
Former Brickyard Tavern Site
St. Albans, Vermont

Well I.D.	Total Installation Depth of Well (ft bgs)	Screen Length (ft bgs)	Screened Interval (ft bgs)	Measuring Point Elevation* (top of inner PVC riser)	Depth to Groundwater (measured 10/22/08) (ft btor)	Groundwater Elevation*
MW-1	13	10	3-13	101.54	3.95	97.59
MW-2	13	10	3-13	95.23	5.00	90.23
MW-9	12	10	2-12	109.15	5.90	103.25
MW-10	12	10	2-12	96.97	2.46	94.51
MW-12	9	7	2-9	100.00	2.60	97.40
MW-13	12	10	2-12	95.77	4.46	91.31
MW-14	13	10	3-13	93.89	5.25	88.64

*Note: Elevation data are based upon an arbitrary on-Site benchmark (MW-12) of 100 ft above mean sea level.
bgs: Below ground surface
btor: Below top of [PVC] riser
PVC: Polyvinyl chloride

Table 4
Summary of Soil Analytical Results
St. Albans Municipal Parking Lot No. 1 and Former Brickyard Tavern Site
St. Albans, VT

Analysis	Analyte		Sample ID:	B-3		B-4		B-5	B-6	B-7	B-8	B-11	B-15	MW-1		MW-2	
			Sample Depth (ft.)*:	1-3	6-8	1-3	7-9	1-3	1-3	1-3	1-3	1-3	2-3	1-3	7-9	1-3	3-5
			Sample Date:	10/9/2008	10/9/2008	10/9/2008	10/9/2008	10/9/2008	10/9/2008	10/9/2008	10/9/2008	10/9/2008	10/8/2008	10/7/2008	10/7/2008	10/7/2008	10/7/2008
		RSL[(a)]	**PRGs**														
VOCs																	
(mg/kg)	Dichlorodifluoromethane	19	9.4	0.0047 U	0.0036 U	0.0055 U	0.0041 U	NA	NA	NA	NA	NA	0.0044 U	NA	0.0026 U	NA	0.0046 U
	Chloromethane	1.7	4.7	0.0047 U	0.0036 U	0.0055 U	0.0041 U	NA	NA	NA	NA	NA	0.0044 U	NA	0.0026 U	NA	0.0046 U
	Vinyl Chloride	0.06	0.08	0.0047 U	0.0036 U	0.0055 U	0.0041 U	NA	NA	NA	NA	NA	0.0044 U	NA	0.0026 U	NA	0.0046 U
	Bromomethane	0.79	0.39	0.0047 U	0.0036 U	0.0055 U	0.0041 U	NA	NA	NA	NA	NA	0.0044 U	NA	0.0026 U	NA	0.0046 U
	Chloroethane	1,500	3	0.0047 U	0.0036 U	0.0055 U	0.0041 U	NA	NA	NA	NA	NA	0.0044 U	NA	0.0026 U	NA	0.0046 U
	Trichlorofluoromethane	80	39	0.0047 U	0.0036 U	0.0055 U	0.0041 U	NA	NA	NA	NA	NA	0.0044 U	NA	0.0026 U	NA	0.0046 U
	1,1-Dichloroethene	25	12	0.0047 U	0.0036 U	0.0055 U	0.0041 U	NA	NA	NA	NA	NA	0.0044 U	NA	0.0026 U	NA	0.0046 U
	Freon TF	4,300	560	0.0047 U	0.0036 U	0.0055 U	0.0041 U	NA	NA	NA	NA	NA	0.0044 U	NA	0.0026 U	NA	0.0046 U
	Acetone	6,100	1,400	**0.099**	**0.0070**	0.0055 U	0.0041 U	NA	NA	NA	NA	NA	0.0044 U	NA	0.0026 U	NA	0.0046 U
	Carbon Disulfide	67	36	0.0047 U	0.0036 U	0.0055 U	0.0041 U	NA	NA	NA	NA	NA	0.0044 U	NA	0.0026 U	NA	0.0046 U
	Methyl Acetate	7,800	2,220	0.0047 U	0.0036 U	0.0055 U	0.0041 U	NA	NA	NA	NA	NA	0.0044 U	NA	0.0026 U	NA	0.0046 U
	Methylene Chloride	11	9.1	0.0047 U	0.0036 U	0.0055 U	0.0041 U	NA	NA	NA	NA	NA	0.0044 U	NA	0.0026 U	NA	0.0046 U
	trans-1,2-Dichloroethene	11	6.9	0.0047 U	0.0036 U	0.0055 U	0.0041 U	NA	NA	NA	NA	NA	0.0044 U	NA	0.0026 U	NA	0.0046 U
	Methyl-t-Butyl Ether	39	32	0.0047 U	0.0036 U	0.0055 U	0.0041 U	NA	NA	NA	NA	NA	0.0044 U	NA	0.0026 U	NA	0.0046 U
	1,1-Dichloroethane	3.4	51.0	0.0047 U	0.0036 U	0.0055 U	0.0041 U	NA	NA	NA	NA	NA	0.0044 U	NA	0.0026 U	NA	0.0046 U
	cis-1,2-Dichloroethene	78	4.3	0.0047 U	0.0036 U	0.0055 U	0.0041 U	NA	NA	NA	NA	NA	0.0044 U	NA	0.0026 U	NA	0.0046 U
	2-Butanone	2,800	2,200	**0.015**	0.0036 U	0.0055 U	0.0041 U	NA	NA	NA	NA	NA	0.0044 U	NA	0.0026 U	NA	0.0046 U
	Bromochloromethane	NS	NS	0.0047 U	0.0036 U	0.0055 U	0.0041 U	NA	NA	NA	NA	NA	0.0044 U	NA	0.0026 U	NA	0.0046 U
	Chloroform	0.3	0.22	0.0047 U	0.0036 U	0.0055 U	0.0041 U	NA	NA	NA	NA	NA	0.0044 U	NA	0.0026 U	NA	0.0046 U
	1,1,1-Trichloroethane	900	120	0.0047 U	0.0036 U	0.0055 U	0.0041 U	NA	NA	NA	NA	NA	0.0044 U	NA	0.0026 U	NA	0.0046 U
	Cyclohexane	720	14	0.0047 U	0.0036 U	0.0055 U	0.0041 U	NA	NA	NA	NA	NA	0.0044 U	NA	0.0026 U	NA	0.0046 U
	Carbon Tetrachloride	0.25	0.25	0.0047 U	0.0036 U	0.0055 U	0.0041 U	NA	NA	NA	NA	NA	0.0044 U	NA	0.0026 U	NA	0.0046 U
	Benzene	1.1	0.64	0.0047 U	0.0036 U	0.0055 U	0.0041 U	NA	NA	NA	NA	NA	0.0044 U	NA	0.0026 U	NA	0.0046 U
	1,2-Dichloroethane	0.45	0.28	0.0047 U	0.0036 U	0.0055 U	0.0041 U	NA	NA	NA	NA	NA	0.0044 U	NA	0.0026 U	NA	0.0046 U
	Trichloroethene	2.8	0.053	0.0047 U	0.0036 U	0.0055 U	0.0041 U	NA	NA	NA	NA	NA	0.0044 U	NA	0.0026 U	NA	0.0046 U
	Methylcyclohexane	NS	260	0.0047 U	0.0036 U	0.0055 U	0.0041 U	NA	NA	NA	NA	NA	0.0044 U	NA	0.0026 U	NA	0.0046 U
	1,2-Dichloropropane	0.93	0.34	0.0047 U	0.0036 U	0.0055 U	0.0041 U	NA	NA	NA	NA	NA	0.0044 U	NA	0.0026 U	NA	0.0046 U
	1,4-Dioxane	44	44	0.24 U	0.18 U	0.27 U	0.21 U	NA	NA	NA	NA	NA	0.22 U	NA	0.13 U	NA	0.23 U
	Bromodichloromethane	10	0.82	0.0047 U	0.0036 U	0.0055 U	0.0041 U	NA	NA	NA	NA	NA	0.0044 U	NA	0.0026 U	NA	0.0046 U
	cis-1,3-Dichloropropene	1.7	0.78	0.0047 U	0.0036 U	0.0055 U	0.0041 U	NA	NA	NA	NA	NA	0.0044 U	NA	0.0026 U	NA	0.0046 U
	4-Methyl-2-pentanone	530	530	0.0047 U	0.0036 U	0.0055 U	0.0041 U	NA	NA	NA	NA	NA	0.0044 U	NA	0.0026 U	NA	0.0046 U
	Toluene	500	52	0.0047 U	0.0036 U	0.0055 U	0.0041 U	NA	NA	NA	NA	NA	0.0044 U	NA	0.0026 U	NA	0.0046 U
	trans-1,3-Dichloropropene	1.7	0.78	0.0047 U	0.0036 U	0.0055 U	0.0041 U	NA	NA	NA	NA	NA	0.0044 U	NA	0.0026 U	NA	0.0046 U
	1,1,2-Trichloroethane	1.1	0.73	0.0047 U	0.0036 U	0.0055 U	0.0041 U	NA	NA	NA	NA	NA	0.0044 U	NA	0.0026 U	NA	0.0046 U
	Tetrachloroethene	0.57	0.48	0.0047 U	0.0036 U	0.0055 U	0.0041 U	NA	NA	NA	NA	NA	0.0044 U	NA	0.0026 U	NA	0.0046 U
	2-Hexanone	NS	NS	0.0047 U	0.0036 U	0.0055 U	0.0041 U	NA	NA	NA	NA	NA	0.0044 U	NA	0.0026 U	NA	0.0046 U
	Dibromochloromethane	5.8	1.1	0.0047 U	0.0036 U	0.0055 U	0.0041 U	NA	NA	NA	NA	NA	0.0044 U	NA	0.0026 U	NA	0.0046 U
	1,2-Dibromoethane	0.034	0.032	0.0047 U	0.0036 U	0.0055 U	0.0041 U	NA	NA	NA	NA	NA	0.0044 U	NA	0.0026 U	NA	0.0046 U
	Chlorobenzene	31	15	0.0047 U	0.0036 U	0.0055 U	0.0041 U	NA	NA	NA	NA	NA	0.0044 U	NA	0.0026 U	NA	0.0046 U
	Ethylbenzene	5.7	40.0	0.0047 U	0.0036 U	0.0055 U	0.0041 U	NA	NA	NA	NA	NA	0.0044 U	NA	0.0026 U	NA	0.0046 U
	Xylene (m,p)	60	27	0.0047 U	0.0036 U	0.0055 U	0.0041 U	NA	NA	NA	NA	NA	0.0044 U	NA	0.0026 U	NA	0.0046 U
	Xylene (o)	60	27	0.0047 U	0.0036 U	0.0055 U	0.0041 U	NA	NA	NA	NA	NA	0.0044 U	NA	0.0026 U	NA	0.0046 U
	Styrene	650	170	0.0047 U	0.0036 U	0.0055 U	0.0041 U	NA	NA	NA	NA	NA	0.0044 U	NA	0.0026 U	NA	0.0046 U
	Bromoform	61	62	0.0047 U	0.0036 U	0.0055 U	0.0041 U	NA	NA	NA	NA	NA	0.0044 U	NA	0.0026 U	NA	0.0046 U
	Isopropylbenzene	220	57	0.0047 U	0.0036 U	0.0055 U	0.0041 U	NA	NA	NA	NA	NA	0.0044 U	NA	0.0026 U	NA	0.0046 U
	1,1,2,2-Tetrachloroethane	0.59	0.41	0.0047 U	0.0036 U	0.0055 U	0.0041 U	NA	NA	NA	NA	NA	0.0044 U	NA	0.0026 U	NA	0.0046 U
	1,3-Dichlorobenzene	NS	53	0.0047 U	0.0036 U	0.0055 U	0.0041 U	NA	NA	NA	NA	NA	0.0044 U	NA	0.0026 U	NA	0.0046 U
	1,4-Dichlorobenzene	2.6	3.4	0.0047 U	0.0036 U	0.0055 U	0.0041 U	NA	NA	NA	NA	NA	0.0044 U	NA	0.0026 U	NA	0.0046 U
	1,2-Dichlorobenzene	200	60	0.0047 U	0.0036 U	0.0055 U	0.0041 U	NA	NA	NA	NA	NA	0.0044 U	NA	0.0026 U	NA	0.0046 U
	1,2-Dibromo-3-Chloropropane	0.0056	0.4600	0.0047 U	0.0036 U	0.0055 U	0.0041 U	NA	NA	NA	NA	NA	0.0044 U	NA	0.0026 U	NA	0.0046 U
	1,2,4-Trichlorobenzene	8.7	6.2	0.0047 U	0.0036 U	0.0055 U	0.0041 U	NA	NA	NA	NA	NA	0.0044 U	NA	0.0026 U	NA	0.0046 U
	1,2,3-Trichlorobenzene	NS	NS	0.0047 U	0.0036 U	0.0055 U	0.0041 U	NA	NA	NA	NA	NA	0.0044 U	NA	0.0026 U	NA	0.0046 U
SVOCs+																	
(mg/kg)	Acenaphthene	340	370	0.0075 U	**0.098**	**0.0041 J**	**0.0022 J**	**0.24**	**0.077**	**0.065**	**0.057**	**0.0051 J**	**0.0040 J**	0.071 U	**0.0025 J**	**0.026 J**	**0.0070 J**
	Acenaphthylene	NS	NS	0.0075 U	**0.53**	**0.018**	0.0073 U	**0.043**	**0.051**	**0.12**	**0.013**	**0.022**	**0.0098**	0.071 U	**0.0022 J**	**0.059 J**	**0.012 J**
	Acetophenone	780	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.0034 J**	0.35 U	NA	0.39 U	NA
	Anthracene	1,700	2,200	0.0075 U	**0.38**	**0.012**	0.0073 U	**0.53**	**0.21**	**0.18**	**0.14**	**0.018**	**0.011**	**0.048 J**	**0.0024 J**	**0.083**	**0.019**
	Atrazine	2.1	2.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.039 U	0.35 U	NA	0.39 U	NA
	Benzo(a)anthracene	0.15	0.62	0.0075 U	**1.6**	**0.061**	0.0073 U	**1.2**	**0.51**	**0.50**	**0.31**	**0.079**	**0.040**	**0.16**	**0.0081**	**0.27**	**0.061**
	Benzo(a)pyrene	0.015	0.062	0.0075 U	**2.1**	**0.069**	**0.0018 J**	**0.74**	**0.44**	**0.59**	**0.22**	**0.094**	**0.044**	**0.16**	**0.0082**	**0.28**	**0.061**
	Benzo(b)fluoranthene	0.15	0.62	0.0075 U	**2.3**	**0.11**	**0.0032 J**	**1.1**	**0.66**	**0.77**	**0.29**	**0.15**	**0.068**	**0.28**	**0.015**	**0.52**	**0.10**

Table 4
Summary of Soil Analytical Results
St. Albans Municipal Parking Lot No. 1 and Former Brickyard Tavern Site
St. Albans, VT

Analysis	Analyte	RSL[a]	PRGs	B-3		B-4		B-5	B-6	B-7	B-8	B-11	B-15	MW-1		MW-2	
	Sample ID:			B-3		B-4		B-5	B-6	B-7	B-8	B-11	B-15	MW-1		MW-2	
	Sample Depth (ft.)*:			1-3	6-8	1-3	7-9	1-3	1-3	1-3	1-3	1-3	2-3	1-3	7-9	1-3	3-5
	Sample Date:			10/9/2008	10/9/2008	10/9/2008	10/9/2008	10/9/2008	10/9/2008	10/9/2008	10/9/2008	10/9/2008	10/8/2008	10/7/2008	10/7/2008	10/7/2008	10/7/2008
	Benzo(ghi)perylene	NS	NS	0.0075 U	**0.047 J**	**0.064**	**0.017**	**0.41**	**0.28**	**0.71**	**0.12**	**0.092**	**0.044**	**0.28**	**0.023**	**0.40**	**0.080**
	Benzo(k)fluoranthene	1.5	6.2	0.0075 U	**0.55**	0.0077 U	0.0073 U	0.0073 U	0.0078 U	0.0150 U	0.0073 U	0.0088 U	0.0080 U	0.071 U	0.0074 U	0.078 U	0.015 U
	Benzaldehyde	780	610	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.012 J**	0.35 U	NA	0.39 U	NA
	1,1'-Biphenyl	390	300	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.0027 J**	0.35 U	NA	0.39 U	NA
	bis(2-Chloroethoxy)methane	18	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.039 U	0.35 U	NA	0.39 U	NA
	bis(2-Chloroethyl) ether	0.19	0.22	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0080 U	0.071 U	NA	0.078 U	NA
	bis(2-Ethylhexyl) phthalate	35	35	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.015 J**	0.35 U	NA	0.39 U	NA
	4-Bromophenyl phenyl ether	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.039 U	0.35 U	NA	0.39 U	NA
	Butyl benzyl phthalate	260	1,200	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.039 U	0.35 U	NA	0.39 U	NA
	Caprolactam	3,100	3,100	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.033 J**	1.8 U	NA	2.0 U	NA
	Carbazole	NS	24	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.0054 J**	**0.019 J**	NA	**0.046 J**	NA
	4-Chloroaniline	9	24	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.039 U	0.35 U	NA	0.39 U	NA
	4-Chloro-3-methylphenol	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.039 U	0.35 U	NA	0.39 U	NA
	2-Chloronaphthalene	630	490	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0080 U	0.071 U	NA	0.078 U	NA
	2-Chlorophenol	39	6.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.039 U	0.35 U	NA	0.39 U	NA
	4-Chlorophenyl phenyl ether	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.039 U	0.35 U	NA	0.39 U	NA
	Chrysene	15	62	0.0075 U	**1.5**	**0.056**	0.0073 U	**0.91**	**0.46**	**0.53**	**0.28**	**0.089**	**0.044**	**0.18**	**0.0083**	**0.30**	**0.061**
	Dibenz(a,h)anthracene	0.015	0.062	0.0075 U	0.074 U	**0.033**	0.0073 U	**0.16**	**0.10**	**0.14**	**0.045**	**0.026**	**0.017**	**0.21**	**0.021**	**0.27**	**0.049**
	Dibenzofuran	NS	15	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.0066 J**	0.35 U	NA	**0.025 J**	NA
	3,3'-Dichlorobenzidine	1.1	1.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.039 U	0.35 U	NA	0.39 U	NA
	2,4-Dichlorophenol	18	18	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0080 U	0.071 U	NA	0.078 U	NA
	Diethyl phthalate	4,900	4,900	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.0047 J**	0.35 U	NA	0.39 U	NA
	2,4-Dimethylphenol	120	120	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.039 U	0.35 U	NA	0.39 U	NA
	Dimethyl phthalate	NS	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.039 U	0.35 U	NA	0.39 U	NA
	Di-n-butyl phthalate	610	610	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.0093 J**	0.35 U	NA	0.39 U	NA
	4,6-Dinitro-2-methylphenol	NS	0.61	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.20 U	1.8 U	NA	2.0 U	NA
	2,4-Dinitrophenol	12	12	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.20 U	1.8 U	NA	2.0 U	NA
	2,4-Dinitrotoluene	12	12	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.039 U	0.35 U	NA	0.39 U	NA
	2,6-Dinitrotoluene	6.1	6.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.039 U	0.35 U	NA	0.39 U	NA
	Di-n-octyl phthalate	NS	240	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.039 U	0.35 U	NA	0.39 U	NA
	Fluoranthene	230	230	0.0075 U	**3.1**	**0.096**	**0.0031 J**	**2.5**	**0.96**	**1.1**	**0.62**	**0.14**	**0.075**	**0.37**	**0.015**	**0.54**	**0.13**
	Fluorene	230	270	0.0075 U	**0.12**	0.0077 U	0.0073 U	**0.26**	**0.098**	**0.074**	**0.066**	**0.0088**	**0.0046 J**	0.071 U	0.0074 U	0.078 U	0.015 U
	Hexachlorobenzene	0.3	0.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0080 U	0.071 U	NA	0.078 U	NA
	Hexachlorobutadiene	6.2	6.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0080 U	0.071 U	NA	0.078 U	NA
	Hexachlorocyclopentadiene	37	37	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.039 U	0.35 U	NA	0.39 U	NA
	Hexachloroethane	35	35	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.039 U	0.35 U	NA	0.39 U	NA
	Indeno(1,2,3-cd)pyrene	0.15	0.62	0.0075 U	**0.42**	**0.062**	**0.019**	**0.36**	**0.26**	**0.50**	**0.11**	**0.078**	**0.040**	**0.27**	**0.023**	**0.38**	**0.075**
	Isophorone	510	510	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.039 U	0.35 U	NA	0.39 U	NA
	2-Methylnaphthalene	31	NS	0.0075 U	**0.090**	**0.0033 J**	0.0073 U	**0.044**	**0.024**	**0.077**	**0.0084**	**0.0065 J**	**0.0053 J**	0.0700 U	**0.0023 J**	0.078 U	**0.0057 J**
	2-Methylphenol	310	310	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.039 U	0.35 U	NA	0.39 U	NA
	4-Methylphenol	31	31	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.039 U	0.35 U	NA	0.39 U	NA
	Naphthalene	3.9	5.6	0.0075 U	**0.13**	**0.0079**	**0.0034 J**	**0.036**	**0.028**	**0.080**	**0.0078**	**0.014**	**0.0086**	0.071 U	**0.0031 J**	**0.032 J**	**0.0087 J**
	2-Nitroaniline	NS	18	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.20 U	1.8 U	NA	2.0 U	NA
	3-Nitroaniline	NS	1.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.20 U	1.8 U	NA	2.0 U	NA
	4-Nitroaniline	NS	23	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.20 U	1.8 U	NA	2.0 U	NA
	Nitrobenzene	3.1	2.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0080 U	0.071 U	NA	0.078 U	NA
	2-Nitrophenol	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.039 U	0.35 U	NA	0.39 U	NA
	4-Nitrophenol	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.20 U	1.8 U	NA	2.0 U	NA
	N-Nitrosodi-n-propylamine	0.069	0.069	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0080 U	0.071 U	NA	0.078 U	NA
	N-Nitrosodiphenylamine	99	99	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0080 U	0.071 U	NA	0.078 U	NA
	2,2'-oxybis(1-Chloropropane)	3.5	3.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0080 U	0.071 U	NA	0.078 U	NA
	Pentachlorophenol	3	3	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.039 U	0.35 U	NA	0.39 U	NA
	Phenanthrene	NS	NS	0.0075 U	**1.2**	**0.029**	**0.0047 J**	**2.1**	**0.67**	**0.52**	**0.50**	**0.053**	**0.040**	**0.14**	**0.0095**	**0.30**	**0.076**
	Phenol	1,800	1,800	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0080 U	0.071 U	NA	0.078 U	NA
	Pyrene	170	230	0.0075 U	**1.9**	**0.062**	0.0073 U	**1.4**	**0.65**	**0.62**	**0.34**	**0.087**	**0.043**	**0.22**	**0.0099**	**0.34**	**0.079**
	2,4,5-Trichlorophenol	610	610	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.039 U	0.35 U	NA	0.39 U	NA
	2,4,6-Trichlorophenol	44	0.61	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.039 U	0.35 U	NA	0.39 U	NA
	2,3,4,6-Tetrachlorophenol	180	180	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.039 U	**0.042 J**	NA	**0.039 J**	NA
TPH (mg/kg)	Diesel Fuel	NS	NS	NA	NA	7.7 U	NA	NA	NA	7.6 U	NA	8.1 U	NA	NA	7.2 U	NA	NA
	Motor Oil	NS	NS	NA	NA	19 U	NA	NA	NA	**41**	NA	**39**	NA	NA	18 U	NA	NA
	Total DRO	1,000[b]	NS	NA	NA	27 U	NA	NA	NA	**41**	NA	**39**	NA	NA	26 U	NA	NA

Table 4
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St. Albans Municipal Parking Lot No. 1 and Former Brickyard Tavern Site
St. Albans, VT

Analysis	Analyte	RSL[(a)]	PRGs	B-3		B-4		B-5	B-6	B-7	B-8	B-11	B-15	MW-1		MW-2	
	Sample ID:			B-3		B-4		B-5	B-6	B-7	B-8	B-11	B-15	MW-1		MW-2	
	Sample Depth (ft.)*:			1-3	6-8	1-3	7-9	1-3	1-3	1-3	1-3	1-3	2-3	1-3	7-9	1-3	3-5
	Sample Date:			10/9/2008	10/9/2008	10/9/2008	10/9/2008	10/9/2008	10/9/2008	10/9/2008	10/9/2008	10/9/2008	10/8/2008	10/7/2008	10/7/2008	10/7/2008	10/7/2008
PCBs																	
(mg/kg)	Aroclor-1016	0.39	0.39	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor-1221	0.17	0.22	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor-1232	0.17	0.22	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor-1242	0.22	0.22	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor-1248	0.22	0.22	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor-1254	0.22	0.22	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor-1260	0.22	0.22	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals																	
(mg/kg)	Tin	4,700	4,700	**10.5**	1.7 U	1.6 U	NA	**19.1**	**5.0**	1.9 U	**4.7**	**5.6**	**7.3**	**10.0**	NA	**16.0**	**1.9**
	Silver	39	39	**2.5**	0.83 U	0.82 U	NA	0.75 U	0.97 U	0.93 U	0.96 U	0.86 U	0.80 U	0.84 U	NA	**2.0**	0.89 U
	Aluminum	NS	7,600	**5,100**	**7,170**	**9,570**	NA	**6,430**	**11,000**	**8,890**	**10,100**	**7,360**	**6,430**	**6,600**	NA	**7,220**	**9,310**
	Antimony	3.1	3.1	4.9 U	5.0 U	4.9 U	NA	4.5 U	5.8 U	5.6 U	5.7 U	5.1 U	4.8 U	5.0 U	NA	4.9 U	5.4 U
	Arsenic	0.39	0.39	**19.4**	**4.8**	**5.0**	NA	**10.3**	**4.7**	**6.9**	**4.2**	**5.7**	**4.8**	**5.4**	NA	**12.9**	**6.3**
	Barium	1,500	540	**151**	**33.7**	**43.1**	NA	**76.8**	**71.0**	**45.6**	**57.9**	**65.3**	**48.7**	**54.7**	NA	**672**	**252**
	Beryllium	16	15	0.41 U	0.41 U	0.41 U	NA	0.38 U	**0.50**	0.47 U	0.48 U	0.43 U	0.40 U	0.42 U	NA	0.40 U	**0.47**
	Cadmium	7	3.7	0.41 U	0.41 U	0.41 U	NA	0.38 U	0.49 U	0.47 U	0.48 U	0.43 U	0.40 U	0.42 U	NA	**1.0**	0.45 U
	Chromium	280	210	**10.6**	**13.5**	**15.6**	NA	**12.9**	**14.7**	**16.1**	**15.9**	**12.5**	**11.4**	**12.3**	NA	**15.3**	**16.2**
	Copper	310	310	**51.7**	**16.4**	**15.7**	NA	**26.9**	**25.7**	**18.4**	**20.6**	**34.6**	**18.2**	**52.8**	NA	**60.1**	**25.4**
	Iron	5,500	2,300	**31,400**	**22,100**	**22,700**	NA	**15,000**	**23,400**	**26,900**	**22,200**	**19,300**	**16,400**	**21,700**	NA	**23,300**	**25,400**
	Manganese	180	180	**437**	**572**	**375**	NA	**360**	**407**	**306**	**468**	**489**	**363**	**468**	NA	**503**	**303**
	Molybdenum	39	39	**2.4**	0.83 U	0.82 U	NA	**1.4**	**1.1**	**0.97**	**0.96**	**1.1**	0.80 U	0.84 U	NA	**0.86**	0.89 U
	Nickel	160	160	**10.8**	**16.1**	**18.5**	NA	**16.7**	**12.0**	**21.7**	**17.2**	**15.0**	**13.2**	**14.5**	NA	**16.1**	**19.0**
	Lead	400	400	**241**	**7.8**	**27.8**	NA	**677**	**84.5**	**19.2**	**44.3**	**95.8**	**140**	**156**	NA	**738**	**194**
	Selenium	39	39	2.8 U	2.9 U	2.9 U	NA	2.6 U	3.4 U	3.3 U	3.3 U	3.0 U	2.8 U	2.9 U	NA	2.8 U	3.1 U
	Strontium	4,700	4,700	**119**	**15.2**	**13.3**	NA	**65.5**	**25.8**	**13.5**	**15.1**	**21.6**	**46.1**	**38.7**	NA	**69.7**	**18.7**
	Vanadium	39	7.8	**21.1**	**15.7**	**17.6**	NA	**15.0**	**21.7**	**19.1**	**18.6**	**13.1**	**13.7**	**21.0**	NA	**18.0**	**18.6**
	Zinc	2,300	2,300	**147**	**42.9**	**61.1**	NA	**75.0**	**51.2**	**63.0**	**61.8**	**80.6**	**66.6**	**102**	NA	**1,450**	**354**
	Mercury	2.3	2.3	**0.48**	0.035 U	**0.19**	NA	**0.17**	**0.19**	**0.048**	**0.72**	**0.49**	**0.39**	**0.46**	NA	**1.9**	**0.18**
Percent Solids																	
(%)	Solids	NS	NS	**89.4**	**86.8**	**87.3**	**90.7**	**90.3**	**71.3**	**87.7**	**87.2**	**81.6**	**85.4**	**89.9**	**91.6**	**86.4**	**85.3**

Notes:
All units in mg/kg unless otherwise specified.
mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).
J - Estimated value; below quantitation limit.
NA - Sample not analyzed for the listed analyte.
NS - No standard available for this compound.
U - Compound was not detected at specified quantitation limit.
Values shown in Bold and shaded type exceed PRGs.
Values in **Bold** indicate the compound was detected.
VOCs - Volatile Organic Compounds.
SVOCs - Semivolatile Organic Compounds.
TPH - Total Petroleum Hydrocarbons.
DRO - Diesel Range Organics.
RSL - Project action limit.
PRGs - EPA Region IX Preliminary Remediation Goals, Residential Soil, October 2004.
* Samples selected for VOC analysis were collected from a discrete sampling depth within the indicated depth interval.
(a) EPA Regional Screening Levels for Chemical Contaminants at Superfund Sites, September 2008. There are presented for comparison purposes only.
(b) Guidance value for on-site reuse/treatment (Agency Guidelines for Petroleum Contaminated Soil and Debris, Vermont Agency of Natural Resources - Waste Management Division; August 1996)
+ The laboratory did not calibrate for the target compound 1,2,4,5-tetrachlorobenzene. A library search was performed for each sample that was submitted for the analysis of the full SVOC list. This compound was not detected in any of the samples.

Table 4
Summary of Soil Analytical Results
St. Albans Municipal Parking Lot No. 1 and Former Brickyard Tavern Site
St. Albans, VT

Analysis	Analyte		Sample ID:	MW-9				MW-10				MW-12		MW-13		MW-14	
			Sample Depth (ft.)*:	1-3		7-9		1-3		7-9		1-3	3-5	1-3	4-5	1-3	3-5
			Sample Date:	10/8/2008		10/8/2008		10/8/2008		10/8/2008		10/8/2008	10/8/2008	10/7/2008	10/7/2008	10/7/2008	10/7/2008
		RSL[(a)]	**PRGs**		Field Dup		Field Dup		Field Dup		Field Dup						
VOCs (mg/kg)	Dichlorodifluoromethane	19	9.4	0.0089 U	NA	0.20 U	NA	0.0063 U	NA	0.0036 U	0.0036 U	0.0049 U	0.0042 U	NA	0.0039 U	NA	0.0051 U
	Chloromethane	1.7	4.7	0.0089 U	NA	0.20 U	NA	0.0063 U	NA	0.0036 U	0.0036 U	0.0049 U	0.0042 U	NA	0.0039 U	NA	0.0051 U
	Vinyl Chloride	0.06	0.08	0.0089 U	NA	0.20 U	NA	0.0063 U	NA	0.0036 U	0.0036 U	0.0049 U	0.0042 U	NA	0.0039 U	NA	0.0051 U
	Bromomethane	0.79	0.39	0.0089 U	NA	0.20 U	NA	0.0063 U	NA	0.0036 U	0.0036 U	0.0049 U	0.0042 U	NA	0.0039 U	NA	0.0051 U
	Chloroethane	1,500	3	0.0089 U	NA	0.20 U	NA	0.0063 U	NA	0.0036 U	0.0036 U	0.0049 U	0.0042 U	NA	0.0039 U	NA	0.0051 U
	Trichlorofluoromethane	80	39	0.0089 U	NA	0.20 U	NA	0.0063 U	NA	0.0036 U	0.0036 U	0.0049 U	0.0042 U	NA	0.0039 U	NA	0.0051 U
	1,1-Dichloroethene	25	12	0.0089 U	NA	0.20 U	NA	0.0063 U	NA	0.0036 U	0.0036 U	0.0049 U	0.0042 U	NA	0.0039 U	NA	0.0051 U
	Freon TF	4,300	560	0.0089 U	NA	0.20 U	NA	0.0063 U	NA	0.0036 U	0.0036 U	0.0049 U	0.0042 U	NA	0.0039 U	NA	0.0051 U
	Acetone	6,100	1,400	0.0089 U	NA	0.20 U	NA	0.0063 U	NA	**0.013**	**0.0085**	0.0049 U	**0.0098**	NA	0.0039 U	NA	0.0051 U
	Carbon Disulfide	67	36	0.0089 U	NA	0.20 U	NA	0.0063 U	NA	0.0036 U	0.0036 U	0.0049 U	0.0042 U	NA	0.0039 U	NA	0.0051 U
	Methyl Acetate	7,800	2,220	0.0089 U	NA	0.20 U	NA	0.0063 U	NA	0.0036 U	0.0036 U	0.0049 U	0.0042 U	NA	0.0039 U	NA	0.0051 U
	Methylene Chloride	11	9.1	0.0089 U	NA	0.20 U	NA	0.0063 U	NA	0.0036 U	0.0036 U	0.0049 U	0.0042 U	NA	0.0039 U	NA	0.0051 U
	trans-1,2-Dichloroethene	11	6.9	0.0089 U	NA	0.20 U	NA	0.0063 U	NA	0.0036 U	0.0036 U	0.0049 U	0.0042 U	NA	0.0039 U	NA	0.0051 U
	Methyl-t-Butyl Ether	39	32	0.0089 U	NA	0.20 U	NA	0.0063 U	NA	0.0036 U	0.0036 U	0.0049 U	0.0042 U	NA	0.0039 U	NA	0.0051 U
	1,1-Dichloroethane	3.4	51.0	0.0089 U	NA	0.20 U	NA	0.0063 U	NA	0.0036 U	0.0036 U	0.0049 U	0.0042 U	NA	0.0039 U	NA	0.0051 U
	cis-1,2-Dichloroethene	78	4.3	0.0089 U	NA	0.20 U	NA	0.0063 U	NA	0.0036 U	0.0036 U	0.0049 U	0.0042 U	NA	0.0039 U	NA	0.0051 U
	2-Butanone	2,800	2,200	0.0089 U	NA	0.20 U	NA	0.0063 U	NA	0.0036 U	0.0036 U	0.0049 U	0.0042 U	NA	0.0039 U	NA	0.0051 U
	Bromochloromethane	NS	NS	0.0089 U	NA	0.20 U	NA	0.0063 U	NA	0.0036 U	0.0036 U	0.0049 U	0.0042 U	NA	0.0039 U	NA	0.0051 U
	Chloroform	0.3	0.22	0.0089 U	NA	0.20 U	NA	0.0063 U	NA	0.0036 U	0.0036 U	0.0049 U	0.0042 U	NA	0.0039 U	NA	0.0051 U
	1,1,1-Trichloroethane	900	120	0.0089 U	NA	0.20 U	NA	0.0063 U	NA	0.0036 U	0.0036 U	0.0049 U	0.0042 U	NA	0.0039 U	NA	0.0051 U
	Cyclohexane	720	14	0.0089 U	NA	0.20 U	NA	0.0063 U	NA	0.0036 U	0.0036 U	0.0049 U	0.0042 U	NA	0.0039 U	NA	0.0051 U
	Carbon Tetrachloride	0.25	0.25	0.0089 U	NA	0.20 U	NA	0.0063 U	NA	0.0036 U	0.0036 U	0.0049 U	0.0042 U	NA	0.0039 U	NA	0.0051 U
	Benzene	1.1	0.64	0.0089 U	NA	0.20 U	NA	0.0063 U	NA	0.0036 U	0.0036 U	0.0049 U	0.0042 U	NA	0.0039 U	NA	0.0051 U
	1,2-Dichloroethane	0.45	0.28	0.0089 U	NA	0.20 U	NA	0.0063 U	NA	0.0036 U	0.0036 U	0.0049 U	0.0042 U	NA	0.0039 U	NA	0.0051 U
	Trichloroethene	2.8	0.053	0.0089 U	NA	0.20 U	NA	0.0063 U	NA	0.0036 U	0.0036 U	0.0049 U	0.0042 U	NA	0.0039 U	NA	0.0051 U
	Methylcyclohexane	NS	260	0.0089 U	NA	0.20 U	NA	0.0063 U	NA	0.0036 U	0.0036 U	0.0049 U	0.0042 U	NA	0.0039 U	NA	0.0051 U
	1,2-Dichloropropane	0.93	0.34	0.0089 U	NA	0.20 U	NA	0.0063 U	NA	0.0036 U	0.0036 U	0.0049 U	0.0042 U	NA	0.0039 U	NA	0.0051 U
	1,4-Dioxane	44	44	0.44 U	NA	9.8 U	NA	0.32 U	NA	0.18 U	0.18 U	0.25 U	0.21 U	NA	0.20 U	NA	0.25 U
	Bromodichloromethane	10	0.82	0.0089 U	NA	0.20 U	NA	0.0063 U	NA	0.0036 U	0.0036 U	0.0049 U	0.0042 U	NA	0.0039 U	NA	0.0051 U
	cis-1,3-Dichloropropene	1.7	0.78	0.0089 U	NA	0.20 U	NA	0.0063 U	NA	0.0036 U	0.0036 U	0.0049 U	0.0042 U	NA	0.0039 U	NA	0.0051 U
	4-Methyl-2-pentanone	530	530	0.0089 U	NA	0.20 U	NA	0.0063 U	NA	0.0036 U	0.0036 U	0.0049 U	0.0042 U	NA	0.0039 U	NA	0.0051 U
	Toluene	500	52	0.0089 U	NA	0.20 U	NA	0.0063 U	NA	0.0036 U	0.0036 U	0.0049 U	0.0042 U	NA	0.0039 U	NA	0.0051 U
	trans-1,3-Dichloropropene	1.7	0.78	0.0089 U	NA	0.20 U	NA	0.0063 U	NA	0.0036 U	0.0036 U	0.0049 U	0.0042 U	NA	0.0039 U	NA	0.0051 U
	1,1,2-Trichloroethane	1.1	0.73	0.0089 U	NA	0.20 U	NA	0.0063 U	NA	0.0036 U	0.0036 U	0.0049 U	0.0042 U	NA	0.0039 U	NA	0.0051 U
	Tetrachloroethene	0.57	0.48	0.0089 U	NA	0.20 U	NA	0.0063 U	NA	0.0036 U	0.0036 U	0.0049 U	0.0042 U	NA	0.0039 U	NA	0.0051 U
	2-Hexanone	NS	NS	0.0089 U	NA	0.20 U	NA	0.0063 U	NA	0.0036 U	0.0036 U	0.0049 U	0.0042 U	NA	0.0039 U	NA	0.0051 U
	Dibromochloromethane	5.8	1.1	0.0089 U	NA	0.20 U	NA	0.0063 U	NA	0.0036 U	0.0036 U	0.0049 U	0.0042 U	NA	0.0039 U	NA	0.0051 U
	1,2-Dibromoethane	0.034	0.032	0.0089 U	NA	0.20 U	NA	0.0063 U	NA	0.0036 U	0.0036 U	0.0049 U	0.0042 U	NA	0.0039 U	NA	0.0051 U
	Chlorobenzene	31	15	0.0089 U	NA	0.20 U	NA	0.0063 U	NA	0.0036 U	0.0036 U	0.0049 U	0.0042 U	NA	0.0039 U	NA	0.0051 U
	Ethylbenzene	5.7	40.0	0.0089 U	NA	0.20 U	NA	0.0063 U	NA	0.0036 U	0.0036 U	0.0049 U	0.0042 U	NA	0.0039 U	NA	0.0051 U
	Xylene (m,p)	60	27	0.0089 U	NA	0.20 U	NA	0.0063 U	NA	0.0036 U	0.0036 U	0.0049 U	0.0042 U	NA	0.0039 U	NA	0.0051 U
	Xylene (o)	60	27	0.0089 U	NA	0.20 U	NA	0.0063 U	NA	0.0036 U	0.0036 U	0.0049 U	0.0042 U	NA	0.0039 U	NA	0.0051 U
	Styrene	650	170	0.0089 U	NA	0.20 U	NA	0.0063 U	NA	0.0036 U	0.0036 U	0.0049 U	0.0042 U	NA	0.0039 U	NA	0.0051 U
	Bromoform	61	62	0.0089 U	NA	0.20 U	NA	0.0063 U	NA	0.0036 U	0.0036 U	0.0049 U	0.0042 U	NA	0.0039 U	NA	0.0051 U
	Isopropylbenzene	220	57	0.0089 U	NA	0.20 U	NA	0.0063 U	NA	0.0036 U	0.0036 U	0.0049 U	0.0042 U	NA	0.0039 U	NA	0.0051 U
	1,1,2,2-Tetrachloroethane	0.59	0.41	0.0089 U	NA	0.20 U	NA	0.0063 U	NA	0.0036 U	0.0036 U	0.0049 U	0.0042 U	NA	0.0039 U	NA	0.0051 U
	1,3-Dichlorobenzene	NS	53	0.0089 U	NA	0.20 U	NA	0.0063 U	NA	0.0036 U	0.0036 U	0.0049 U	0.0042 U	NA	0.0039 U	NA	0.0051 U
	1,4-Dichlorobenzene	2.6	3.4	0.0089 U	NA	0.20 U	NA	0.0063 U	NA	0.0036 U	0.0036 U	0.0049 U	0.0042 U	NA	0.0039 U	NA	0.0051 U
	1,2-Dichlorobenzene	200	60	0.0089 U	NA	0.20 U	NA	0.0063 U	NA	0.0036 U	0.0036 U	0.0049 U	0.0042 U	NA	0.0039 U	NA	0.0051 U
	1,2-Dibromo-3-Chloropropane	0.0056	0.4600	0.0089 U	NA	0.20 U	NA	0.0063 U	NA	0.0036 U	0.0036 U	0.0049 U	0.0042 U	NA	0.0039 U	NA	0.0051 U
	1,2,4-Trichlorobenzene	8.7	6.2	0.0089 U	NA	0.20 U	NA	0.0063 U	NA	0.0036 U	0.0036 U	0.0049 U	0.0042 U	NA	0.0039 U	NA	0.0051 U
	1,2,3-Trichlorobenzene	NS	NS	0.0089 U	NA	0.20 U	NA	0.0063 U	NA	0.0036 U	0.0036 U	0.0049 U	0.0042 U	NA	0.0039 U	NA	0.0051 U
SVOCs+ (mg/kg)	Acenaphthene	340	370	**0.15**	NA	0.0078 U	NA	**0.53**	**0.35**	**0.016**	NA	**0.0093**	NA	**0.071 J**	**0.0021 J**	**0.025**	NA
	Acenaphthylene	NS	NS	**0.051**	NA	0.0078 U	NA	**0.16**	**0.15**	**0.010**	NA	**0.10**	NA	**2.6**	**0.0028 J**	**0.10**	NA
	Acetophenone	780	NS	NA	NA	NA	NA	0.19 U	0.38 U	NA	NA	NA	NA	**0.030 J**	0.038 U	**0.0077 J**	NA
	Anthracene	1,700	2,200	**0.40**	NA	0.0078 U	NA	**0.75**	**0.48**	**0.034**	NA	**0.040**	NA	**1.2**	0.0078 U	**0.19**	NA
	Atrazine	2.1	2.2	NA	NA	NA	NA	0.19 U	0.38 U	NA	NA	NA	NA	0.40 U	0.038 U	0.038 U	NA
	Benzo(a)anthracene	0.15	0.62	**1.1**	NA	**0.0035 J**	NA	**2.0**	**1.4**	**0.11**	NA	**0.21**	NA	**5.7**	0.0078 U	**0.79**	NA
	Benzo(a)pyrene	0.015	0.062	**0.93**	NA	**0.0022 J**	NA	**1.7**	**1.5**	**0.11**	NA	**0.27**	NA	**6.5**	**0.0034 J**	**0.64**	NA
	Benzo(b)fluoranthene	0.15	0.62	**1.3**	NA	0.0078 U	NA	**2.8**	**2.1**	**0.17**	NA	**0.55**	NA	**11**	**0.0053 J**	**1.0**	NA

Table 4
Summary of Soil Analytical Results
St. Albans Municipal Parking Lot No. 1 and Former Brickyard Tavern Site
St. Albans, VT

Analysis	Analyte		Sample ID:	MW-9				MW-10				MW-12		MW-13		MW-14	
			Sample Depth (ft.)*:	1-3		7-9		1-3		7-9		1-3	3-5	1-3	4-5	1-3	3-5
			Sample Date:	10/8/2008		10/8/2008		10/8/2008		10/8/2008		10/8/2008	10/8/2008	10/7/2008	10/7/2008	10/7/2008	10/7/2008
		RSL[a]	**PRGs**		Field Dup		Field Dup		Field Dup		Field Dup						
	Benzo(ghi)perylene	NS	NS	**0.50**	NA	0.0078 U	NA	**1.4**	**1.2**	**0.090**	NA	**0.22**	NA	**5.4**	**0.019**	**0.45**	NA
	Benzo(k)fluoranthene	1.5	6.2	0.0077 U	NA	0.0078 U	NA	0.039 U	0.078 U	0.0074 U	NA	0.0073 U	NA	0.082 U	0.0078 U	0.0077 U	NA
	Benzaldehyde	780	610	NA	NA	NA	NA	0.19 U	0.38 U	NA	NA	NA	NA	0.40 U	0.038 U	0.038 U	NA
	1,1'-Biphenyl	390	300	NA	NA	NA	NA	**0.038 J**	**0.034 J**	NA	NA	NA	NA	**0.052 J**	0.038 U	**0.012 J**	NA
	bis(2-Chloroethoxy)methane	18	NS	NA	NA	NA	NA	0.19 U	0.38 U	NA	NA	NA	NA	0.40 U	0.038 U	0.038 U	NA
	bis(2-Chloroethyl) ether	0.19	0.22	NA	NA	NA	NA	0.039 U	0.078 U	NA	NA	NA	NA	0.082 U	0.0078 U	0.0077 U	NA
	bis(2-Ethylhexyl) phthalate	35	35	NA	NA	NA	NA	0.19 U	0.38 U	NA	NA	NA	NA	0.40 U	0.038 U	**0.061**	NA
	4-Bromophenyl phenyl ether	NS	NS	NA	NA	NA	NA	0.19 U	0.38 U	NA	NA	NA	NA	0.40 U	0.038 U	0.038 U	NA
	Butyl benzyl phthalate	260	1,200	NA	NA	NA	NA	0.19 U	0.38 U	NA	NA	NA	NA	0.40 U	**0.0065 J**	0.038 U	NA
	Caprolactam	3,100	3,100	NA	NA	NA	NA	0.98 U	2.0 U	NA	NA	NA	NA	2.1 U	**0.038 J**	**0.038 J**	NA
	Carbazole	NS	24	NA	NA	NA	NA	**0.46**	**0.31**	NA	NA	NA	NA	**0.40**	0.0078 U	**0.038**	NA
	4-Chloroaniline	9	24	NA	NA	NA	NA	0.19 U	0.38 U	NA	NA	NA	NA	0.40 U	0.038 U	0.038 U	NA
	4-Chloro-3-methylphenol	NS	NS	NA	NA	NA	NA	0.19 U	0.38 U	NA	NA	NA	NA	0.40 U	0.038 U	0.038 U	NA
	2-Chloronaphthalene	630	490	NA	NA	NA	NA	0.039 U	0.078 U	NA	NA	NA	NA	0.082 U	0.0078 U	0.0077 U	NA
	2-Chlorophenol	39	6.3	NA	NA	NA	NA	0.19 U	0.38 U	NA	NA	NA	NA	0.40 U	0.038 U	0.038 U	NA
	4-Chlorophenyl phenyl ether	NS	NS	NA	NA	NA	NA	0.19 U	0.38 U	NA	NA	NA	NA	0.40 U	0.038 U	0.038 U	NA
	Chrysene	15	62	**0.99**	NA	**0.0029 J**	NA	**1.8**	**1.5**	**0.12**	NA	**0.33**	NA	**6.2**	0.0078 U	**0.64**	NA
	Dibenz(a,h)anthracene	0.015	0.062	**0.15**	NA	0.0078 U	NA	**0.41**	**0.31**	**0.030**	NA	**0.069**	NA	**1.5**	0.0078 U	**0.13**	NA
	Dibenzofuran	NS	15	NA	NA	NA	NA	**0.23**	**0.17 J**	NA	NA	NA	NA	**0.10 J**	**0.0028 J**	**0.036 J**	NA
	3,3'-Dichlorobenzidine	1.1	1.1	NA	NA	NA	NA	0.19 U	0.38 U	NA	NA	NA	NA	0.40 U	0.038 U	0.038 U	NA
	2,4-Dichlorophenol	18	18	NA	NA	NA	NA	0.039 U	0.078 U	NA	NA	NA	NA	0.082 U	0.0078 U	0.0077 U	NA
	Diethyl phthalate	4,900	4,900	NA	NA	NA	NA	0.19 U	0.38 U	NA	NA	NA	NA	0.40 U	**0.0043 J**	0.038 U	NA
	2,4-Dimethylphenol	120	120	NA	NA	NA	NA	0.19 U	0.38 U	NA	NA	NA	NA	0.40 U	0.038 U	0.038 U	NA
	Dimethyl phthalate	NS	10,000	NA	NA	NA	NA	0.19 U	0.38 U	NA	NA	NA	NA	0.40 U	0.038 U	0.038 U	NA
	Di-n-butyl phthalate	610	610	NA	NA	NA	NA	**0.068 J**	0.38 U	NA	NA	NA	NA	0.40 U	**0.0085 J**	**0.010 J**	NA
	4,6-Dinitro-2-methylphenol	NS	0.61	NA	NA	NA	NA	0.98 U	2.0 U	NA	NA	NA	NA	2.1 U	0.20 U	0.19 U	NA
	2,4-Dinitrophenol	12	12	NA	NA	NA	NA	0.98 U	2.0 U	NA	NA	NA	NA	2.1 U	0.20 U	0.19 U	NA
	2,4-Dinitrotoluene	12	12	NA	NA	NA	NA	0.19 U	0.38 U	NA	NA	NA	NA	0.40 U	0.038 U	0.038 U	NA
	2,6-Dinitrotoluene	6.1	6.1	NA	NA	NA	NA	0.19 U	0.38 U	NA	NA	NA	NA	0.40 U	0.038 U	0.038 U	NA
	Di-n-octyl phthalate	NS	240	NA	NA	NA	NA	0.19 U	0.38 U	NA	NA	NA	NA	0.40 U	0.038 U	0.038 U	NA
	Fluoranthene	230	230	**2.0**	NA	**0.0062 J**	NA	**4.5**	**3.5**	**0.26**	NA	**0.91**	NA	**10**	**0.0038 J**	**1.3**	NA
	Fluorene	230	270	**0.16**	NA	0.0078 U	NA	**0.34**	**0.23**	**0.015**	NA	**0.027**	NA	**0.18**	0.0078 U	**0.033**	NA
	Hexachlorobenzene	0.3	0.3	NA	NA	NA	NA	0.039 U	0.078 U	NA	NA	NA	NA	0.082 U	0.0078 U	0.0077 U	NA
	Hexachlorobutadiene	6.2	6.2	NA	NA	NA	NA	0.039 U	0.078 U	NA	NA	NA	NA	0.082 U	0.0078 U	0.0077 U	NA
	Hexachlorocyclopentadiene	37	37	NA	NA	NA	NA	0.19 U	0.38 U	NA	NA	NA	NA	0.40 U	0.038 U	0.038 U	NA
	Hexachloroethane	35	35	NA	NA	NA	NA	0.19 U	0.38 U	NA	NA	NA	NA	0.40 U	0.038 U	0.038 U	NA
	Indeno(1,2,3-cd)pyrene	0.15	0.62	**0.41**	NA	0.0078 U	NA	**1.1**	**1.0**	**0.077**	NA	**0.21**	NA	**3.9**	**0.021**	**0.38**	NA
	Isophorone	510	510	NA	NA	NA	NA	0.19 U	0.38 U	NA	NA	NA	NA	0.40 U	0.038 U	0.038 U	NA
	2-Methylnaphthalene	31	NS	**0.027**	NA	0.0078 U	NA	**0.20**	**0.20**	**0.013**	NA	**0.019**	NA	**0.24**	0.0077 U	**0.052**	NA
	2-Methylphenol	310	310	NA	NA	NA	NA	0.19 U	0.38 U	NA	NA	NA	NA	0.40 U	0.038 U	0.038 U	NA
	4-Methylphenol	31	31	NA	NA	NA	NA	0.19 U	0.38 U	NA	NA	NA	NA	0.40 U	0.038 U	**0.0078 J**	NA
	Naphthalene	3.9	5.6	**0.022**	NA	0.0078 U	NA	**0.32**	**0.35**	**0.015**	NA	**0.029**	NA	**0.32**	**0.003 J**	**0.053**	NA
	2-Nitroaniline	NS	18	NA	NA	NA	NA	0.98 U	2.0 U	NA	NA	NA	NA	2.1 U	0.20 U	0.19 U	NA
	3-Nitroaniline	NS	1.8	NA	NA	NA	NA	0.98 U	2.0 U	NA	NA	NA	NA	2.1 U	0.20 U	0.19 U	NA
	4-Nitroaniline	NS	23	NA	NA	NA	NA	0.98 U	2.0 U	NA	NA	NA	NA	2.1 U	0.20 U	0.19 U	NA
	Nitrobenzene	3.1	2.0	NA	NA	NA	NA	0.039 U	0.078 U	NA	NA	NA	NA	0.082 U	0.0078 U	0.0077 U	NA
	2-Nitrophenol	NS	NS	NA	NA	NA	NA	0.19 U	0.38 U	NA	NA	NA	NA	0.40 U	0.038 U	0.038 U	NA
	4-Nitrophenol	NS	NS	NA	NA	NA	NA	0.98 U	2.0 U	NA	NA	NA	NA	2.1 U	0.20 U	0.19 U	NA
	N-Nitrosodi-n-propylamine	0.069	0.069	NA	NA	NA	NA	0.039 U	0.078 U	NA	NA	NA	NA	0.082 U	0.0078 U	0.0077 U	NA
	N-Nitrosodiphenylamine	99	99	NA	NA	NA	NA	0.039 U	0.078 U	NA	NA	NA	NA	0.082 U	0.0078 U	0.0077 U	NA
	2,2'-oxybis(1-Chloropropane)	3.5	3.0	NA	NA	NA	NA	0.039 U	0.078 U	NA	NA	NA	NA	0.082 U	0.0078 U	0.0077 U	NA
	Pentachlorophenol	3	3	NA	NA	NA	NA	0.19 U	0.38 U	NA	NA	NA	NA	0.40 U	0.038 U	0.038 U	NA
	Phenanthrene	NS	NS	**1.5**	NA	**0.027**	NA	**3.0**	**2.2**	**0.15**	NA	**0.58**	NA	**2.4**	**0.0059 J**	**0.65**	NA
	Phenol	1,800	1,800	NA	NA	NA	NA	0.039 U	0.078 U	NA	NA	NA	NA	0.082 U	0.0078 U	0.0077 U	NA
	Pyrene	170	230	**1.3**	NA	**0.0060 J**	NA	**2.9**	**1.90**	**0.14**	NA	**0.49**	NA	**7.8**	**0.0028 J**	**1.0**	NA
	2,4,5-Trichlorophenol	610	610	NA	NA	NA	NA	0.19 U	0.38 U	NA	NA	NA	NA	0.40 U	0.038 U	0.038 U	NA
	2,4,6-Trichlorophenol	44	0.61	NA	NA	NA	NA	0.19 U	0.38 U	NA	NA	NA	NA	0.40 U	0.038 U	0.038 U	NA
	2,3,4,6-Tetrachlorophenol	180	180	NA	NA	NA	NA	**0.021 J**	**0.46**	NA	NA	NA	NA	0.40 U	**0.39**	0.038 U	NA
TPH (mg/kg)	Diesel Fuel	NS	NS	NA	NA	**310**	**580**	NA	NA	7.4 U	NA	NA	7.4 U	NA	7.8 U	NA	8.0 U
	Motor Oil	NS	NS	NA	NA	**71**	**110**	NA	NA	**62**	NA	NA	19 U	NA	20 U	NA	20 U
	Total DRO	1,000[b]	NS	NA	NA	**380**	**690**	NA	NA	**62**	NA	NA	26 U	NA	28 U	NA	29 U

Table 4
Summary of Soil Analytical Results
St. Albans Municipal Parking Lot No. 1 and Former Brickyard Tavern Site
St. Albans, VT

Analysis	Analyte		Sample ID:	MW-9				MW-10				MW-12		MW-13		MW-14	
			Sample Depth (ft.)*:	1-3		7-9		1-3		7-9		1-3	3-5	1-3	4-5	1-3	3-5
			Sample Date:	10/8/2008		10/8/2008		10/8/2008		10/8/2008		10/8/2008	10/8/2008	10/7/2008	10/7/2008	10/7/2008	10/7/2008
		RSL[(a)]	**PRGs**		Field Dup		Field Dup		Field Dup		Field Dup						
PCBs																	
(mg/kg)	Aroclor-1016	0.39	0.39	0.020 U	0.020 U	NA	NA	0.019 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor-1221	0.17	0.22	0.020 U	0.020 U	NA	NA	0.019 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor-1232	0.17	0.22	0.020 U	0.020 U	NA	NA	0.019 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor-1242	0.22	0.22	0.020 U	0.020 U	NA	NA	0.019 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor-1248	0.22	0.22	0.020 U	0.020 U	NA	NA	0.019 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor-1254	0.22	0.22	0.020 U	0.020 U	NA	NA	0.019 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor-1260	0.22	0.22	0.020 U	0.020 U	NA	NA	0.019 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals																	
(mg/kg)	Tin	4,700	4,700	**4.2**	NA	1.9 U	1.7 U	**57.8**	NA	**2.4**	NA	**1.6**	1.6 U	**50.9**	**5.8**	NA	**2.4**
	Silver	39	39	0.98 U	NA	0.93 U	0.84 U	0.88 U	NA	0.80 U	NA	0.80 U	0.81 U	0.88 U	0.88 U	NA	0.87 U
	Aluminum	NS	7,600	**10,200**	NA	**7,340**	**5,880**	**4,830**	NA	**5,920**	NA	**6,530**	**5,250**	**6,090**	**8,730**	NA	**6,670**
	Antimony	3.1	3.1	5.9 U	NA	5.6 U	5.0 U	5.3 U	NA	4.8 U	NA	4.8 U	4.9 U	5.3 U	5.3 U	NA	5.2 U
	Arsenic	0.39	0.39	**6.2**	NA	**5.1**	**3.0**	**9.7**	NA	**4.8**	NA	**4.2**	**3.2**	**11.9**	**5.5**	NA	**4.0**
	Barium	1,500	540	**76.5**	NA	**33.4**	**24.0**	**89.2**	NA	**32.7**	NA	**63.1**	**43.4**	**189**	**71.8**	NA	**38.1**
	Beryllium	16	15	0.49 U	NA	0.47 U	0.42 U	0.44 U	NA	0.40 U	NA	0.40 U	0.41 U	0.44 U	0.44 U	NA	0.44 U
	Cadmium	7	3.7	0.49 U	NA	0.47 U	0.42 U	**2.5**	NA	**0.47**	NA	0.40 U	0.41 U	**1.4**	0.44 U	NA	0.44 U
	Chromium	280	210	**14.5**	NA	**12.2**	**10.1**	**30.9**	NA	**12.0**	NA	**8.3**	**9.5**	**16.7**	**15.2**	NA	**11.9**
	Copper	310	310	**39.8**	NA	**16.5**	**12.2**	**140**	NA	**21.8**	NA	**13.3**	**11.8**	**80.3**	**18.6**	NA	**20.8**
	Iron	5,500	2,300	**24,500**	NA	**20,000**	**16,300**	**44,200**	NA	**18,200**	NA	**15,800**	**15,500**	**16,600**	**49,500**	NA	**29,500**
	Manganese	180	180	**704**	NA	**471**	**419**	**431**	NA	**271**	NA	**355**	**300**	**357**	**490**	NA	**559**
	Molybdenum	39	39	**1.1**	NA	0.93 U	0.84 U	**5.5**	NA	0.80 U	NA	0.80 U	0.81 U	0.88 U	0.88 U	NA	0.87 U
	Nickel	160	160	**17.6**	NA	**15.8**	**12.6**	**30.5**	NA	**14.7**	NA	**11.4**	**11.0**	**13.8**	**17.8**	NA	**14.1**
	Lead	400	400	**141**	NA	**8.3**	**7.7**	**481**	NA	**38.0**	NA	**50.7**	**26.7**	**1,560**	**234**	NA	**72.7**
	Selenium	39	39	3.4 U	NA	3.3 U	2.9 U	3.1 U	NA	2.8 U	NA	2.8 U	2.8 U	3.1 U	3.1 U	NA	3.1 U
	Strontium	4,700	4,700	**46.6**	NA	**49.0**	**73.2**	**58.3**	NA	**60.2**	NA	**64.2**	**80.2**	**91.4**	**16.6**	NA	**13.8**
	Vanadium	39	7.8	**18.1**	NA	**14.4**	**12.2**	**15.3**	NA	**12.1**	NA	**9.2**	**12.0**	**19.8**	**18.5**	NA	**16.3**
	Zinc	2,300	2,300	**93.3**	NA	**42.7**	**40.6**	**255**	NA	**62.5**	NA	**65.7**	**63.0**	**643**	**118**	NA	**50.1**
	Mercury	2.3	2.3	**0.50**	NA	0.036 U	0.035 U	**0.21**	NA	0.036 U	NA	**0.26**	**0.057**	**1.2**	**0.18**	NA	**0.14**
Percent Solids																	
(%)	Solids	NS	NS	**84.8**	**85.0**	**89.6**	**90.8**	**86.4**	**86.0**	**90.4**	NA	**90.8**	**90.3**	**81.7**	**85.5**	NA	**83.5**

Notes:
All units in mg/kg unless otherwise specified.
mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).
J - Estimated value; below quantitation limit.
NA - Sample not analyzed for the listed analyte.
NS - No standard available for this compound.
U - Compound was not detected at specified quantitation limit.
Values shown in Bold and shaded type exceed PRGs.
Values in **Bold** indicate the compound was detected.
VOCs - Volatile Organic Compounds.
SVOCs - Semivolatile Organic Compounds.
TPH - Total Petroleum Hydrocarbons.
DRO - Diesel Range Organics.
RSL - Project action limit.
PRGs - EPA Region IX Preliminary Remediation Goals, Residential Soil, October 2004.
* Samples selected for VOC analysis were collected from a discrete sampling depth within the indicated depth interval.
(a) EPA Regional Screening Levels for Chemical Contaminants at Superfund Sites, September 2008. There are presented for comparison purposes only.
(b) Guidance value for on-site reuse/treatment (Agency Guidelines for Petroleum Contaminated Soil and Debris, Vermont Agency of Natural Resources - Waste Management Division; August 1996)
+ The laboratory did not calibrate for the target compound 1,2,4,5-tetrachlorobenzene. A library search was performed for each sample that was submitted for the analysis of the full SVOC list. This compound was not detected in any of the samples.

Table 5
Summary of Groundwater Analytical Results
St. Albans Municipal Parking Lot No. 1 and Former Brickyard Tavern Site
St. Albans, VT

Analysis	Analyte	Sample Location: Sample Date: VTGWQES[1]	MW-1 10/21/2008	MW-2 10/20/2008	MW-9 10/21/2008	MW-10 10/21/2008	MW-10 Field Dup	MW-12 10/21/2008	MW-13 10/20/2008	MW-14 10/20/2008
VOCs										
(ug/L)	Dichlorodifluoromethane	1,000	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	Chloromethane	30	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	Vinyl Chloride	2	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	Bromomethane	10	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	Chloroethane	NS	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	Trichlorofluoromethane	2,100	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	1,1-Dichloroethene	7	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	Freon TF	NS	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	Acetone	700	5.0 U	5.0 U	**7.8**	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	Carbon Disulfide	NS	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	Methyl Acetate	NS	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	Methylene Chloride	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	trans-1,2-Dichloroethene	100	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	Methyl-t-Butyl Ether	40	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	1,1-Dichloroethane	70	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	cis-1,2-Dichloroethene	70	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	2-Butanone	4,200	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	Bromochloromethane	90	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	Chloroform	80	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	1,1,1-Trichloroethane	200	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	Cyclohexane	NS	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	Carbon Tetrachloride	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	Benzene	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	1,2-Dichloroethane	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	Trichloroethene	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	Methylcyclohexane	NS	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	1,2-Dichloropropane	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	1,4-Dioxane	3	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U
	Bromodichloromethane	80	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	cis-1,3-Dichloropropene	0.5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	4-Methyl-2-pentanone	560	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	Toluene	1,000	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	trans-1,3-Dichloropropene	0.5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	1,1,2-Trichloroethane	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	Tetrachloroethene	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	2-Hexanone	NS	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	Dibromochloromethane	80	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	1,2-Dibromoethane	0.05	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	Chlorobenzene	100	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	Ethylbenzene	700	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	Xylene (m,p)	10,000	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	Xylene (o)	10,000	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	Styrene	100	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	Bromoform	80	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	Isopropylbenzene	NS	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	1,1,2,2-Tetrachloroethane	NS	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	1,3-Dichlorobenzene	600	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	1,4-Dichlorobenzene	75	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	1,2-Dichlorobenzene	600	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	1,2-Dibromo-3-Chloropropane	0.2	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	1,2,4-Trichlorobenzene	70	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	1,2,3-Trichlorobenzene	NS	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U

Table 5
Summary of Groundwater Analytical Results
St. Albans Municipal Parking Lot No. 1 and Former Brickyard Tavern Site
St. Albans, VT

Analysis	Analyte	Sample Location: Sample Date: VTGWQES[1]	MW-1 10/21/2008	MW-2 10/20/2008	MW-9 10/21/2008	MW-10 10/21/2008		MW-10 10/21/2008 Field Dup		MW-12 10/21/2008		MW-13 10/20/2008	MW-14 10/20/2008	
SVOCs														
(ug/L)	2,3,4,6-Tetrachlorophenol	NS	NS	NA	NA	1.0	U	1.0	U	1.0	U	NA	1.0	U
	1,2,4,5-Tetrachlorobenzene	NS	NA	NA	NA	1.0	U	1.0	U	1.0	U	NA	1.0	U
	Acenaphthene	NS	NA	NA	NA	**0.026**	**J**	**0.025**	**J**	0.20	U	NA	0.21	U
	Acenaphthylene	NS	NA	NA	NA	0.20	U	0.20	U	0.20	U	NA	0.21	U
	Acetophenone	NS	NA	NA	NA	1.0	U	1.0	U	1.0	U	NA	**0.027**	**J**
	Anthracene	2,100	NA	NA	NA	0.20	U	0.20	U	0.20	U	NA	0.21	U
	Atrazine	3	NA	NA	NA	1.0	U	1.0	U	1.0	U	NA	1.0	U
	Benzo(a)anthracene	NS	NA	NA	NA	0.20	U	0.20	U	0.20	U	NA	0.21	U
	Benzo(a)pyrene	0.2	NA	NA	NA	0.20	U	0.20	U	0.20	U	NA	0.21	U
	Benzo(b)fluoranthene	NS	NA	NA	NA	0.20	U	0.20	U	0.20	U	NA	0.21	U
	Benzo(ghi)perylene	NS	NA	NA	NA	0.20	U	0.20	U	0.20	U	NA	0.21	U
	Benzo(k)fluoranthene	NS	NA	NA	NA	0.20	U	0.20	U	0.20	U	NA	0.21	U
	Benzaldehyde	NS	NA	NA	NA	**1.3**		1.0	U	**1.3**		NA	1.0	U
	1,1'-Biphenyl	NS	NA	NA	NA	**0.025**	**JB**	1.0	U	**0.023**	**JB**	NA	**0.031**	**JB**
	bis(2-Chloroethoxy)methane	NS	NA	NA	NA	1.0	U	1.0	U	1.0	U	NA	1.0	U
	bis(2-Chloroethyl) ether	NS	NA	NA	NA	0.20	U	0.20	U	0.20	U	NA	0.21	U
	bis(2-Ethylhexyl) phthalate	6	NA	NA	NA	**0.21**	**J**	1.0	U	**0.30**	**J**	NA	1.0	U
	4-Bromophenyl phenyl ether	NS	NA	NA	NA	1.0	U	1.0	U	1.0	U	NA	1.0	U
	Butyl benzyl phthalate	NS	NA	NA	NA	1.0	U	1.0	U	1.0	U	NA	1.0	U
	Caprolactam	NS	NA	NA	NA	5.0	U	5.0	U	5.0	U	NA	5.2	U
	Carbazole	NS	NA	NA	NA	0.20	U	0.20	U	0.20	U	NA	0.21	U
	4-Chloroaniline	NS	NA	NA	NA	1.0	U	1.0	U	1.0	U	NA	1.0	U
	4-Chloro-3-methylphenol	NS	NA	NA	NA	1.0	U	1.0	U	1.0	U	NA	1.0	U
	2-Chloronaphthalene	NS	NA	NA	NA	0.20	U	0.20	U	0.20	U	NA	0.21	U
	2-Chlorophenol	NS	NA	NA	NA	1.0	U	1.0	U	1.0	U	NA	1.0	U
	4-Chlorophenyl phenyl ether	NS	NA	NA	NA	1.0	U	1.0	U	1.0	U	NA	1.0	U
	Chrysene	NS	NA	NA	NA	0.20	U	0.20	U	0.20	U	NA	0.21	U
	Dibenz(a,h)anthracene	NS	NA	NA	NA	0.20	U	0.20	U	0.20	U	NA	0.21	U
	Dibenzofuran	NS	NA	NA	NA	**0.040**	**JB**	**0.030**	**JB**	**0.036**	**JB**	NA	**0.041**	**JB**
	3,3'-Dichlorobenzidine	NS	NA	NA	NA	1.0	U	1.0	U	1.0	U	NA	1.0	U
	2,4-Dichlorophenol	NS	NA	NA	NA	0.20	U	0.20	U	0.20	U	NA	0.21	U
	Diethyl phthalate	NS	NA	NA	NA	**0.087**	**JB**	**0.10**	**JB**	**0.30**	**JB**	NA	**0.10**	**JB**
	2,4-Dimethylphenol	NS	NA	NA	NA	1.0	U	1.0	U	**0.016**	**J**	NA	1.0	U
	Dimethyl phthalate	NS	NA	NA	NA	1.0	U	1.0	U	1.0	U	NA	1.0	U
	Di-n-butyl phthalate	NS	NA	NA	NA	**0.081**	**JB**	**0.053**	**JB**	**0.13**	**JB**	NA	1.0	U
	4,6-Dinitro-2-methylphenol	NS	NA	NA	NA	5.0	U	5.0	U	5.0	U	NA	5.2	U
	2,4-Dinitrophenol	NS	NA	NA	NA	5.0	U	5.0	U	5.0	U	NA	5.2	U
	2,4-Dinitrotoluene	NS	NA	NA	NA	1.0	U	1.0	U	1.0	U	NA	1.0	U
	2,6-Dinitrotoluene	NS	NA	NA	NA	1.0	U	1.0	U	1.0	U	NA	1.0	U
	Di-n-octyl phthalate	NS	NA	NA	NA	1.0	U	1.0	U	1.0	U	NA	1.0	U
	Fluoranthene	280	NA	NA	NA	0.20	U	0.20	U	0.20	U	NA	0.21	U
	Fluorene	280	NA	NA	NA	**0.025**	**J**	**0.025**	**J**	**0.028**	**J**	NA	**0.035**	**J**
	Hexachlorobenzene	1	NA	NA	NA	0.20	U	0.20	U	0.20	U	NA	0.21	U
	Hexachlorobutadiene	1	NA	NA	NA	0.20	U	0.20	U	0.20	U	NA	0.21	U
	Hexachlorocyclopentadiene	50	NA	NA	NA	1.0	U	1.0	U	1.0	U	NA	1.0	U
	Hexachloroethane	NS	NA	NA	NA	1.0	U	1.0	U	1.0	U	NA	1.0	U
	Indeno(1,2,3-cd)pyrene	NS	NA	NA	NA	0.20	U	0.20	U	0.20	U	NA	0.21	U
	Isophorone	100	NA	NA	NA	1.0	U	1.0	U	1.0	U	NA	1.0	U
	2-Methylnaphthalene	NS	NA	NA	NA	0.20	U	0.20	U	0.20	U	NA	**0.016**	**J**
	2-Methylphenol	NS	NA	NA	NA	1.0	U	1.0	U	1.0	U	NA	1.0	U
	4-Methylphenol	NS	NA	NA	NA	1.0	U	1.0	U	1.0	U	NA	**0.021**	**J**
	Naphthalene	20	NA	NA	NA	0.20	U	0.20	U	0.20	U	NA	0.21	U
	2-Nitroaniline	NS	NA	NA	NA	5.0	U	5.0	U	5.0	U	NA	5.2	U
	3-Nitroaniline	NS	NA	NA	NA	5.0	U	5.0	U	5.0	U	NA	5.2	U

Table 5
Summary of Groundwater Analytical Results
St. Albans Municipal Parking Lot No. 1 and Former Brickyard Tavern Site
St. Albans, VT

Analysis	Analyte	Sample Location: Sample Date: VTGWQES[1]	MW-1 10/21/2008	MW-2 10/20/2008	MW-9 10/21/2008	MW-10 10/21/2008	MW-10 10/21/2008 Field Dup	MW-12 10/21/2008	MW-13 10/20/2008	MW-14 10/20/2008
	4-Nitroaniline	NS	NA	NA	NA	5.0 U	5.0 U	5.0 U	NA	5.2 U
	Nitrobenzene	NS	NA	NA	NA	0.20 U	0.20 U	0.20 U	NA	0.21 U
	2-Nitrophenol	NS	NA	NA	NA	1.0 U	1.0 U	**0.017 J**	NA	1.0 U
	4-Nitrophenol	NS	NA	NA	NA	5.0 U	5.0 U	5.0 U	NA	5.2 U
	N-Nitrosodi-n-propylamine	NS	NA	NA	NA	0.20 U	0.20 U	0.20 U	NA	0.21 U
	N-Nitrosodiphenylamine	NS	NA	NA	NA	0.20 U	0.20 U	0.20 U	NA	0.21 U
	2,2'-oxybis(1-Chloropropane)	300	NA	NA	NA	0.20 U	0.20 U	0.20 U	NA	0.21 U
	Pentachlorophenol	1	NA	NA	NA	1.0 U	1.0 U	1.0 U	NA	1.0 U
	Phenanthrene	NS	NA	NA	NA	**0.10 JB**	**0.070 JB**	**0.082 JB**	NA	**0.092 JB**
	Phenol	2,100	NA	NA	NA	0.20 U	0.20 U	0.20 U	NA	0.21 U
	Pyrene	NS	NA	NA	NA	0.20 U	0.20 U	**0.016 J**	NA	0.21 U
	2,4,5-Trichlorophenol	NS	NA	NA	NA	1.0 U	1.0 U	1.0 U	NA	1.0 U
	2,4,6-Trichlorophenol	NS	NA	NA	NA	1.0 U	1.0 U	1.0 U	NA	1.0 U
Metals, Total										
(ug/L)	Antimony	6	**1.3 B2**	**1.4 B2**	**1.9 B2**	**1.4 B2**	**1.3 B2**	**1.6 B2**	**1.4 B2**	**1.4 B2**
	Arsenic	10	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
	Barium	2,000	200 U	200 U	200 U	200 U	200 U	**215**	200 U	200 U
	Beryllium	4	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	Cadmium	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	Chromium	100	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
	Copper	1,300	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
	Lead	15	10 U	10 U	10 U	10 U	10 U	**11.4**	10 U	10 U
	Manganese	300	**6,230**	**34.4**	**105**	**1,100**	**1,040**	**279**	**332**	**1,070**
	Mercury	2	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
	Molybdenum	40	10 U	10 U	**86.9**	10 U	10 U	**42.9**	10 U	10 U
	Nickel	100	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U
	Selenium	50	35 U	35 U	35 U	35 U	35 U	35 U	35 U	35 U
	Silver	100[2]	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
	Zinc	5000[2]	20 U	20 U	**625**	20 U	20 U	**28.8**	20 U	20 U
Metals, Dissolved										
(ug/L)	Manganese, Filtered	300	**6,280**	NA	NA	**1,100**	**1,050**	NA	**349**	**1,100**
	Molybdenum, Filtered	40	NA	NA	**104**	NA	NA	**44.0**	NA	NA

Notes:
All units in ug/L unless otherwise specified.
ug/L - micrograms per liter.
B - Compound also detected in associated method blank.
J - Estimated value; below quantitation limit.
NA - Sample not analyzed for the listed analyte.
NS - No standards exist for this analyte.
U - Compound was not detected at specified quantitation limit.
Values in **Bold** indicate the compound was detected.
Values shown in Bold and shaded type exceed Vermont's Groundwater Quality Enforcement Standards.
VOCs - Volatile Organic Compounds.
SVOCs - Semivolatile Organic Compounds
(1) VTGWQES - Vermont Primary Groundwater Quality Enforcement Standards (1/27/05 with 8/30/07 updates), except where noted below in note (2).
(2) Vermont Secondary Groundwater Quality Enforcement Standards (1/27/05).
B2 - Estimated value; detected between the method detection limit and quantitation limit.

Table 6
Summary of Soil Analytical Results Compared to Risk-Based Standards
St. Albans Municipal Parking Lot No. 1 and Former Brickyard Tavern Site
St. Albans, VT

Analysis	Analyte	Massachusetts Soil Background Level	Industrial Soil Screening Level	B-3		B-4		B-5	B-6	B-7	B-8	B-11	B-15	MW-1	
	Sample ID:			B-3		B-4		B-5	B-6	B-7	B-8	B-11	B-15	MW-1	
	Sample Depth (ft.)*:			1-3	6-8	1-3	7-9	1-3	1-3	1-3	1-3	1-3	2-3	1-3	7-9
	Sample Date:			10/9/2008	10/9/2008	10/9/2008	10/9/2008	10/9/2008	10/9/2008	10/9/2008	10/9/2008	10/9/2008	10/8/2008	10/7/2008	10/7/2008
VOCs (mg/kg)	Acetone	NV	610,000	**0.099**	**0.0070**	0.0055 U	0.0041 U	NA	NA	NA	NA	NA	0.0044 U	NA	0.0026 U
	2-Butanone	NV	190,000	**0.015**	0.0036 U	0.0055 U	0.0041 U	NA	NA	NA	NA	NA	0.0044 U	NA	0.0026 U
SVOCs (mg/kg)	Acenaphthene	0.5	33,000	0.0075 U	**0.098**	**0.0041 J**	**0.0022 J**	**0.24**	**0.077**	**0.065**	**0.057**	**0.0051 J**	**0.0040 J**	0.071 U	**0.0025 J**
	Acenaphthylene	0.5	33,000	0.0075 U	**0.53**	**0.018**	0.0073 U	**0.043**	**0.051**	**0.12**	**0.013**	**0.022**	**0.0098**	0.071 U	**0.0022 J**
	Acetophenone	NV	100,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.0034 J**	0.35 U	NA
	Anthracene	1	170,000	0.0075 U	**0.38**	**0.012**	0.0073 U	**0.53**	**0.21**	**0.18**	**0.14**	**0.018**	**0.011**	**0.048 J**	**0.0024 J**
	Benzo(a)anthracene	2	2.1	0.0075 U	**1.6**	**0.061**	0.0073 U	**1.2**	**0.51**	**0.50**	**0.31**	**0.079**	**0.040**	**0.16**	**0.0081**
	Benzo(a)pyrene	2	0.21	0.0075 U	**2.1**	**0.069**	**0.0018 J**	**0.74**	**0.44**	**0.59**	**0.22**	**0.094**	**0.044**	**0.16**	**0.0082**
	Benzo(b)fluoranthene	2	2.1	0.0075 U	**2.3**	**0.11**	**0.0032 J**	**1.1**	**0.66**	**0.77**	**0.29**	**0.15**	**0.068**	**0.28**	**0.015**
	Benzo(ghi)perylene	1	17,000	0.0075 U	**0.047 J**	**0.064**	**0.017**	**0.41**	**0.28**	**0.71**	**0.12**	**0.092**	**0.044**	**0.28**	**0.023**
	Benzo(k)fluoranthene	1	21	0.0075 U	**0.55**	0.0077 U	0.0073 U	0.0073 U	0.0078 U	0.0150 U	0.0073 U	0.0088 U	0.0080 U	0.071 U	0.0074 U
	Benzaldehyde	NV	100,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.012 J**	0.35 U	NA
	1,1'-Biphenyl	NV	51,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.0027 J**	0.35 U	NA
	bis(2-Ethylhexyl) phthalate	NV	120	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.015 J**	0.35 U	NA
	Butyl benzyl phthalate	NV	910	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.039 U	0.35 U	NA
	Caprolactam	NV	310,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.033 J**	1.8 U	NA
	Carbazole	NV	140 (2)	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.0054 J**	**0.019 J**	NA
	Chrysene	2	210	0.0075 U	**1.5**	**0.056**	0.0073 U	**0.91**	**0.46**	**0.53**	**0.28**	**0.089**	**0.044**	**0.18**	**0.0083**
	Dibenz(a,h)anthracene	0.5	0.21	0.0075 U	0.074 U	**0.033**	0.0073 U	**0.16**	**0.10**	**0.14**	**0.045**	**0.026**	**0.017**	**0.21**	**0.021**
	Dibenzofuran	NV	1000 (2)	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.0066 J**	0.35 U	NA
	Diethyl phthalate	NV	490,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.0047 J**	0.35 U	NA
	Di-n-butyl phthalate	NV	62,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.0093 J**	0.35 U	NA
	Fluoranthene	4	22,000	0.0075 U	**3.1**	**0.096**	**0.0031 J**	**2.5**	**0.96**	**1.1**	**0.62**	**0.14**	**0.075**	**0.37**	**0.015**
	Fluorene	1	22,000	0.0075 U	**0.12**	0.0077 U	0.0073 U	**0.26**	**0.098**	**0.074**	**0.066**	**0.0088**	**0.0046 J**	0.071 U	0.0074 U
	Indeno(1,2,3-cd)pyrene	1	2.1	0.0075 U	**0.42**	**0.062**	**0.019**	**0.36**	**0.26**	**0.50**	**0.11**	**0.078**	**0.04**	**0.27**	**0.023**
	2-Methylnaphthalene	0.5	4,100	0.0075 U	**0.09**	**0.0033**	0.0073 U	**0.046**	**0.024**	**0.077**	**0.0084**	**0.0065**	**0.0053 J**	0.07 U	**0.0023**
	4-Methylphenol	NV	3,100	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.039 U	0.35 U	NA
	Naphthalene	0.5	20	0.0075 U	**0.13**	**0.0079**	**0.0034 J**	**0.036**	**0.028**	**0.080**	**0.0078**	**0.014**	**0.0086**	0.071 U	**0.0031 J**
	Phenanthrene	3	17,000	0.0075 U	**1.2**	**0.029**	**0.0047 J**	**2.1**	**0.67**	**0.52**	**0.50**	**0.053**	**0.040**	**0.14**	**0.0095**
	Pyrene	4	17,000	0.0075 U	**1.9**	**0.062**	0.0073 U	**1.4**	**0.65**	**0.62**	**0.34**	**0.087**	**0.043**	**0.22**	**0.0099**
	2,3,4,6-Tetrachlorophenol	NV	18000	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.039 U	**0.0420**	NA
TPH (mg/kg)	Diesel Fuel	NV	NS	NA	NA	7.7 U	NA	NA	NA	7.6 U	NA	8.1 U	NA	NA	7.2 U
	Motor Oil	NV	NS	NA	NA	19 U	NA	NA	NA	**41**	NA	**39**	NA	NA	18 U
	Total DRO	NV	1,000(3)	NA	NA	27 U	NA	NA	NA	**41**	NA	**39**	NA	NA	26 U
Metals															
	Tin	NV	610,000	**10.5**	1.7 U	1.6 U	NA	**19.1**	**5.0**	1.9 U	**4.7**	**5.6**	**7.3**	**10.0**	NA
(mg/kg)	Silver	0.6	5,100	**2.5**	0.83 U	0.820 U	NA	0.75 U	0.97 U	0.93 U	0.96 U	0.86 U	0.8 U	0.84 U	NA
	Aluminum	10,000	990,000	**5100**	**7170**	**9570**	NA	**6430**	**11000**	**8890**	**10100**	**7360**	**6430**	**6600**	NA
	Antimony	1	410	4.9 U	5 U	4.9 U	NA	**5 U**	**6 U**	5.6 U	5.7 U	5.1 U	4.8 U	**5 U**	NA
	Arsenic	20	1.6	**15.4**	**4.8**	**5.0**	NA	**10.3**	**4.7**	**6.9**	**4.2**	**5.7**	**4.8**	**5.4**	NA
	Barium	50	190,000	**151**	**33.7**	**43.1**	NA	**76.8**	**71.0**	**45.6**	**57.9**	**65.3**	**48.7**	**54.7**	NA
	Beryllium	0.4	2,000	0.41 U	0.41 U	0.41 U	NA	0.38 U	**0.50**	0.47 U	0.48 U	0.43 U	0.40 U	0.42 U	NA
	Cadmium	2	810	0.41 U	0.41 U	0.41 U	NA	0.38 U	0.49 U	0.47 U	0.48 U	0.43 U	0.40 U	0.42 U	NA
	Chromium	30	1,400	**10.6**	**13.5**	**15.6**	NA	**12.9**	**14.7**	**16.1**	**15.9**	**12.5**	**11.4**	**12.3**	NA
	Copper	40	41,000	**51.7**	**16.4**	**15.7**	NA	**26.9**	**25.7**	**18.4**	**20.6**	**34.6**	**18.2**	**52.8**	NA
	Iron	20,000	720,000	**31400**	**22100**	**22700**	NA	**15000**	**23400**	**26900**	**22200**	**19300**	**16400**	**21700**	NA
	Manganese	300	23,000	**437**	**572**	**375**	NA	**360**	**407**	**306**	**468**	**489**	**363**	**468**	NA
	Molybdenum	NV	5,100	**2.4**	0.83 U	0.82 U	NA	**1.4**	**1.1**	**0.97**	**0.96**	**1.1**	1 U	1 U	NA
	Nickel	20	20,000	**10.8**	**16.1**	**18.5**	NA	**16.7**	**12.0**	**21.7**	**17.2**	**15.0**	**13.2**	**14.5**	NA
	Lead	100	800	**241**	**7.8**	**27.8**	NA	**677**	**84.5**	**19.2**	**44.3**	**95.8**	**140**	**156**	NA
	Selenium	0.5	5,100	2.8 U	2.9 U	2.9 U	NA	2.6 U	3.4 U	3.3 U	3.3 U	3 U	2.8 U	2.9 U	NA
	Stronium	NV	610,000	**119**	**15.2**	**13.3**	NA	**65.5**	**25.8**	**13.5**	**15.1**	**21.6**	**46.1**	**30.7**	NA
	Vanadium	30	5,200	**21.1**	**15.7**	**17.6**	NA	**15.0**	**21.7**	**19.1**	**18.6**	**13.1**	**13.7**	**21.0**	NA
	Thallium	0.6	66	**0.15 B**	0.064 U	0.064 U	NA	0.058 U	0.075 U	0.072 U	0.074 U	0.066 U	0.062 U	**0.29 B**	NA
	Zinc	100	310,000	**147**	**42.9**	**61.1**	NA	**75.0**	**51.2**	**63.0**	**61.8**	**80.6**	**66.6**	**102**	NA
	Mercury	0.3	310	**0.48**	0.035 U	**0.19**	NA	**0.17**	**0.19**	**0.048**	**0.72**	**0.49**	**0.39**	**0.46**	NA

Notes:
All units in mg/kg unless otherwise specified.
mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).
NA - Sample not analyzed for the listed analyte.
NV - No background value available for this compound
U - Compound was not detected at specified quantitation limit.
J - Estimated value; below quantitation limit.
B - Estimated value; detected between the method detection limit and quantitation limit.

Values in boxed cell exceeds Massachusetts background value as well as a screening level

Values in **Bold** indicate the compound was detected.
Values shown in Bold and green highlighting are between one-tenth of the screening level and the screening level
Values shown in Bold and yellow highlighting are between the screening level and 10-fold the screening level
Values shown in Bold and red highlighting exceed 10-fold the screening level
VOCs - Volatile Organic Compounds.
SVOCs - Semivolatile Organic Compounds.
TPH - Total Petroleum Hydrocarbons.
Massachusetts Department of Environmental Protection 90th percentile bcakground values for natural soils (May 2002)
(1) Unless noted, all Industrial Soil Screening Levels are from EPA Regional Screening Levels for Chemical Contaminants at Superfund Sites, September 2008
(2) Industrial Soil Screening Level from Region III (April 2007)
(3) Guidance value for on-site reuse/treatment (Agency Guidelines for Petroleum Contaminated Soil and Debris, Vermont Agency of Natural Resources - Waste Management Division; August 1996)

Table 6
Summary of Soil Analytical Results Compared to Risk-Based Standards
St. Albans Municipal Parking Lot No. 1 and Former Brickyard Tavern Site
St. Albans, VT

Analysis	Analyte	Massachusetts Soil Background Level	Industrial Soil Screening Level	MW-2		MW-9				MW-10				MW-12		MW-13		MW-14	
	Sample ID:			MW-2		MW-9				MW-10				MW-12		MW-13		MW-14	
	Sample Depth (ft.)*:			1-3	3-5	1-3		7-9		1-3		7-9		1-3	3-5	1-3	4-5	1-3	3-5
	Sample Date:			10/7/2008	10/7/2008	10/8/2008		10/8/2008		10/8/2008		10/8/2008		10/8/2008	10/8/2008	10/7/2008	10/7/2008	10/7/2008	10/7/2008
							Field Dup		Field Dup		Field Dup		Field Dup						
VOCs																			
(mg/kg)	Acetone	NV	610,000	NA	0.0046 U	0.0089 U	NA	0.20 U	NA	0.0063 U	NA	**0.013**	**0.0085**	0.0049 U	**0.0098**	NA	0.0039 U	NA	0.0051 U
	2-Butanone	NV	190,000	NA	0.0046 U	0.0089 U	NA	0.20 U	NA	0.0063 U	NA	0.0036 U	0.0036 U	0.0049 U	0.0042 U	NA	0.0039 U	NA	0.0051 U
SVOCs																			
(mg/kg)	Acenaphthene	0.5	33,000	**0.026 J**	**0.0070 J**	**0.15**	NA	0.0078 U	NA	**0.53**	**0.35**	**0.016**	NA	**0.0093**	NA	**0.071 J**	**0.0021 J**	**0.025**	NA
	Acenaphthylene	0.5	33,000	**0.059 J**	**0.012 J**	**0.051**	NA	0.0078 U	NA	**0.16**	**0.15**	**0.010**	NA	**0.10**	NA	**2.6**	**0.0028 J**	**0.10**	NA
	Acetophenone	NV	100,000	0.39 U	NA	NA	NA	NA	NA	0.19 U	0.38 U	NA	NA	NA	NA	**0.030 J**	0.038 U	**0.0077 J**	NA
	Anthracene	1	170,000	**0.083**	**0.019**	**0.40**	NA	0.0078 U	NA	**0.75**	**0.48**	**0.034**	NA	**0.040**	NA	**1.2**	0.0078 U	**0.19**	NA
	Benzo(a)anthracene	2	2.1	**0.27**	**0.061**	**1.1**	NA	**0.0035 J**	NA	**2.0**	**1.4**	**0.11**	NA	**0.21**	NA	**5.7**	0.0078 U	**0.79**	NA
	Benzo(a)pyrene	2	0.21	**0.28**	**0.061**	**0.93**	NA	**0.0022 J**	NA	**1.7**	**1.5**	**0.11**	NA	**0.27**	NA	**6.5**	**0.0034 J**	**0.64**	NA
	Benzo(b)fluoranthene	2	2.1	**0.52**	**0.10**	**1.3**	NA	0.0078 U	NA	**2.8**	**2.1**	**0.17**	NA	**0.55**	NA	**11**	**0.0053 J**	**1.0**	NA
	Benzo(ghi)perylene	1	17,000	**0.40**	**0.080**	**0.50**	NA	0.0078 U	NA	**1.4**	**1.2**	**0.090**	NA	**0.22**	NA	**5.4**	**0.019**	**0.45**	NA
	Benzo(k)fluoranthene	1	21	0.078 U	0.015 U	0.0077 U	NA	0.0078 U	NA	0.039 U	0.078 U	0.0074 U	NA	0.0073 U	NA	0.082 U	0.0078 U	0.0077 U	NA
	Benzaldehyde	NV	100,000	0.39 U	NA	NA	NA	NA	NA	0.19 U	0.38 U	NA	NA	NA	NA	0.40 U	0.038 U	0.038 U	NA
	1,1'-Biphenyl	NV	51,000	0.39 U	NA	NA	NA	NA	NA	**0.038 J**	**0.034 J**	NA	NA	NA	NA	**0.052 J**	0.038 U	**0.012 J**	NA
	bis(2-Ethylhexyl) phthalate	NV	120	0.39 U	NA	NA	NA	NA	NA	0.19 U	0.38 U	NA	NA	NA	NA	0.40 U	0.038 U	**0.061**	NA
	Butyl benzyl phthalate	NV	910	0.39 U	NA	NA	NA	NA	NA	0.19 U	0.38 U	NA	NA	NA	NA	0.40 U	**0.0065 J**	0.038 U	NA
	Caprolactam	NV	310,000	2.0 U	NA	NA	NA	NA	NA	0.98 U	2.0 U	NA	NA	NA	NA	2.1 U	**0.038 J**	**0.038 J**	NA
	Carbazole	NV	140 (2)	**0.046 J**	NA	NA	NA	NA	NA	**0.46**	**0.31**	NA	NA	NA	NA	**0.40**	0.0078 U	**0.038**	NA
	Chrysene	2	210	**0.30**	**0.061**	**0.99**	NA	**0.0029 J**	NA	**1.8**	**1.5**	**0.12**	NA	**0.33**	NA	**6.2**	0.0078 U	**0.64**	NA
	Dibenz(a,h)anthracene	0.5	0.21	**0.27**	**0.049**	**0.15**	NA	0.0078 U	NA	**0.41**	**0.31**	**0.030**	NA	**0.069**	NA	**1.5**	0.0078 U	**0.13**	NA
	Dibenzofuran	NV	1000 (2)	**0.025 J**	NA	NA	NA	NA	NA	**0.23**	**0.17 J**	NA	NA	NA	NA	**0.10 J**	**0.0028 J**	**0.036 J**	NA
	Diethyl phthalate	NV	490,000	0.39 U	NA	NA	NA	NA	NA	0.19 U	0.38 U	NA	NA	NA	NA	0.40 U	**0.0043 J**	0.038 U	NA
	Di-n-butyl phthalate	NV	62,000	0.39 U	NA	NA	NA	NA	NA	**0.068 J**	0.38 U	NA	NA	NA	NA	0.40 U	**0.0085 J**	**0.010 J**	NA
	Fluoranthene	4	22,000	**0.54**	**0.13**	**2.0**	NA	**0.0062 J**	NA	**3.5**	**0.26**	NA	NA	**0.91**	NA	**10**	**0.0038 J**	**1.3**	NA
	Fluorene	1	22,000	0.078 U	0.015 U	**0.16**	NA	0.0078 U	NA	**0.34**	**0.23**	**0.015**	NA	**0.027**	NA	**0.18**	0.0078 U	**0.033**	NA
	Indeno(1,2,3-cd)pyrene	1	2.1	**0.38**	**0.075**	**0.41**	NA	0.0078 U	NA	**1.1**	**1.0**	**0.077**	NA	**0.21**	NA	**3.9**	**0.021**	**0.38**	NA
	2-Methylnaphthalene	0.5	4,100	0.078 U	**0.0057**	**0.027**	**0.2**	**0.013**	NA	**0.2**	**0.2**	NA	NA	**0.019**	NA	**0.24**	0.0077 U	**0.052**	NA
	4-Methylphenol	NV	3,100	0.39 U	NA	NA	NA	NA	NA	0.19 U	0.38 U	NA	NA	NA	NA	0.40 U	0.038 U	**0.0078 J**	NA
	Naphthalene	0.5	20	**0.032 J**	**0.0087 J**	**0.022**	NA	0.0078 U	NA	**0.32**	**0.35**	**0.015**	NA	**0.029**	NA	**0.32**	**0.003 J**	**0.053**	NA
	Phenanthrene	3	17,000	**0.30**	**0.076**	**1.5**	NA	**0.027**	NA	**3.0**	**2.2**	**0.15**	NA	**0.58**	NA	**2.4**	**0.0059 J**	**0.65**	NA
	Pyrene	4	17,000	**0.34**	**0.079**	**1.3**	NA	**0.0060 J**	NA	**2.9**	**1.90**	**0.14**	NA	**0.49**	NA	**7.8**	**0.0028 J**	**1.0**	NA
	2,3,4,6-Tetrachlorophenol	NV	18000	**0.039**	NA	NA	NA	NA	NA	**0.021**	NA	NA	NA	NA	NA	0.40 U	**0.39**	0.038 U	NA
TPH																			
(mg/kg)	Diesel Fuel	NV	NS	NA	NA	NA	NA	**310**	**570**	NA	NA	7.4 U	NA	NA	7.4 U	NA	7.8 U	NA	8.0 U
	Motor Oil	NV	NS	NA	NA	NA	NA	**71**	**110**	NA	NA	**62**	NA	NA	19 U	NA	20 U	NA	20 U
	Total DRO	NV	1,000(3)	NA	NA	NA	NA	**380**	**680**	NA	NA	**62**	NA	NA	26 U	NA	28 U	NA	29 U
Metals																			
	Tin	NV	610,000	**16.0**	**1.9**	**4.2**	NA	1.9 U	1.7 U	**57.8**	NA	**2.4**	NA	**1.6**	1.6 U	**50.9**	**5.8**	NA	**2.4**
(mg/kg)	Silver	0.6	5,100	**2.0**	0.89 U	0.98 U	NA	0.93 U	0.84 U	0.88 U	NA	0.8 U	NA	0.8 U	0.81 U	0.88 U	0.88 U	NA	0.87 U
	Aluminum	10,000	990,000	**7220**	**9310**	**10200**	NA	**7340**	**5880**	**4830**	NA	**5920**	NA	**6530**	**5250**	**6090**	**8730**	NA	**6670**
	Antimony	1	410	**5 U**	5 U	5.9 U	NA	5.6 U	5 U	**5 U**	NA	**5 U**	NA	4.8 U	4.9 U	**5 U**	5 U	NA	5.2 U
	Arsenic	20	1.6	**12.9**	**6.3**	**6.2**	NA	**5.1**	**3.0**	**9.7**	NA	**4.8**	NA	**4.2**	**3.2**	**11.9**	**5.5**	NA	**4.0**
	Barium	50	190,000	**672**	**252**	**76.5**	NA	**33.4**	**24.0**	**89.2**	NA	**32.7**	NA	**63.1**	**43.4**	**189**	**71.8**	NA	**38.1**
	Beryllium	0.4	2,000	0.40 U	**0.47**	0.49 U	NA	0.47 U	0.42 U	0.44 U	NA	0.4 U	NA	0.4 U	0.41 U	0.44 U	0.44 U	NA	0.44 U
	Cadmium	2	810	**1.0**	0.45 U	0.49 U	NA	0.47 U	0.42 U	**2.5**	NA	**0.47**	NA	0.4 U	0.41 U	**1.4**	0.44 U	NA	0.44 U
	Chromium	30	1,400	**15.3**	**16.2**	**14.5**	NA	**12.2**	**10.1**	**30.9**	NA	**12.0**	NA	**8.3**	**9.5**	**16.7**	**15.2**	NA	**11.9**
	Copper	40	41,000	**60.1**	**25.4**	**39.8**	NA	**16.5**	**12.2**	**140**	NA	**21.8**	NA	**13.3**	**11.8**	**80.3**	**18.6**	NA	**20.8**
	Iron	20,000	720,000	**23300**	**25400**	**24500**	NA	**20000**	**16300**	**44200**	NA	**18200**	NA	**15800**	**15500**	**16600**	**49500**	NA	**29500**
	Manganese	300	23,000	**503**	**303**	**704**	NA	**471**	**419**	**431**	NA	**271**	NA	**355**	**300**	**357**	**490**	NA	**559**
	Molybdenum	NV	5,100	**0.86**	0.89 U	**1.1**	NA	0.93 U	0.84 U	**5.5**	NA	0.80 U	NA	0.80 U	0.81 U	0.88 U	0.88 U	NA	0.87 U
	Nickel	20	20,000	**16.1**	**19.0**	**17.6**	NA	**15.8**	**12.6**	**30.5**	NA	**14.7**	NA	**11.4**	**11.0**	**13.8**	**17.8**	NA	**14.1**
	Lead	100	800	**738**	**194**	**141**	NA	**8.3**	**7.7**	**481**	NA	**38.0**	NA	**50.7**	**26.7**	**1560**	**234**	NA	**72.7**
	Selenium	0.5	5,100	2.8 U	3.1 U	3.4 U	NA	3.3 U	2.9 U	3.1 U	NA	2.8 U	NA	2.8 U	2.8 U	3.1 U	3.1 U	NA	3.1 U
	Strontium	NV	610,000	**69.7**	**18.7**	**46.6**	NA	**49.0**	**73.2**	**58.3**	NA	**60.2**	NA	**64.2**	**80.2**	**91.4**	**16.6**	NA	**13.8**
	Vanadium	30	5,200	**18.0**	**18.6**	**18.1**	NA	**14.4**	**12.2**	**15.3**	NA	**12.1**	NA	**9.2**	**12.0**	**19.8**	**18.5**	NA	**16.3**
	Thallium	0.6	66	0.062 U	**0.37 B**	0.076 U	NA	0.072 U	0.065 U	**0.15 B**	NA	0.061 U	NA	0.061 U	0.063 U	**0.41 B**	**0.17 B**	NA	**0.30 B**
	Zinc	100	310,000	**1450**	**354**	**93.3**	NA	**42.7**	**40.6**	**255**	NA	**62.5**	NA	**65.7**	**63.0**	**643**	**118**	NA	**50.1**
	Mercury	0.3	310	**1.9**	**0.18**	**0.50**	NA	0.036 U	0.035 U	**0.21**	NA	**0.036 U**	NA	**0.26**	**0.057**	**1.2**	**0.18**	NA	**0.14**

Notes:
All units in mg/kg unless otherwise specified.
mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).
NA - Sample not analyzed for the listed analyte.
NV - No background value available for this compound
U - Compound was not detected at specified quantitation limit.
J - Estimated value; below quantitation limit.
B - Estimated value; detected between the method detection limit and quantitation limit.

Values in boxed cell exceeds Massachusetts background value as well as a screening level

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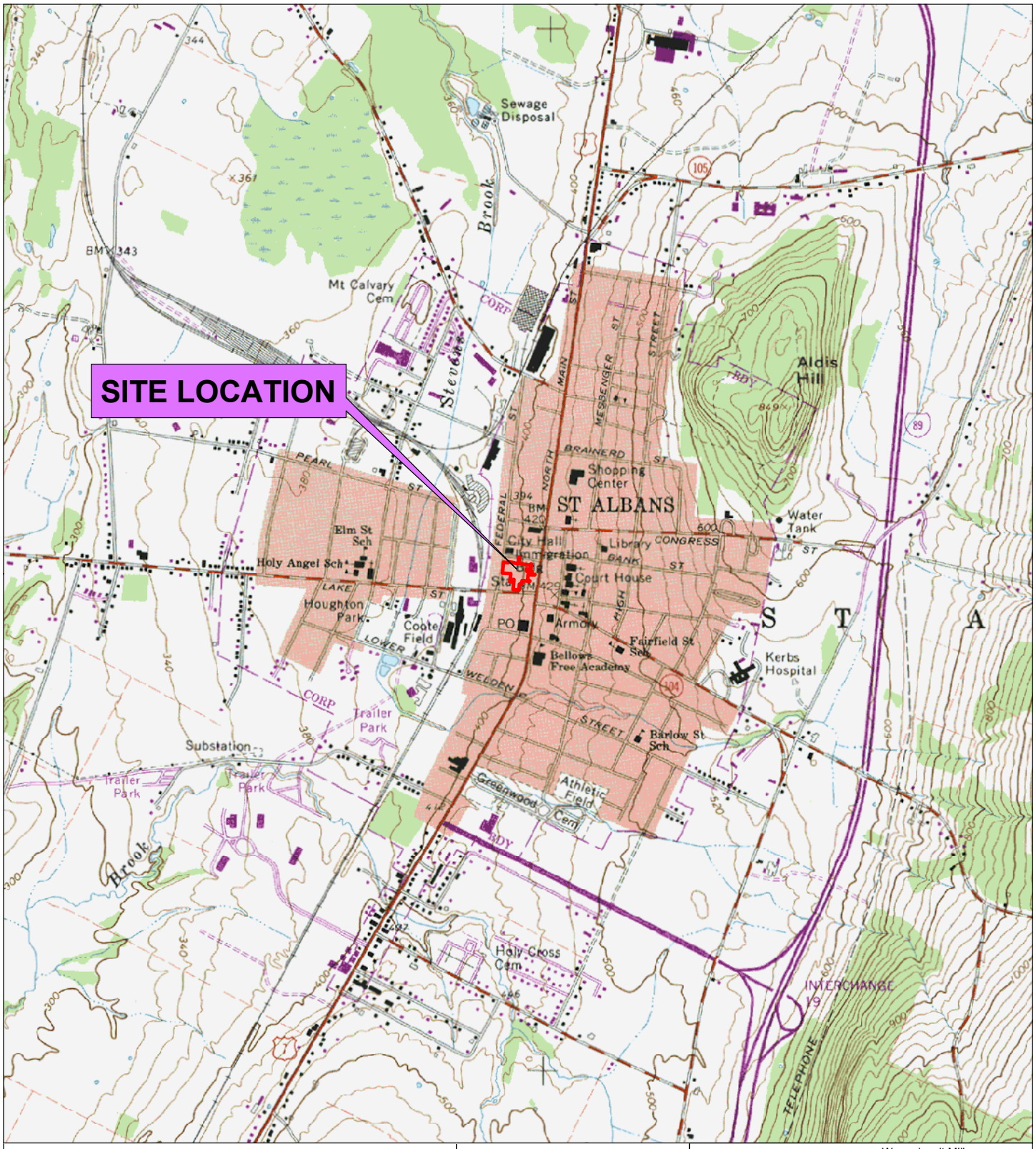
(3) Guidance value for on-site reuse/treatment (Agency Guidelines for Petroleum Contaminated Soil and Debris, Vermont Agency of Natural Resources - Waste Management Division; August 1996)

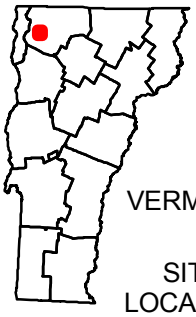
FIGURES



Approximate Site Boundary

N

0 1,000 2,000 Feet



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Wannalancit Mills
650 Suffolk Street
Lowell, MA 01854
978-970-5600

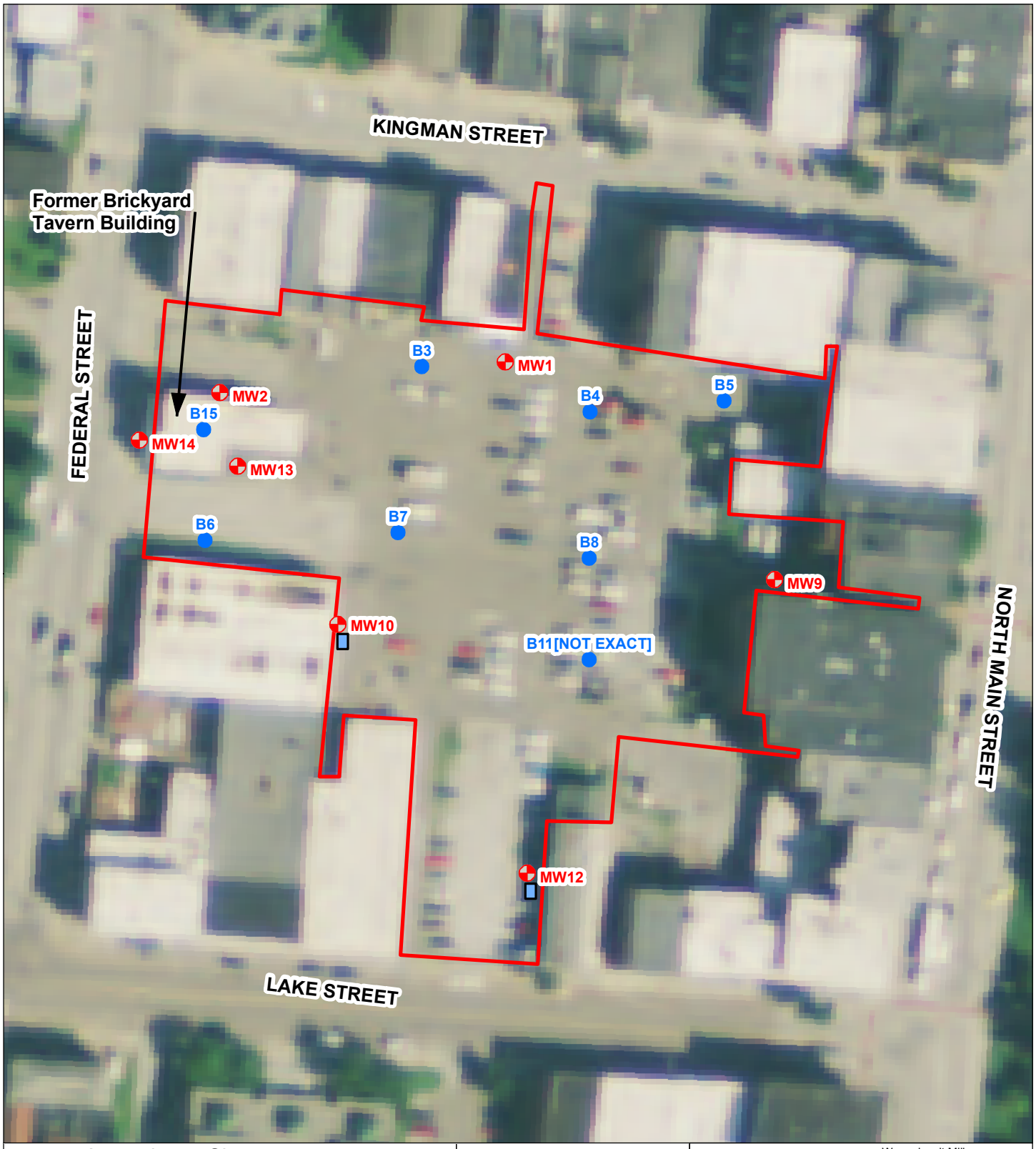
SITE LOCATION MAP

MUNICIPAL PARKING LOT NO. 1 AND FORMER BRICKYARD TAVERN SITE
ST. ALBANS, VT

FIGURE 1	DECEMBER 2008

Base map: USGS 7/5 Minute Topographic Quadrangle Saint Albans (1987)

R:\Projects\GIS_2008\157960_StAlbans\MXD\FIGURE1.mxd



Approximate Site Boundary

Monitoring Well Location

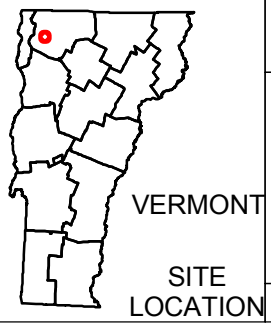
Soil Boring Location

Approximate Potential UST Location

N

0 25 50 75 Feet

NOTES: 1) UST- Underground Storage Tank
2) Approximate locations of USTs based upon a geophysical survey performed by Hager Geoscience in March 2008
Base map: 2008 Aerial Photo; NAIP



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SITE PLAN

MUNICIPAL PARKING LOT NO. 1 AND FORMER BRICKYARD TAVERN SITE
ST. ALBANS, VT

FIGURE 2 | **DECEMBER 2008**

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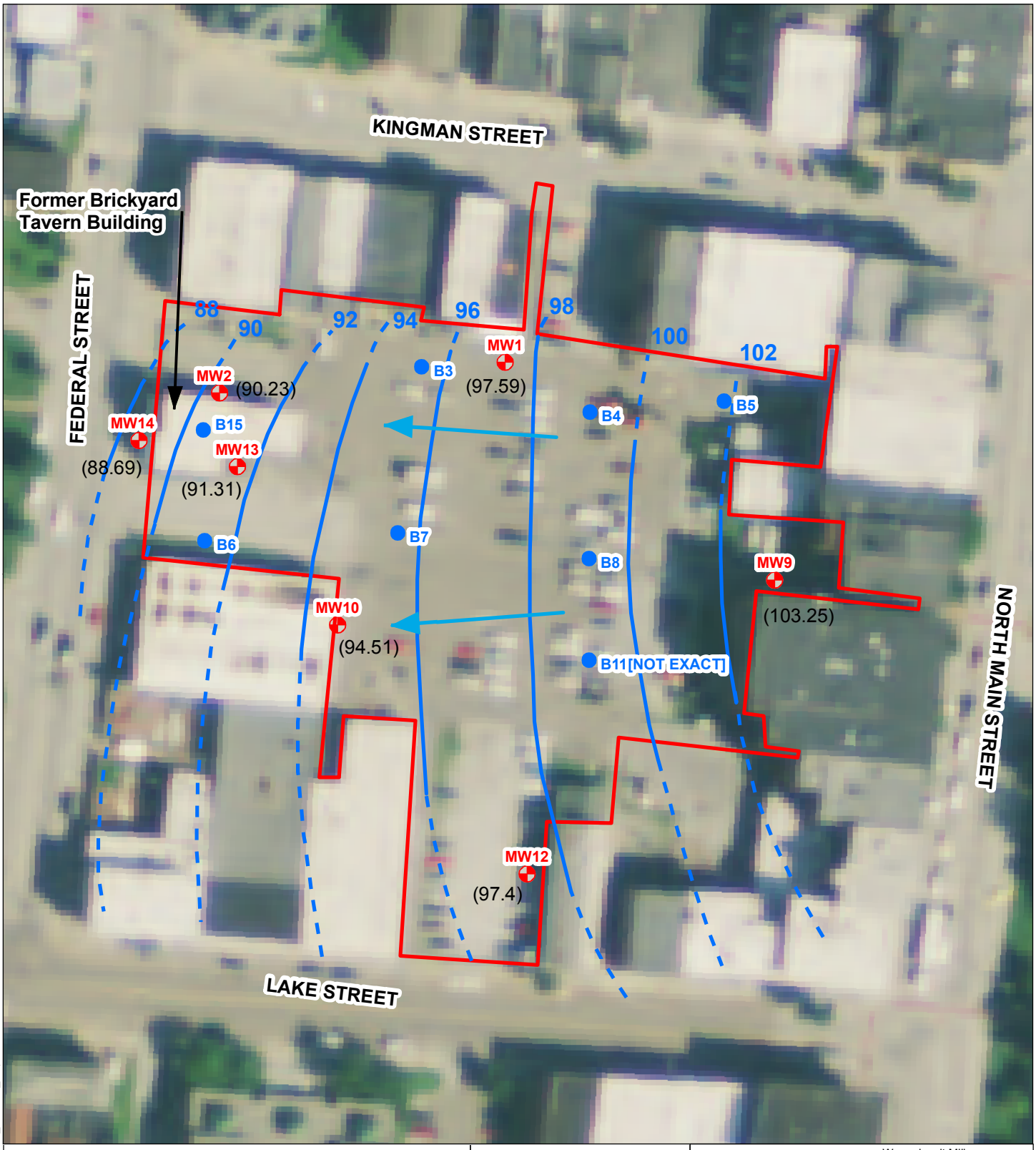


Monitoring Well Location

Soil Boring Location

Approximate Site Boundary

(94.51) Relative Ground Water Elevation
(based upon an arbitrary on-site benchmark of 100ft above mean sea level)

Approximate Ground Water Flow Direction

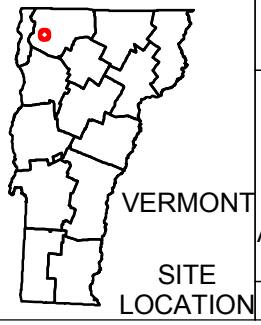
Approximate Ground Water Elevation Contour

Interpreted Ground Water Elevation Contour

N

0 50 100 Feet

Base map: 2008 Aerial Photo; NAIP



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GROUNDWATER CONTOUR MAP

MUNICIPAL PARKING LOT NO. 1
AND FORMER BRICKYARD TAVERN SITE
ST. ALBANS, VT

FIGURE 3 | **DECEMBER 2008**

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APPENDIX A

PREVIOUS ENVIRONMENTAL REPORTS FROM WESTON & SAMPSON ENGINEERS AND THE JOHNSON COMPANY (ON COMPACT DISK)

APPENDIX B

GEOPHYSICAL SURVEY REPORT

APPENDIX C

SOIL BORING LOGS, WELL CONSTRUCTION DIAGRAMS, AND SAMPLE LOG SHEETS

APPENDIX D

ANALYTICAL LABORATORY DATA REPORTS (ON COMPACT DISK)

APPENDIX E

DATA USEABILITY ASSESSMENT