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Data Summary Report
Remedial Investigation Fall/Winter 2008

Commerce Street Plume Superfund Site
Williston, Vermont

Remedial Investigation / Feasibility Study
EPA Task Order No. 0036-RI-FS-019L

Superfund Records Center
SITE: Commerce Street
BREAK: 3.6
OTHER:

REMEDIAL ACTION CONTRACT
No. EP-S1-06-03

FOR

U.S. Environmental Protection Agency
Region 1

BY

Nobis Engineering, Inc.

Nobis Project No. 80036

June 2009

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1.0 INTRODUCTION

Nobis Engineering, Inc. (Nobis) has prepared this 2008 Data Summary Report for the Commerce Street Plume Superfund Site (Study Area) located in Williston, Vermont (Figure 1-1). This work was performed in accordance with the United States Environmental Protection Agency (EPA) Region I Remedial Action Contract 2, No. EP-S1-06-03, Task Order No. 0036-RI-FS-019L.

1.1 Objective

The objective of this report is to present and evaluate the analytical data for groundwater samples and groundwater flow directions collected during December 2008 and January 2009 respectively. The data collection and evaluation are used to assess the nature and extent of groundwater contamination at the Study Area. This Data Summary Report includes an evaluation of the analytical data collected during 2008 and compares the results to the Vermont Groundwater Protection Rule (GWPR) and EPA Maximum Contaminant Level (MCL) regulatory criteria.

1.2 Report Organization

This report is organized as follows:

- Section 1 of the report provides a description of the Site and summarizes previous investigations.
- Section 2 presents a description of groundwater sampling activities.
- Section 3 presents the analytical results for groundwater samples collected during December 2008 and the evaluation of the results.
- Section 4 presents an update to the Conceptual Site Model (Nobis, 2009).
- Section 5 presents the summary and conclusions.

1.3 Site Location and Description

The Commerce Street Plume Superfund Site is located at an industrial park in Williston, Chittenden County, Vermont, approximately four miles east of Burlington, Vermont (Figure 1-1). The entire Study Area itself encompasses the Alling Industrial Park (AIP) and a portion of the adjacent residential area to the west. AIP has had light industrial and commercial tenants since 1946 (Nobis, 2008a). The Study Area is located within the Winooski River watershed at an elevation ranging between 330 and 350 feet above mean sea level (ft-msl). The Study Area is

bounded to the north by Vermont State Route 2 (Rt. 2), to the east by Harvest Lane, to the south by Marshall Avenue, and to the west by South Brownell Road (Figure 1-2).

The area is zoned for mixed residential, business, and industrial uses. Commerce Street and the areas to the east are predominantly commercially zoned lots that are currently developed or in the process of being developed. Kirby Lane and South Brownell Road are zoned residential, with limited commercial developments on South Brownell Road. The ground surface over the entire area exhibits little relief and slopes gently to the southwest. Surface water in the study area consists of a small unnamed brook and its three tributaries which flow in a southerly direction to Muddy Brook. Public pedestrian access is unrestricted within the Study Area (Geo Trans, 2000).

The unnamed brook, located to the east of the Study Area, is a habitat for two State-designated threatened species and is a State-designated area for protection and maintenance of aquatic life under the Clean Water Act. The Winooski River downstream of the property is a known fishery.

Previous studies identified three properties/lots within the Study Area as locations of former manufacturing and/or fabrication operations that could have contributed to groundwater contamination. Compounds found in groundwater beneath the study area include trichloroethene (TCE), tetrachloroethene (PCE), benzene, toluene, ethylbenzene and xylene compounds (commonly referred to as BTEX), cadmium and chromium. The three lots and the potential sources are described below. Additional information about the historical uses of these properties is provided in Section 1.5.

1. Lot 19-11 (Mitec property/96 Commerce Street): The property formerly leased by Mitec Systems Corp. (Mitec) occupies one acre and currently includes one 6,000 square foot building. In 1983, the State of Vermont notified Mitec that their electroplating rinsewater was hazardous and was being discharged. Two potential sources were identified at this property: a wastewater disposal lagoon behind (west) the building and a leach field next to (south) the building are suspected sources of TCE, PCE and/or metals. The electroplating industry often used TCE for degreasing metal surfaces prior to plating operations.

Wastewater disposal lagoon – Unlined; thought to be created sometime between 1972 and 1974. In 1979, a pipe that led directly to the lagoon from the building was installed. In June 1984, Mitec laid discharge to the lagoon and installed a temporary treatment recovery system for chromium. Contaminated soil was reportedly removed from the lagoon in 1985 and 1989.

Leach field – Reportedly for sanitary use only, however, a significant TCE plume and Dense Non-Aqueous Phase Liquid (DNAPL) appeared to be emanating from it. Historical sampling in the vicinity of the leach field at a depth of 32.1 feet indicated at 19,000 µg/L in T1-2 and 22,000 µg/L in RB-1.

2. Lot 19-12 (Bove-Fagan property/87 Commerce Street): Two underground storage tanks were removed from this lot in 1994 revealing a previous release of BTEX compounds.

3. Lot 19-2 (Former EMCO property/63 Commerce Street): Manufacturing operations began in 1947, and a disposal pit and outfall pipe to the unnamed brook have been identified.

A Study Area map that depicts Study Area features and Lot numbers is included as Figure 1-2.

1.4 Study Area History

Various manufacturing and electroplating operations occurred on the 96 Commerce Street property since 1960. The two primary potential sources of contamination on the property are an unlined lagoon and a leach field, which were both created to dispose of liquid waste. Plating rinse water and sludge wastes containing heavy metals and solvents were disposed of into the unlined lagoon intermittently through 1984.

From 1979 to 1986, Mitec leased the property for manufacturing of electronic and microwave components. Between 1979 and 1984, Mitec discharged an undetermined quantity of rinse waters and sludge wastes containing chromium, cadmium, cyanide, nickel, and industrial solvents associated with electroplating operations into the unlined lagoon (Weston, 1998). After a Mitec employee expressed concern to the Vermont Department of Environmental Conservation (VtDEC) in March 1982, the State found the company in violation of hazardous waste regulations for the disposal of chromium contaminated wastes.

In 1984, monitoring wells detected chromium in groundwater downgradient of the lagoon. In July 1985, sampling by Vermont Department of Health (VtDOH) showed six residential private drinking water wells downgradient of the lagoon and leach field to be contaminated with TCE up to 190 micrograms per liter (µg/L) and PCE up to 12 µg/L, concentrations above Federal MCLs for drinking water. The drinking water wells were subsequently closed, and residents were provided with an alternate drinking water supply.

Additionally, elevated concentrations of PCE and TCE have been detected in the indoor air of South Brownell Road residences, including the residence at Lot 3-30 (Figure 1-2). The presence of volatile organic compound (VOC) vapors inside the Lot 3-30 residence, located at 941 South Brownell Road, is believed to have resulted from volatilization of contaminants from the groundwater that underlies the house and Study Area. The residence has a continuously operating sump pump that removes groundwater that accumulates in a sump beneath the basement floor. According to the VtDEC, venting the sumps to the exterior of the house has mitigated the indoor air concentrations of these contaminants to an acceptable concentration. The mitigation was done as part of a state-sponsored action (Geo Trans, 2000).

Numerous groundwater, surface water, sediment, residential indoor air, and soil sampling events occurred between 1984 and 2002. In 1987 and 1988, concentrations of TCE and PCE were detected in groundwater up to 3,300 µg/L and 660 µg/L, respectively, throughout the Industrial Park. In 1996, soil samples collected by Vermont Agency for Natural Resources (VtANR) identified TCE concentrations up to 1,790 µg/L directly downgradient of the leach field located at the Mitec property. Additional studies detected dichloroethene (DCE) concentrations of up to 180 µg/L, chromium at 3.4 µg/L, TCE at 170 µg/L, and vinyl chloride at 11 µg/L in the surface water in the wetlands and the nearby unnamed brook, which flows into Muddy Brook and ultimately the Winooski River. In 1999, groundwater samples taken by the VtANR found TCE in ground water at levels as high as 90,000 µg/L downgradient of the former Mitec facility. In 2002, EPA detected elevated levels of 11 VOCs and 13 metals in monitoring wells located throughout the Industrial Park and surrounding residential area. Groundwater contamination continues to be detected directly downgradient of the Mitec property and has the potential to migrate to private and public water supplies serving approximately 1,575 people within 4 miles of the property.

In summary, previous investigations identified TCE, PCE, BTEX, chromium, and cadmium in groundwater concentrations above their applicable State and Federal standards. Of these contaminants, TCE is found to be the most widespread and is present throughout the Study Area groundwater contaminant plume. Metal contamination was evaluated in the VtDEC SI (1996) and it was determined that metals contamination was confined to the areas near Lot 19-11 and the central portion of the Study Area. The report concluded that metals are not likely to migrate much further and should not present a risk to surface water. The nature and extent of contamination will be re-evaluated during the remedial investigation.

1.5 Summary of Previous Investigations

Presented below is a comprehensive, chronological list (compiled from Geo Trans' SI) of previous environmental investigations conducted at the Study Area:

- December 1984: Mitec (Lot 19-11) contracted an environmental consultant to install the MI series monitoring well (MI-1 through MI-9) which were located adjacent to the wastewater disposal lagoon and to the west of Lot 19-11. The wells were installed to a maximum depth of 17 feet below ground surface (ft-bgs).

- March – May 1985: Mitec hired a contractor to remove 30 cubic yards of material from the wastewater lagoon. All materials were transported off-site and disposed of by licensed hazardous waste haulers.

- June – July 1985: Six private potable water supply wells, on South Brownell Road were found to be contaminated with TCE and PCE above the State Health Advisory Levels. All residences were subsequently connected to the Williston public water supply system.

- 1985 – 1986: VtDEC installed and sampled groundwater monitoring wells AL-1 through AL-21. Data from the wells identified VOC and metal contaminated groundwater downgradient of the Lot 19-11 wastewater disposal lagoon. TCE was detected in shallow groundwater east of Commerce Street. Study Area investigators assume additional sources are present at the Industrial Park.

- March 1987: A CERCLIS Preliminary Assessment (PA) completed for Lot 19-11 by an EPA consultant recommended further investigation.

- February 1989: VtDEC completed a PA of the AIP. The PA recommended further investigation of the Study Area, including suspected contamination on Lot 19-2.

- 1989: A Site Assessment Report was prepared on behalf of the property owned for Lot 19-28, related to a potential real estate transaction. No soil or groundwater samples were collected for this site assessment.

- 1990: Site investigation was conducted for Lot 19-20 on behalf of the property owner. Groundwater monitoring wells BM-1D, BM-2S, BM-2D, BM-3S, and BM-3D were installed and sampled. Maximum concentrations of TCE and PCE in groundwater were reported as 2,110 µg/L and 7.27 µg/L, respectively.

- 1993: An SI of the AIP was conducted for the EPA. The primary focus was Lot 19-2. Limited sampling and analysis did not reveal the suspected source for the TCE contamination east of Commerce Street. However, historical monitoring of well AL-14 indicates TCE contamination.

- July 1993: An SI was conducted for Lot 19-05 on behalf of the property owner. Monitoring wells PO-North and PO-South were installed and sampled. No VOC contamination was observed. Low concentrations of metals were detected and assumed to be associated with the downgradient Lot 19-11.

- September 1994: An SI was performed on Lot 19-23. Soil samples were collected from a depth of 2 to 3 feet-bgs and shallow monitoring wells ARC-1, ARC-2, and ARC-3 were installed. Metals contamination was detected in soil and groundwater; VOC contamination was not detected in groundwater from what are believed to be shallow monitoring wells.

- June 1994: An SI was performed on Lot 19-12 in response to a petroleum release. Shallow monitoring wells were installed and analysis revealed the presence of BTEX contamination in groundwater.

- July 1995: An SI was performed on Lot 19-30. Monitoring wells NO-1 through NO-4 were installed and sampled. TCE was detected at concentrations ranging up to 19,000 µg/L.

- January 1996: A summary report of the various investigations of properties in the AIP was performed on behalf of the VtDEC. The report identified data gaps that existed in the previous work performed in the area.

- October 1996: An SI was performed on behalf of VtDEC to further investigate the AIP. Several monitoring wells were installed and TCE-contaminated groundwater under the leach field on Lot 19-11 was identified.

- March 1999: January 2000 – HSI Geo Trans performed an SI within the AIP and adjacent residential areas on behalf of Mitec. Results of the SI confirmed the presence of PCE, TCE, and BTEX-contaminated groundwater, surface water, and sediments throughout the area. The SI also identified Mitec's leased property (Lot 19-11) and Lot 19-23 (clay depression or sink hole) as likely sources of groundwater contamination (Geo Trans, 2000).

- July 1999: A limited groundwater investigation was completed by the Johnson Company for the VtDEC. TCE was the primary contaminant noted with concentrations up to 91,000 µg/L measured in groundwater. Johnson reported the data indicated the presence of non-aqueous phase liquids (NAPL) at or upgradient of profile samples T1-2, T1-3, and T2-2.

- April 2005: The Study Area was placed on EPA's National Priorities List (NPL).

- December 2007: Consulting Environmental Sciences, Inc. (CES) drafted a letter summarizing their review of VtDEC documents regarding the AIP properties. The letter suggests the Mitec property cannot be the source of TCE groundwater contamination based on a lack of evidence documenting any historic use of TCE at the property and that TCE is present in locations hydraulically upgradient (e.g., Lot 19-2) of the property. The letter further states that currently there is an insufficient amount data (i.e. lack of

monitoring points) upgradient of the Mitec property (to the north and northeast) to make an informed evaluation of potential contaminant sources.

1.6 Site Contaminants of Concern

Groundwater COCs for the Study Area include contaminants that were identified to have concentrations exceeding the MCLs in place during previous investigations. The groundwater COCs are listed in Table 1-1 along with applicable GWPR and MCL concentrations. TCE, PCE, and BTEX are the primary groundwater COCs for the Study Area although other VOCs and metals have been historically detected at the Study Area.

1.7 Monitoring Well and Site Area Survey

On December 15 and 16, 2008, American Consulting Engineers and Surveyors (ACES) of Williamstown, Vermont conducted a survey (state plane coordinates and measuring point elevations) of all available wells at the Study Area as identified by Nobis in November 2008. The survey including the measurement 67 wells consisting of 25, 0.67-inch diameter steel wells and 42, 1.5-inch pvc wells. Refer to Appendix A for a copy of the survey map provides by ACES.

2.0 GROUNDWATER MONITORING INVESTIGATION

The Project Quality Objective (PQO) for this groundwater monitoring was to characterize the current nature and extent of groundwater contamination throughout the Study Area. Since only one viable bedrock well exists at the Study Area, the monitoring focused primarily on the overburden aquifer to assess the potential adverse effects to human health and the environment. Sampling locations were selected based on the November 2008 well inventory (Nobis, 2009) and the ability of the available wells to sustain an acceptable yield under low-stress pumping conditions.

A total of 23 groundwater monitoring wells (12 shallow overburden, 10 deep overburden, and 1 bedrock) were sampled during the week of December 14, 2008. The sample collection, handling, preservation, and shipping were conducted in accordance with the Quality Assurance Project Plan (QAPP) (Nobis, 2008b) and addendum dated December 12, 2008. Groundwater monitoring well locations are depicted on Figure 2-1. Groundwater sampling was performed in accordance with the EPA Region 1 procedure for Low Stress (Low Flow) Purging and Sampling Procedure for the Collection of Groundwater Samples from Monitoring Wells, Revision 2 (1996).

Table 2-1 presents a list of all groundwater samples collected during the December 2008 sampling round. The sample identification, dates of sample collection, quality control (QC) designation (as appropriate), and the analyses performed are listed.

Peristaltic pumps were utilized for purging and collecting groundwater samples during the December 2008 round. Teflon or Teflon-lined polyethylene tubing was used and left in the wells after sampling for future sampling events (i.e. dedicated tubing).

Investigation-derived waste (IDW) was temporarily stored in 30-gallon polyethylene and 55-gallon steel drums at the former Mitec property. The drums were picked up for off-site disposal and treatment on January 21, 2009 by ENPRO Services, Inc. of Williston, Vermont. A total of approximately 150 gallons of water was generated during the December 2008 groundwater sampling event.

All the monitoring wells were sampled for TCL VOCs and semi-volatile organic compounds (SVOCs) analyses using the RAS SOW SOM01.2 and for TAL Total and Dissolved Metals using the RAS SOW ILM05.4. Fifteen samples were analyzed for polychlorinated biphenyls (PCBs) analysis using the RAS SOW SOM01.2 and for Dioxins/Furans using the SOW DLM.02.0 during December 2008 (Nobis, 2008b).

2.1 Potentiometric Surfaces

The groundwater elevations of wells to be sampled were measured during the monitoring round prior to low-flow sampling and then again in January 2009 (Table 2-2). The interpreted potentiometric surface for the shallow and deep overburden aquifer unit during the January 2009 round is presented on Figures 2-2 and 2-3 respectively. Overburden groundwater elevation contours displayed on Figures 2-2 and 2-3 indicate that overburden groundwater to the west of the Study Area flows generally southwesterly and groundwater to the east in a south/southeasterly direction toward the unnamed brook (discharge boundary). This data is consistent with previous contractor interpretations.

2.2 Well Purging

Wells were purged and monitored until stabilization of water quality parameters was attained. Samples were collected after stabilization to ensure that they were representative of the aquifer, consistent with the EPA Region 1 low-stress purging and sampling procedures.

Peristaltic pumps were used to purge the overburden and bedrock wells. The pumps were activated at their lowest settings and the pumping rates were slowly increased until discharge occurred. Pumping rates were adjusted to a rate which minimized draw-down in the wells and were maintained between 100 milliliters per minute (mL/min) and 400 mL/min.

Water quality parameters measured prior to sampling included: temperature, pH, dissolved oxygen (DO), specific conductance, oxidation-reduction potential (ORP), and turbidity. The field data were recorded on Low-Flow/Low-Stress Groundwater Sampling Log Sheets (Appendix B). The water level, pumping rate, and water quality parameters were recorded every 5 minutes (or as appropriate) using YSI 556 multi-parameter meters along with Lamotte 2020 turbidity meters (or equivalent). Stabilization was considered to be achieved when three consecutive readings, taken at 5-minute intervals were within the following limits:

Turbidity (10 percent or less than 10 Nephelometric Turbidity Units [NTU])

- Dissolved Oxygen (10 percent)
- Specific conductance (3 percent)
- Temperature (3 percent)
- pH (+/- 0.1 unit)
- ORP (+/-10 millivolts)

Stabilized measurements are summarized in Table 2-3 for the December 2008 round.

2.3 Well Sampling

During the December 2008 round, samples were obtained from the tubing filled with groundwater to the discharge point and were free of air bubbles or air pockets to minimize changes in the water chemistry upon contact with the atmosphere. Groundwater samples were sent to Datachem Laboratories, Inc. of Salt Lake City, Utah for analysis of VOCs, SVOCs, PCBs, and metals in accordance with the QAPP and the EPA Contract Laboratory Program

(CLP). Groundwater samples were sent to Pace Analytical of Minneapolis, Minnesota for analysis of Dioxins/Furans in accordance with the QAPP and the EPA Delivery of Analytical Services (DAS) program.

3.0 LABORATORY ANALYTICAL RESULTS

Tables 3-1 through 3-6 present the laboratory analytical results for groundwater from the December 2008 round. The summary of analytical results by aquifer for the December 2008 round are presented in Table 3-7. The compounds selected for Table 3-6 are those that are either COCs or were contaminants detected in 2 or more samples.

Contaminant concentrations are compared to the GWPRs and MCLs. The results of laboratory analyses are summarized in Section 3.1 and an assessment of the data quality and limitations is included in Section 3.2.

3.1 December 2008 Groundwater Analytical Data

3.1.1 Shallow Overburden Groundwater

VOCs detected in the shallow overburden aquifer (0-20 ft-bgs) during the December 2008 monitoring round include TCE, PCE, ethylbenzene, isopropylbenzene, cis-1,2-dichloroethene (cis-1,2-DCE), 1,2-Dibromo-3-chloropropane, 1,4-dichlorobenzene (1,4-DCB), and chloroform (Table 3-1). Methylene chloride and acetone were also detected at very low concentrations but are considered to be lab contaminants and not associated with the groundwater contamination at the Study Area. Of the VOCs detected in the shallow overburden groundwater, only 1,2-Dibromo-3-chloropropane was present at a concentration (0.84 µg/L in MI-1) exceeding its respective GWPR/MCL (0.2 µg/L); all other VOC concentrations in the shallow overburden aquifer were present below the GWPRs/MCLs. A total of 9 out of 12 samples contained TCE, with concentrations ranging between 0.10 µg/L (BF-4) and 3 µg/L (AL-14). PCE and ethylbenzene (and other COCs) were detected in only one sample apiece at concentrations 0.46 µg/L (MI-08) and 0.12 µg/L (BF-4) respectively. A summary of the other compounds detected in shallow overburden groundwater and associated concentrations are listed in Table 3-1.

Several SVOCs (Table 3-2) were detected in multiple shallow overburden wells at the Study Area. However, all detected SVOCs were present below their respective MCLs.

No PCB aroclors (Table 3-3) were detected at concentrations above the method detection limit (MDL) for any wells.

Several metals (Tables 3-4 and 3-5) were detected in multiple shallow overburden wells at the Study Area. Of the metals detected only cadmium and manganese were present above GWPRs/MCLs. Cadmium was detected in MI-08 at a concentration of 54.3 µg/L. The presence of cadmium at this portion of the Study Area is likely related to the reported discharge of rinse waters and sludge wastes containing chromium, cadmium, cyanide, and nickel by Mitec (Lot 19-11) between 1979 and 1984 (Section 1.4). Additionally, manganese was detected in ASI-23S at a concentration of 4,420 µg/L, exceeding the GWPR of 840 µg/L (a Federal MCL for manganese had not been established). However, manganese is naturally occurring in groundwater (it was detected in all 23 samples) and is generally not considered an immediate risk.

Estimated Maximum Possible Concentrations (EMPC) were detected for several dioxins/furans (Table 3-6) in 6 of the 7 shallow overburden wells sampled for dioxins/furans. However, these concentrations do not pose any immediate risk to human health and the environment.

3.1.2 Deep Overburden Groundwater

VOCs detected in the deep overburden groundwater aquifer (20-60 ft-bgs) during the December 2008 monitoring round include TCE, PCE, cis-1,2-DCE, 1,4-DCB, and chloroform (Table 3-1). Methylene chloride and acetone were also detected at very low concentrations but are considered to be lab contaminants and not associated with the groundwater contamination at the Study Area. TCE was the most frequently detected VOC in the deep overburden groundwater, detected in 8 of the 10 deep overburden monitoring wells sampled; cis-1,2-DCE was detected in 7 of the 10 deep overburden monitoring wells. TCE concentrations range from 0.13 µg/L (ASI-4D2) to 5,300 µg/L (ASI-15D2); 7 of the 8 samples contained concentrations of TCE exceeding the GWPR/MCL for TCE with an average concentration of 2,771 µg/L. Figure 3-1 depicts the estimated magnitude and extent of TCE at the Study Area. All other detected VOCs were below their respected GWPRs/MCLs. A summary of the other compounds detected in deep overburden groundwater and associated concentrations are listed in Table 3-1. It should be noted that areas with the highest TCE concentrations described by

HIS Geo Trans and the Johnson Company were not sampled by Nobis because these locations profiled using microwell technology were not found.

Several SVOCs (Table 3-2) were detected in multiple deep overburden wells at the Study Area. However, all detected SVOCs were present below their respective GWPRs/MCLs.

No PCBs aroclors (Table 3-3) were detected at concentrations above the MDL for any wells.

Several metals (Tables 3-4 and 3-5) were detected in multiple deep overburden wells at the Study Area. Of the metals detected only manganese was present above the GWPR. Manganese was detected in ASI-05D2, ASI-15D2, BM-3D, and OE-2A at a concentrations exceeding the GWPR (840 µg/L). However, as discussed in the previous section, manganese is naturally occurring in groundwater and is generally not considered an immediate risk.

Estimated Maximum Possible Concentrations (EMPC) were detected for several dioxins/furans (Table 3-6) in 4 of the 7 shallow deep wells sampled for dioxins/furans. However, these concentrations do not pose any immediate risk to human health and the environment.

3.1.3 Bedrock Groundwater

Currently, BR-1 is the only bedrock well in the Study Area, located in the residential portion, hydraulically southwest of the potential source areas discussed in Section 2 (Figure 2-1). VOCs detected in BR-1 during the December 2008 monitoring round include TCE, cis-1,2-DCE, toluene, and m,p-xylene (Table 3-1). Methylene chloride and acetone were also detected at very low concentrations but are considered to be laboratory contaminants and not associated with the groundwater contamination at the Study Area. TCE was the only compound present above its respective GWPR/MCL at a concentration of 110 µg/L. A summary of the other compounds detected in deep overburden groundwater and associated concentrations are listed in Table 3-2.

According to Geo Trans' 2000 SI, no VOCs were present in BR-1 above laboratory MDLs when sampled in 1999. The presence of VOCs (especially TCE) during the December 2008 round suggests deeper vertical migration of the plume and/or leakage from the casing in the overburden since Geo Trans' SI. In addition to TCE, toluene and xylene were detected in BR-1.

These COCs are compounds commonly associated with petroleum and may potentially be associated with the BTEX release reported on Lot 19-12 as discussed in Section 1.3.

Several SVOCs (Table 3-2) were detected in BR-1 including naphthalene which is also a compound commonly associated with petroleum. Of the SVOCs detected in the bedrock groundwater, only naphthalene was present at a concentration (23 µg/L) exceeding its respective GWPR/MCL (20 µg/L); all other SVOC concentrations in the bedrock aquifer were present below the GWPRs/MCLs.

Of the PCB aroclors analyzed, only aroclor-1016 was detected at a concentration above the MDL for BR-1 (Table 3-3), which was still below the applicable GWPR/MCL.

As is the case for the overburden groundwater, several metals (Tables 3-4 and 3-5) were detected in BR-1. Of the metals detected, only barium was present at a concentration (4,600 µg/L) above applicable GWPRs/MCLs.

Estimated Maximum Possible Concentrations (EMPC) were detected for several dioxins/furans (Table 3-6) in BR-1. However, these concentrations do not pose any immediate risk to human health and the environment.

3.2 Data Quality Assessment and Limitations

In accordance with the QAPP, a data quality assessment was performed to evaluate whether the groundwater data acquired during the December 2008 sampling event were suitable for use in assessing the current nature and extent of groundwater contamination. The assessment consisted of the following:

- Review of the PQOs and the sampling design.
- Review of sample collection logs.
- Review of the data validation criteria (all data was subjected to Tier I level data validation).
- Correlation of data results to expected values and comparison with historical data results.

3.2.1 Project Quality Objectives and Sample Design

The purpose of this groundwater monitoring data collection was to characterize the current nature and extent of groundwater contamination in support of developing a revised CSM and identifying potential data gaps.

Groundwater wells were located on site and sampled for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), poly-chlorinated biphenyls (PCBs), total and dissolved metals, and dioxins/furans. The sample results and reporting limits were compared to Vermont's Groundwater Protection Rule (GWPR) primary groundwater quality standards and EPA Maximum Contaminant Levels (MCLs). The VTGWPR and MCLs along with the target quantitation limits for each analyte are presented in Table 1-1.

All analytical methods selected were CLP SOWs (SOM01.2 or ILM05.4) or non-CLP (DLM02.0) procedures. This was done to provide comparable results to historical data. Accuracy and precision calculations and criteria were established based on the SOWs and procedures selected. Although complete evaluation of the precision and accuracy results were not performed during the Tier I data validation for this project, the laboratories data for organics and metals testing do get screened for contract compliance, which does include meeting various criteria for accuracy and precision. All criteria were screened successfully, with the exception that Forms 2 Lite had an incorrect preparation date in SDG MA2R51. This was corrected and resubmitted.

The dioxin/furan data underwent a full Tier III data validation and, therefore, did have the precision and accuracy data accessed through the analysis of PE samples, laboratory control samples, field duplicates, and blanks. All of the data for these samples were within acceptable criteria except for a method blank analyzed on January 9, 2009 had detections for 2,3,4,7,8-PeCDF, Total PeCDF, and OCDF above the EMPC values and a method blank analyzed on January 21, 2009 had a detection for OCDD above the EMPC value. There were other detections in these and other method blanks below the EMPC values. All positive sample results with detections above five times the method blank values (ten times for OCDD/OCDF values) are reported as non-detect at the reported concentration.

The Site COCs are listed in Table 1-1 and were discussed in Section 1.6 of this report. Action Limits used to evaluate environmental data for COCs are the numerical GWPRs and MCLs.

Currently, no response action for COCs exceeding the GWPRs and MCLs has been established. A more thorough remedial investigation is warranted to fully evaluate the true nature and extent of contamination in the groundwater and soil throughout the Study Area. If groundwater COCs continue to exceed GWPRs and MCLs following a complete remedial investigation, then a treatment design will likely need to be recommended to remedy the issue.

3.2.2 Data Validation

Data validation of the December 2008 overburden and bedrock groundwater monitoring analytical results was conducted following the Region 1 EPA-New England Data Validation Functional Guidelines for Evaluating Environmental Analyses (Dec. 1996).

VOCs, SVOCs, PCBs, and total and dissolved metals underwent a Tier I data validation only. A Tier I data validation review consists of checking for data completeness (CSF Audit – Tier I), including the complete set of analytical results with supporting information and performance evaluation sample results. As specified in the Tier I data validation guidelines, no qualifications are made to the laboratory-reported values to account for field or laboratory QA/QC issues (i.e., holding times, instrument calibrations, blank contamination, matrix spikes, recoveries, etc.). Low concentrations of common laboratory or field contaminants could result in false positive values. Qualification of data based on high or low bias is not performed.

The dioxin/furan data was validated to a Tier III level by an EPA OEME subcontractor using first the criteria in the Quality Assurance Project Plan for the Commerce Street Plume Superfund Site, prepared by Nobis, dated November 2008, the DLM02.0 criteria, defaulting next to Region I, EPA-NE Data Validation Functional Guidelines for Environmental Analyses, December 1996 procedures, and to EPA Region I's Environmental Services Assistance Team Dioxin Data Validation SOP ESAT-01-0007 (8/29/07). The Tier III level of validation does include a full evaluation of results based on QA/QC issues and ultimately results in final qualification of data.

3.2.3 Data Quality Assessment

Based on this assessment it was determined that the data, as reported by the laboratory, are complete and usable for this and subsequent reports.

However, several samples (ASI-14D2, ASI-23D2, AL-1, ASI-02D2, ASI-15D2, and ASI-11D2) were analyzed for VOCs at a diluted level only due to elevated concentrations of TCE. As a result, the required project quantitation limits listed in the Quality Assurance Project Plan (QAPP) were not achieved for these samples for all VOC analytes.

The PE sample result for SDG A2PX4 indicated that because of a missed analyte for bromochloromethane, the positive results for this analyte would be estimated (J) and non-detect results would be rejected (R) if a Tier II or III validation had been done. This indicates a low bias and unreliability in the analysis of this analyte for the samples in this SDG.

All other PE sample results were within acceptable limits, with one preparation error corrected for SDG MA2PT3.

Dioxin/Furan data validation report indicates that all data criteria met acceptance limits with the exception of method blanks having detections above EMPC values and below EMPC values. This resulted in qualifying data as non-detected (U) at reported concentrations for positive results that were less than five times the method blank concentrations (ten times the method blank concentrations for OCDD/OCDF).

Tier I Data Validation Memoranda for each SDG were produced under separate cover letters for submittal to the EPA.

3.2.4 Data Limitations

A review of field sampling techniques, sample preparation and handling methods and the analytical results has been completed.

Field duplicates were taken at ASI-02D2 and ASI-14D2. The relative percent difference performance criteria of 30 percent for organics and 20 percent for metals were met for all analytes and for both sample duplicate pairs. No equipment blanks were necessary as dedicated equipment was used for sampling activities. A review of total versus dissolved metals results suggests that all of the total metals are approximately equivalent to the dissolved metals.

Four trip blanks were collected for volatile organics analysis. The trip blank collected on December 17, 2008 had detections of acetone, 2-butanone and trace levels of toluene.

Associated samples were non-detect for these analytes. The trip blank collected December 18, 2008 had detections of acetone and trace amounts of toluene and TCE. Acetone was also detected in the laboratory method blank, therefore, this detection in the trip blank is suspected to be laboratory contamination. BR-1 also had a trace detection of toluene, while all other samples were non-detect for toluene. Because of the trace detection of toluene in the trip blank, the toluene result in BR-1 would be qualified as non-detect if validated to Tier II or Tier III. The trace concentration of TCE in the trip blank could be a result of carry- over from the high concentration samples associated with this sample. Because the TCE values are so much higher than that in the trip blank, there is no impact on the data. The trip blank collected on December 19, 2008 had detections of acetone and methylene chloride, which were also detected in the laboratory method blanks, and, therefore, are attributed to laboratory contamination. Trace levels of m,p-xylene and toluene were also detected in the trip blank but these compounds were non-detect in associated samples. The trip blank collected on December 22, 2008 had a detection of acetone, which was also detected in the laboratory method blank, and had trace levels of m,p-xylene and toluene, which were not detected in associated samples. PQO sample design limitations include:

- Data set may not represent the plume extent completely due to the number of wells sampled during the sampling event and the spatial extent of those wells. Deep overburden groundwater data, where the majority of the contamination resides, is limited to only select central and southern portions of the Study Area. Limited data in northern (upgradient) portions of the Study Area is available to accurately assess background conditions and potential source areas.

- Assessment of the plume is limited by the number of recent sampling rounds.

- Several samples were analyzed at a diluted level for VOCs only due to elevated concentrations of target analytes (TCE). As a result, the required project quantitation limits listed in the QAPP were not achieved for these samples for all analytes.

No other significant data limitations have been identified through data validation process for the data evaluated in this report. As discussed these limitations do not limit the usability or completeness of the obtained data.

4.0 CONCEPTUAL SITE MODEL UPDATE SUMMARY

The information presented in this Data Summary Report, for the most part, confirms original interpretations/summaries presented in the Draft Conceptual Site Model (CSM) Technical Memorandum (Nobis, 2009). Presented below is a brief comparison of this Data Summary Report and the CSM with respect to groundwater flow direction and nature and extent of contamination. Interpretations and conclusions pertaining to geology and aquifer characteristics (e.g. hydraulic conductivity) remain unchanged as groundwater was the only media investigated under this report.

4.1 Groundwater Flow Directions

With respect to groundwater flow directions in the shallow and deep overburden, the January 2009 measurements (Figures 2-2 and 2-3) continue to demonstrate overburden groundwater to the west of the Study Area flowing generally southwesterly and groundwater to the east in a south/southeasterly direction toward the unnamed brook (discharge boundary), as previously reported in the CSM. It appears the unnamed brook is a discharge zone for at least shallow groundwater, as noted by the elevated concentrations of TCE and DCE in surface water during past sampling events. There remains only one bedrock well at the Study Area, thus making it difficult to interpret groundwater flow direction within the bedrock. Bedrock flow direction in the region is based on literature interpretations and is presented in the CSM.

4.2 Nature and Extent of Contamination

The groundwater analytical data presented in this report also confirms the presence of a large TCE plume throughout the majority of the Study Area. However, the current lateral and vertical extent of the plume is difficult to define due to the lack of key available monitoring points in northern and southwest portions of the Study Area during the December 2008 sampling round. Additionally, an accurate understanding of the nature and extent of TCE contamination is difficult to assess in central portions of the Study Area (where the highest concentrations have been historically detected) due to the lack of strategically located monitoring points in the previous investigations. For instance, during HSI Geo Trans', Inc. (Geo Trans) 2000 Site Investigation (SI) Report, TCE was detected in the shallow and deep overburden at concentrations in excess of 20,000 µg/L in centrally located wells ASI-01 (Lot 19-32), ASI-12 (Lot 19-28), ASI-26 (Lot 19-23), and NO-1 (Lot 19-30), all of which no longer exist. Also, the Johnson report indicated elevated TCE on the former Mitec property (Lot 19-11) as well as on Lot 19-23 at T2-2. Lot 19-23 also has been delineated as an area with a lower clay surface

depression (potential sink hole) (Geo Trans Figure 4-1, Appendix C) which could explain the potential for DNAPL noted by elevated TCE concentrations in historical profiling in this area. Comparatively, the highest TCE concentration detected during December 2008 was 5,300 µg/L in ASI-15D2 in the residential area adjacent to AIP.

Such a large discrepancy between the sampling rounds, coupled with the lack of centrally located sampling points, suggests areas of greater TCE concentrations likely exist at the Study Area. Figure 4-9 in Appendix C shows Geo Trans' depiction of the extent of TCE contamination at the time of their SI. The red region in the center of the Study Area represents concentrations in excess of 20,000 µg/L. With the exception of ASI-02 in the southwest corner, none of the wells depicted in this area were available for sampling at the time of the December 2008 round, thus presenting a large data gap within this portion of the Study Area.

A Comparison between Figure 3-1 of the report and Figure 4-9 of the CSM, in general, shows the current lateral extent of the TCE plume to be similar in size to that characterized by Geo Trans' previous investigation. This observation is suggestive of minimal horizontal migration over the past nine years (since Geo Trans' SI) which may be attributable to the relatively flat hydraulic gradient and topography witnessed across the Study Area. With that said, however, monitoring points to the west and southwest of ASI-23 and to the north and northwest of Lot 19-11 are needed to provide a full accurate interpretation of the lateral extent of the groundwater plume.

With respect to vertical delineation, based on the lack of TCE exceedances in the shallow overburden groundwater, there is evidence to suggest that TCE contaminated groundwater has migrated vertically downward through the shallow overburden and into deeper portions of the formation. This absence of TCE MCL/GWPR exceedances is in comparison to the multiple exceedances in the shallow overburden observed during Geo Trans' 2000 SI, particularly in northern portions of the Study Area proximal to Lots 19-12 and 19-17.

Additionally, based on this current round of data, it may be feasible to reduce the current COC list (Table 1-1) to include only TCE and its breakdown products of DCE and vinyl chloride. Although present in several wells, PCE was not detected over the corresponding MCL/GWPR. Additionally, with the exception of ethylbenzene in BF-4, and m,p-xylene and toluene in BR-1,

no BTEX compounds were present above laboratory MDLs; no BTEX compounds exceeded corresponding MCLs/GWPRs.

5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

Based on the results of the December 2008 groundwater monitoring round and evaluation of limited historical data, Nobis concludes the following:

- Groundwater samples were collected in December 2008 from 12 shallow overburden, 10 deep overburden, and 1 bedrock monitoring wells at the Study Area.

- Groundwater potentiometric surfaces indicate overburden groundwater east of Commerce Street flows to the south/southeast toward the unnamed brook, and groundwater west of Commerce Street flows generally to the southwest. Available data demonstrates bedrock groundwater flow generally mimics the overburden.

- TCE and cis-1,2-DCE are the most frequently detected VOC contaminants in the overburden and bedrock aquifer units during the December 2008 round. Of the VOCs detected, only TCE is present above the EPA MCL (5 µg/L). Of the TCE detections above the MCL, all occurred within the deep overburden and bedrock groundwater; no TCE detections above the MCL were present in the shallow overburden groundwater.

- The historical presence of elevated TCE on Lot 19-23, as well as the geophysical delineation of a sink hole or depression in the clay layer indicates a potential continuing source of TCE in the area.

- The presence of higher concentrations of TCE in the deep overburden groundwater suggests that contamination has originated from a shallower source hydraulically upgradient and migrating vertically through the subsurface. TCE was detected in BM-3D (the most hydraulically upgradient deep overburden well with a total depth of 29 ft-bgs) at a concentration of 140 µg/L (28 times the MCL). BM-3D is located on Lot 19-20 which is approximately 200 feet downgradient from the mid-point of suspected source areas on Lots 19-02, 19-11, and 19-12 as discussed in Nobis' Conceptual Site Model (2009).

- The presence of low concentrations of TCE in shallow overburden wells AL-14 and BF-4 (both located on 19-12) suggests a source(s) may be in the vicinity of these wells or at a point hydraulically upgradient (to the north).

- Several SVOCs were present in the shallow and deep overburden groundwater, as well as in the bedrock groundwater. However, no compounds were present above their corresponding MCL.

- All PCB aroclor concentrations for shallow and deep overburden, and bedrock groundwater, were not detected above the laboratory MDL.

- There remains few, if any, monitoring points upgradient of Lot 19-11 (e.g., on Lots 19-2, 5, and 12), and within the center of the Study Area (e.g., on Lots 19-25, 28, 29, and 30) to accurately characterize the true nature and extent of groundwater contamination, and potential source areas within the Study Area. Additionally, there does not appear to be an adequate network of groundwater monitoring wells (overburden and bedrock) to the south of the Study Area. The presence of TCE and other VOCs in downgradient sample locations (e.g. ASI-23D2) and bedrock well BR-1 suggests the contaminant plume extent is migrating hydraulically beyond the bounds of available data.

5.2 Recommendations

Based on a review of the 2008 monitoring well inventory and groundwater sampling analytical results, significant data gaps exist which are necessary to fully characterize the nature and extent of groundwater contamination at the Study Area. Recommended measures to address these data gaps are presented below:

- Overburden wells should be installed and sampled to the north and northeast of Lot 19-11 to help characterize background conditions and potential TCE sources. The wells should be installed as a series of clusters (e.g., 2-4 wells) at varying depths through the overburden to assist in delineating source areas and gaining a greater understanding of contaminant pathways.

- Deep overburden wells (e.g. 20 to 60 ft-bgs) wells should be installed and sampled in central portions of the Study Area (e.g., on Lots 19-23, 25, 28, 29, and 30) to help provide a greater understanding of the plume's magnitude.

- Deep overburden wells should be installed and sampled to the south of ASI-14D2 and ASI-23D2 to delineate the vertical and lateral extents of the plume in downgradient areas. Both of these deep overburden locations contained TCE several orders of magnitude above the MCL suggesting the plume may extend a significant distance further downgradient.

- BR-1 should be re-sampled to confirm the presence of VOCs in bedrock. If VOCs remain present in BR-1, then at least one additional bedrock well should be installed and sampled downgradient or BR-1 to help delineate the vertical and lateral extent of VOCs in the bedrock.

- Additional geophysics should be considered on Lots 19-23 and 19-19 to further characterize the depression in the clay and the potential for DNAPL to pool in the area.

- Additional porewater and low flow surface water samples are recommended for collection from the unnamed brook for the purposes of identifying the impact of contaminated groundwater on the brook, if any.

It should be noted that during all monitoring well installations, continuous soil screening will be performed with a photoionization detector to assess the potential presence of VOC contamination in the soil. Soil samples will be collected for laboratory analysis where deemed appropriate by the field geologist.

6.0 REFERENCES

HSI Geo Trans, Inc., 2000. Site Investigation Report Alling Industrial Park, Williston, Vermont. June 2000.

Nobis Engineering, Inc., 2008a. Draft Work Plan, Commerce Street Plume Superfund Site, Williston, Vermont. September 2008.

Nobis Engineering, Inc., 2008b. Quality Assurance Project Plan, Commerce Street Plume Superfund Site, Williston, Vermont. November 2008.

Nobis Engineering, Inc., 2009. Draft Technical Memorandum – Conceptual Site Model, Commerce Street Plume Superfund Site, Williston, Vermont. January 2009.

Johnson Company, 1999. Limited Groundwater Investigation for Alling Industrial Park, VT Site #770120, Williston, Vermont.

Roy F. Weston, Inc. (WESTON), 1998. Final Site Inspection Prioritization Report for Mitec, Williston, Vermont. September 9, 1998.

Table 1-1
Groundwater Contaminants of Concern
Commerce Street Plume Superfund Site
Williston, Vermont

Contaminant of Concern	VT GWPR (µg/L)	MCL (µg/L)
Trichlorethene	5	5
Tetrachloroethene	5	5
Benzene	5	5
Toluene	1000	1000
Ethylbenzene	700	700
Xylenes (Total)	600	600

Notes:
All concentrations listed in micrograms per liter (µg/L).
MCL – Federal Maximum Contaminant Level: EPA 816-F-02-013 (July 2002)
VT GWPR - Vermont Groundwater Protection Rule Goal

Table 2-1
December 2008 Groundwater Sampling Location Summary
Commerce Street Plume Superfund Site
Williston, Vermont

Station ID	Sample Location	Area	Aquifer	SampleType	Analysis	Sample Date	Sample Class
AL-001-121708A	AL-1	Residential	Deep Overburden	Field Sample	LVOA, SVOA, ARO, ICP-AES, ICP-MS, HG	12/17/2008	Groundwater Monitoring
AL-014-121608A	AL-14	Industrial Park	Shallow Overburden	Field Sample	LVOA, SVOA, ARO, ICP-AES, ICP-MS, HG	12/16/2008	Groundwater Monitoring
AL-015-121908A	AL-15	Industrial Park	Shallow Overburden	Field Sample	LVOA, SVOA, ARO, ICP-AES, ICP-MS, HG	12/19/2008	Groundwater Monitoring
ARC-003-121708A	ARC-3	Industrial Park	Shallow Overburden	Field Sample	LVOA, SVOA, ARO, ICP-AES, ICP-MS, HG	12/17/2008	Groundwater Monitoring
ASI-002D2-121808A	ASI-02D2	Industrial Park	Deep Overburden	Field Sample	LVOA, SVOA, ARO, ICP-AES, ICP-MS, HG	12/18/2008	Groundwater Monitoring
ASI-002D2-121808AD	ASI-02D2	Industrial Park	Deep Overburden	Field Duplicate	LVOA, SVOA, ARO, ICP-AES, ICP-MS, HG	12/18/2009	Field QC
ASI-004D2-121808A	ASI-04D2	Industrial Park	Deep Overburden	Field Sample	LVOA, SVOA, ARO, ICP-AES, ICP-MS, HG	12/18/2008	Groundwater Monitoring
ASI-005D2-121808A	ASI-05D2	Industrial Park	Deep Overburden	Field Sample	LVOA, SVOA, ARO, ICP-AES, ICP-MS, HG	12/18/2008	Groundwater Monitoring
ASI-011D2-121908A	ASI-11D2	Industrial Park	Deep Overburden	Field Sample	LVOA, SVOA, ARO, ICP-AES, ICP-MS, HG	12/19/2008	Groundwater Monitoring
ASI-014S-121608A	ASI-14S	Industrial Park	Shallow Overburden	Field Sample	LVOA, SVOA, ARO, ICP-AES, ICP-MS, HG	12/16/2008	Groundwater Monitoring
ASI-014D2-121608A	ASI-14D2	Industrial Park	Deep Overburden	Field Sample	LVOA, SVOA, ARO, ICP-AES, ICP-MS, HG	12/16/2008	Groundwater Monitoring
ASI-014D2-121608AD	ASI-14D2	Industrial Park	Deep Overburden	Field Duplicate	LVOA, SVOA, ARO, ICP-AES, ICP-MS, HG	12/16/2008	Field QC
ASI-015D2-121808A	ASI-15D2	Residential	Deep Overburden	Field Sample	LVOA, SVOA, ARO, ICP-AES, ICP-MS, HG	12/18/2008	Groundwater Monitoring
ASI-023D2-121608A	AS-23D2	Residential	Deep Overburden	Field Sample	LVOA, SVOA, ARO, ICP-AES, ICP-MS, HG	12/16/2008	Groundwater Monitoring
ASI-023S-121608A	ASI-23S	Residential	Shallow Overburden	Field Sample	LVOA, SVOA, ARO, ICP-AES, ICP-MS, HG	12/16/2008	Groundwater Monitoring
BF-004-121908A	BF-4	Industrial Park	Shallow Overburden	Field Sample	LVOA, SVOA, ARO, ICP-AES, ICP-MS, HG	12/19/2008	Groundwater Monitoring
BM-03D-121708A	BM-3D	Industrial Park	Deep Overburden	Field Sample	LVOA, SVOA, ARO, ICP-AES, ICP-MS, HG	12/17/2008	Groundwater Monitoring
BM-03S-121908A	BM-3S	Industrial Park	Shallow Overburden	Field Sample	LVOA, SVOA, ARO, ICP-AES, ICP-MS, HG	12/18/2008	Groundwater Monitoring
BR-001-121708A	BR-1	Residential	Bedrock	Field Sample	LVOA, SVOA, ARO, ICP-AES, ICP-MS, HG	12/17/2008	Groundwater Monitoring
BW-013S-121808A	BW-13S	Residential	Shallow Overburden	Field Sample	LVOA, SVOA, ARO, ICP-AES, ICP-MS, HG	12/18/2008	Groundwater Monitoring
MI-001-121508A	MI-1	Industrial Park	Shallow Overburden	Field Sample	LVOA, SVOA, ARO, ICP-AES, ICP-MS, HG	12/15/2008	Groundwater Monitoring
MI-002-121508A	MI-2	Industrial Park	Shallow Overburden	Field Sample	LVOA, SVOA, ARO, ICP-AES, ICP-MS, HG	12/15/2008	Groundwater Monitoring
MI-008-121908A	MI-8	Residential	Shallow Overburden	Field Sample	LVOA, SVOA, ARO, ICP-AES, ICP-MS, HG	12/19/2008	Groundwater Monitoring
OE-02A-121708A	OE-2A	Industrial Park	Deep Overburden	Field Sample	LVOA, SVOA, ARO, ICP-AES, ICP-MS, HG	12/17/2008	Groundwater Monitoring
OE-02B-121708A	OE-2B	Industrial Park	Shallow Overburden	Field Sample	LVOA, SVOA, ARO, ICP-AES, ICP-MS, HG	12/17/2008	Groundwater Monitoring
TB-001-121708A				Trip Blank	LVOA	12/17/2008	Field QC
TB-002-121808A				Trip Blank	LVOA	12/18/2008	Field QC
TB-003-121908A				Trip Blank	LVOA	12/19/2008	Field QC
AA0250				PES	ARO	12/15/2008	Lab QC
DW00331				PES	DXN	12/15/2008	Lab QC
HG5413				PES	HG	12/15/2008	Lab QC
HG5414				PES	HG	12/15/2008	Lab QC
HG5416				PES	HG	12/19/2008	Lab QC
HG5417				PES	HG	12/19/2008	Lab QC

Table 2-1
December 2008 Groundwater Sampling Location Summary
Commerce Street Plume Superfund Site
Williston, Vermont

Station ID	Sample Location	Area	Aquifer	SampleType	Analysis	Sample Date	Sample Class
IS1894				PES	ICP-AES	12/19/2008	Lab QC
IS2443				PES	ICP-AES	12/15/2008	Lab QC
IS5513				PES	ICP-AES	12/19/2008	Lab QC
IS5648				PES	ICP-AES	12/15/2008	Lab QC
MS02279				PES	ICP-MS	12/19/2008	Lab QC
MS02398				PES	ICP-MS	12/15/2008	Lab QC
MS02401				PES	ICP-MS	12/19/2008	Lab QC
MS02402				PES	ICP-MS	12/15/2008	Lab QC
SV0251				PES	SVOA	12/15/2008	Lab QC
VLM0309				PES	LVOA	12/19/2008	Lab QC
VLM0311				PES	LVOA	12/15/2008	Lab QC

Notes:
PES = Performance Evaluation Sample
LVOA = Low Volatile Organic Analysis
SVOA = Semi-Volatile Organic Analysis
ARO = Aroclor (PCBs) Analysis
ICP-AES: Inductively-Coupled Plasma-Atomic Emission Spectroscopy
ICP-MS: Inductively-Coupled Plasma-Mass Spectrometer
DXN = Dioxin Analysis
HG = Mercury Analysis
QC = Quality Control

Table 2-2
Groundwater Elevation Measurements - January 9, 2009
Commerce Street Plume Superfund Site
Williston, Vermont

Well ID	Reference Elevation (ft msl)	Depth to Water (ft msl)	Water Elevation (ft msl)
Checkwells			
ASI-02D	338.3	5.76	332.5
ASI-02S	338.6	6.34	332.3
ASI-03D	338.3	6.30	332.0
ASI-03S	338.7	5.85	332.9
ASI-04D	337.5	7.39	330.2
ASI-04S	338.5	6.56	331.9
ASI-05D	338.2	6.10	332.1
ASI-05S	338.2	6.28	331.9
ASI-08D	336.3	7.97	328.3
ASI-08S	337.7	6.42	331.3
ASI-10D	335.3	8.35	327.0
ASI-11D	339.2	4.38	334.8
ASI-11S	339.7	3.71	336.0
ASI-13D	340.4	6.10	334.3
ASI-13S	341.0	6.83	334.2
ASI-14D	339.7	--	--
ASI-14S	339.7	--	--
ASI-15D	340.1	5.44	334.7
ASI-15S	341.0	6.56	334.4
ASI-16D	342.7	8.59	334.1
ASI-16S	343.2	7.97	335.2
ASI-22D	336.0	--	--
ASI-22S	337.1	--	--
ASI-23D	340.0	5.78	334.2
ASI-23S	341.7	8.30	333.4
Conventional Wells			
AL-4	341.7	--	--
AL-14	343.3	7.22	336.1
AL-15	342.9	7.71	335.2
ARC-3	340.2	4.54	335.7
ASI-02D2	339.0	6.94	332.1
ASI-04D2	338.2	7.30	330.9
ASI-05D2	338.4	6.53	331.9
ASI-11D2	337.8	2.99	334.8
ASI-14D2	339.8	6.64	333.2
ASI-15D2	341.3	6.84	334.5
ASI-16D2	342.3	8.34	334.0
ASI-23D2	340.3	7.14	333.2
BF-1	340.0	--	--
BF-4	340.5	8.76	331.7
BM-3D	341.9	6.47	335.4
BM-3S	342.5	7.51	335.0

Table 2-2
Groundwater Elevation Measurements - January 9, 2009
Commerce Street Plume Superfund Site
Williston, Vermont

Well ID	Reference Elevation (ft msl)	Depth to Water (ft msl)	Water Elevation (ft msl)
Conventional Wells (cont.)			
BW-5-DEEP	341.1	7.82	333.3
BW-5-SHALLOW	340.9	7.70	333.2
BW-5A	340.5	DRY	--
BW-5B	341.0	DRY	--
BW-5C	341.0	7.31	333.7
BW-5D	341.1	7.42	333.7
BW-7-DEEP	339.7	6.50	333.2
BW-7-SHALLOW	339.8	6.54	333.3
BW-8-DEEP	341.0	6.98	334.0
BW-8-SHALLOW	340.9	6.78	334.1
BW-11-DEEP	343.2	9.39	333.8
BW-11-SHALLOW	343.5	DRY	--
BW-11A	341.9	--	--
BW-11B	342.4	--	--
BW-11C	342.7	--	--
BW-11D	342.7	--	--
BW-13D	340.9	5.70	335.2
BW-13S	340.8	5.65	335.2
MI-1	342.6	6.87	335.7
MI-2	342.3	6.50	335.8
MI-8	341.6	6.30	335.3
OE-2A	337.9	7.44	330.5
OE-2B	337.9	7.44	330.5
PH-3A	337.7	4.46	333.2
BEDROCK WELLS			
BR-1	343.5	16.84	326.7

Notes:
Checkwell = 0.67-inch diameter stainless steel casing and screen
Conventional well = 2-inch diameter PVC casing and screen

Table 2-3
December 2008 Groundwater Field Parameter Measurements
Commerce Street Plume Superfund Site
Williston, Vermont

Station ID	Sample Location	Sample Type	Initial DTW (ft.)	GW Elev. (ft.)	Pump Type	Sample Date	Beginning Time	Ending Time	Purge Rate (mL/min)	Temperature (°C)	Conductivity (mS/cm2)	pH	ORP (mV)	Dissolved Oxygen (mg/L)	Turbidity (NTU)
AL-001-121708A	AL-1	Field Sample	8.18	333.5	Peristaltic	12/17/2008	8:50	10:50	220	11.00	1269	7.35	-171.0	0.66	1.0
AL-014-121608A	AL-14	Field Sample	7.30	336.0	Peristaltic	12/16/2008	13:20	14:40	250	10.29	219	5.74	219.6	0.34	5.1
AL-015-121908A	AL-15	Field Sample	7.59	335.3	Peristaltic	12/19/2008	10:10	10:50	200	8.44	178	5.50	182.2	2.36	4.0
ARC-003-121708A	ARC-3	Field Sample	4.35	335.9	Peristaltic	12/17/2008	10:00	10:40	200	10.61	46	5.72	208.6	11.09	4.6
ASI-002D2-121808A	ASI-02D2	Field Sample	6.75	332.3	Peristaltic	12/18/2008	9:10	10:15	200	10.28	1088	6.92	-143.8	0.44	0.0
ASI-002D2-121808AD	ASI-02D2	Field Duplicate	6.75	332.3	Peristaltic	12/18/2009	9:10	10:15	200	10.28	1088	6.92	-143.8	0.44	0.0
ASI-004D2-121808A	ASI-04D2	Field Sample	6.27	331.9	Peristaltic	12/18/2008	13:20	15:25	220	6.81	544	7.74	-183.8	2.80	0.2
ASI-005D2-121808A	ASI-05D2	Field Sample	6.82	331.6	Peristaltic	12/18/2008	9:15	11:35	240	8.11	415	7.84	-198.1	2.10	0.0
ASI-011D2-121908A	ASI-11D2	Field Sample	2.86	334.9	Peristaltic	12/19/2008	8:30	9:55	240	10.07	438	7.59	-211.6	2.20	0.8
ASI-014S-121608A	ASI-14S	Field Sample	7.25	332.5	Peristaltic	12/16/2008	9:50	10:25	100	6.29	109	6.09	-23.3	0.51	4.7
ASI-014D2-121608A	ASI-14D2	Field Sample	6.57	333.2	Peristaltic	12/16/2008	8:48	11:20	350	8.33	581	6.56	-23.9	1.70	0.0
ASI-014D2-121608AD	ASI-14D2	Field Duplicate	6.57	333.2	Peristaltic	12/16/2008	8:48	11:55	350	8.33	581	6.56	-23.9	1.70	0.0
ASI-015D2-121808A	ASI-15D2	Field Sample	7.11	334.2	Peristaltic	12/18/2008	8:55	10:00	225	9.12	981	7.06	-168.4	0.39	3.8
ASI-023D2-121608A	AS-23D2	Field Sample	7.01	333.3	Peristaltic	12/16/2008	14:10	15:05	350	8.60	828	6.58	-30.5	1.40	0.0
ASI-023S-121608A	ASI-23S	Field Sample	8.32	333.4	Peristaltic	12/16/2008	15:40	16:25	230	8.06	591	4.57	-9.6	6.50	0.0
BF-004-121908A	BF-4	Field Sample	8.42	332.1	Peristaltic	12/19/2008	8:40	8:55	200	8.78	206	6.55	-42.5	0.64	30.0
BM-03D-121708A	BM-3D	Field Sample	6.42	335.5	Peristaltic	12/17/2008	9:25	10:40	250	10.23	755	6.75	-133.7	2.30	21.0
BM-03S-121908A	BM-3S	Field Sample	7.42	335.1	Peristaltic	12/18/2008	9:05	9:40	200	9.23	488	6.57	69.9	2.59	19.1
BR-001-121708A	BR-1	Field Sample	8.77	334.7	Peristaltic	12/17/2008	12:00	13:15	120	9.76	66257	12.43	-120.1	3.34	9.3
BW-013S-121808A	BW-13S	Field Sample	5.65	335.2	Peristaltic	12/18/2008	13:00	14:30	125	7.06	639	5.70	136.1	3.89	2.6
MI-001-121508A	MI-1	Field Sample	7.20	335.4	Peristaltic	12/15/2008	14:40	15:20	250	10.88	409	6.48	373.5	25.90	6.6
MI-002-121508A	MI-2	Field Sample	6.86	335.4	Peristaltic	12/15/2008	15:30	16:25	200	11.32	159	5.89	188.9	4.56	1.2
MI-008-121908A	MI-8	Field Sample	4.10	337.5	Peristaltic	12/19/2008	9:08	10:20	300	8.77	549	5.47	245.0	1.81	2.0
OE-02A-121708A	OE-2A	Field Sample	7.42	330.5	Peristaltic	12/17/2008	13:20	14:20	250	8.07	1274	7.63	-152.5	4.00	6.3
OE-02B-121708A	OE-2B	Field Sample	7.34	330.6	Peristaltic	12/17/2008	13:25	14:35	200	8.24	65	5.13	164.6	5.21	1.5

Table 3-1
December 2008 Groundwater Monitoring Laboratory Analytical Results - VOCs
Commerce Street Plume Superfund Site
Williston, Vermont

			SAMPLE NAME	A2PT8	A2PT9	A2PW0	A2PW1	A2PW2	A2PW3	A2PW4	A2PW5
			SAMPLE LOCATION	MI-01	MI-02	ASI-14S	ASI-14D2	ASI-14D2	AL-14	ASI-23D2	ASI-23S
			STATION ID	MI-001-121508A	MI-002-121508A	ASI-014S-121608A	ASI-014D2-121608A	ASI-014D2-121608AD	AL-014-121608A	ASI-023D2-121608A	ASI-023S-121608A
CHEMICAL NAME	**CRQL**	**VT GWPR**	**MCL**								
1,1,1-Trichloroethane	5	200	200	5 U	5 U	5 U	20 U	20 U	5 U	20 U	5 U
1,1,2,2-Tetrachloroethane	5			5 U	5 U	5 U	20 U	20 U	5 U	20 U	5 U
1,1,2-Trichloro-1,2,2-trifluoroethane	5			5 U	5 U	5 U	20 U	20 U	5 U	20 U	5 U
1,1,2-Trichloroethane	5	5	5	5 U	5 U	5 U	20 U	20 U	5 U	20 U	5 U
1,1-Dichloroethane	5	70		5 U	5 U	5 U	20 U	20 U	5 U	20 U	5 U
1,1-Dichloroethene	5	7	7	5 U	5 U	5 U	20 U	20 U	5 U	20 U	5 U
1,2,3-Trichlorobenzene	5			5 U	5 U	5 U	20 U	20 U	5 U	20 U	5 U
1,2,4-Trichlorobenzene	5	70	70	0.58 J	5 U	5 U	20 U	20 U	5 U	20 U	5 U
1,2-Dibromo-3-chloropropane	5		0.2	**0.84 J**	5 U	5 U	20 U	20 U	5 U	20 U	5 U
1,2-Dibromoethane	5			5 U	5 U	5 U	20 U	20 U	5 U	20 U	5 U
1,2-Dichlorobenzene	5	600	600	5 U	5 U	5 U	20 U	20 U	5 U	20 U	5 U
1,2-Dichloroethane	5	5	5	5 U	5 U	5 U	20 U	20 U	5 U	20 U	5 U
1,2-Dichloropropane	5	5	5	5 U	5 U	5 U	20 U	20 U	5 U	20 U	5 U
1,3-Dichlorobenzene	5	600		0.22 J	5 U	5 U	20 U	20 U	5 U	20 U	5 U
1,4-Dichlorobenzene	5	75	75	5 U	5 U	5 U	20 U	20 U	0.23 J	20 U	5 U
1,4-Dioxane	100			100 U	100 U	100 U	400 U	400 U	100 U	400 U	100 U
2-Butanone	10	4200		10 U	10 U	10 U	40 U	40 U	10 U	40 U	10 U
2-Hexanone	10			10 U	10 U	10 U	40 U	40 U	10 U	40 U	10 U
4-Methyl-2-Pentanone	10			10 U	10 U	10 U	40 U	40 U	10 U	40 U	10 U
Acetone	10	700		10 U	10 U	10 U	40 U	40 U	10 U	40 U	10 U
Benzene	5	5	5	5 U	5 U	5 U	20 U	20 U	5 U	20 U	5 U
Bromochloromethane	5	90		5 U	5 U	5 U	20 U	20 U	5 U	20 U	5 U
Bromodichloromethane	5	80		5 U	5 U	5 U	20 U	20 U	5 U	20 U	5 U
Bromoform	5			5 U	5 U	5 U	20 U	20 U	5 U	20 U	5 U
Bromomethane	5	10		5 U	5 U	5 U	20 U	20 U	5 U	20 U	5 U
Carbon disulfide	5			5 U	5 U	5 U	20 U	20 U	5 U	20 U	5 U
Carbon tetrachloride	5	5	5	5 U	5 U	5 U	20 U	20 U	5 U	20 U	5 U
Chlorobenzene	5	100	100	5 U	5 U	5 U	20 U	20 U	5 U	20 U	5 U
Chloroethane	5			5 U	5 U	5 U	20 U	20 U	5 U	20 U	5 U
Chloroform	5	80		5 U	5 U	5 U	20 U	20 U	5 U	1.5 J	1.9 J
Chloromethane	5	30		5 U	5 U	5 U	20 U	20 U	5 U	20 U	5 U
cis-1,2-Dichloroethene	5	70	70	5 U	5 U	5 U	22	21	0.28 J	5 J	5 U
cis-1,3-Dichloropropene	5			5 U	5 U	5 U	20 U	20 U	5 U	20 U	5 U
Cyclohexane	5			5 U	5 U	5 U	20 U	20 U	5 U	20 U	5 U
Dibromochloromethane	5	80		5 U	5 U	5 U	20 U	20 U	5 U	20 U	5 U

Table 3-1
December 2008 Groundwater Monitoring Laboratory Analytical Results - VOCs
Commerce Street Plume Superfund Site
Williston, Vermont

			SAMPLE NAME	A2PT8	A2PT9	A2PW0	A2PW1	A2PW2	A2PW3	A2PW4	A2PW5
			SAMPLE LOCATION	MI-01	MI-02	ASI-14S	ASI-14D2	ASI-14D2	AL-14	ASI-23D2	ASI-23S
			STATION ID	MI-001-121508A	MI-002-121508A	ASI-014S-121608A	ASI-014D2-121608A	ASI-014D2-121608AD	AL-014-121608A	ASI-023D2-121608A	ASI-023S-121608A
CHEMICAL NAME	**CRQL**	**VT GWPR**	**MCL**								
Dichlorodifluoromethane	5	1000		5 U	5 U	5 U	20 U	20 U	5 U	20 U	5 U
Ethylbenzene	5	700	700	5 U	5 U	5 U	20 U	20 U	5 U	20 U	5 U
Isopropylbenzene	5			5 U	5 U	5 U	20 U	20 U	5 U	20 U	5 U
m,p-Xylene	5	10000	10000	5 U	5 U	5 U	20 U	20 U	5 U	20 U	5 U
Methyl acetate	5			5 U	5 U	5 U	20 U	20 U	5 U	20 U	5 U
Methyl tert-butyl ether	5	40		5 U	5 U	5 U	20 U	20 U	5 U	20 U	5 U
Methylcyclohexane	5			5 U	5 U	5 U	20 U	20 U	5 U	20 U	5 U
Methylene chloride	5	5		0.15 J	5 U	5 U	1.1 J	0.82 J	5 U	1.2 J	5 U
o-Xylene	5	10000	10000	5 U	5 U	5 U	20 U	20 U	5 U	20 U	5 U
Styrene	5	100	100	5 U	5 U	5 U	20 U	20 U	5 U	20 U	5 U
Tetrachloroethene	5	5	5	5 U	5 U	5 U	20 U	20 U	5 U	20 U	5 U
Toluene	5	1000	1000	5 U	5 U	5 U	20 U	20 U	5 U	20 U	5 U
trans-1,2-Dichloroethene	5	100	100	5 U	5 U	5 U	20 U	20 U	5 U	20 U	5 U
trans-1,3-Dichloropropene	5			5 U	5 U	5 U	20 U	20 U	5 U	20 U	5 U
Trichloroethene	5	5	5	0.33 J	5 U	5 U	**2900 D**	**2800 D**	3 J	**2500 D**	1.9 J
Trichlorofluoromethane	5	2100		5 U	5 U	5 U	20 U	20 U	5 U	20 U	5 U
Vinyl chloride	5	2	2	5 U	5 U	5 U	20 U	20 U	5 U	20 U	5 U
			DILUTION FACTOR	1	1	1	4	4	1	4	1
			SAMPLE DATE	15-Dec-08	15-Dec-08	16-Dec-08	16-Dec-08	16-Dec-08	16-Dec-08	16-Dec-08	16-Dec-08
			DATE ANALYZED	22-Dec-08	22-Dec-08	22-Dec-08	22-Dec-08	22-Dec-08	22-Dec-08	22-Dec-08	22-Dec-08
			RESULT COMMENT								

Notes: U=below detection limit, J=quantitation approximate, B=detected in laboratory blank, D=diluted sample result, CRQL=Contract Required Quantitation Limit
Bold and shaded indicates exceedance of VT GWPR/MCL.
All concentrations listed in micrograms per liter (µg/L).

Table 3-1
December 2008 Groundwater Monitoring Laboratory Analytical Results - VOCs
Commerce Street Plume Superfund Site
Williston, Vermont

			SAMPLE NAME	A2PW6	A2PW7	A2PW8	A2PW9	A2PX0	A2PX1	A2PX2	A2PX3
			SAMPLE LOCATION		BM-3D	ARC-3	OE-2A	OE-2B	AL-1	BR-1	
			STATION ID	TB-001-121708A	BM-03D-121708A	ARC-003-121708A	OE-02A-121708A	OE-02B-121708A	AL-001-121708A	BR-001-121708A	TB-002-121808A
CHEMICAL NAME	**CRQL**	**VT GWPR**	**MCL**								
1,1,1-Trichloroethane	5	200	200	5 U	5 U	5 U	5 U	5 U	50 U	5 U	5 U
1,1,2,2-Tetrachloroethane	5			5 U	5 U	5 U	5 U	5 U	50 U	5 U	5 U
1,1,2-Trichloro-1,2,2-trifluoroethane	5			5 U	5 U	5 U	5 U	5 U	50 U	5 U	5 U
1,1,2-Trichloroethane	5	5	5	5 U	5 U	5 U	5 U	5 U	50 U	5 U	5 U
1,1-Dichloroethane	5	70		5 U	5 U	5 U	5 U	5 U	50 U	5 U	5 U
1,1-Dichloroethene	5	7	7	5 U	5 U	5 U	5 U	5 U	50 U	5 U	5 U
1,2,3-Trichlorobenzene	5			5 U	5 U	5 U	5 U	5 U	50 U	5 U	5 U
1,2,4-Trichlorobenzene	5	70	70	5 U	5 U	5 U	5 U	5 U	50 U	5 U	5 U
1,2-Dibromo-3-chloropropane	5		0.2	5 U	5 U	5 U	5 U	5 U	50 U	5 U	5 U
1,2-Dibromoethane	5			5 U	5 U	5 U	5 U	5 U	50 U	5 U	5 U
1,2-Dichlorobenzene	5	600	600	5 U	5 U	5 U	5 U	5 U	50 U	5 U	5 U
1,2-Dichloroethane	5	5	5	5 U	5 U	5 U	5 U	5 U	50 U	5 U	5 U
1,2-Dichloropropane	5	5	5	5 U	5 U	5 U	5 U	5 U	50 U	5 U	5 U
1,3-Dichlorobenzene	5	600		5 U	5 U	5 U	5 U	5 U	50 U	5 U	5 U
1,4-Dichlorobenzene	5	75	75	5 U	5 U	5 U	5 U	5 U	50 U	5 U	5 U
1,4-Dioxane	100			100 U	100 U	100 U	100 U	100 U	1000 U	100 U	100 U
2-Butanone	10	4200		12	10 U	10 U	10 U	10 U	100 U	10 U	7.2 J
2-Hexanone	10			10 U	10 U	10 U	10 U	10 U	100 U	10 U	10 U
4-Methyl-2-Pentanone	10			10 U	10 U	10 U	10 U	10 U	100 U	10 U	10 U
Acetone	10	700		17	8.4 JB	7.5 JB	5.8 JB	6 JB	54 JB	12 B	15 B
Benzene	5	5	5	5 U	5 U	5 U	5 U	5 U	50 U	5 U	5 U
Bromochloromethane	5	90		5 U	5 U	5 U	5 U	5 U	50 U	5 U	5 U
Bromodichloromethane	5	80		5 U	5 U	5 U	5 U	5 U	50 U	5 U	5 U
Bromoform	5			5 U	5 U	5 U	5 U	5 U	50 U	5 U	5 U
Bromomethane	5	10		5 U	5 U	5 U	5 U	5 U	50 U	5 U	5 U
Carbon disulfide	5			5 U	5 U	5 U	5 U	5 U	50 U	5 U	5 U
Carbon tetrachloride	5	5	5	5 U	5 U	5 U	5 U	5 U	50 U	5 U	5 U
Chlorobenzene	5	100	100	5 U	5 U	5 U	5 U	5 U	50 U	5 U	5 U
Chloroethane	5			5 U	5 U	5 U	5 U	5 U	50 U	5 U	5 U
Chloroform	5	80		5 U	5 U	5 U	5 U	5 U	50 U	5 U	5 U
Chloromethane	5	30		5 U	5 U	5 U	5 U	5 U	50 U	5 U	5 U
cis-1,2-Dichloroethene	5	70	70	5 U	3.5 J	5 U	5 U	5 U	13 J	2.4 J	5 U
cis-1,3-Dichloropropene	5			5 U	5 U	5 U	5 U	5 U	50 U	5 U	5 U
Cyclohexane	5			5 U	5 U	5 U	5 U	5 U	50 U	5 U	5 U
Dibromochloromethane	5	80		5 U	5 U	5 U	5 U	5 U	50 U	5 U	5 U

Table 3-1
December 2008 Groundwater Monitoring Laboratory Analytical Results - VOCs
Commerce Street Plume Superfund Site
Williston, Vermont

			SAMPLE NAME	A2PW6	A2PW7	A2PW8	A2PW9	A2PX0	A2PX1	A2PX2	A2PX3
			SAMPLE LOCATION		BM-3D	ARC-3	OE-2A	OE-2B	AL-1	BR-1	
			STATION ID	TB-001-121708A	BM-03D-121708A	ARC-003-121708A	OE-02A-121708A	OE-02B-121708A	AL-001-121708A	BR-001-121708A	TB-002-121808A
CHEMICAL NAME	**CRQL**	**VT GWPR**	**MCL**								
Dichlorodifluoromethane	5	1000		5 U	1.3 J	5 U	5 U	5 U	50 U	5 U	5 U
Ethylbenzene	5	700	700	5 U	5 U	5 U	5 U	5 U	50 U	5 U	5 U
Isopropylbenzene	5			5 U	0.13 J	5 U	5 U	5 U	50 U	5 U	5 U
m,p-Xylene	5	10000	10000	5 U	5 U	5 U	5 U	5 U	50 U	0.22 J	5 U
Methyl acetate	5			5 U	5 U	5 U	5 U	5 U	50 U	5 U	5 U
Methyl tert-butyl ether	5	40		5 U	1 J	5 U	5 U	5 U	50 U	5 U	5 U
Methylcyclohexane	5			5 U	5 U	5 U	5 U	5 U	50 U	5 U	5 U
Methylene chloride	5	5		5 U	5 U	0.24 JB	5 U	5 U	50 U	0.22 JB	5 U
o-Xylene	5	10000	10000	5 U	5 U	5 U	5 U	5 U	50 U	5 U	5 U
Styrene	5	100	100	5 U	5 U	5 U	5 U	5 U	50 U	5 U	5 U
Tetrachloroethene	5	5	5	5 U	0.54 J	5 U	5 U	5 U	50 U	5 U	5 U
Toluene	5	1000	1000	0.17 J	5 U	5 U	5 U	5 U	50 U	0.34 J	0.18 J
trans-1,2-Dichloroethene	5	100	100	5 U	0.33 J	5 U	5 U	5 U	50 U	5 U	5 U
trans-1,3-Dichloropropene	5			5 U	5 U	5 U	5 U	5 U	50 U	5 U	5 U
Trichloroethene	5	5	5	5 U	**140**	0.16 J	5 U	5 U	**5000 D**	**110**	0.16 J
Trichlorofluoromethane	5	2100		5 U	5 U	5 U	5 U	5 U	50 U	5 U	5 U
Vinyl chloride	5	2	2	5 U	5 U	5 U	5 U	5 U	50 U	5 U	5 U
			DILUTION FACTOR	1	1	1	1	1	10	1	1
			SAMPLE DATE	17-Dec-08	17-Dec-08	17-Dec-08	17-Dec-08	17-Dec-08	17-Dec-08	17-Dec-08	18-Dec-08
			DATE ANALYZED	22-Dec-08	23-Dec-08	23-Dec-08	23-Dec-08	23-Dec-08	23-Dec-08	23-Dec-08	23-Dec-08
			RESULT COMMENT								

Notes: U=below detection limit, J=quantitation approximate, B=detected in laboratory blank, D=diluted sample result, CRQL=Contract Required Quantitation Limit
Bold and shaded indicates exceedance of VT GWPR/MCL.
All concentrations listed in micrograms per liter (µg/L).

Table 3-1
December 2008 Groundwater Monitoring Laboratory Analytical Results - VOCs
Commerce Street Plume Superfund Site
Williston, Vermont

			SAMPLE NAME	A2PX4	A2PX5	A2PX6	A2PX7	A2PX8	A2PX9	A2PY0
			SAMPLE LOCATION	ASI-02D2	ASI-02D2	ASI-04D2	ASI-05D2	ASI-15D2	BW-13S	
			STATION ID	ASI-002D2-121808A	ASI-002D2-121808AD	ASI-004D2-121808A	ASI-005D2-121808A	ASI-015D2-121808A	BW-013S-121808A	TB-003-121908A
CHEMICAL NAME	**CRQL**	**VT GWPR**	**MCL**							
1,1,1-Trichloroethane	5	200	200	20 U	20 U	5 U	5 U	50 U	5 U	5 U
1,1,2,2-Tetrachloroethane	5			20 U	20 U	5 U	5 U	50 U	5 U	5 U
1,1,2-Trichloro-1,2,2-trifluoroethane	5			20 U	20 U	5 U	5 U	50 U	5 U	5 U
1,1,2-Trichloroethane	5	5	5	20 U	20 U	5 U	5 U	50 U	5 U	5 U
1,1-Dichloroethane	5	70		20 U	20 U	5 U	5 U	50 U	5 U	5 U
1,1-Dichloroethene	5	7	7	20 U	20 U	5 U	5 U	50 U	5 U	5 U
1,2,3-Trichlorobenzene	5			20 U	20 U	5 U	5 U	50 U	5 U	5 U
1,2,4-Trichlorobenzene	5	70	70	20 U	20 U	5 U	5 U	50 U	5 U	5 U
1,2-Dibromo-3-chloropropane	5		0.2	20 U	20 U	5 U	5 U	50 U	5 U	5 U
1,2-Dibromoethane	5			20 U	20 U	5 U	5 U	50 U	5 U	5 U
1,2-Dichlorobenzene	5	600	600	20 U	20 U	5 U	5 U	50 U	5 U	5 U
1,2-Dichloroethane	5	5	5	20 U	20 U	5 U	5 U	50 U	5 U	5 U
1,2-Dichloropropane	5	5	5	20 U	20 U	5 U	5 U	50 U	5 U	5 U
1,3-Dichlorobenzene	5	600		20 U	20 U	5 U	5 U	50 U	5 U	5 U
1,4-Dichlorobenzene	5	75	75	20 U	20 U	5 U	5 U	50 U	5 U	5 U
1,4-Dioxane	100			400 U	400 U	100 U	100 U	1000 U	100 U	100 U
2-Butanone	10	4200		40 U	40 U	10 U	10 U	100 U	10 U	10 U
2-Hexanone	10			40 U	40 U	10 U	10 U	100 U	10 U	10 U
4-Methyl-2-Pentanone	10			40 U	40 U	10 U	10 U	100 U	10 U	10 U
Acetone	10	700		27 JB	24 JB	7.4 JB	7.1 JB	43 JB	5.3 JB	18 B
Benzene	5	5	5	20 U	20 U	5 U	5 U	50 U	5 U	5 U
Bromochloromethane	5	90		20 U	20 U	5 U	5 U	50 U	5 U	5 U
Bromodichloromethane	5	80		20 U	20 U	5 U	5 U	50 U	5 U	5 U
Bromoform	5			20 U	20 U	5 U	5 U	50 U	5 U	5 U
Bromomethane	5	10		20 U	20 U	5 U	5 U	50 U	5 U	5 U
Carbon disulfide	5			20 U	20 U	5 U	5 U	50 U	5 U	5 U
Carbon tetrachloride	5	5	5	20 U	20 U	5 U	5 U	50 U	5 U	5 U
Chlorobenzene	5	100	100	20 U	20 U	5 U	5 U	50 U	5 U	5 U
Chloroethane	5			20 U	20 U	5 U	5 U	50 U	5 U	5 U
Chloroform	5	80		20 U	20 U	5 U	5 U	50 U	5 U	5 U
Chloromethane	5	30		20 U	20 U	5 U	5 U	50 U	5 U	5 U
cis-1,2-Dichloroethene	5	70	70	15 J	14 J	5 U	5 U	26 J	5 U	5 U
cis-1,3-Dichloropropene	5			20 U	20 U	5 U	5 U	50 U	5 U	5 U
Cyclohexane	5			20 U	20 U	5 U	5 U	50 U	5 U	5 U
Dibromochloromethane	5	80		20 U	20 U	5 U	5 U	50 U	5 U	5 U

Table 3-1
December 2008 Groundwater Monitoring Laboratory Analytical Results - VOCs
Commerce Street Plume Superfund Site
Williston, Vermont

			SAMPLE NAME	A2PX4	A2PX5	A2PX6	A2PX7	A2PX8	A2PX9	A2PY0
			SAMPLE LOCATION	ASI-02D2	ASI-02D2	ASI-04D2	ASI-05D2	ASI-15D2	BW-13S	
			STATION ID	ASI-002D2-121808A	ASI-002D2-121808AD	ASI-004D2-121808A	ASI-005D2-121808A	ASI-015D2-121808A	BW-013S-121808A	TB-003-121908A
CHEMICAL NAME	**CRQL**	**VT GWPR**	**MCL**							
Dichlorodifluoromethane	5	1000		20 U	20 U	5 U	5 U	50 U	5 U	5 U
Ethylbenzene	5	700	700	20 U	20 U	5 U	5 U	50 U	5 U	5 U
Isopropylbenzene	5			20 U	20 U	5 U	5 U	50 U	5 U	5 U
m,p-Xylene	5	10000	10000	20 U	20 U	5 U	5 U	50 U	5 U	0.14 J
Methyl acetate	5			20 U	20 U	5 U	5 U	50 U	5 U	5 U
Methyl tert-butyl ether	5	40		20 U	20 U	5 U	5 U	50 U	5 U	5 U
Methylcyclohexane	5			20 U	20 U	5 U	5 U	50 U	5 U	5 U
Methylene chloride	5	5		2.4 JB	2.7 JB	0.64 JB	1.8 JB	**17 JB**	1.2 JB	0.48 JB
o-Xylene	5	10000	10000	20 U	20 U	5 U	5 U	50 U	5 U	5 U
Styrene	5	100	100	20 U	20 U	5 U	5 U	50 U	5 U	5 U
Tetrachloroethene	5	5	5	20 U	20 U	5 U	5 U	50 U	5 U	5 U
Toluene	5	1000	1000	20 U	20 U	5 U	5 U	50 U	5 U	0.29 J
trans-1,2-Dichloroethene	5	100	100	20 U	0.47 J	5 U	5 U	50 U	5 U	5 U
trans-1,3-Dichloropropene	5			20 U	20 U	5 U	5 U	50 U	5 U	5 U
Trichloroethene	5	5	5	**1800 D**	**1600 D**	0.13 J	5 U	**5300 D**	0.11 J	5 U
Trichlorofluoromethane	5	2100		20 U	20 U	5 U	5 U	50 U	5 U	5 U
Vinyl chloride	5	2	2	20 U	20 U	5 U	5 U	50 U	5 U	5 U
			DILUTION FACTOR	4	4	1	1	10	1	1
			SAMPLE DATE	18-Dec-08	18-Dec-08	18-Dec-08	18-Dec-08	18-Dec-08	18-Dec-08	19-Dec-08
			DATE ANALYZED	29-Dec-08	29-Dec-08	29-Dec-08	29-Dec-08	29-Dec-08	29-Dec-08	29-Dec-08
			RESULT COMMENT							

Notes: U=below detection limit, J=quantitation approximate, B=detected in laboratory blank, D=diluted sample result, CRQL=Contract Required Quantitation Limit
Bold and shaded indicates exceedance of VT GWPR/MCL.
All concentrations listed in micrograms per liter (µg/L).

Table 3-1
December 2008 Groundwater Monitoring Laboratory Analytical Results - VOCs
Commerce Street Plume Superfund Site
Williston, Vermont

			SAMPLE NAME	A2PY8	A2PZ0	A2PZ2	A2PZ3	A2PZ4	A2PZ5
			SAMPLE LOCATION	MI-08	ASI-11D2	AL-15	BF-4	BM-3S	
			STATION ID	MI-008-121908A	ASI-011D2-121908A	AL-015-121908A	BF-004-121908A	BM-03S-121908A	TB-004-122208A
CHEMICAL NAME	**CRQL**	**VT GWPR**	**MCL**						
1,1,1-Trichloroethane	5	200	200	5 U	25 U	5 U	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane	5			5 U	25 U	5 U	5 U	5 U	5 U
1,1,2-Trichloro-1,2,2-trifluoroethane	5			5 U	25 U	5 U	5 U	5 U	5 U
1,1,2-Trichloroethane	5	5	5	5 U	25 U	5 U	5 U	5 U	5 U
1,1-Dichloroethane	5	70		5 U	25 U	5 U	5 U	5 U	5 U
1,1-Dichloroethene	5	7	7	5 U	25 U	5 U	5 U	5 U	5 U
1,2,3-Trichlorobenzene	5			5 U	25 U	5 U	5 U	5 U	5 U
1,2,4-Trichlorobenzene	5	70	70	5 U	25 U	5 U	5 U	5 U	5 U
1,2-Dibromo-3-chloropropane	5		0.2	5 U	25 U	5 U	5 U	5 U	5 U
1,2-Dibromoethane	5			5 U	25 U	5 U	5 U	5 U	5 U
1,2-Dichlorobenzene	5	600	600	5 U	25 U	5 U	5 U	5 U	5 U
1,2-Dichloroethane	5	5	5	5 U	25 U	5 U	5 U	5 U	5 U
1,2-Dichloropropane	5	5	5	5 U	25 U	5 U	5 U	5 U	5 U
1,3-Dichlorobenzene	5	600		5 U	25 U	5 U	5 U	5 U	5 U
1,4-Dichlorobenzene	5	75	75	5 U	25 U	5 U	5 U	5 U	5 U
1,4-Dioxane	100			100 U	500 U	100 U	100 U	100 U	100 U
2-Butanone	10	4200		10 U	50 U	10 U	10 U	10 U	7.7 J
2-Hexanone	10			10 U	50 U	10 U	10 U	10 U	10 U
4-Methyl-2-Pentanone	10			10 U	50 U	10 U	10 U	10 U	10 U
Acetone	10	700		5.3 JB	25 JB	3.8 JB	5.6 JB	5 JB	13 B
Benzene	5	5	5	5 U	25 U	5 U	5 U	5 U	5 U
Bromochloromethane	5	90		5 U	25 U	5 U	5 U	5 U	5 U
Bromodichloromethane	5	80		5 U	25 U	5 U	5 U	5 U	5 U
Bromoform	5			5 U	25 U	5 U	5 U	5 U	5 U
Bromomethane	5	10		5 U	25 U	5 U	5 U	5 U	5 U
Carbon disulfide	5			5 U	25 U	5 U	5 U	5 U	5 U
Carbon tetrachloride	5	5	5	5 U	25 U	5 U	5 U	5 U	5 U
Chlorobenzene	5	100	100	5 U	25 U	5 U	5 U	5 U	5 U
Chloroethane	5			5 U	25 U	5 U	5 U	5 U	5 U
Chloroform	5	80		5 U	25 U	5 U	5 U	5 U	5 U
Chloromethane	5	30		5 U	25 U	5 U	5 U	5 U	5 U
cis-1,2-Dichloroethene	5	70	70	5 U	36	5 U	5 U	5 U	5 U
cis-1,3-Dichloropropene	5			5 U	25 U	5 U	5 U	5 U	5 U
Cyclohexane	5			5 U	25 U	5 U	5 U	5 U	5 U
Dibromochloromethane	5	80		5 U	25 U	5 U	5 U	5 U	5 U

Table 3-1
December 2008 Groundwater Monitoring Laboratory Analytical Results - VOCs
Commerce Street Plume Superfund Site
Williston, Vermont

			SAMPLE NAME	A2PY8	A2PZ0	A2PZ2	A2PZ3	A2PZ4	A2PZ5
			SAMPLE LOCATION	MI-08	ASI-11D2	AL-15	BF-4	BM-3S	
			STATION ID	MI-008-121908A	ASI-011D2-121908A	AL-015-121908A	BF-004-121908A	BM-03S-121908A	TB-004-122208A
CHEMICAL NAME	**CRQL**	**VT GWPR**	**MCL**						
Dichlorodifluoromethane	5	1000		5 U	25 U	5 U	5 U	5 U	5 U
Ethylbenzene	5	700	700	5 U	25 U	5 U	0.12 J	5 U	5 U
Isopropylbenzene	5			5 U	25 U	5 U	0.21 J	5 U	5 U
m,p-Xylene	5	10000	10000	5 U	25 U	5 U	5 U	5 U	0.18 J
Methyl acetate	5			5 U	25 U	5 U	5 U	5 U	5 U
Methyl tert-butyl ether	5	40		5 U	25 U	5 U	5 U	5 U	5 U
Methylcyclohexane	5			5 U	25 U	5 U	5 U	5 U	5 U
Methylene chloride	5	5		5 U	25 U	5 U	0.13 JB	5 U	5 U
o-Xylene	5	10000	10000	5 U	25 U	5 U	5 U	5 U	5 U
Styrene	5	100	100	5 U	25 U	5 U	5 U	5 U	5 U
Tetrachloroethene	5	5	5	0.46 J	25 U	5 U	5 U	5 U	5 U
Toluene	5	1000	1000	5 U	25 U	5 U	5 U	5 U	0.32 J
trans-1,2-Dichloroethene	5	100	100	5 U	25 U	5 U	5 U	5 U	5 U
trans-1,3-Dichloropropene	5			5 U	25 U	5 U	5 U	5 U	5 U
Trichloroethene	5	5	5	0.24 J	**2900 D**	0.17 J	0.1 J	0.11 J	5 U
Trichlorofluoromethane	5	2100		5 U	25 U	5 U	5 U	5 U	5 U
Vinyl chloride	5	2	2	5 U	25 U	5 U	5 U	5 U	5 U
			DILUTION FACTOR	1	5	1	1	1	1
			SAMPLE DATE	19-Dec-08	19-Dec-08	19-Dec-08	19-Dec-08	19-Dec-08	22-Dec-08
			DATE ANALYZED	30-Dec-08	30-Dec-08	30-Dec-08	30-Dec-08	30-Dec-08	30-Dec-08
			RESULT COMMENT						

Notes: U=below detection limit, J=quantitation approximate, B=detected in laboratory blank, D=diluted sample result, CRQL=Contract Required Quantitation Limit
Bold and shaded indicates exceedance of VT GWPR/MCL.
All concentrations listed in micrograms per liter (µg/L).

Table 3-2
December 2008 Groundwater Monitoring Laboratory Analytical Results - SVOCs
Commerce Street Plume Superfund Site
Williston, Vermont

			SAMPLE NAME	A2PT8	A2PT9	A2PW0	A2PW1	A2PW2	A2PW3	A2PW4	A2PW5
			SAMPLE LOCATION	MI-01	MI-02	ASI-14S	ASI-14D2	ASI-14D2	AL-14	ASI-23D2	ASI-23S
			STATION ID	MI-001-121508A	MI-002-121508A	ASI-014S-121608A	ASI-014D2-121608A	ASI-014D2-121608AD	AL-014-121608A	ASI-023D2-121608A	ASI-023S-121608A
CHEMICAL NAME	CRQL	VT GWPR	MCL								
1,1'-Biphenyl	5			5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2,4,5-Tetrachlorobenzene	5			5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2,2'-Oxybis(1-chloropropane)	5			5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2,3,4,6-Tetrachlorophenol	5			5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2,4,5-Trichlorophenol	5			5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2,4,6-Trichlorophenol	5			5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2,4-Dichlorophenol	5			5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2,4-Dimethylphenol	5			5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2,4-Dinitrophenol	10			10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,4-Dinitrotoluene	5			5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2,6-Dinitrotoluene	5			5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2-Chloronaphthalene	5			5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2-Chlorophenol	5			5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2-Methylnaphthalene	5			5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2-Methylphenol	5			5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2-Nitroaniline	10			10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Nitrophenol	5			5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
3,3'-Dichlorobenzidine	5			5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
3-Nitroaniline	10			10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4,6-Dinitro-2-methylphenol	10			10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Bromophenyl-phenylether	5			5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
4-Chloro-3-methylphenol	5			5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
4-Chloroaniline	5			5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
4-Chlorophenyl-phenylether	5			5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
4-Methylphenol	5			5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
4-Nitroaniline	10			10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Nitrophenol	10			10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Acenaphthene	5			5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Acenaphthylene	5			5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Acetophenone	5			5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Anthracene	5	2100		5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Atrazine	5	3	3	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Benzaldehyde	5			5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Benzo(a)anthracene	5			5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Benzo(a)pyrene	5	0.2	0.2	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Benzo(b)fluoranthene	5			5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U

Table 3-2
December 2008 Groundwater Monitoring Laboratory Analytical Results - SVOCs
Commerce Street Plume Superfund Site
Williston, Vermont

			SAMPLE NAME	A2PT8	A2PT9	A2PW0	A2PW1	A2PW2	A2PW3	A2PW4	A2PW5
			SAMPLE LOCATION	MI-01	MI-02	ASI-14S	ASI-14D2	ASI-14D2	AL-14	ASI-23D2	ASI-23S
			STATION ID	MI-001-121508A	MI-002-121508A	ASI-014S-121608A	ASI-014D2-121608A	ASI-014D2-121608AD	AL-014-121608A	ASI-023D2-121608A	ASI-023S-121608A
CHEMICAL NAME	CRQL	VT GWPR	MCL								
Benzo(g,h,i)perylene	5			5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Benzo(k)fluoranthene	5			5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Bis(2-chloroethoxy)methane	5			5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Bis(2-chloroethyl)ether	5			5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Bis(2-ethylhexyl)phthalate	5			0.31 J	0.48 J	0.33 J	0.37 J	0.3 J	0.32 J	0.46 J	0.44 J
Butylbenzylphthalate	5			0.3 J	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Caprolactam	5			5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Carbazole	5			5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chrysene	5			5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Di-n-butylphthalate	5			0.29 J	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Di-n-octylphthalate	5			5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Dibenzo(a,h)anthracene	5			5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Dibenzofuran	5			5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Diethylphthalate	5			1.2 J	0.2 J	5 U	5 U	5 U	5 U	5 U	5 U
Dimethylphthalate	5			5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Fluoranthene	5	280		5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Fluorene	5	280		5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Hexachlorobenzene	5	1	1	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Hexachlorobutadiene	5	1		5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Hexachlorocyclopentadiene	5	50	50	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Hexachloroethane	5			5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Indeno(1,2,3-cd)pyrene	5			5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Isophorone	5	100		5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
N-Nitroso-di-n-propylamine	5			5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
N-Nitrosodiphenylamine	5			5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Naphthalene	5	20		5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Nitrobenzene	5			5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Pentachlorophenol	10	1	1	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Phenanthrene	5			5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Phenol	5	2100		5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Pyrene	5			5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
			DILUTION FACTOR	1	1	1	1	1	1	1	1
			SAMPLE DATE	15-Dec-08	15-Dec-08	16-Dec-08	16-Dec-08	16-Dec-08	16-Dec-08	16-Dec-08	16-Dec-08
			DATE ANALYZED	23-Dec-08	23-Dec-08	23-Dec-08	23-Dec-08	23-Dec-08	23-Dec-08	23-Dec-08	23-Dec-08
			RESULT COMMENT								

Table 3-2
December 2008 Groundwater Monitoring Laboratory Analytical Results - SVOCs
Commerce Street Plume Superfund Site
Williston, Vermont

			SAMPLE NAME	A2PW7	A2PW8	A2PW9	A2PX0	A2PX1	A2PX2	A2PX4	A2PX5
			SAMPLE LOCATION	BM-3D	ARC-3	OE-2A	OE-2B	AL-1	BR-1	ASI-02D2	ASI-02D2
			STATION ID	BM-03D-121708A	ARC-003-121708A	OE-02A-121708A	OE-02B-121708A	AL-001-121708A	BR-001-121708A	ASI-002D2-121808A	ASI-002D2-121808AD
CHEMICAL NAME	CRQL	VT GWPR	MCL								
1,1'-Biphenyl	5			5 U	5 U	5 U	5 U	5 U	0.16 J	5 U	5 U
1,2,4,5-Tetrachlorobenzene	5			5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2,2'-Oxybis(1-chloropropane)	5			5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2,3,4,6-Tetrachlorophenol	5			5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2,4,5-Trichlorophenol	5			5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2,4,6-Trichlorophenol	5			5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2,4-Dichlorophenol	5			5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2,4-Dimethylphenol	5			5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2,4-Dinitrophenol	10			10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,4-Dinitrotoluene	5			5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2,6-Dinitrotoluene	5			5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2-Chloronaphthalene	5			5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2-Chlorophenol	5			5 U	5 U	5 U	5 U	0.49 J	5 U	5 U	5 U
2-Methylnaphthalene	5			0.16 J	5 U	5 U	5 U	0.93 J	1.8 J	5 U	5 U
2-Methylphenol	5			5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2-Nitroaniline	10			10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Nitrophenol	5			5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
3,3'-Dichlorobenzidine	5			5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
3-Nitroaniline	10			10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4,6-Dinitro-2-methylphenol	10			10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Bromophenyl-phenylether	5			5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
4-Chloro-3-methylphenol	5			5 U	5 U	5 U	5 U	0.58 J	5 U	5 U	5 U
4-Chloroaniline	5			5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
4-Chlorophenyl-phenylether	5			5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
4-Methylphenol	5			5 U	5 U	5 U	5 U	5 U	1.3 J	5 U	5 U
4-Nitroaniline	10			10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Nitrophenol	10			10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Acenaphthene	5			5 U	5 U	5 U	5 U	0.43 J	0.26 J	5 U	5 U
Acenaphthylene	5			5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Acetophenone	5			5 U	5 U	5 U	5 U	5 U	0.19 J	5 U	5 U
Anthracene	5	2100		5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Atrazine	5	3	3	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Benzaldehyde	5			5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Benzo(a)anthracene	5			5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Benzo(a)pyrene	5	0.2	0.2	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Benzo(b)fluoranthene	5			5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U

Table 3-2
December 2008 Groundwater Monitoring Laboratory Analytical Results - SVOCs
Commerce Street Plume Superfund Site
Williston, Vermont

			SAMPLE NAME	A2PW7	A2PW8	A2PW9	A2PX0	A2PX1	A2PX2	A2PX4	A2PX5
			SAMPLE LOCATION	BM-3D	ARC-3	OE-2A	OE-2B	AL-1	BR-1	ASI-02D2	ASI-02D2
			STATION ID	BM-03D-121708A	ARC-003-121708A	OE-02A-121708A	OE-02B-121708A	AL-001-121708A	BR-001-121708A	ASI-002D2-121808A	ASI-002D2-121808AD
CHEMICAL NAME	**CRQL**	**VT GWPR**	**MCL**								
Benzo(g,h,i)perylene	5			5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Benzo(k)fluoranthene	5			5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Bis(2-chloroethoxy)methane	5			5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Bis(2-chloroethyl)ether	5			5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Bis(2-ethylhexyl)phthalate	5			5 U	0.34 J	0.3 J	0.28 J	5 U	0.35 J	0.95 J	1 J
Butylbenzylphthalate	5			5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Caprolactam	5			5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Carbazole	5			5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chrysene	5			5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Di-n-butylphthalate	5			5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Di-n-octylphthalate	5			5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Dibenzo(a,h)anthracene	5			5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Dibenzofuran	5			5 U	5 U	5 U	5 U	0.18 J	5 U	5 U	5 U
Diethylphthalate	5			5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Dimethylphthalate	5			5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Fluoranthene	5	280		5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Fluorene	5	280		5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Hexachlorobenzene	5	1	1	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Hexachlorobutadiene	5	1		5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Hexachlorocyclopentadiene	5	50	50	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Hexachloroethane	5			5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Indeno(1,2,3-cd)pyrene	5			5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Isophorone	5	100		5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
N-Nitroso-di-n-propylamine	5			5 U	5 U	5 U	5 U	0.33 J	5 U	5 U	5 U
N-Nitrosodiphenylamine	5			5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Naphthalene	5	20		1.6 J	0.53 J	5 U	5 U	13	23	5 U	5 U
Nitrobenzene	5			5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Pentachlorophenol	10	1	1	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Phenanthrene	5			5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Phenol	5	2100		5 U	5 U	5 U	5 U	0.56 J	3.4 J	5 U	5 U
Pyrene	5			5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
			DILUTION FACTOR	1	1	1	1	1	1	1	1
			SAMPLE DATE	17-Dec-08	17-Dec-08	17-Dec-08	17-Dec-08	17-Dec-08	17-Dec-08	18-Dec-08	18-Dec-08
			DATE ANALYZED	30-Dec-08	30-Dec-08	30-Dec-08	30-Dec-08	30-Dec-08	30-Dec-08	30-Dec-08	30-Dec-08
			RESULT COMMENT								

Table 3-2
December 2008 Groundwater Monitoring Laboratory Analytical Results - SVOCs
Commerce Street Plume Superfund Site
Williston, Vermont

			SAMPLE NAME	A2PX6	A2PX7	A2PX8	A2PX9	A2PY8	A2PZ0
			SAMPLE LOCATION	ASI-04D2	ASI-05D2	ASI-15D2	BW-13S	MI-08	ASI-11D2
			STATION ID	ASI-004D2-121808A	ASI-005D2-121808A	ASI-015D2-121808A	BW-013S-121808A	MI-008-121908A	ASI-011D2-121908A
CHEMICAL NAME	CRQL	VT GWPR	MCL						
1,1'-Biphenyl	5			5 U	5 U	5 U	5 U	5 U	5 U
1,2,4,5-Tetrachlorobenzene	5			5 U	5 U	5 U	5 U	5 U	5 U
2,2'-Oxybis(1-chloropropane)	5			5 U	5 U	5 U	5 U	5 U	5 U
2,3,4,6-Tetrachlorophenol	5			5 U	5 U	5 U	5 U	5 U	5 U
2,4,5-Trichlorophenol	5			5 U	5 U	5 U	5 U	5 U	5 U
2,4,6-Trichlorophenol	5			5 U	5 U	5 U	5 U	5 U	5 U
2,4-Dichlorophenol	5			5 U	5 U	5 U	5 U	5 U	5 U
2,4-Dimethylphenol	5			5 U	5 U	5 U	5 U	5 U	5 U
2,4-Dinitrophenol	10			10 U	10 U	10 U	10 U	10 U	10 U
2,4-Dinitrotoluene	5			5 U	5 U	5 U	5 U	5 U	5 U
2,6-Dinitrotoluene	5			5 U	5 U	5 U	5 U	5 U	5 U
2-Chloronaphthalene	5			5 U	5 U	5 U	5 U	5 U	5 U
2-Chlorophenol	5			5 U	5 U	5 U	5 U	5 U	5 U
2-Methylnaphthalene	5			5 U	5 U	5 U	5 U	5 U	5 U
2-Methylphenol	5			5 U	5 U	5 U	5 U	5 U	5 U
2-Nitroaniline	10			10 U	10 U	10 U	10 U	10 U	10 U
2-Nitrophenol	5			5 U	5 U	5 U	5 U	5 U	5 U
3,3'-Dichlorobenzidine	5			5 U	5 U	5 U	5 U	5 U	5 U
3-Nitroaniline	10			10 U	10 U	10 U	10 U	10 U	10 U
4,6-Dinitro-2-methylphenol	10			10 U	10 U	10 U	10 U	10 U	10 U
4-Bromophenyl-phenylether	5			5 U	5 U	5 U	5 U	5 U	5 U
4-Chloro-3-methylphenol	5			5 U	5 U	5 U	5 U	5 U	5 U
4-Chloroaniline	5			5 U	5 U	5 U	5 U	5 U	5 U
4-Chlorophenyl-phenylether	5			5 U	5 U	5 U	5 U	5 U	5 U
4-Methylphenol	5			5 U	5 U	5 U	5 U	5 U	5 U
4-Nitroaniline	10			10 U	10 U	10 U	10 U	10 U	10 U
4-Nitrophenol	10			10 U	10 U	10 U	10 U	10 U	10 U
Acenaphthene	5			5 U	5 U	5 U	5 U	5 U	5 U
Acenaphthylene	5			5 U	5 U	5 U	5 U	5 U	5 U
Acetophenone	5			5 U	5 U	5 U	5 U	5 U	5 U
Anthracene	5	2100		5 U	5 U	5 U	5 U	5 U	5 U
Atrazine	5	3	3	5 U	5 U	5 U	5 U	5 U	5 U
Benzaldehyde	5			5 U	5 U	5 U	5 U	5 U	5 U
Benzo(a)anthracene	5			5 U	5 U	5 U	5 U	5 U	5 U
Benzo(a)pyrene	5	0.2	0.2	5 U	5 U	5 U	5 U	5 U	5 U
Benzo(b)fluoranthene	5			5 U	5 U	5 U	5 U	5 U	5 U

Table 3-2
December 2008 Groundwater Monitoring Laboratory Analytical Results - SVOCs
Commerce Street Plume Superfund Site
Williston, Vermont

			SAMPLE NAME	A2PX6	A2PX7	A2PX8	A2PX9	A2PY8	A2PZ0
			SAMPLE LOCATION	ASI-04D2	ASI-05D2	ASI-15D2	BW-13S	MI-08	ASI-11D2
			STATION ID	ASI-004D2-121808A	ASI-005D2-121808A	ASI-015D2-121808A	BW-013S-121808A	MI-008-121908A	ASI-011D2-121908A
CHEMICAL NAME	**CRQL**	**VT GWPR**	**MCL**						
Benzo(g,h,i)perylene	5			5 U	5 U	5 U	5 U	5 U	5 U
Benzo(k)fluoranthene	5			5 U	5 U	5 U	5 U	5 U	5 U
Bis(2-chloroethoxy)methane	5			5 U	5 U	5 U	5 U	5 U	5 U
Bis(2-chloroethyl)ether	5			5 U	5 U	5 U	5 U	5 U	5 U
Bis(2-ethylhexyl)phthalate	5			1.9 J	4 J	0.64 J	0.81 J	0.52 JB	0.68 JB
Butylbenzylphthalate	5			5 U	5 U	5 U	5 U	5 U	5 U
Caprolactam	5			5 U	5 U	5 U	5 U	5 U	5 U
Carbazole	5			5 U	5 U	5 U	5 U	5 U	5 U
Chrysene	5			5 U	5 U	5 U	5 U	5 U	5 U
Di-n-butylphthalate	5			5 U	5 U	5 U	5 U	5 U	5 U
Di-n-octylphthalate	5			5 U	5 U	5 U	5 U	5 U	5 U
Dibenzo(a,h)anthracene	5			5 U	5 U	5 U	5 U	5 U	5 U
Dibenzofuran	5			5 U	5 U	5 U	5 U	5 U	5 U
Diethylphthalate	5			5 U	5 U	5 U	5 U	0.17 J	5 U
Dimethylphthalate	5			5 U	5 U	5 U	5 U	5 U	5 U
Fluoranthene	5	280		5 U	5 U	5 U	5 U	5 U	5 U
Fluorene	5	280		5 U	5 U	5 U	5 U	5 U	5 U
Hexachlorobenzene	5	1	1	5 U	5 U	5 U	5 U	5 U	5 U
Hexachlorobutadiene	5	1		5 U	5 U	5 U	5 U	5 U	5 U
Hexachlorocyclopentadiene	5	50	50	5 U	5 U	5 U	5 U	5 U	5 U
Hexachloroethane	5			5 U	5 U	5 U	5 U	5 U	5 U
Indeno(1,2,3-cd)pyrene	5			5 U	5 U	5 U	5 U	5 U	5 U
Isophorone	5	100		5 U	5 U	5 U	5 U	5 U	5 U
N-Nitroso-di-n-propylamine	5			5 U	5 U	5 U	5 U	5 U	5 U
N-Nitrosodiphenylamine	5			5 U	5 U	5 U	5 U	5 U	5 U
Naphthalene	5	20		5 U	0.3 J	5 U	5 U	5 U	5 U
Nitrobenzene	5			5 U	5 U	5 U	5 U	5 U	5 U
Pentachlorophenol	10	1	1	10 U	10 U	10 U	10 U	10 U	10 U
Phenanthrene	5			5 U	5 U	5 U	5 U	5 U	5 U
Phenol	5	2100		5 U	5 U	5 U	5 U	5 U	5 U
Pyrene	5			5 U	5 U	5 U	5 U	5 U	5 U
			DILUTION FACTOR	1	1	1	1	1	1
			SAMPLE DATE	18-Dec-08	18-Dec-08	18-Dec-08	18-Dec-08	19-Dec-08	19-Dec-08
			DATE ANALYZED	30-Dec-08	30-Dec-08	30-Dec-08	30-Dec-08	29-Dec-08	29-Dec-08
			RESULT COMMENT						

Notes:
U=below detection limit
J=quantitation approximate
B=detected in laboratory blank
D=diluted sample result
CRQL=Contract Required Quantitation Limit
Bold and shaded indicates exceedance of VT GWPR/MCL.
All concentrations listed in micrograms per liter (µg/L).

Table 3-3
December 2008 Groundwater Monitoring Laboratory Analytical Results - PCBs (Aroclors)
Commerce Street Plume Superfund Site
Williston, Vermont

			SAMPLE NAME	A2PT8	A2PT9	A2PW0	A2PW1	A2PW2	A2PW3	A2PW4	A2PW5
			SAMPLE LOCATION	MI-01	MI-02	ASI-14S	ASI-14D2	ASI-14D2	AL-14	ASI-23D2	ASI-23S
			STATION ID	MI-001-121508A	MI-002-121508A	ASI-014S-121608A	ASI-014D2-121608A	ASI-014D2-121608AD	AL-014-121608A	ASI-023D2-121608A	ASI-023S-121608A
CHEMICAL NAME	**CRQL**	**VT GWPR**	**MCL**								
Aroclor-1016	0.5	0.5	0.5	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Aroclor-1221	0.5	0.5	0.5	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Aroclor-1232	0.5	0.5	0.5	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Aroclor-1242	0.5	0.5	0.5	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Aroclor-1248	0.5	0.5	0.5	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Aroclor-1254	0.5	0.5	0.5	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Aroclor-1260	0.5	0.5	0.5	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Aroclor-1262	0.5	0.5	0.5	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Aroclor-1268	0.5	0.5	0.5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
			DILUTION FACTOR	1	1	1	1	1	1	1	1
			SAMPLE DATE	15-Dec-08	15-Dec-08	16-Dec-08	16-Dec-08	16-Dec-08	16-Dec-08	16-Dec-08	16-Dec-08
			DATE ANALYZED	30-Dec-08	30-Dec-08	30-Dec-08	30-Dec-08	30-Dec-08	30-Dec-08	30-Dec-08	30-Dec-08
			RESULT COMMENT								

Notes: U=below detection limit, J=quantitation approximate, B=detected in laboratory blank, D=diluted sample result, CRQL=Contract Required Quantitation Limit
Bold and shaded indicates exceedance of VT GWPR/MCL.
All concentrations listed in micrograms per liter (µg/L).

Table 3-3
December 2008 Groundwater Monitoring Laboratory Analytical Results - PCBs (Aroclors)
Commerce Street Plume Superfund Site
Williston, Vermont

			SAMPLE NAME	A2PW7	A2PW8	A2PW9	A2PX0	A2PX1	A2PX2	A2PX6	A2PX8
			SAMPLE LOCATION	BM-3D	ARC-3	OE-2A	OE-2B	AL-1	BR-1	ASI-04D2	ASI-15D2
			STATION ID	BM-03D-121708A	ARC-003-121708A	OE-02A-121708A	OE-02B-121708A	AL-001-121708A	BR-001-121708A	ASI-004D2-121808A	ASI-015D2-121808A
CHEMICAL NAME	**CRQL**	**VT GWPR**	**MCL**								
Aroclor-1016	0.5	0.5	0.5	5 U	5 U	5 U	5 U	5 U	0.16 J	5 U	5 U
Aroclor-1221	0.5	0.5	0.5	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Aroclor-1232	0.5	0.5	0.5	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Aroclor-1242	0.5	0.5	0.5	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Aroclor-1248	0.5	0.5	0.5	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Aroclor-1254	0.5	0.5	0.5	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Aroclor-1260	0.5	0.5	0.5	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Aroclor-1262	0.5	0.5	0.5	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Aroclor-1268	0.5	0.5	0.5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
			DILUTION FACTOR	1	1	1	1	1	1	1	1
			SAMPLE DATE	17-Dec-08	17-Dec-08	17-Dec-08	17-Dec-08	17-Dec-08	17-Dec-08	18-Dec-08	18-Dec-08
			DATE ANALYZED	30-Dec-08	30-Dec-08	31-Dec-08	31-Dec-08	31-Dec-08	31-Dec-08	31-Dec-08	31-Dec-08
			RESULT COMMENT								

Notes: U=below detection limit, J=quantitation approximate, B=detected in laboratory blank, D=diluted sample result, CRQL=Contract Required Quantitation Limit
Bold and shaded indicates exceedance of VT GWPR/MCL.
All concentrations listed in micrograms per liter (µg/L).

Table 3-4
December 2008 Groundwater Monitoring Laboratory Analytical Results - Total Metals
Commerce Street Plume Superfund Site
Williston, Vermont

			SAMPLE DELIVERY GROUP	MA2PT2	MA2PT2	MA2PT2	MA2PT2	MA2PT2	MA2PT2	MA2PT2	MA2PT2
			SAMPLE NAME	MA2PT8	MA2PT9	MA2PW0	MA2PW1	MA2PW2	MA2PW3	MA2PW4	MA2PW5
			SAMPLE LOCATION	MI-01	MI-02	ASI-14S	ASI-14D2	ASI-14D2	AL-14	ASI-23D2	ASI-23S
			STATION ID	MI-001-121508A	MI-002-121508A	ASI-014S-121608A	ASI-014D2-121608A	ASI-014D2-121608AD	AL-014-121608A	ASI-023D2-121608A	ASI-023S-121608A
CHEMICAL NAME	**CRQL**	**VT GWPR**	**MCL**								
Aluminum	200			65.9 J	94.4 J	32.6 J	222 U	19.7 J	22 J	41.7 J	37.5 J
Antimony	2	6	6	0.37 J	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Arsenic	10	10	10	11.1 U	11.1 U	11.1 U	11.1 U	11.1 U	11.1 U	11.1 U	11.1 U
Barium	200	2000	2000	26.8 J	25.2 J	56.2 J	47.1 J	47.4 J	46.5 J	22 J	141 J
Beryllium	1	4	4	0.036 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Cadmium	5	5	5	5.6 U	5.6 U	5.6 U	5.6 U	5.6 U	5.6 U	5.6 U	5.6 U
Calcium	5000			8080	17900	3030 J	80800	80800	21900	106000	14700
Chromium (total)	10	100	100	11.1 U	6.3 J	11.1 U	11.1 U	11.1 U	11.1 U	5.6 J	11.1 U
Cobalt	50			55.6 U	55.6 U	55.6 U	55.6 U	55.6 U	55.6 U	1.1 J	55.6 U
Copper	25	1300	1300	27.8 U	27.8 U	27.8 U	27.8 U	27.8 U	6.6 J	27.8 U	27.8 U
Iron	100			114	162	13200	6710	6710	129	1180	6700
Lead	10	15	15	11.1 U	2.2 J	11.1 U	11.1 U	11.1 U	11.1 U	11.1 U	11.1 U
Magnesium	5000			1390 J	3150 J	1160 J	17700	17700	3460 J	27400	4410 J
Manganese	15	840		5.3 J	3.4 J	375	634	629	47.2	270	**4420**
Mercury	0.2	2	2	0.2 U	0.02 J	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Nickel	40	100		44.4 U	44.4 U	44.4 U	44.4 U	44.4 U	44.4 U	17.9 J	44.4 U
Potasium	5000			1270 J	722 J	268 J	1310 J	1220 J	2190 J	1350 J	1230 J
Selenium	35	50	50	4.2 J	38.9 U	3.5 J	4.3 J	4.1 J	38.9 U	4 J	38.9 U
Silver	10			11.1 U	11.1 U	11.1 U	11.1 U	11.1 U	11.1 U	11.1 U	11.1 U
Sodium	5000			57900	29500	15100	59800	59200	54800	73300	112000
Thallium	1	2	2	0.17 J	0.082 J	0.048 J	0.031 J	0.027 J	0.029 J	0.028 J	1 U
Vanadium	50			55.6 U	55.6 U	55.6 U	55.6 U	55.6 U	55.6 U	55.6 U	55.6 U
Zinc	60			66.7 U	66.7 U	66.7 U	66.7 U	66.7 U	3.3 J	4.1 J	2.4 J
			DILUTION FACTOR	1	1	1	1	1	1	1	1
			SAMPLE DATE	15-Dec-08	15-Dec-08	16-Dec-08	16-Dec-08	16-Dec-08	16-Dec-08	16-Dec-08	16-Dec-08
			DATE_ICP_AES_ANALYZED	6-Jan-09	6-Jan-09	6-Jan-09	6-Jan-09	6-Jan-09	6-Jan-09	6-Jan-09	6-Jan-09
			DATE_HG_ANALYZED	4-Feb-09	4-Feb-09	4-Feb-09	4-Feb-09	4-Feb-09	4-Feb-09	4-Feb-09	4-Feb-09
			DATE_ICP_MS_ANALYZED	31-Dec-08	31-Dec-08	31-Dec-08	31-Dec-08	31-Dec-08	31-Dec-08	31-Dec-08	31-Dec-08
			RESULT COMMENT	K and Na analyzed on 7-Jan-09	K and Na analyzed on 7-Jan-09	K and Na analyzed on 7-Jan-09	K and Na analyzed on 7-Jan-09	K and Na analyzed on 7-Jan-09	K and Na analyzed on 7-Jan-09	K and Na analyzed on 7-Jan-09	K and Na analyzed on 7-Jan-09

Notes: U=below detection limit, J=quantitation approximate, B=detected in laboratory blank, D=diluted sample result, CRQL=Contract Required Quantitation Limit
Bold and shaded indicates exceedance of VT GWPR/MCL.
All concentrations listed in micrograms per liter (µg/L).

Table 3-4
December 2008 Groundwater Monitoring Laboratory Analytical Results - Total Metals
Commerce Street Plume Superfund Site
Williston, Vermont

			SAMPLE DELIVERY GROUP	MA2PT2	MA2PT2	MA2PT2	MA2PT2	MA2PT2	MA2PT2	MA2PX4
			SAMPLE NAME	MA2PW7	MA2PW8	MA2PW9	MA2PX0	MA2PX1	MA2PX2	MA2PX4
			SAMPLE LOCATION	BM-3D	ARC-3	OE-2A	OE-2B	AL-1	BR-1	ASI-02D2
			STATION ID	BM-03D-121708A	ARC-003-121708A	OE-02A-121708A	OE-02B-121708A	AL-001-121708A	BR-001-121708A	ASI-002D2-121808A
CHEMICAL NAME	**CRQL**	**VT GWPR**	**MCL**							
Aluminum	200			222 U	177 J	88.9 J	167 J	222 U	303	27 J
Antimony	2	6	6	2 U	2 U	2 U	2 U	2 U	0.38 J	2 U
Arsenic	10	10	10	11.1 U	11.1 U	7.4 J	11.1 U	4.6 J	11.1 U	11.1 U
Barium	200	2000	2000	76.2 J	13.1 J	70.9 J	42.1 J	60.5 J	**4600**	114 J
Beryllium	1	4	4	1 U	1 U	1 U	0.039 J	1 U	1 U	1 U
Cadmium	5	5	5	5.6 U	5.6 U	5.6 U	0.16 J	5.6 U	5.6 U	5.6 U
Calcium	5000			66300	8070	112000	4010 J	81100	567000	108000
Chromium (total)	10	100	100	11.1 U	11.1 U	11.1 U	11.1 U	11.1 U	11.1 U	0.4 J
Cobalt	50			55.6 U	55.6 U	55.6 U	1 J	55.6 U	55.6 U	55.6 U
Copper	25	1300	1300	27.8 U	27.8 U	27.8 U	27.8 U	27.8 U	27.8 U	27.8 U
Iron	100			55900	116	986	476	3620	77.6 J	11400
Lead	10	15	15	11.1 U	11.1 U	11.1 U	11.1 U	11.1 U	11.1 U	11.1 U
Magnesium	5000			8690	792 J	19500	719 J	12600	1360 J	18200
Manganese	15	840		**1070**	29.5	**851**	50.7	724	1.8 J	523
Mercury	0.2	2	2	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Nickel	40	100		44.4 U	44.4 U	44.4 U	1.9 J	44.4 U	6.7 J	0.9 J
Potasium	5000			2890 J	212 J	1700 J	603 J	1650 J	65000	2010 J
Selenium	35	50	50	5.8 J	38.9 U	38.9 U	38.9 U	38.9 U	3.9 J	38.9 U
Silver	10			11.1 U	11.1 U	11.1 U	11.1 U	11.1 U	11.1 U	4.1 J
Sodium	5000			114000	2190 J	245000	12400	46800	63200	173000
Thallium	1	2	2	1 U	1 U	1 U	0.021 J	1 U	1 U	0.11 J
Vanadium	50			55.6 U	55.6 U	55.6 U	55.6 U	55.6 U	55.6 U	55.6 U
Zinc	60			66.7 U	66.7 U	66.7 U	66.7 U	2.4 J	3.2 J	5.2 J
			DILUTION FACTOR	1	1	1	1	1	1	1
			SAMPLE DATE	17-Dec-08	17-Dec-08	17-Dec-08	17-Dec-08	17-Dec-08	17-Dec-08	18-Dec-08
			DATE_ICP_AES_ANALYZED	6-Jan-09	6-Jan-09	6-Jan-09	6-Jan-09	6-Jan-09	6-Jan-09	7-Jan-09
			DATE_HG_ANALYZED	4-Feb-09	4-Feb-09	4-Feb-09	4-Feb-09	4-Feb-09	4-Feb-09	9-Jan-09
			DATE_ICP_MS_ANALYZED	31-Dec-08	31-Dec-08	31-Dec-08	31-Dec-08	31-Dec-08	31-Dec-08	4-Feb-09
			RESULT COMMENT	K and Na analyzed on 7-Jan-09	K and Na analyzed on 7-Jan-09	K and Na analyzed on 7-Jan-09	K and Na analyzed on 7-Jan-09	K and Na analyzed on 7-Jan-09	K and Na analyzed on 7-Jan-09	

Notes: U=below detection limit, J=quantitation approximate, B=detected in laboratory blank, D=diluted sample result, CRQL=Contract Required Quantitation Limit
Bold and shaded indicates exceedance of VT GWPR/MCL.
All concentrations listed in micrograms per liter (µg/L).

Table 3-4
December 2008 Groundwater Monitoring Laboratory Analytical Results - Total Metals
Commerce Street Plume Superfund Site
Williston, Vermont

			SAMPLE DELIVERY GROUP	MA2PX4	MA2PX4	MA2PX4	MA2PX4	MA2PX4	MA2PX4	MA2PX4
			SAMPLE NAME	MA2PX5	MA2PX6	MA2PX7	MA2PX8	MA2PX9	MA2PY8	MA2PZ0
			SAMPLE LOCATION	ASI-02D2	ASI-04D2	ASI-05D2	ASI-15D2	BW-13S	MI-08	ASI-11D2
			STATION ID	ASI-002D2-121808AD	ASI-004D2-121808A	ASI-005D2-121808A	ASI-015D2-121808A	BW-013S-121808A	MI-008-121908A	ASI-011D2-121908A
CHEMICAL NAME	**CRQL**	**VT GWPR**	**MCL**							
Aluminum	200			222 U	222 U	222 U	52.7 J	45.8 J	133 J	222 U
Antimony	2	6	6	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Arsenic	10	10	10	2.5 J	10.2 J	8.3 J	5.3 J	11.1 U	2 J	3.3 J
Barium	200	2000	2000	114 J	37.8 J	80.6 J	86.4 J	66.9 J	319	45.8 J
Beryllium	1	4	4	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Cadmium	5	5	5	5.6 U	5.6 U	5.6 U	5.6 U	1 J	**54.3**	5.6 U
Calcium	5000			107000	63400	76100	69500	41300	27300	50800
Chromium (total)	10	100	100	0.49 J	0.53 J	0.47 J	1.4 J	0.62 J	18	0.68 J
Cobalt	50			55.6 U	55.6 U	55.6 U	55.6 U	55.6 U	5.6 J	55.6 U
Copper	25	1300	1300	27.8 U	27.8 U	27.8 U	27.8 U	27.8 U	4 J	27.8 U
Iron	100			11400	1920	5790	13800	121	17.5 J	9310
Lead	10	15	15	11.1 U	11.1 U	11.1 U	1.3 J	11.1 U	11.1 U	11.1 U
Magnesium	5000			17900	16700	20300	12500	10000	8620	9780
Manganese	15	840		521	573	**918**	**1270**	733	215	744
Mercury	0.2	2	2	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Nickel	40	100		44.4 U	44.4 U	44.4 U	44.4 U	9.6 J	13.2 J	44.4 U
Potasium	5000			2020 J	1010 J	2220 J	1890 J	784 J	2130 J	1570 J
Selenium	35	50	50	38.9 U	38.9 U	2.6 J	38.9 U	38.9 U	38.9 U	38.9 U
Silver	10			4 J	3.1 J	3.8 J	4.8 J	5.7 J	2.2 J	3.2 J
Sodium	5000			170000	41300	75400	93700	128000	125000	55700
Thallium	1	2	2	0.037 J	0.026 J	0.025 J	1 U	0.034 J	0.041 J	1 U
Vanadium	50			55.6 U	55.6 U	55.6 U	55.6 U	55.6 U	55.6 U	55.6 U
Zinc	60			66.7 U	66.7 U	66.7 U	66.7 U	66.7 U	38.4 J	3.8 J
			DILUTION FACTOR	1	1	1	1	1	1	1
			SAMPLE DATE	18-Dec-08	18-Dec-08	18-Dec-08	18-Dec-08	18-Dec-08	19-Dec-08	19-Dec-08
			DATE_ICP_AES_ANALYZED	7-Jan-09	7-Jan-09	7-Jan-09	7-Jan-09	7-Jan-09	7-Jan-09	7-Jan-09
			DATE_HG_ANALYZED	9-Jan-09	9-Jan-09	9-Jan-09	9-Jan-09	9-Jan-09	9-Jan-09	9-Jan-09
			DATE_ICP_MS_ANALYZED	4-Feb-09	4-Feb-09	4-Feb-09	4-Feb-09	4-Feb-09	4-Feb-09	4-Feb-09
			RESULT COMMENT							

Notes: U=below detection limit, J=quantitation approximate, B=detected in laboratory blank, D=diluted sample result, CRQL=Contract Required Quantitation Limit
Bold and shaded indicates exceedance of VT GWPR/MCL.
All concentrations listed in micrograms per liter (µg/L).

Table 3-5
December 2008 Groundwater Monitoring Laboratory Analytical Results - Dissolved Metals
Commerce Street Plume Superfund Site
Williston, Vermont

			SAMPLE DELIVERY GROUP	MA2PT3	MA2PT3	MA2PT3	MA2PT3	MA2PT3	MA2PT3	MA2PT3	MA2PT3
			SAMPLE NAME	MA2R34	MA2R35	MA2R36	MA2R37	MA2R38	MA2R39	MA2R40	MA2R41
			SAMPLE LOCATION	MI-01	MI-02	ASI-14S	ASI-14D2	ASI-14D2	AL-14	ASI-23D2	ASI-23S
			STATION ID	MI-001-121508A	MI-002-121508A	ASI-014S-121608A	ASI-014D2-121608A	ASI-014D2-121608AD	AL-014-121608A	ASI-023D2-121608A	ASI-023S-121608A
CHEMICAL NAME	**CRQL**	**VT GWPR**	**MCL**								
Aluminum	200			222 U	222 U	222 U	222 U	222 U	45.5 J	29.7 J	86.3 J
Antimony	2	6	6	0.22 J	0.18 J	0.15 J	0.17 J	0.14 J	0.39 J	0.29 J	0.15 J
Arsenic	10	10	10	11.1 U	11.1 U	11.1 U	11.1 U	11.1 U	11.1 U	11.1 U	11.1 U
Barium	200	2000	2000	26.3 J	24.8 J	54.4 J	47 J	47.3 J	44.7 J	22.4 J	185 J
Beryllium	1	4	4	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Cadmium	5	5	5	5.6 U	5.6 U	5.6 U	5.6 U	5.6 U	5.6 U	5.6 U	5.6 U
Calcium	5000			8060	18300	3020 J	81500	81800	21900	108000	14900
Chromium (total)	10	100	100	1 J	1.6 J	0.53 J	0.51 J	0.53 J	0.84 J	0.59 J	0.98 J
Cobalt	50			55.6 U	55.6 U	1.2 J	55.6 U	55.6 U	55.6 U	2.1 J	55.6 U
Copper	25	1300	1300	27.8 U	27.8 U	27.8 U	27.8 U	27.8 U	5.2 J	27.8 U	27.8 U
Iron	100			111 U	111 U	13200	6580	6700	151	1170	5040
Lead	10	15	15	11.1 U	11.1 U	11.1 U	11.1 U	1.9 J	11.1 U	1.3 J	1.5 J
Magnesium	5000			1350 J	3220 J	1120 J	17900	18000	3420 J	28100	5160 J
Manganese	15	840		2.1 J	1.2 J	371	630	622	50.2	276	**5970**
Mercury	0.2	2	2	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Nickel	40	100		44.4 U	44.4 U	0.93 J	44.4 U	44.4 U	1 J	16.5 J	1.1 J
Potasium	5000			1410 J	837 J	474 J	1390 J	1370 J	2230 J	1420 J	1470 J
Selenium	35	50	50	38.9 U	38.9 U	38.9 U	38.9 U	38.9 U	38.9 U	38.9 U	38.9 U
Silver	10			0.58 J	0.77 J	11.1 U	2.3 J	2.5 J	1.3 J	4.2 J	3.3 J
Sodium	5000			57400	29600	15800	59500	60300	51800	73400	152000
Thallium	1	2	2	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Vanadium	50			55.6 U	55.6 U	55.6 U	55.6 U	55.6 U	55.6 U	55.6 U	55.6 U
Zinc	60			66.7 U	66.7 U	66.7 U	66.7 U	66.7 U	3.9 J	4.2 J	4.3 J
			DILUTION FACTOR	1	1	1	1	1	1	1	1
			SAMPLE DATE	15-Dec-08	15-Dec-08	16-Dec-08	16-Dec-08	16-Dec-08	16-Dec-08	16-Dec-08	16-Dec-08
			DATE_ICP_AES_ANALYZED	6-Jan-09	6-Jan-09	6-Jan-09	6-Jan-09	6-Jan-09	6-Jan-09	6-Jan-09	6-Jan-09
			DATE_HG_ANALYZED								
			DATE_ICP_MS_ANALYZED	7-Jan-09	7-Jan-09	7-Jan-09	7-Jan-09	7-Jan-09	7-Jan-09	7-Jan-09	7-Jan-09
			RESULT COMMENT								

Notes: U=below detection limit, J=quantitation approximate, B=detected in laboratory blank, D=diluted sample result, CRQL=Contract Required Quantitation Limit
Bold and shaded indicates exceedance of VT GWPR/MCL.
All concentrations listed in micrograms per liter (µg/L).

Table 3-5
December 2008 Groundwater Monitoring Laboratory Analytical Results - Dissolved Metals
Commerce Street Plume Superfund Site
Williston, Vermont

			SAMPLE DELIVERY GROUP	MA2PT3	MA2PT3	MA2PT3	MA2PT3	MA2PT3	MA2PT3	MA2R50	MA2R50
			SAMPLE NAME	MA2R44	MA2R45	MA2R46	MA2R47	MA2R48	MA2R49	MA2PY9	MA2PZ1
			SAMPLE LOCATION	BM-3D	ARC-3	OE-2A	OE-2B	AL-1	BR-1	MI-08	ASI-11D2
			STATION ID	BM-03D-121708A	ARC-003-121708A	OE-02A-121708A	OE-02B-121708A	AL-001-121708A	BR-001-121708A	MI-008-121908A	ASI-011D2-121908A
CHEMICAL NAME	**CRQL**	**VT GWPR**	**MCL**								
Aluminum	200			222 U	46.5 J	222 U	138 J	31.4 J	170 J	113 J	222 U
Antimony	2	6	6	0.14 J	0.37 J	0.29 J	0.15 J	0.13 J	0.34 J	0.17 J	0.1 J
Arsenic	10	10	10	11.1 U	11.1 U	5.5 J	11.1 U	2.1 J	11.1 U	11.1 U	3.1 J
Barium	200	2000	2000	74.4 J	13.5 J	68.2 J	43.4 J	61.1 J	**4330**	332	47.6 J
Beryllium	1	4	4	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Cadmium	5	5	5	5.6 U	5.6 U	5.6 U	5.6 U	5.6 U	5.6 U	**54.3**	5.6 U
Calcium	5000			66900	8220	113000	4310 J	79200	539000	27900	50900
Chromium (total)	10	100	100	1.1 J	0.49 J	0.47 J	0.53 J	0.48 J	0.53 J	17.4	11.1 U
Cobalt	50			55.6 U	0.56 J	55.6 U	1.1 J	55.6 U	0.96 J	5.7 J	55.6 U
Copper	25	1300	1300	27.8 U	27.8 U	27.8 U	27.8 U	27.8 U	3.2 J	7.4 J	27.8 U
Iron	100			53500	9 J	673	39 J	3570	111 U	24.4 J	9110
Lead	10	15	15	11.1 U	11.1 U	11.1 U	11.1 U	11.1 U	11.1 U	11.1 U	11.1 U
Magnesium	5000			8760	792 J	19900	763 J	12400	5560 U	8700	9620
Manganese	15	840		**1050**	11.9 J	724	45.2	706	0.97 J	222	757
Mercury	0.2	2	2	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Nickel	40	100		44.4 U	0.94 J	44.4 U	1 J	44.4 U	4.3 J	14.2 J	44.4 U
Potasium	5000			2810 J	306 J	1790 J	830 J	1590 J	61000	2200 J	1550 J
Selenium	35	50	50	38.9 U	38.9 U	38.9 U	38.9 U	38.9 U	38.9 U	38.9 U	38.9 U
Silver	10			4.1 J	11.1 U	5.6 J	11.1 U	2.3 J	3.7 J	11.1 U	11.1 U
Sodium	5000			113000	2530 J	246000	13000	46500	59500	127000	56800
Thallium	1	2	2	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Vanadium	50			1.4 J	55.6 U	55.6 U	55.6 U	55.6 U	55.6 U	55.6 U	1.5 J
Zinc	60			66.7 U	66.7 U	2.3 J	2.5 J	66.7 U	66.7 U	40.5 J	5.2 J
			DILUTION FACTOR	1	1	1	1	1	1	1	1
			SAMPLE DATE	17-Dec-08	17-Dec-08	17-Dec-08	17-Dec-08	17-Dec-08	17-Dec-08	19-Dec-08	19-Dec-08
			DATE_ICP_AES_ANALYZED	6-Jan-09	6-Jan-09	6-Jan-09	6-Jan-09	6-Jan-09	6-Jan-09	7-Jan-09	7-Jan-09
			DATE_HG_ANALYZED							6-Jan-09	6-Jan-09
			DATE_ICP_MS_ANALYZED	7-Jan-09	7-Jan-09	7-Jan-09	7-Jan-09	7-Jan-09	7-Jan-09	7-Jan-09	7-Jan-09
			RESULT COMMENT								

Notes: U=below detection limit, J=quantitation approximate, B=detected in laboratory blank, D=diluted sample result, CRQL=Contract Required Quantitation Limit
Bold and shaded indicates exceedance of VT GWPR/MCL.
All concentrations listed in micrograms per liter (µg/L).

Table 3-5
December 2008 Groundwater Monitoring Laboratory Analytical Results - Dissolved Metals
Commerce Street Plume Superfund Site
Williston, Vermont

			SAMPLE DELIVERY GROUP	MA2R50	MA2R50	MA2R50	MA2R50	MA2R50	MA2R50
			SAMPLE NAME	MA2R50	MA2R51	MA2R52	MA2R53	MA2R54	MA2R55
			SAMPLE LOCATION	ASI-02D2	ASI-02D2	ASI-04D2	ASI-05D2	ASI-15D2	BW-13S
			STATION ID	ASI-002D2-121808A	ASI-002D2-121808AD	ASI-004D2-121808A	ASI-005D2-121808A	ASI-015D2-121808A	BW-013S-121808A
CHEMICAL NAME	**CRQL**	**VT GWPR**	**MCL**						
Aluminum	200			23.1 J	222 U	22.3 J	222 U	22.2 J	22.3 J
Antimony	2	6	6	0.44 J	0.22 J	0.12 J	0.12 J	0.1 J	0.11 J
Arsenic	10	10	10	11.1 U	11.1 U	8.2 J	5.7 J	11.1 U	11.1 U
Barium	200	2000	2000	120 J	120 J	40.1 J	84.8 J	89.1 J	69.1 J
Beryllium	1	4	4	1 U	1 U	1 U	1 U	1 U	1 U
Cadmium	5	5	5	5.6 U	5.6 U	5.6 U	5.6 U	5.6 U	0.74 J
Calcium	5000			110000	111000	65000	75000	69300	39000
Chromium (total)	10	100	100	11.1 U	11.1 U	11.1 U	11.1 U	11.1 U	11.1 U
Cobalt	50			55.6 U	55.6 U	55.6 U	55.6 U	55.6 U	0.82 J
Copper	25	1300	1300	27.8 U	27.8 U	27.8 U	27.8 U	27.8 U	27.8 U
Iron	100			11500	11600	1910	5760	13400	102 J
Lead	10	15	15	11.1 U	11.1 U	11.1 U	11.1 U	11.1 U	11.1 U
Magnesium	5000			18200	18200	17000	20000	12300	9390
Manganese	15	840		544	547	600	**936**	**1290**	720
Mercury	0.2	2	2	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Nickel	40	100		44.4 U	44.4 U	44.4 U	44.4 U	44.4 U	8.6 J
Potasium	5000			2090 J	2060 J	1040 J	2340 J	1990 J	658 J
Selenium	35	50	50	6.2 J	38.9 U	38.9 U	4.9 J	38.9 U	38.9 U
Silver	10			11.1 U	11.1 U	11.1 U	11.1 U	11.1 U	11.1 U
Sodium	5000			175000	172000	43500	80000	96800	128000
Thallium	1	2	2	1 U	1 U	1 U	1 U	1 U	1 U
Vanadium	50			1.9 J	1.4 J	0.75 J	0.87 J	2.6 J	55.6 U
Zinc	60			66.7 U	66.7 U	66.7 U	66.7 U	66.7 U	3.1 J
			DILUTION FACTOR	1	1	1	1	1	1
			SAMPLE DATE	18-Dec-08	18-Dec-08	18-Dec-08	18-Dec-08	18-Dec-08	18-Dec-08
			DATE_ICP_AES_ANALYZED	7-Jan-09	7-Jan-09	7-Jan-09	7-Jan-09	7-Jan-09	8-Jan-09
			DATE_HG_ANALYZED	6-Jan-09	6-Jan-09	6-Jan-09	6-Jan-09	6-Jan-09	6-Jan-09
			DATE_ICP_MS_ANALYZED	7-Jan-09	7-Jan-09	7-Jan-09	7-Jan-09	7-Jan-09	7-Jan-09
			RESULT COMMENT						

Notes: U=below detection limit, J=quantitation approximate, B=detected in laboratory blank, D=diluted sample result, CRQL=Contract Required Quantitation Limit
Bold and shaded indicates exceedance of VT GWPR/MCL.
All concentrations listed in micrograms per liter (µg/L).

Table 3-6
December 2008 Groundwater Monitoring Laboratory Analytical Results - Dioxins/Furans
Commerce Street Plume Superfund Site
Williston, Vermont

SAMPLE NAME	TOXCICITY	F0002		F0003		F0004		F0005		F0006		F0007	
SAMPLE LOCATION	EQUIVALENCY	MI-01		MI-02		ASI-14S		ASI-14D2		ASI-14D2		AL-14	
STATION ID	FACTOR (1)	MI-001-121508A		MI-002-121508A		ASI-014S-121608A		ASI-014D2-121608A		ASI-014D2-121608AD		AL-014-121608A	
TCDD/TCDF CONC.:		pg/L	EDL/EMPC*	pg/L	EDL/EMPC*	pg/L	EDL/EMPC*	pg/L	EDL/EMPC*	pg/L	EDL/EMPC*	pg/L	EDL/EMPC*
2,3,7,8-TCDD	1.0000	U	3.31	U	2.74	U	2.91	U	2.69	U	2.43	U	2.54
2,3,7,8-TCDF	0.1000	U	3.36	U	2.33	U	2.36	U	2.04	U	2.25	U	2.65
1,2,3,7,8-PeCDF	0.0300	U	1.92	U	1.56	U	1.09	U	1.22	U	1.32	U	1.46
1,2,3,7,8-PeCDD	1.0000	U	1.93	U	1.64	U	1.59	U	1.48	U	1.53	U	1.62
2,3,4,7,8-PeCDF	0.3000		1.57 *	U	1.23	U	0.838	U	1.17	U	1.01	U	1.30
1,2,3,4,7,8-HxCDF	0.1000	U	1.75	U	1.81	U	0.987	U	1.38 *	U	0.922	U	0.887
1,2,3,6,7,8-HxCDF	0.1000	U	1.84	U	1.57 *	U	0.897	U	1.21 *	U	1.01	U	0.980
1,2,3,4,7,8-HxCDD	0.1000	U	1.79	U	1.10	U	1.14	U	1.25	U	1.51	U	1.58
1,2,3,6,7,8-HxCDD	0.1000	U	1.87	U	1.01	U	1.29	U	1.58	U	1.45	U	1.99
1,2,3,7,8,9-HxCDD	0.1000	U	2.09	U	1.29	U	1.15	U	1.64	U	1.34	U	2.50
2,3,4,6,7,8-HxCDF	0.1000	U	1.81	U	1.35	U	0.659	U	1.54 *	U	1.15	U	1.68
1,2,3,7,8,9-HxCDF	0.1000	U	2.38	U	2.10 *	U	1.22 *	U	1.13	U	1.31	U	1.09
1,2,3,4,6,7,8-HpCDF	0.0100	U	2.90	U	2.23 *	U	1.04	U	1.59	U	1.60	U	2.13
1,2,3,4,6,7,8-HpCDD	0.0100	U	2.57	U	5.17	U	1.42	U	3.19 *	U	2.39 *	U	2.20
1,2,3,4,7,8,9-HpCDF	0.0100	U	3.16	U	2.74 *	U	1.26 *	U	2.14 *	U	1.83	U	2.21
OCDD	0.0003	U	6.59 *	U	16.2	U	7.63 *	U	7.03 *	U	4.78 *	U	8.22 *
OCDF	0.0003	U	5.84 *	U	5.92	U	4.00 *	U	7.39 *	U	3.72 *	U	2.18
Total TCDD		UJ	2.20	UJ	2.74	UJ	2.91	UJ	2.69	UJ	2.43	UJ	2.54
Total PeCDD		UJ	1.94	UJ	1.64	UJ	1.59	UJ	1.48	UJ	1.53	UJ	1.62
Total HxCDD		UJ	2.59	UJ	1.01	UJ	1.14	UJ	1.25	UJ	1.34	UJ	1.58
Total HpCDD		UJ	3.41	UJ	5.17 *	UJ	1.42	UJ	4.99 *	UJ	2.39 *	UJ	2.20
Total TCDF			7.55 *	UJ	2.33	UJ	2.36	UJ	2.04	UJ	2.25	UJ	2.65
Total PeCDF			5.86 *	UJ	1.96 *	UJ	0.838	UJ	1.17	UJ	1.01	UJ	1.30
Total HxCDF			8.67 *	UJ	6.83 *	UJ	1.22 *	UJ	4.13 *	UJ	0.922	UJ	1.68
Total HpCDF		UJ	3.85	UJ	4.98 *	UJ	1.26 *	UJ	3.73 *	UJ	1.60	UJ	2.13
TOXIC EQUIVALENT(1)		0.00 U		0.00 U		0.00 U		0.00 U		0.00 U		0.00 U	
DILUTION FACTOR		1.0		1.0		1.0		1.0		1.0		1.0	
DATE SAMPLED		12/17/08		12/15/08		12/16/08		12/16/08		12/16/08		12/16/08	
SAMPLE EXTRACTION DATE		01/07/09		01/07/09		01/07/09		01/07/09		01/07/09		01/07/09	
ANALYSIS DATE		01/10/09		01/09/09		01/09/09		01/09/09		01/10/09		01/10/09	
LAB SAMPLE ID		1086516014		1086516003		1086516004		1086516005		1086516006		1086516007	

Notes: * = The values in this column are either the Detection Limits (DL) or the Estimated Maximum Possible Concentration (EMPC). The EMPC results are marked with a " * ". The DL values are unmarked.
The EMPC values are not qualified with a "J", since they are already estimated.
(1) = The Toxic Equivalent concentrations are calculated with the Toxicity Equivalency Factors (TEFs) found in "The 2005 World Health Organization Re-evaluation of Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds, Society of Toxicology, July 7, 2006
Concentrations reported by the laboratory below the Contract Required Quantitation Limit (CRQL) are flagged (J) on the Data Summary Table as estimated values. All other necessary qualifications are defined in Table I.

Table 3-6
December 2008 Groundwater Monitoring Laboratory Analytical Results - Dioxins/Furans
Commerce Street Plume Superfund Site
Williston, Vermont

SAMPLE NAME	TOXCICITY	F0008		F0009		F0010		F0011		F0012		F0013	
SAMPLE LOCATION	EQUIVALENCY	ASI-23D2		ASI-23S		ARC-3		OE-2A		OE-2B		AL-1	
STATION ID	FACTOR (1)	ASI-023D2-121608A		ASI-023S-121608A		ARC-003-121708A		OE-02A-121708A		OE-02B-121708A		AL-001-121708A	
TCDD/TCDF CONC.:		pg/L	EDL/EMPC*	pg/L	EDL/EMPC*	pg/L	EDL/EMPC*	pg/L	EDL/EMPC*	pg/L	EDL/EMPC*	pg/L	EDL/EMPC*
2,3,7,8-TCDD	1.0000	U	3.02	U	3.09	U	3.58	U	3.38	U	3.31	U	3.77
2,3,7,8-TCDF	0.1000	U	2.07	U	2.89	U	2.76	U	3.83	U	3.36	U	3.63
1,2,3,7,8-PeCDF	0.0300	U	1.34	U	1.74	U	1.67	U	1.51	U	1.92	U	1.82
1,2,3,7,8-PeCDD	1.0000	U	1.92	U	1.74	U	1.97	U	2.03	U	1.93	U	2.88
2,3,4,7,8-PeCDF	0.3000	U	1.08	U	1.13	U	1.30	U	1.18	U	1.57 *	U	1.41
1,2,3,4,7,8-HxCDF	0.1000	U	1.13	U	1.64	U	1.49	U	1.49	U	1.75	U	1.76
1,2,3,6,7,8-HxCDF	0.1000	U	1.47 *	U	1.27	U	1.67	U	1.79	U	1.84	U	2.03
1,2,3,4,7,8-HxCDD	0.1000	U	1.84	U	1.65	U	2.22	U	1.47	U	1.79	U	2.02
1,2,3,6,7,8-HxCDD	0.1000	U	1.71	U	2.21	U	2.18	U	1.74	U	1.87	U	2.30
1,2,3,7,8,9-HxCDD	0.1000	U	2.39 *	U	1.94	U	2.20	U	1.76	U	2.09	U	2.11
2,3,4,6,7,8-HxCDF	0.1000	U	2.15 *	U	1.37	U	1.43	U	1.18	U	1.81	U	1.90
1,2,3,7,8,9-HxCDF	0.1000	U	1.86 *	U	1.92	U	1.92	U	1.89	U	2.38	U	2.65
1,2,3,4,6,7,8-HpCDF	0.0100	U	5.28 *	U	2.83	U	2.43	U	2.03	U	2.90	U	2.38
1,2,3,4,6,7,8-HpCDD	0.0100	U	2.31	U	2.37	U	2.40	U	1.48	U	2.57	U	2.19
1,2,3,4,7,8,9-HpCDF	0.0100	U	2.22	U	2.81	U	2.99	U	3.21	U	3.16	U	2.46
OCDD	0.0003	U	7.58 *	U	18.1	U	4.01	U	4.02 *	U	6.59 *	U	9.48
OCDF	0.0003	63.4 J		U	6.32 *	U	5.30	U	33.6 *	U	5.84 *	U	2.91
Total TCDD		UJ	3.02	UJ	3.09	UJ	3.58	UJ	3.38	UJ	3.31	UJ	3.77
Total PeCDD		UJ	1.92	UJ	1.74	UJ	1.97	UJ	2.03	UJ	1.93	UJ	2.88
Total HxCDD		UJ	4.23 *	UJ	1.65	UJ	2.18	UJ	1.47	UJ	1.79	UJ	2.02
Total HpCDD		UJ	2.31	UJ	2.37	UJ	2.40	UJ	1.48	UJ	2.57	UJ	2.19
Total TCDF		UJ	2.07	UJ	2.89	UJ	2.76	UJ	3.83	UJ	3.36	UJ	3.63
Total PeCDF		UJ	1.08	UJ	1.13	UJ	1.30	UJ	1.18	UJ	1.25	UJ	1.41
Total HxCDF		UJ	5.48 *	UJ	1.27	UJ	1.43	UJ	1.18	UJ	1.75	UJ	1.76
Total HpCDF		UJ	5.28 *	UJ	2.81	UJ	2.43	UJ	2.03	UJ	2.90	UJ	2.38
TOXIC EQUIVALENT(1)		0.019 J		0.00 U		0.00 U		0.00 U		0.00 U		0.00 U	
DILUTION FACTOR		1.0		1.0		1.0		1.0		1.0		1.0	
DATE SAMPLED		12/16/08		12/16/08		12/17/08		12/17/08		12/17/08		12/17/08	
SAMPLE EXTRACTION DATE		01/07/09		01/07/09		01/07/09		01/07/09		01/07/09		01/07/09	
ANALYSIS DATE		01/10/09		01/10/09		01/10/09		01/10/09		01/10/09		01/10/09	
LAB SAMPLE ID		1086516010		1086516011		1086516012		1086516013		1086516014		1086516015	

Notes: * = The values in this column are either the Detection Limits (DL) or the Estimated Maximum Possible Concentration (EMPC). The EMPC results are marked with a " * ". The DL values are unmarked.
The EMPC values are not qualified with a "J", since they are already estimated.
(1) = The Toxic Equivalent concentrations are calculated with the Toxicity Equivalency Factors (TEFs) found in "The 2005 World Health Organization Re-evaluation of Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds. Society of Toxicology, July 7, 2006
Concentrations reported by the laboratory below the Contract Required Quantitation Limit (CRQL) are flagged (J) on the Data Summary Table as estimated values. All other necessary qualifications are defined in Table I.

Table 3-6
December 2008 Groundwater Monitoring Laboratory Analytical Results - Dioxins/Furans
Commerce Street Plume Superfund Site
Williston, Vermont

SAMPLE NAME	TOXCICITY	F0014		F0015		F0016		F0017	
SAMPLE LOCATION	EQUIVALENCY	BR-1		BM-3D		ASI-04D2		ASI-15D2	
STATION ID	FACTOR (1)	BR-001-121708A		BM-03D-121708A		ASI-004D2-121808A		ASI-015D2-121808A	
TCDD/TCDF CONC.:		pg/L	EDL/EMPC*	pg/L	EDL/EMPC*	pg/L	EDL/EMPC*	pg/L	EDL/EMPC*
2,3,7,8-TCDD	1.0000	U	3.35	U	3.45	U	3.28	U	4.21
2,3,7,8-TCDF	0.1000	U	3.96	U	2.67	U	2.20	U	2.95
1,2,3,7,8-PeCDF	0.0300	U	1.56	U	2.13	U	1.54	U	1.37
1,2,3,7,8-PeCDD	1.0000	U	1.94	U	2.17	U	1.58	U	2.27
2,3,4,7,8-PeCDF	0.3000	U	1.54 *	U	1.25	U	1.19	U	1.48
1,2,3,4,7,8-HxCDF	0.1000	U	1.56	U	1.24	U	1.32	U	1.93
1,2,3,6,7,8-HxCDF	0.1000	U	1.66	U	1.34	U	1.46	U	1.70
1,2,3,4,7,8-HxCDD	0.1000	U	2.02	U	2.23	U	2.20	U	2.03
1,2,3,6,7,8-HxCDD	0.1000	U	2.07	U	1.93	U	1.87	U	2.53
1,2,3,7,8,9-HxCDD	0.1000	U	2.01	U	1.81	U	2.45	U	2.52
2,3,4,6,7,8-HxCDF	0.1000	U	2.39	U	1.38	U	1.77	U	1.72
1,2,3,7,8,9-HxCDF	0.1000	U	2.39	U	1.87	U	1.84	U	1.98
1,2,3,4,6,7,8-HpCDF	0.0100	U	2.24	U	1.45	U	1.49	U	1.75
1,2,3,4,6,7,8-HpCDD	0.0100	U	3.53 *	U	2.25	U	1.61	U	1.73
1,2,3,4,7,8,9-HpCDF	0.0100	U	2.37	U	1.85	U	2.22	U	1.63
OCDD	0.0003	U	37.6	U	6.03	U	6.09	U	4.73 *
OCDF	0.0003	U	5.44 *	U	2.46	U	23.0	U	2.83
Total TCDD		UJ	3.35	UJ	3.45	UJ	3.28	UJ	4.21
Total PeCDD		UJ	1.94	UJ	2.17	UJ	1.58	UJ	2.27
Total HxCDD		UJ	2.01	UJ	1.81	UJ	1.87	UJ	2.03
Total HpCDD		UJ	3.53 *	UJ	2.25	UJ	1.61	UJ	1.73
Total TCDF		UJ	3.96	UJ	2.67	UJ	2.20	UJ	2.95
Total PeCDF		UJ	1.54 *	UJ	1.25	UJ	1.19	UJ	1.37
Total HxCDF		UJ	1.56	UJ	1.24	UJ	1.32	UJ	1.70
Total HpCDF		UJ	2.24	UJ	1.45	UJ	1.49	UJ	1.63
TOXIC EQUIVALENT(1)		0.00 U		0.00 U		0.00 U		0.00 U	
DILUTION FACTOR		1.0		1.0		1.0		1.0	
DATE SAMPLED		12/17/08		12/17/08		12/18/08		12/18/08	
SAMPLE EXTRACTION DATE		01/07/09		01/07/09		01/07/09		01/07/09	
ANALYSIS DATE		01/10/09		01/10/09		01/10/09		01/10/09	
LAB SAMPLE ID		1086516016		1086516017		1086516018		1086516019	

Notes: * = The values in this column are either the Detection Limits (DL) or the Estimated Maximum Possible Concentration (EMPC). The EMPC results are marked with a "*". The DL values are unmarked. The EMPC values are not qualified with a "J", since they are already estimated.

(1) = The Toxic Equivalent concentrations are calculated with the Toxicity Equivalency Factors (TEFs) found in "The 2005 World Health Organization Re-evaluation of Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds, Society of Toxicology, July 7, 2006

Concentrations reported by the laboratory below the Contract Required Quantitation Limit (CRQL) are flagged (J) on the Data Summary Table as estimated values. All other necessary qualifications are defined in Table I.

Table 3-7
December 2008 Groundwater VOCs Detected by Aquifer Zone
Commerce Street Plume Superfund Site
Williston, Vermont

CLP #	Station Location	Station Name	Sample Date	Aquifer	Chemical Name	2-Butanone	Acetone	Chloroform	cis-1,2-Dichloroethene	Ethylbenzene	Isopropylbenzene	m,p-Xylene	Methylene chloride	Tetrachloroethene	Toluene	trans-1,2-Dichloroethene	Trichloroethene
					CRQL	10	10	5	5	5	5	5	5	5	5	5	5
					VT GWPR	4200	700	80	70	700	ns	10000	5	5	1000	100	5
					MCL	ns	ns	ns	70	700	ns	10000	ns	5	1000	100	5
A2PW3	AL-014-121608A	AL-14	12/16/2008	Shallow Overburden		10 U	10 U	5 U	0.28	5 U	5 U	5 U	5 U	5 U	5 U	5 U	3
A2PZ2	AL-015-121908A	AL-15	12/19/2008	Shallow Overburden		10 U	3.8 JB	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	0.17 J
A2PW8	ARC-003-121708A	ARC-3	12/17/2008	Shallow Overburden		10 U	10 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
A2PW0	ASI-014S-121608A	ASI-14S	12/16/2008	Shallow Overburden		10 U	10 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
A2PW5	ASI-023S-121608A	ASI-23S	12/16/2008	Shallow Overburden		10 U	10 U	1.9	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	1.9
A2PZ3	BF-004-121908A	BF-4	12/19/2008	Shallow Overburden		10 U	5.6 JB	5 U	5 U	0.12 J	0.21 J	5 U	0.13 JB	5 U	5 U	5 U	0.1 J
A2PZ4	BM-03S-121908A	BM-3S	12/18/2008	Shallow Overburden		10 U	5 JB	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	0.11 J
A2PX9	BW-013S-121808A	BW-13S	12/18/2008	Shallow Overburden		10 U	5.3 JB	5 U	5 U	5 U	5 U	5 U	1.2 JB	5 U	5 U	5 U	0.11 J
A2PT8	MI-001-121508A	MI-1	12/15/2008	Shallow Overburden		10 U	10 U	5 U	5 U	5 U	5 U	5 U	0.15 JB	5 U	5 U	5 U	0.33
A2PT9	MI-002-121508A	MI-2	12/15/2008	Shallow Overburden		10 U	10 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
A2PY8	MI-008-121908A	MI-8	12/19/2008	Shallow Overburden		10 U	5.3 JB	5 U	5 U	5 U	5 U	5 U	5 U	0.46 J	5 U	5 U	0.24 J
A2PX0	OE-02B-121708A	OE-2B	12/17/2008	Shallow Overburden		10 U	6 JB	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
A2PX1	AL-001-121708A	AL-1	12/17/2008	Deep Overburden		10 U	54 JB	5 U	13 J	5 U	5 U	5 U	5 U	5 U	5 U	5 U	**500 D**
A2PX4	ASI-002D2-121808A	ASI-02D2	12/18/2008	Deep Overburden		10 U	27 JB	5 U	15 J	5 U	5 U	5 U	2.4 JB	5 U	5 U	5 U	**1800 D**
A2PX5	ASI-002D2-121808AD	ASI-02D2	12/18/2009	Deep Overburden		10 U	24 JB	5 U	14 J	5 U	5 U	5 U	2.7 JB	5 U	5 U	0.47 J	**1600 D**
A2PX6	ASI-004D2-121808A	ASI-04D2	12/18/2008	Deep Overburden		10 U	7.4 JB	5 U	5 U	5 U	5 U	5 U	0.64 JB	5 U	5 U	5 U	0.13 J
A2PX7	ASI-005D2-121808A	ASI-05D2	12/18/2008	Deep Overburden		10 U	7.1 JB	5 U	5 U	5 U	5 U	5 U	1.8 JB	5 U	5 U	5 U	5 U
A2PZ0	ASI-011D2-121908A	ASI-11D2	12/19/2008	Deep Overburden		10 U	25 JB	5 U	36	5 U	5 U	5 U	5 U	5 U	5 U	5 U	**2900 D**
A2PW1	ASI-014D2-121608A	ASI-14D2	12/16/2008	Deep Overburden		10 U	10 U	5 U	22	5 U	5 U	5 U	1.1	5 U	5 U	5 U	**2900 D**
A2PW2	ASI-014D2-121608AD	ASI-14D2	12/16/2008	Deep Overburden		10 U	10 U	5 U	21	5 U	5 U	5 U	0.82	5 U	5 U	5 U	**2800 D**
A2PX8	ASI-015D2-121808A	ASI-15D2	12/18/2008	Deep Overburden		10 U	43 JB	5 U	26 J	5 U	5 U	5 U	**17 JB**	5 U	5 U	5 U	**5300 D**
A2PW4	ASI-023D2-121608A	AS-23D2	12/16/2008	Deep Overburden		10 U	10 U	1.5	5	5 U	5 U	5 U	1.2	5 U	5 U	5 U	**2500 D**
A2PW7	BM-03D-121708A	BM-3D	12/17/2008	Deep Overburden		10 U	8.4 JB	5 U	3.5 J	5 U	0.13 J	5 U	5 U	0.54 J	5 U	5 U	**140**
A2PW9	OE-02A-121708A	OE-2A	12/17/2008	Deep Overburden		10 U	5.8 JB	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
A2PX2	BR-001-121708A	BR-1	12/17/2008	Bedrock		10 U	12 B	5 U	2.4 J	5 U	5 U	0.22 J	0.22 JB	5 U	0.34 J	5 U	**110**

Table 3-7
December 2008 Groundwater VOCs Detected by Aquifer Zone
Commerce Street Plume Superfund Site
Williston, Vermont

					Chemical Name	2-Butanone	Acetone	Chloroform	cis-1,2-Dichloroethene	Ethylbenzene	Isopropylbenzene	m,p-Xylene	Methylene chloride	Tetrachloroethene	Toluene	trans-1,2-Dichloroethene	Trichloroethene
					CRQL	10	10	5	5	5	5	5	5	5	5	5	5
					VT GWPR	4200	700	80	70	700	ns	10000	5	5	1000	100	5
CLP #	Station Location	Station Name	Sample Date	Aquifer	MCL	ns	ns	ns	70	700	ns	10000	ns	5	1000	100	5
A2PW6	TB-001-121708A	TB-1	12/17/2008			12	17	5 U	5 U	5 U	5 U	5 U	5 U	5 U	0.17 J	5 U	5 U
A2PX3	TB-002-121808A	TB-2	12/18/2008			7.2 J	15 B	5 U	5 U	5 U	5 U	5 U	5 U	5 U	0.18 J	5 U	0.16 J
A2PY0	TB-003-121908A	TB-3	12/18/2008			10 U	18 B	5 U	5 U	5 U	5 U	0.14 J	0.48 JB	5 U	0.29 J	5 U	5 U
A2PZ5	TB-004-122208A	TB-4	12/22/2008			7.7 J	23 B	5 U	5 U	5 U	5 U	0.18 J	5 U	5 U	0.32 J	5 U	5 U

Notes:

All concentrations listed in micrograms per liter (µg/L).

Bold and Shaded values indicate concentrations exceeding the VT GWPR and/or MCL.

All results reported in µg/L.

CRQL = Contract Required Quantitation Limit

MCL = Federal Maximum Contaminant Limit

U = below detection limit

J = quantitation approximate

B = detected in laboratory blank

D = diluted sample result

NORTH

USGS TOPOGRAPHIC MAP

ESSEX JUNCTION, VERMONT

1987

APPROXIMATE SCALE
1 INCH = 3,000 FEET

Nobis

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Lowell, MA
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QUADRANGLE LOCATION

FIGURE 1-1

LOCUS PLAN
COMMERCE STREET PLUME
SUPERFUND SITE
WILLISTON, VERMONT

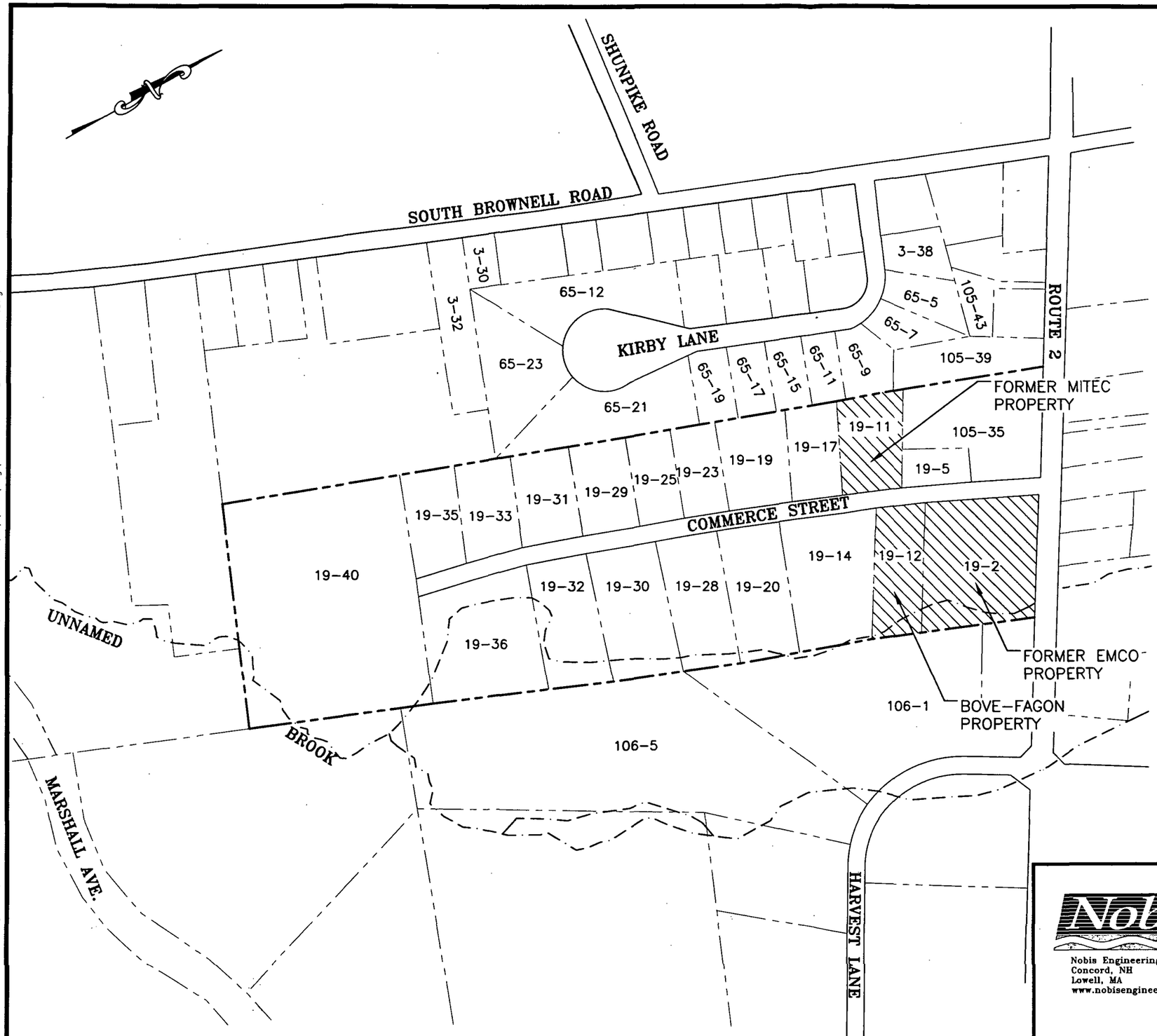
PROJECT: 80036.03

JUNE 2009

J:\80000 EPA RAC2 ...on 1\80000 Task Orders\80036 Commerce Street Plume\Technical Data (TD)\CAD\dwg\80036-LOCUS.dwg

NOTES:

1. THIS SKETCH WAS DEVELOPED FROM TOWN OF WILLISTON ASSESSOR'S TAX MAPS.



LEGEND

- ALLING INDUSTRIAL PARK BOUNDARY
- OTHER PROPERTY LINE
- BROOK
- 19-11 LOT NUMBER
- POTENTIAL SOURCE AREA

GRAPHIC SCALE

0 150' 300' 600'

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FIGURE 1-2

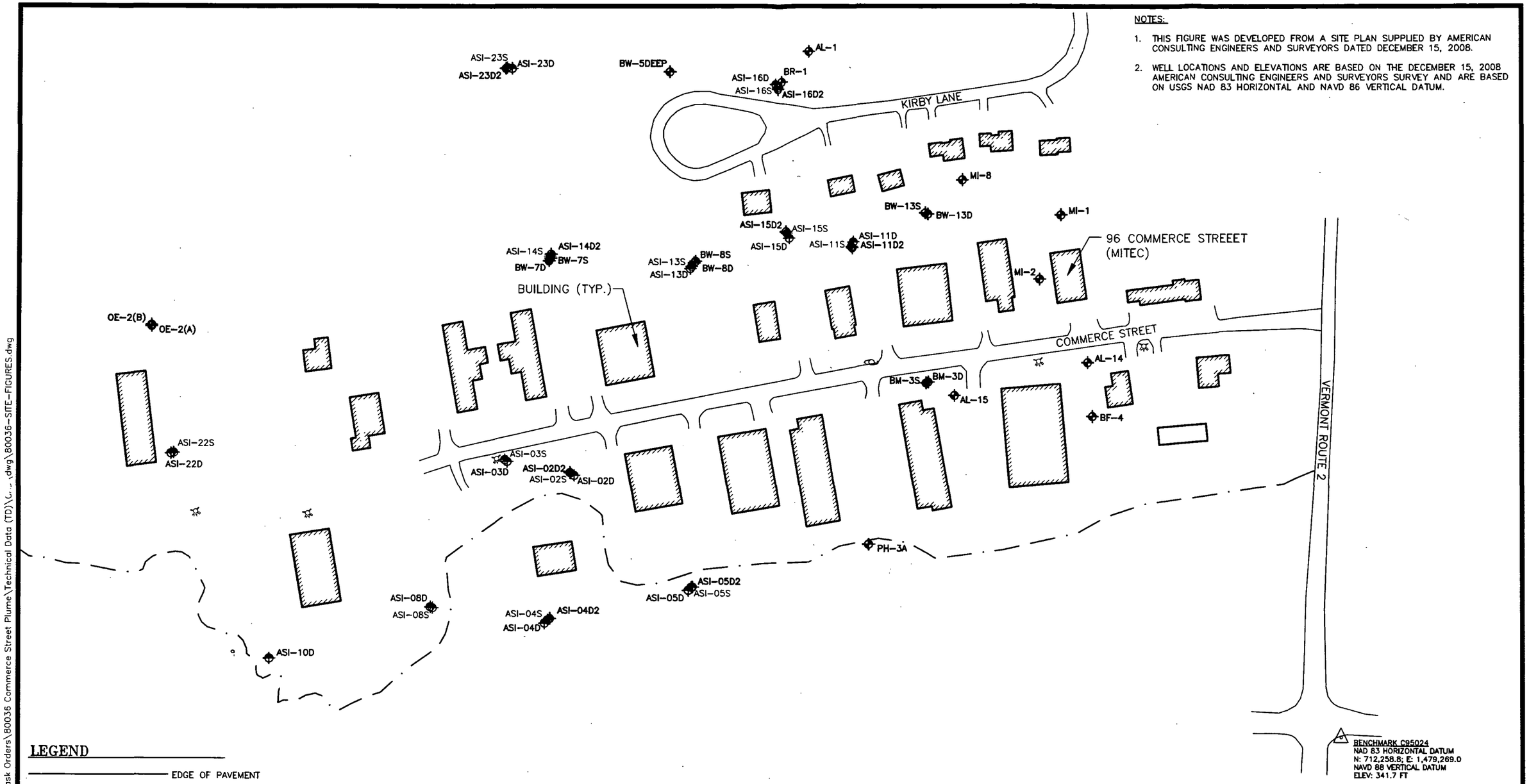
STUDY LOCATION MAP
COMMERCE STREET PLUME
SUPERFUND SITE
WILLISTON, VERMONT

DRAWN BY:	ML	APPROVED BY:	SH
PROJECT:	80036.00	JUNE 2009	

J:\80000 EPA RAC2 Region 1\80000 Task Orders\80036 Commerce Street Plume\Technical Data (TD)\CAD\dwg\80036-STUDY-LOCATION-MAP.dwg

NOTES:

1. THIS FIGURE WAS DEVELOPED FROM A SITE PLAN SUPPLIED BY AMERICAN CONSULTING ENGINEERS AND SURVEYORS DATED DECEMBER 15, 2008.
2. WELL LOCATIONS AND ELEVATIONS ARE BASED ON THE DECEMBER 15, 2008 AMERICAN CONSULTING ENGINEERS AND SURVEYORS SURVEY AND ARE BASED ON USGS NAD 83 HORIZONTAL AND NAVD 86 VERTICAL DATUM.



LEGEND

———	EDGE OF PAVEMENT
— · —	BROOK
BF-4	SHALLOW GROUNDWATER PVC MONITTORING WELL
BM-3D	DEEP GROUNDWATER PVC MONITTORING WELL
ASI-11S	SHALLOW GROUNDWATER CHECKWELL
ASI-04D2	DEEP GROUNDWATER CHECKWELL

GRAPHIC SCALE

0 100' 200' 400'

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Lowell, MA
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FIGURE 2-1

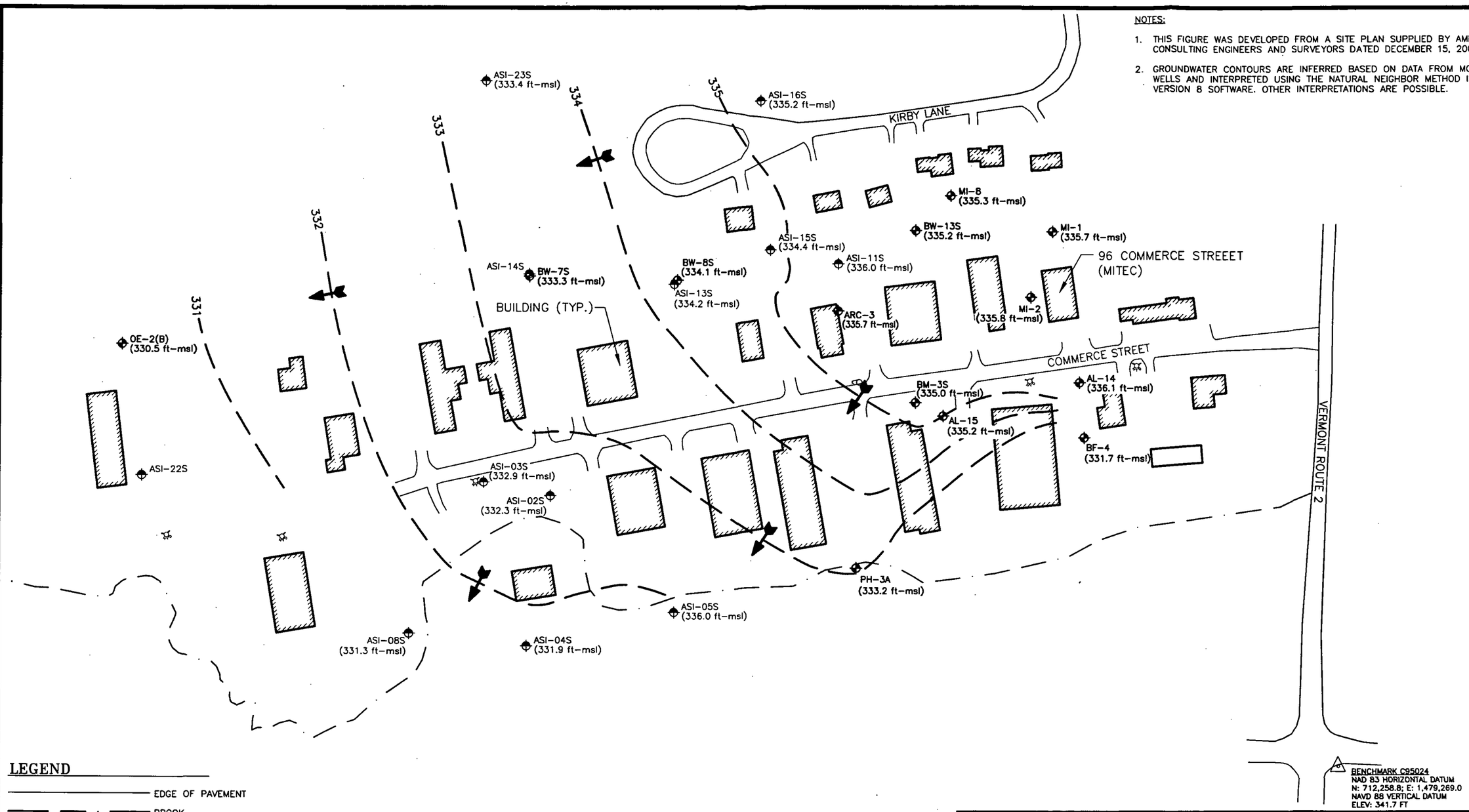
MONITORING WELL LOCATIONS
COMMERCE STREET PLUME
SUPERFUND SITE
WILLISTON, VERMONT

DRAWN BY:	ML	APPROVED BY:	SH
PROJECT:	80036.06	APRIL 2009	

J:\80000 L ...AC2 Region 1\80000 Task Orders\80036 Commerce Street Plume\Technical Data (TD)\C... \dwg\80036-SITE-FIGURES.dwg

NOTES:

1. THIS FIGURE WAS DEVELOPED FROM A SITE PLAN SUPPLIED BY AMERICAN CONSULTING ENGINEERS AND SURVEYORS DATED DECEMBER 15, 2008.
2. GROUNDWATER CONTOURS ARE INFERRED BASED ON DATA FROM MONITORING WELLS AND INTERPRETED USING THE NATURAL NEIGHBOR METHOD IN SURFER VERSION 8 SOFTWARE. OTHER INTERPRETATIONS ARE POSSIBLE.



LEGEND

- EDGE OF PAVEMENT
- BROOK
- 331 SHALLOW GROUNDWATER CONTOUR (JANUARY 2009)
- SHALLOW GROUNDWATER FLOW
- BF-4 (331.7 ft-msl) SHALLOW GROUNDWATER PVC MONTITORING WELL & GROUNDWATER ELEVATION
- ASI-11S (336.0 ft-msl) SHALLOW GROUNDWATER CHECKWELL & GROUNDWATER ELEVATION

GRAPHIC SCALE

0 100' 200' 400'

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FIGURE 2-2

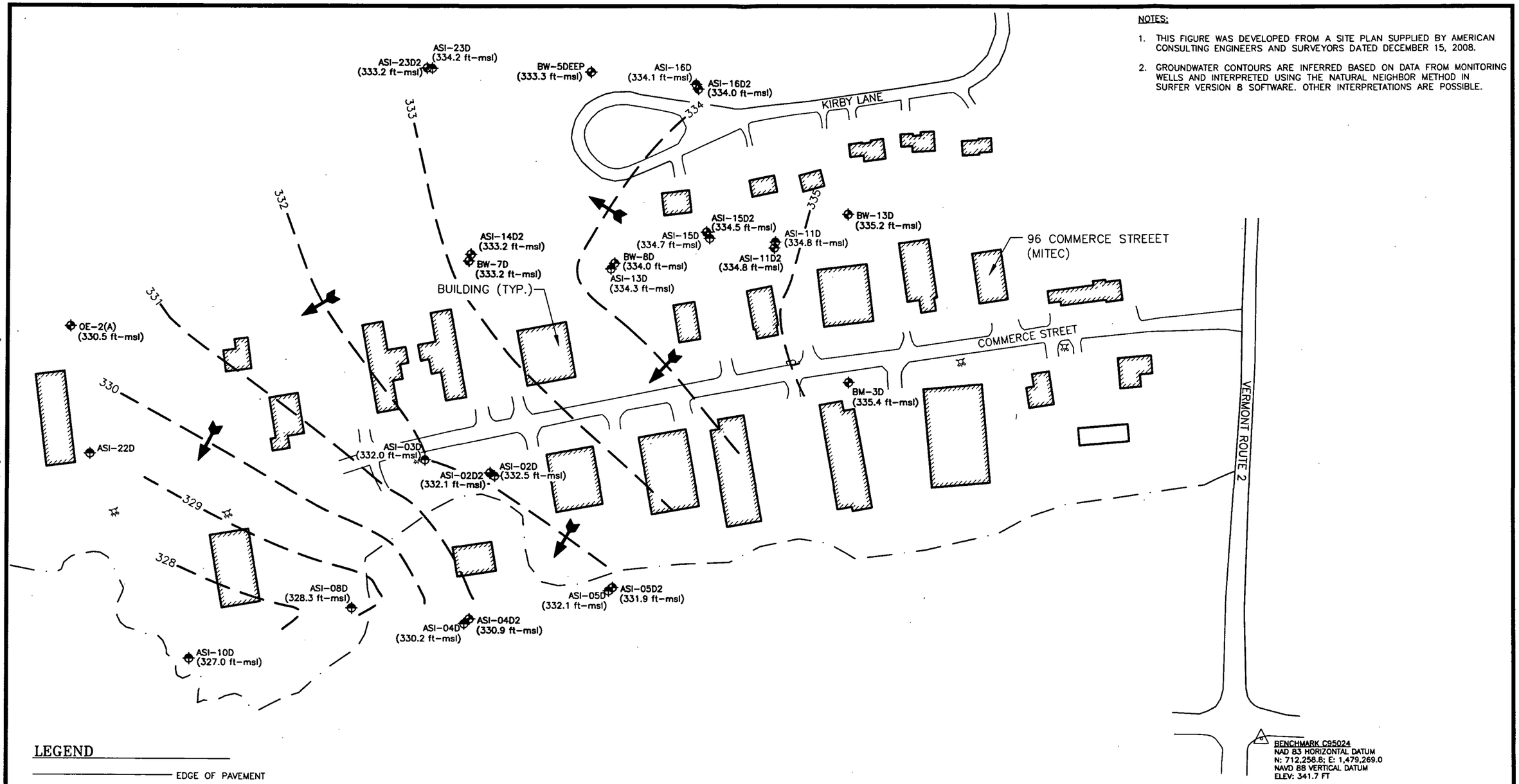
SHALLOW OVERBURDEN GROUNDWATER ELEVATIONS AND POTENTIOMETRIC SURFACE CONTOURS – JANUARY 8, 2009
COMMERCE STREET PLUME
SUPERFUND SITE
WILLISTON, VERMONT

DRAWN BY:	ML	APPROVED BY:	SH
PROJECT:	80036.06	JUNE 2009	

J:\80000 EPA RAC2 Region 1\80000 Task Orders\80036 Commerce Street Plume\Technical Data (TD)\CAD\dwg\80036-SITE-FIGURES.dwg

NOTES:

1. THIS FIGURE WAS DEVELOPED FROM A SITE PLAN SUPPLIED BY AMERICAN CONSULTING ENGINEERS AND SURVEYORS DATED DECEMBER 15, 2008.
2. GROUNDWATER CONTOURS ARE INFERRED BASED ON DATA FROM MONITORING WELLS AND INTERPRETED USING THE NATURAL NEIGHBOR METHOD IN SURFER VERSION 8 SOFTWARE. OTHER INTERPRETATIONS ARE POSSIBLE.



LEGEND

- EDGE OF PAVEMENT
- BROOK
- 331 DEEP GROUNDWATER CONTOUR (JANUARY 2009)
- DEEP GROUNDWATER FLOW
- BM-3D (335.4 ft-msl) — DEEP GROUNDWATER PVC MONTITORING WELL & GROUNDWATER ELEVATION
- ASI-04D2 (330.9 ft-msl) — DEEP GROUNDWATER CHECKWELL & GROUNDWATER ELEVATION

GRAPHIC SCALE

0 100' 200' 400'

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FIGURE 2-3

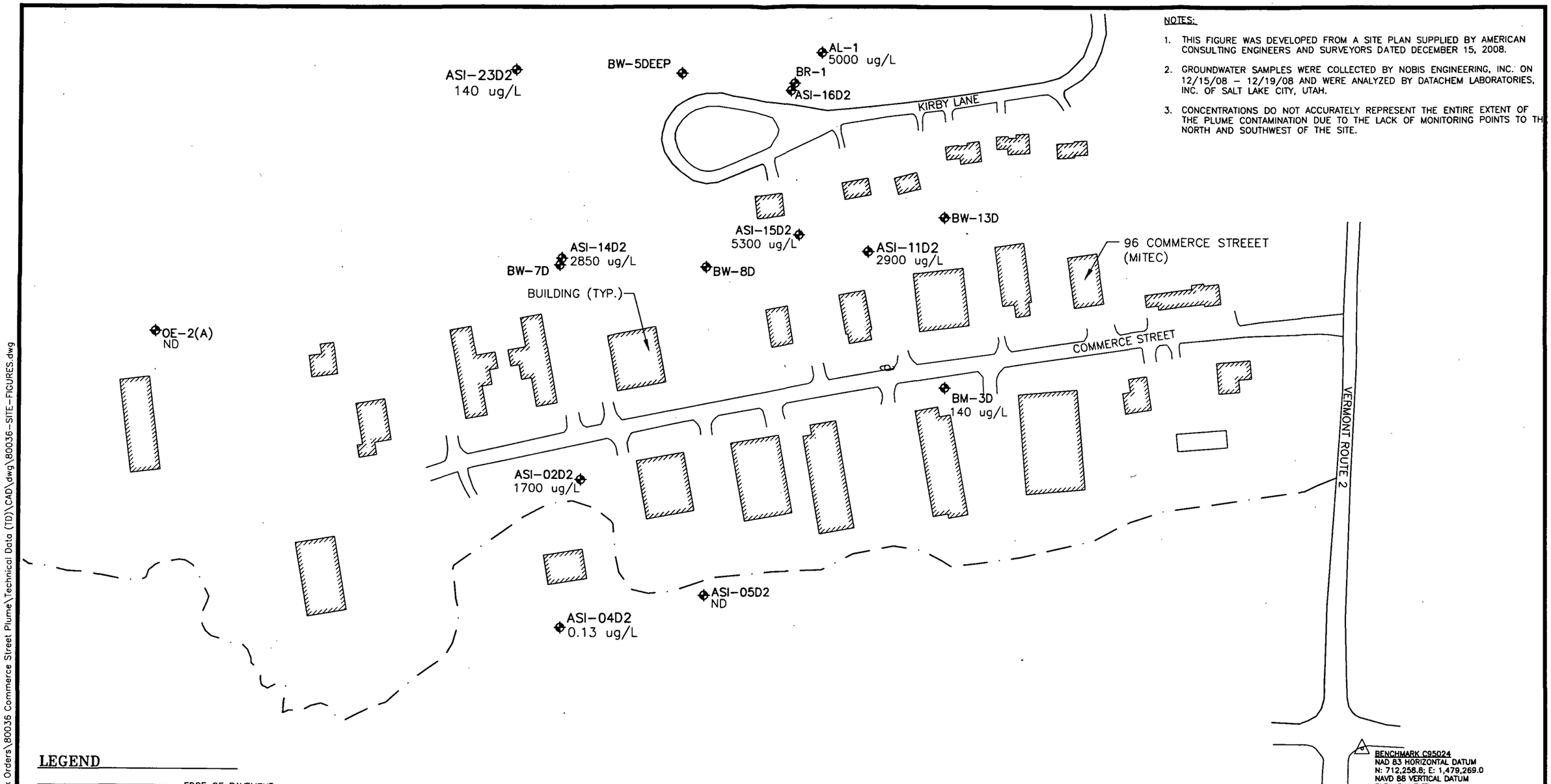
DEEP OVERBURDEN GROUNDWATER ELEVATIONS AND POTENTIOMETRIC SURFACE CONTOURS – JANUARY 8, 2009
COMMERCE STREET PLUME
SUPERFUND SITE
WILLISTON, VERMONT

DRAWN BY:	ML	APPROVED BY:	SH
PROJECT:	80036.06		JUNE 2009

J:\80000 EPA RAC2 Region 1\80000 Task Orders\80036 Commerce Street Plume\Technical Data (TD)\CAD\dwg\80036-SITE-FIGURES.dwg

NOTES:

1. THIS FIGURE WAS DEVELOPED FROM A SITE PLAN SUPPLIED BY AMERICAN CONSULTING ENGINEERS AND SURVEYORS DATED DECEMBER 15, 2008.
2. GROUNDWATER SAMPLES WERE COLLECTED BY NOBIS ENGINEERING, INC. ON 12/15/08 – 12/19/08 AND WERE ANALYZED BY DATACHEM LABORATORIES, INC. OF SALT LAKE CITY, UTAH.
3. CONCENTRATIONS DO NOT ACCURATELY REPRESENT THE ENTIRE EXTENT OF THE PLUME CONTAMINATION DUE TO THE LACK OF MONITORING POINTS TO THE NORTH AND SOUTHWEST OF THE SITE.



LEGEND

EDGE OF PAVEMENT

BROOK

BM-3D 140 ug/L — DEEP GROUNDWATER PVC MONTITORING WELL & TCE CONCENTRATION

GRAPHIC SCALE

0 100' 200' 400'

Nobis

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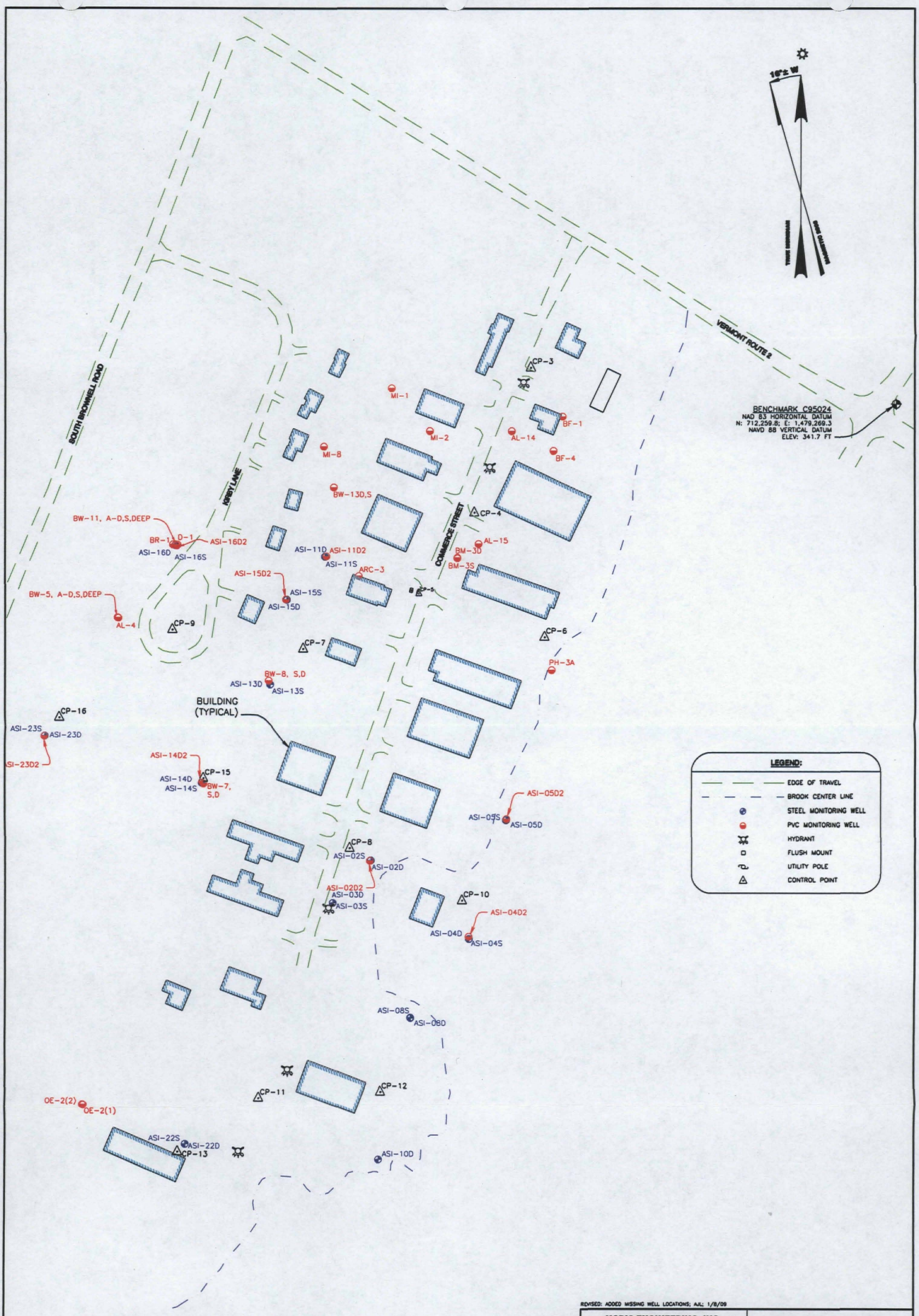
www.nobisengineering.com

FIGURE 3-1

TCE CONCENTRATIONS IN
DEEP OVERBURDEN GROUNDWATER
COMMERCE STREET PLUME
SUPERFUND SITE
WILLISTON, VERMONT

DRAWN BY:	ML	APPROVED BY:	SH
PROJECT:	80036.06	JUNE 2009	

J:\80000 EPA RAC2 Region 1\80000 Task Orders\80036 Commerce Street Plume\Technical Data (TD)\CAD\dwg\80036-SITE-FIGURES.dwg



REVISED: ADDED MISSING WELL LOCATIONS; AJL; 1/8/09

NOBIS ENGINEERING, INC. COMMERCE STREET WILLISTON, VERMONT	AMERICAN CONSULTING ENGINEERS AND SURVEYORS	
	SCALE: AS NOTED	DATE: DEC. 30, 2008
SITE PLAN	DRAWN BY: A.J.	APPROVED: R. T.

NOLOS	**LOW-FLOW/ LOW-STRESS GROUNDWATER SAMPLING LOG SHEET**	SOP No: SA-003 Date: 8/21/2007	Page: 1 of Rev.: 0
		Prepared by: John St. John	
		Approved by:	

Site Name: Commerce Street Plume Superfund Site
Project Number/Task: 80036.03 0330
Sampler(s): John St. John

Temperature Range: 45-
Precipitation: Slight
Wind Speed/Direction: 10mph

SAMPLE INFORMATION

Sampling Round: ~~April~~ 2008 Long-Term Monitoring Dec
Sample ID: MW-1
Sample Date / Time: 12-15, 15:20

QA/QC Sample:
QA/QC Sample Time: ~~15:20~~
Initial Water Level: 7.20

Equipment Information

Pump Type: Peristaltic
Pump Name/ID: Geopump E/L IIe
Water Level Name/ID: Heron dipper-T

Multimeter Name/ID: YSI 556 MPS
Turbidity Name/ID: Lamotte 2020

WELL ID:

Time	Water Level Reading	Bladder Pressure/ Refill/ Discharge	Purge Rate (mL/min)	Temp (°C)	Specific Conductivity (mS/m)	pH	ORP / Eh3 (mV)	DO (mg/L)	Turbidity (NTU)
				3%	3%	+/-0.1	+/-10mV	3%	10% or <10
				Set up pump, fill flow-through cell, etc.					
14:40	7.25		240	10.57	378	6.45	342.2	28.9	16
14:45	7.26		235	10.65	419	6.46	345.1	28.0	15
14:50	7.26		245	10.80	438	6.48	351.2	26.5	14
14:55	7.26		250	10.83	442	6.48	356.8	26.3	11
15:00	7.26		250	10.83	440	6.48	360.8	26.5	11
15:05	7.26		250	10.84	419	6.49	365.7	26.6	9.1
15:10	7.26		250	10.87	416	6.48	371.3	26.4	6.8
15:15	7.26		250	10.88	409	6.48	373.5	25.9	6.6
15:20			SAMPLE	TAKEN					

COMMENTS:

Signature: John St. John

Well Purging - Field Water Quality Measurements

80036.03 Task 330
Location: (Site/Facility Name) Commerce St Plume
Well Number: MI-2 Date: 12/15/08
Field Personnel: D. Gray
Sampling Organization: Nobis Engineering, Inc.

Identify MP: Top of PVC
Pump Intake at (ft. below MP):
Purging Device; (pump type): Peri
Initial DTW 6.86'

Clock Time (24 HR)	Water Depth Below MP 0.3(ft)	Pump Dial[1]	Purge Rate (ml/min)	Temp. (C) (3%)	Specific Conduc.[2] (mS/m) (3%)	pH (+/-0.1)	ORP/ Eh[3] (mv) (+/-10)	DO (mg/L) (10%)	Turbidity (NTU) (10%,<5)
1530	6.98		200	10.86	134	6.43	205.1	6.26	28
1535	6.99		200	11.00	136	6.16	203.2	5.76	19
1540	6.99		200	11.07	140	6.06	202.1	5.51	18
1545	6.99		200	11.07	140	6.06	202.1	5.51	11
1550	6.99		200	11.07	140	6.06	202.1	5.51	6.2
1555	6.99		200	11.23	147	6.01	187.7	5.23	4.2
1600	7.00		200	11.23	146	5.97	188.8	5.08	3.0
1605	7.01		200	11.30	153	5.94	189.3	4.77	1.7
1610	7.00		200	11.32	157	5.91	189.2	4.65	1.2
1615	7.00		200	11.30	156	5.90	189.3	4.61	0.55
1620	7.01		200	11.32	159	5.89	188.9	4.56	1.2
1625	Sample collected								

1. Pump dial setting (for example: hertz, cycles/min, etc)
2. MilliSiemens per cm (same as mmhos/cm) at 25C
3. Oxidation reduction potential (stand in for Eh)

Comments:
Purge water is clear. No sheen and no odor.

	LOW-FLOW/ LOW-STRESS GROUNDWATER SAMPLING LOG SHEET	SOP No: SA-003 Date: 8/21/2007	Page: 1 of Rev.: 0
		Prepared by:	
		Approved by:	

Site Name: Commerce Street Plume Superfund Site
Project Number/Task: 80036.03 0330
Sampler(s): Ken Marks

Temperature Range: 25 to 30°F
Precipitation: None
Wind Speed/Direction: N 3 to 15 mph

SAMPLE INFORMATION

Sampling Round: April 2008 Long-Term Monitoring
Sample ID:
Sample Date / Time: 12-16-08 ~~1310~~ 1440

QA/QC Sample:
QA/QC Sample Time:
Initial Water Level: 7.30

Equipment Information

Pump Type: QED Pump
Pump Name/ID:
Water Level Name/ID: Heron - 025604

Multimeter Name/ID: OOK 192
Turbidity Name/ID: LaMotte 2020 SN- ME-12918

WELL ID: AL-14

Time	Water Level Reading	Bladder Pressure/ Refill/ Discharge	Purge Rate (mL/min)	Temp (°C)	Specific Conductivity (mS/m)	pH	ORP / Eh3 (mV)	DO (mg/L)	Turbidity (NTU)	
				3%	3%	+/-0.1	+/-10mV	3%	10% or <10	
1320	7.30	N/A	250	Set up pump, fill flow-through cell, etc.						
1325	7.30		250	9.32	762	5.74	~~[illegible]~~	19.0	20	ORP = 235.1
1330	7.30		250	9.99	224	5.63	244.5	3.91	11	
1335	7.30		250	9.97	217	5.49	238.0	1.45	9.7	
1340	7.30		250	9.94	217	5.70	234.9	0.99	11	
1345	7.30		250	9.97	217	5.65	233.3	0.78	12	
1350	7.30		250	10.02	219	5.61	233.4	0.69	11	
1355	7.30		250	10.12	221	5.72	229.5	0.55	9.3	
1400	7.30		250	10.26	222	5.68	232.2	0.46	9.0	
1410	7.30		250	10.31	~~2367~~	5.68	226.7	0.41	7.1	Sal = 222
1415	7.30		250	10.31	219	5.71	223.1	0.37	7.0	
1420	7.30		250	10.30	218	5.72	220.7	0.34	6.1	
1425	7.30		250	10.30	218	5.74	218.8	0.33	5.2	
1430	7.30		250	10.29	219	5.73	219.1	0.34	5.2	
1435	7.30		250	10.29	219	5.74	219.6	0.34	5.1	

COMMENTS: Good recharge. Clear no odor, 1.5" PVC stick up

Signature: Ken Marks

	LOW-FLOW/ LOW-STRESS GROUNDWATER SAMPLING LOG SHEET	SOP No: SA-003 Date: 8/21/2007	Page: 1 of 1 Rev.: 0
		Prepared by:	
		Approved by:	

Site Name: Commerce Street Plume Superfund Site
Project Number/Task: 80036.03 0330
Sampler(s): Danielle Gray

Temperature Range: 20s
Precipitation: N/A
Wind Speed/Direction:

SAMPLE INFORMATION

Sampling Round: April 2008 Long-Term Monitoring
Sample ID: AS I-14S
Sample Date / Time: 12/16/08

QA/QC Sample:
QA/QC Sample Time:
Initial Water Level: 7.25

Equipment Information

Pump Type: Peri Geo Pump
Pump Name/ID: #2219
Water Level Name/ID: Solinst 102

Multimeter Name/ID: YSI 600XL
Turbidity Name/ID: LaMotte 2020

WELL ID:

Time	Water Level Reading	Bladder Pressure/ Refill/ Discharge	Purge Rate (mL/min)	Temp (°C)	Specific Conductivity (mS/m)	pH	ORP / Eh3 (mV)	DO (mg/L)	Turbidity (NTU)
				3%	3%	+/-0.1	+/-10mV	3%	10% or <10
0905	8.40	N/A	200	Set up pump, fill flow-through cell, etc.					
↓	↓	↓	↓	7.61	183	7.06	-66.2	2.29	33
0910	7.90		200	7.90	148	6.74	52.7	1.27	18
0915	7.74		100	7.09	140	6.58	-44.3	1.02	20
0920	7.91		100	7.16	131	6.46	-40.7	0.84	13
0925	7.94		100	7.32	126	6.37	-35.2	0.69	15
0930	7.88		100	7.25	120	6.33	-29.6	0.62	9.8
0935	7.90		100	7.42	117	6.25	-25.3	0.58	15
0940	7.91		100	7.50	114	6.18	-20.8	0.51	22
0945	7.90		100	7.10	112	6.17	-21.3	0.46	17
0950	7.90		100	7.24	112	6.16	-21.6	0.45	16
0955	7.91		100	7.44	111	6.14	-20.7	0.47	12
1000	7.90		100	6.24	106	6.12	-20.1	0.55	12
1005	7.65		100	6.43	106	6.10	-21.8	0.59	8.5
1010	7.85		100	6.23	105	6.10	-21.9	0.55	7.9
1015	7.90		100	6.31	106	6.09	-21.8	0.56	9.1
1020	7.92		100	6.29	109	6.09	-23.3	0.51	4.7
1025	Sample		Collected						

COMMENTS:

Signature:

Nobis	LOW-FLOW/ LOW-STRESS GROUNDWATER SAMPLING LOG SHEET	SOP No: SA-003 Date: 8/21/2007	Page: 1 of Rev.: 0
		Prepared by: John St. Jean	
		Approved by:	

Site Name: Commerce Street Plume Superfund Site
Project Number/Task: 80036.03 0330
Sampler(s):

Temperature Range:
Precipitation:
Wind Speed/Direction:

SAMPLE INFORMATION

Sampling Round: April 2008 Long-Term Monitoring
Sample ID: AS1-14D2
Sample Date / Time: 12/16/08 11:20

QA/QC Sample: Duplicate
QA/QC Sample Time: 11:55
Initial Water Level: 6.857

336

Equipment Information

Pump Type: Peri
Pump Name/ID: Jeo pump E/2 Loader II
Water Level Name/ID: Solinst 101 - 35452

Multimeter Name/ID: YSI-556
Turbidity Name/ID: Lamotte 2020

WELL ID:

Time	Water Level Reading	Bladder Pressure/ Refill/ Discharge	Purge Rate (mL/min)	Temp (°C)	Specific Conductivity (mS/m)	pH	ORP / Eh3 (mV)	DO (mg/L)	Turbidity (NTU)
				3%	3%	+/-0.1	+/-10mV	3%	10% or <10
8:48	6.57			Set up pump, fill flow-through cell, etc.					
~~8:50~~		Delay	15						
9:00	6.75		340	7.64	577	6.46	32.6	8.5	1.8
9:05	6.77		360	8.17	588	6.75	11.3	4.5	1.5
9:10	6.80		400	8.31	589	6.73	6.7	5.0	0.95
9:20	6.79		300	8.49	588	6.82	0.0	4.7	0.90
—	Generator			Stopped -		Refill Gas			—
9:35	6.75		320	8.10	577	6.76	16.7	5.3	1.0
9:40	6.77		340	8.43	529	6.80	8.3	3.6	0.30
9:45	6.77		340	8.38	587	6.78	4.9	3.0	0.40
9:50	6.78		350	8.45	586	6.73	-14.0	2.8	0.25
9:55	6.79		340	8.44	586	6.71	-39.4	2.5	0.15
10:00	6.80		350	8.41	584	6.73	-26.1	3.5	0.20
10:05	6.79		340	8.46	584	6.75	-19.6	3.2	0.05
10:10	6.79		340	8.41	584	6.72	-19.2	3.7	0.15
10:15	6.78		335	8.34	583	6.75	34.6	3.8	0.10
10:20	6.79		340	8.33	583	6.72	-36.8	3.0	0.15
10:25	6.78		350	8.20	582	6.73	-26.0	4.5	0.20
10:30	6.78		350	8.38	583	6.69	-41.8	3.3	0.20

COMMENTS:

Signature:

	LOW-FLOW/ LOW-STRESS GROUNDWATER SAMPLING LOG SHEET	SOP No: SA-003 Date: 8/21/2007	Page: 2 of 2 Rev.: 0
		Prepared by:	
		Approved by:	

Site Name: Commerce Street Plume Superfund Site
Project Number/Task: 80036.03 0330
Sampler(s): John St. John

Temperature Range:
Precipitation:
Wind Speed/Direction:

SAMPLE INFORMATION

Sampling Round: April 2008 Long-Term Monitoring
Sample ID: ASI-14D2
Sample Date / Time:

QA/QC Sample:
QA/QC Sample Time:
Initial Water Level:

Equipment Information

Pump Type:
Pump Name/ID:
Water Level Name/ID:

Multimeter Name/ID:
Turbidity Name/ID:

WELL ID:

Time	Water Level Reading	Bladder Pressure/ Refill/ Discharge	Purge Rate (mL/min)	Temp (°C)	Specific Conductivity (mS/m)	pH	ORP / Eh3 (mV)	DO (mg/L)	Turbidity (NTU)
				3%	3%	+/-0.1	+/-10mV	3%	10% or <10
JS 10:35	6.78			Set up pump, fill flow-through cell, etc.					
~~10:40~~	~~6.78~~		350	8.31	582	6.68	-23.4	2.4	0.20
10:40	6.78		350	8.35	582	6.66	-28.4	3.0	0.15
10:45	6.78		350	8.28	582	6.61	-18.8	2.2	0.20
10:50	6.78		350	8.28	581	6.61	-19.7	1.9	0.00
10:55	6.77		350	8.32	582	6.48	-15.4	2.7	0.00
11:00	6.78		350	8.26	581	6.56	-31.4	2.9	0.00
11:05	6.78		350	8.32	582	6.55	-14.3	1.9	0.00
11:10	6.78		350	8.29	581	6.58	-17.6	2.2	0.00
11:15	6.78		350	8.33	581	6.56	-23.9	1.7	0.00
11:20			SAMPLE TAKEN						
11:55		Duplicate Sample Taken							

COMMENTS:

Signature:

Nobis	**LOW-FLOW/ LOW-STRESS GROUNDWATER SAMPLING LOG SHEET**	SOP No: SA-003 Date: 8/21/2007	Page: 1 of Rev.: 0
		Prepared by:	
		Approved by:	

Site Name: Commerce Street Plume Superfund Site
Project Number/Task: 80036.03 0330
Sampler(s): Danielle Gray

Temperature Range: 20s
Precipitation: N/A
Wind Speed/Direction:

SAMPLE INFORMATION

Sampling Round: April 2008 Long-Term Monitoring
Sample ID: AS I - 23 D2
Sample Date / Time: 12/16/08 1505

QA/QC Sample: MS/MSD
QA/QC Sample Time: 1530/1547
Initial Water Level: 7.01

Equipment Information

Pump Type: Peristaltic
Pump Name/ID: Geo Tech 2219
Water Level Name/ID: Solinst Model 101

Multimeter Name/ID: YSI 600 XL
Turbidity Name/ID: LaMotte 2020

WELL ID:

Time	Water Level Reading	Bladder Pressure/ Refill/ Discharge	Purge Rate (mL/min)	Temp (°C)	Specific Conductivity (mS/m)	pH	ORP / Eh3 (mV)	DO (mg/L)	Turbidity (NTU)
				3%	3%	+/-0.1	+/-10mV	3%	10% or <10
				Set up pump, fill flow-through cell, etc.					
1410	7.23	N/A	200	8.49	338	6.62	-52.7	3.64	5.31
1415	7.26		200	8.40	368	6.63	-47.4	2.51	6.53
1420	7.26		200	8.92	365	6.60	-38.1	1.77	3.19
1425	7.26		200	8.92	360	6.59	-35.2	1.54	3.89
1430	7.28		200	8.89	350	6.58	-35.1	1.42	2.5
1435	7.30		300	8.84	350	6.58	-32.3	1.42	0.80
1440	7.30		350	8.80	343	6.58	-31.9	1.43	0.10
1445	7.30		350	8.73	339	6.58	-30.8	1.51	0.55
1450	7.30		350	8.66	331	6.58	-30.2	1.47	0.00
1455	7.30		350	8.59	331	6.52	-30.3	1.43	0.50
1500	7.30		350	8.60	328	6.58	-30.5	1.40	0.00
1505	Sample Collected								
1530	MS Collected								
1547	MSD Collected								

COMMENTS: PID reading over wellhead = 0.0 ppm.

Signature: Danielle Gray

	LOW-FLOW/ LOW-STRESS GROUNDWATER SAMPLING LOG SHEET	SOP No: SA-003 Date: 8/21/2007	Page: 1 of 2 Rev.: 0
		Prepared by: John St John	
		Approved by:	

Site Name: Commerce Street Plume Superfund Site
Project Number/Task: 80036.03 0330
Sampler(s): John St John

Temperature Range: 20°
Precipitation: NONE
Wind Speed/Direction: 5mph

SAMPLE INFORMATION

Sampling Round: April 2008 Long-Term Monitoring
Sample ID: AS1-23S
Sample Date / Time: 12-16-08

QA/QC Sample:
QA/QC Sample Time:
Initial Water Level: 13:40

Equipment Information

Pump Type: Peristaltic
Pump Name/ID: Geopump Easy Load II
Water Level Name/ID: Solinst # 34452

Multimeter Name/ID: YSI-556
Turbidity Name/ID: Lamotte 2020 4303

WELL ID:

Time	Water Level Reading	Bladder Pressure/ Refill/ Discharge	Purge Rate (mL/min)	Temp (°C)	Specific Conductivity (mS/m)	pH	ORP / Eh3 (mV)	DO (mg/L)	Turbidity (NTU)
				3%	3%	+/-0.1	+/-10mV	3%	10% or <10
13:40	8.32	Problems w/ Pump		Set up pump, fill flow-through cell, etc.					
14:20	15.10		220	8.67	656	6.16	34.6	39.4	7.1
14:25	14.38		230	8.60	658	6.04	40.6	37.2	6.8
14:30	14.63		220	8.69	645	5.74	49.4	26.3	2.1
14:35	13.82		220	8.70	629	5.54	50.4	20.7	0.85
14:40	13.42		220	8.54	615	5.43	50.4	19.1	0.20
14:45	13.10		230	8.58	604	5.41	49.6	18.2	0.30
14:50	13.30		220	8.37	591	5.46	47.6	16.6	0.00
14:55	13.40		220	8.13	575	5.38	46.0	13.3	0.00
15:00	13.45		220	8.25	570	5.23	49.5	14.1	0.00
15:05	13.40		220	7.97	574	5.11	49.3	13.9	0.00
15:10	13.45		220	8.11	575	4.88	50.4	12.3	0.00
15:15	13.40		220	8.17	586	4.84	45.6	11.2	0.00
15:20	13.40		220	8.04	593	4.78	29.3	11.1	0.00
15:25	13.35		220	8.10	591	4.77	25.1	10.9	0.00
15:30	13.40		220	8.23	595	4.66	9.1	10.5	0.00
15:35	13.40		220	8.26	599	4.95	-4.2	10.9	0.00
15:40	13:30		230	8.23	605	4.86	-3.9	10.4	0.00
15:45	13:35		230	8.10	618	4.90	-19.5	9.7	0.00

20.8

COMMENTS:

Signature: John St. John

	LOW-FLOW/ LOW-STRESS GROUNDWATER SAMPLING LOG SHEET	SOP No: SA-003 Date: 8/21/2007	Page: 2 of 2 Rev.: 0
		Prepared by: John St. John	
		Approved by:	

Site Name: Commerce Street Plume Superfund Site
Project Number/Task: 80036.03 0330
Sampler(s): John St. John

Temperature Range: 20s
Precipitation: None
Wind Speed/Direction: 5mph

SAMPLE INFORMATION

Sampling Round: April 2008 Long-Term Monitoring
Sample ID: AS1.23S
Sample Date / Time: 12/16/08

QA/QC Sample:
QA/QC Sample Time: 16:25
Initial Water Level: 13:40

Equipment Information

Pump Type: Peri
Pump Name/ID: Geopump E/L II
Water Level Name/ID: Solinst 102

Multimeter Name/ID: YSI-556
Turbidity Name/ID: Hanna the 2020

WELL ID:

Time	Water Level Reading	Bladder Pressure/ Refill/ Discharge	Purge Rate (mL/min)	Temp (°C)	Specific Conductivity (mS/m)	pH	ORP / Eh3 (mV)	DO (mg/L)	Turbidity (NTU)
				3%	3%	+/-0.1	+/-10mV	3%	10% or <10
~~15:50~~	~~13.40~~		230	~~8.08~~	Set up pump, fill flow-through cell, etc.				
15:50	13:40		230	8.08	5.94	4.75	-9.3	8.6	0.00
15:55	13:40		230	8.02	593	4.75	-7.7	8.8	0.00
15:60	13.40		230	8.04	593	4.67	-7.2	8.3	0.00
16:05	13.40		230	8.06	588	4.71	-4.6	8.1	0.00
16:10	13.40		230	8.03	586	4.60	-14.7	7.6	0.00
16:15	13.40		230	8.08	584	4.62	-15.8	7.5	0.00
16:20	13.40		230	8.06	591	4.57	-9.6	6.5	0.00
16:25			SAMPLE TAKEN						

COMMENTS:

Signature: John St. John

NOLTS	LOW-FLOW/ LOW-STRESS GROUNDWATER SAMPLING LOG SHEET	SOP No: SA-003 Date: 8/21/2007	Page: 1 of 1 Rev.: 0
		Prepared by: Danielle Gray	
		Approved by:	

Site Name: Commerce Street Plume Superfund Site
Project Number/Task: 80036.03 0330
Sampler(s): Danielle Gray

Temperature Range: Cold
Precipitation: Snow
Wind Speed/Direction:

SAMPLE INFORMATION

Sampling Round: April 2008 Long-Term Monitoring
Sample ID: ARC-3
Sample Date / Time: 12/17/08 1040

QA/QC Sample: N/A
QA/QC Sample Time: N/A
Initial Water Level: 4.35

Equipment Information

Pump Type: Peri
Pump Name/ID: U.S. Environmental
Water Level Name/ID: Solinst

Multimeter Name/ID: YSI 600 XL
Turbidity Name/ID: LaMotte 2020

WELL ID:

Time	Water Level Reading	Bladder Pressure/ Refill/ Discharge	Purge Rate (mL/min)	Temp (°C)	Specific Conductivity (mS/m)	pH	ORP / Eh3 (mV)	DO (mg/L)	Turbidity (NTU)
				3%	3%	+/-0.1	+/-10mV	3%	10% or <10
				Set up pump, fill flow-through cell, etc.					
1000	4.30		200	10.17	44	6.49	190.6	10.95	45
1005	4.30		200	10.49	45	6.09	201.2	10.91	33
1010	4.32		200	10.50	45	5.89	205.3	10.96	23
1015	4.28		200	10.55	45	5.74	207.2	11.03	14
1020	4.48		200	10.54	45	5.75	208.2	11.04	8.7
1025	4.47		200	10.57	45	5.72	208.0	11.07	7.8
1030	4.48		200	10.60	45	5.74	208.7	11.08	5.7
1035	4.48		200	10.61	46	5.72	208.6	11.09	4.6
1040	Sample Collected								

COMMENTS:

Began using GeoTech KECK Water Level Meter at 1020 reading.

Signature: Danielle Gray

	LOW-FLOW/ LOW-STRESS GROUNDWATER SAMPLING LOG SHEET	SOP No: SA-003 Date: 8/21/2007	Page: 1 of 1 Rev.: 0
		Prepared by: John St. John	
		Approved by:	

Site Name: Commerce Street Plume Superfund Site
Project Number/Task: 80036.03 0330
Sampler(s): John St. John

Temperature Range: 20s
Precipitation: None
Wind Speed/Direction: 5mph-S

SAMPLE INFORMATION

Sampling Round: April 2008 Long-Term Monitoring
Sample ID: OE-2
Sample Date / Time: 12/17/08 - 14:20

QA/QC Sample:
QA/QC Sample Time:
Initial Water Level:

Equipment Information

Pump Type: Peri
Pump Name/ID: 12/17/08 # 499
Water Level Name/ID: Solinst 101 - 36452

Multimeter Name/ID: YSI 556 # 06108
Turbidity Name/ID: Lamotte 2020

WELL ID: OE-2A

Time	Water Level Reading	Bladder Pressure/ Refill/ Discharge	Purge Rate (mL/min)	Temp (°C)	Specific Conductivity (mS/m)	pH	ORP / Eh3 (mV)	DO (mg/L)	Turbidity (NTU)
				3%	3%	+/-0.1	+/-10mV	3%	10% or <10
13:20	7.42			Set up pump, fill flow-through cell, etc.					
13:25	7.85		300	7.21	1148	5.97	31.8	12.0	55
13:30	7.87		280	7.85	1273	7.04	-95.8	7.6	23
13:35	7.80		260	7.92	1287	7.36	-124.3	6.6	25
13:40	7.82		260	8.02	1289	7.58	-134.9	5.1	19
13:45	7.82		250	8.05	1282	7.61	-132.6	4.8	21
13:50	7.80		250	8.05	1277	7.56	-144.8	4.7	18
13:55	7.80		250	8.07	1276	7.62	-151.4	4.4	13
14:00	7.81		255	8.07	1275	7.58	-154.2	4.3	9.7
14:05	7.81		250	8.09	1274	7.63	-154.1	4.1	6.3
14:10	7.81		250	8.08	1273	7.63	-154.3	4.1	5.8
14:15	7.81		250	8.07	1274	7.63	-152.5	4.0	6.3
14:20	—	SAMPLE TAKEN				—			

COMMENTS:

Signature: John St. John

NOBTS	**LOW-FLOW/ LOW-STRESS GROUNDWATER SAMPLING LOG SHEET**	SOP No: SA-003 Date: 8/21/2007	Page: 1 of Rev.: 0
		Prepared by: Danielle Gray	
		Approved by:	

Site Name: Commerce Street Plume Superfund Site
Project Number/Task: 80036.03 0330
Sampler(s): Danielle Gray

Temperature Range: Wicked Cold
Precipitation: None
Wind Speed/Direction: Slight Breeze

SAMPLE INFORMATION

Sampling Round: April 2008 Long-Term Monitoring
Sample ID: OE-2B
Sample Date / Time: 12/17/08 1435

QA/QC Sample: N/A
QA/QC Sample Time: N/A
Initial Water Level: 7.34

Equipment Information

Pump Type: Peri
Pump Name/ID: GeoPump #469
Water Level Name/ID: KECK - 100'

Multimeter Name/ID: YSI 600XLM
Turbidity Name/ID: LaMotte 2020

WELL ID:

Time	Water Level Reading	Bladder Pressure/ Refill/ Discharge	Purge Rate (mL/min)	Temp (°C)	Specific Conductivity (mS/m)	pH	ORP / Eh3 (mV)	DO (mg/L)	Turbidity (NTU)
				3%	3%	+/-0.1	+/-10mV	3%	10% or <10
1325			300	Set up pump, fill flow-through cell, etc.					
1330	7.49		200	8.00	39	5.09	205.0	5.64	70
1335	7.49		200	8.14	40	5.07	213.2	5.52	60
1340	7.50		200	8.20	44	5.06	219.3	5.46	60
1345	7.49		200	8.15	45	5.05	218.6	5.38	55
1350	7.49		200	8.09	48	5.06	208.5	5.41	39
1355	7.49		200	8.22	55	5.08	202.3	5.43	28
1400	7.49		200	8.26	60	5.11	198.5	5.45	18
1405	7.49		200	8.21	60	5.12	188.6	5.40	12
1410	7.49		200	8.29	61	5.12	167.4	5.27	8.7
1415	7.49		200	8.22	62	5.13	162.0	5.43	5.7
1420	7.49		200	8.19	64	5.14	162.1	5.26	2.9
1425	7.50		200	8.23	66	5.13	163.6	5.24	1.2
1430	7.50		200	8.24	65	5.13	164.6	5.21	1.5
1435	Sample Collected								

COMMENTS:

Signature: Danielle Gray

	LOW-FLOW/ LOW-STRESS GROUNDWATER SAMPLING LOG SHEET	SOP No: SA-003 Date: 8/21/2007	Page: 1 of 1 Rev.: 0
		Prepared by: Ken Marks	
		Approved by:	

Site Name: Commerce Street Plume Superfund Site
Project Number/Task: 80036.03 0330
Sampler(s): Ken Marks

Temperature Range: 25 to 30
Precipitation: Yes Snow
Wind Speed/Direction: N/A

SAMPLE INFORMATION

Sampling Round: April 2008 Long-Term Monitoring
Sample ID: BG-1
Sample Date / Time: 12-17-08 1055

QA/QC Sample:
QA/QC Sample Time:
Initial Water Level: 8.18

Equipment Information

Pump Type: Geo Pump
Pump Name/ID:
Water Level Name/ID:

Multimeter Name/ID:
Turbidity Name/ID:

WELL ID:

Time	Water Level Reading	Bladder Pressure/ Refill/ Discharge	Purge Rate (mL/min)	Temp (°C)	Specific Conductivity (mS/m)	pH	ORP / Eh3 (mV)	DO (mg/L)	Turbidity (NTU)
				3%	3%	+/-0.1	+/-10mV	3%	10% or <10
0850	8.18	N/A	220	Set up pump, fill flow-through cell, etc.					
0940	8.30		220	10.83	1526	7.28	-141.8	2.20	30.2
0945	8.30		220	10.90	1552	7.28	-147.2	1.11	10.1
0950	8.30		220	10.95	1688	7.29	-149.3	0.80	7.11
0955	8.29		220	10.94	1692	7.29	-151.7	0.73	1.20
1000	8.29		220	10.93	1411	7.31	-164.4	0.81	1.13
1005	8.29		220	11.04	1291	7.34	-170.7	0.77	1.05
1010	8.29		220	11.10	1108	7.35	-172.0	0.86	1.01
1015	8.29		220	11.08	1127	7.36	-171.6	0.71	1.00
1020	8.29		220	11.02	1198	7.36	-172.1	0.60	1.01
1025	8.29		220	11.01	1257	7.35	-172.0	0.56	1.03
1030	8.29		220	11.02	1207	7.35	-171.2	0.61	1.01
1035	8.29		220	11.02	1210	7.35	-170.8	0.67	1.00
1040	8.29		220	11.03	1267	7.35	-169.8	0.69	1.00
1045	8.29		220	11.01	1267	7.35	-170.7	0.67	1.02
1050	8.29		220	11.00	1269	7.35	-171.0	0.66	1.01

COMMENTS: Purge water clear. Slight Odor?

Signature: Ken Marks

NOTES	**LOW-FLOW/ LOW-STRESS GROUNDWATER SAMPLING LOG SHEET**	SOP No: SA-003 Date: 8/21/2007	Page: 1 of 1 Rev.: 0
		Prepared by: Ken Marks	
		Approved by:	

Site Name:	Commerce Street Plume Superfund Site	Temperature Range:	25 to 30
Project Number/Task:	80036.03 0330	Precipitation:	light snow
Sampler(s):	Ken Marks	Wind Speed/Direction:	light

SAMPLE INFORMATION

Sampling Round:	April 2008 Long-Term Monitoring	QA/QC Sample:	
Sample ID:	BR-1	QA/QC Sample Time:	
Sample Date / Time:	12-17-08 1315	Initial Water Level:	8.77

Equipment Information

Pump Type:	Geo-Pump	Multimeter Name/ID:	
Pump Name/ID:		Turbidity Name/ID:	
Water Level Name/ID:			

WELL ID:

Time	Water Level Reading	Bladder Pressure/ Refill/ Discharge	Purge Rate (mL/min)	Temp (°C)	Specific Conductivity (mS/m)	pH	ORP / Eh3 (mV)	DO (mg/L)	Turbidity (NTU)	
				3%	3%	+/-0.1	+/-10mV	3%	10% or <10	
1200	8.77	N/A	120	Set up pump, fill flow-through cell, etc.						
1220	8.91		120	10.19	65537	12.41	-132.2	5.01	10.7	
1225	8.90		120	9.93	65588	12.38	-126.1	4.10	24.1	
1230	8.90		120	9.89	~~660~~ 65	12.42	-122.8	3.85	27.3	S.Con=65075
1235	8.88		120	10.13	65909	12.42	-120.9	3.49	21.1	
1240	8.89		120	9.96	66203	12.42	-121.9	3.34	19.6	
1245	8.89		120	9.85	66256	12.43	-122.4	3.37	11.6	
1250	8.89		120	9.81	66232	12.44	-120.3	3.55	11.0	
1255	8.89		120	9.73	66245	12.44	-119.6	3.51	10.6	
1300	8.89		120	9.74	66251	12.43	-119.3	3.31	9.31	
1305	8.89		120	9.77	66255	12.43	-119.5	3.33	9.33	
1310	8.89		120	9.76	66257	12.43	-120.1	3.34	9.32	

COMMENTS:

Signature: Ken Marks

	LOW-FLOW/ LOW-STRESS GROUNDWATER SAMPLING LOG SHEET	SOP No: SA-003 Date: 8/21/2007	Page: 1 of Rev.: 0
		Prepared by: John St. John	
		Approved by:	

Site Name: Commerce Street Plume Superfund Site
Project Number/Task: 80036.03 0330
Sampler(s): John St. John

Temperature Range: 20s
Precipitation: Light Snow
Wind Speed/Direction: 5mph E

SAMPLE INFORMATION

Sampling Round: April 2008 Long-Term Monitoring
Sample ID: Bm 3D
Sample Date / Time: 12/17/08

QA/QC Sample:
QA/QC Sample Time:
Initial Water Level: 6.42 30.35

Equipment Information

Pump Type: Peri
Pump Name/ID: Geo-Pump #469
Water Level Name/ID: Solinst 101 - 36452

Multimeter Name/ID: YSI 556 #06108
Turbidity Name/ID: Lamotte 2020 #4303

WELL ID: Bm 3D

Time	Water Level Reading	Bladder Pressure/ Refill/ Discharge	Purge Rate (mL/min)	Temp (°C)	Specific Conductivity (mS/m)	pH	ORP / Eh3 (mV)	DO (mg/L)	Turbidity (NTU)
				3%	3%	+/-0.1	+/-10mV	3%	10% or <10
9:25	6.88		300	Set up pump, fill flow-through cell, etc.					
9:30	6.82		260	9.80	712	6.74	-119.5	3.3	95
9:35	6.84		250	10.09	718	6.77	-122.0	3.7	85
9:40	6.83		250	10.14	722	6.80	-107.4	4.9	80
9:45	6.84		250	10.12	732	6.78	-130.2	3.5	55
9:50	6.84		250	10.14	732	6.79	-111.6	3.2	50
9:55	6.84		250	10.13	732	6.79	-120.6	2.3	40
10:00	6.84		250	10.33	738	6.70	-127.2	2.2	45
10:05	6.83		250	10.27	742	6.79	-125.5	2.3	45
10:10	6.84		250	10.27	743	6.79	-128.2	2.0	25
10:15	6.84		250	10.14	745	6.77	-121.6	2.4	26
10:20	6.84		250	10.31	747	6.76	-116.5	2.3	27
10:25	6.84		250	10.31	747	6.76	-126.8	2.3	23
10:30	6.84		250	10.24	749	6.75	-128.7	2.3	23
10:35	6.84		250	10.[illegible]	755	6.75	-133.7	2.3	21
10:40			SAMPLE TAKEN						

COMMENTS:

Signature: John St. John

	LOW-FLOW/ LOW-STRESS GROUNDWATER SAMPLING LOG SHEET	SOP No: SA-003 Date: 8/21/2007	Page: 1 of 1 Rev.: 0
		Prepared by: Ken Marks	
		Approved by:	

Site Name: Commerce Street Plume Superfund Site
Project Number/Task: 80036.03 0330
Sampler(s): Ken Marks

Temperature Range: 25 to 30
Precipitation: None
Wind Speed/Direction: 1+5 mph NW

SAMPLE INFORMATION

Sampling Round: April 2008 Long-Term Monitoring
Sample ID: ASI-15 D2
Sample Date / Time: 12-18-08 1000

QA/QC Sample:
QA/QC Sample Time:
Initial Water Level: 7.11

Equipment Information

Pump Type: Geo-Pump
Pump Name/ID:
Water Level Name/ID:

Multimeter Name/ID: Q6K 1082
Turbidity Name/ID:

WELL ID:

Time	Water Level Reading	Bladder Pressure/ Refill/ Discharge	Purge Rate (mL/min)	Temp (°C)	Specific Conductivity (mS/m)	pH	ORP / Eh3 (mV)	DO (mg/L)	Turbidity (NTU)
				3%	3%	+/-0.1	+/-10mV	3%	10% or <10
0855	7.11	N/A	225	Set up pump, fill flow-through cell, etc.					
0910	7.17	↓	225	8.57	1011	7.01	-118.1	2.02	4.29
0915	7.17		225	8.70	1014	6.96	-126.6	1.05	4.11
0920	7.17		225	8.94	995	7.00	-141.7	0.80	4.02
0925	7.17		225	8.99	990	7.02	-152.3	0.51	4.04
0930	7.17		225	9.09	987	7.03	-159.8	0.47	4.00
0935	7.17		225	9.16	983	7.05	-167.6	0.43	4.01
0940	7.17		225	9.10	987	7.05	-167.9	0.44	3.89
0945	7.17		225	9.10	986	7.05	-168.0	0.42	3.87
0950	7.17		225	9.13	977	7.06	-168.5	0.41	3.81
0955	7.17	↓	225	9.12	981	7.06	-168.4	0.39	3.82

COMMENTS: Very Clear Slight Odor? 1.5" well Good Condition. Good Recharge

Signature: Ken Marks

	LOW-FLOW/ LOW-STRESS GROUNDWATER SAMPLING LOG SHEET	SOP No: SA-003 Date: 8/21/2007	Page: 1 of Rev.: 0
		Prepared by: Ken Marks	
		Approved by:	

Site Name: Commerce Street Plume Superfund Site
Project Number/Task: 80036.03.0330
Sampler(s): Ken Marks

Temperature Range: 25-30
Precipitation: None
Wind Speed/Direction: 1 to 7 NW

SAMPLE INFORMATION

Sampling Round: April 2008 Long-Term Monitoring
Sample ID: BW-135
Sample Date / Time: 12-19-08 1430

QA/QC Sample:
QA/QC Sample Time:
Initial Water Level: 5.65

Equipment Information

Pump Type: Geo Pump
Pump Name/ID:
Water Level Name/ID:

Multimeter Name/ID:
Turbidity Name/ID:

WELL ID:

Time	Water Level Reading	Bladder Pressure/ Refill/ Discharge	Purge Rate (mL/min)	Temp (°C)	Specific Conductivity (mS/m)	pH	ORP / Eh3 (mV)	DO (mg/L)	Turbidity (NTU)
				3%	3%	+/-0.1	+/-10mV	3%	10% or <10
1300	6.5	N/A	125	Set up pump, fill flow-through cell, etc.					
1345 ~~1354~~			125	7.13	683	5.74	97.9	2.05	5.0
1350			125	7.18	671	5.74	110.8	1.88	1.32
1355			125	7.28	664	5.71	132.9	1.87	2.32
1400			125	7.21	654	5.71	121.3	2.24	2.11
1405			125	7.20	651	5.71	129.3	2.50	2.14
1410			125	7.17	648	5.70	135.4	2.66	2.19
1415			125	7.20	645	5.70	132.3	2.80	2.20
1420			125	7.12	642	5.70	134.5	3.17	2.69
1425			125	7.06	639	5.70	136.1	3.89	2.61

COMMENTS: TD = 16.77

Signature: Ken Marks

Nobis	**LOW-FLOW/ LOW-STRESS GROUNDWATER SAMPLING LOG SHEET**	SOP No: SA-003 Date: 8/21/2007	Page: 1 of Rev.: 0
		Prepared by: Danielle Gray	
		Approved by:	

Site Name: Commerce Street Plume Superfund Site
Project Number/Task: 80036.03 0330
Sampler(s): Danielle Gray

Temperature Range:
Precipitation: N/A
Wind Speed/Direction: N/A

SAMPLE INFORMATION

Sampling Round: April 2008 Long-Term Monitoring
Sample ID: ASI-02 D2
Sample Date / Time: 12/18/08

QA/QC Sample: Duplicate
QA/QC Sample Time:
Initial Water Level: 6.75

Equipment Information

Pump Type: Peristaltic
Pump Name/ID: GeoPump #469
Water Level Name/ID: KECK 100'

Multimeter Name/ID: YSI 600XLM
Turbidity Name/ID: LaMotte 2020

WELL ID:

Time	Water Level Reading	Bladder Pressure/ Refill/ Discharge	Purge Rate (mL/min)	Temp (°C)	Specific Conductivity (mS/m)	pH	ORP / Eh3 (mV)	DO (mg/L)	Turbidity (NTU)
				3%	3%	+/-0.1	+/-10mV	3%	10% or <10
				Set up pump, fill flow-through cell, etc.					
0910	7.08		150	9.33	923	7.11	-109.4	1.91	21
0915	7.04		150	9.78	974	7.04	-117.4	1.11	19
0920	7.04		175	10.04	1031	6.98	-127.7	0.81	17
0925	7.04		175	10.07	1047	6.96	-134.4	0.67	12
0930	7.05		175	10.23	1081	6.94	-137.6	0.61	9.2
0935	7.05		175	10.24	1078	6.93	-139.2	0.65	5.2
0940	7.05		175	10.25	1084	6.93	-140.1	0.66	3.2
0945	7.06		200	10.21	1094	6.92	-140.7	0.64	2.8
0950	7.06		200	10.10	1081	6.92	-141.3	0.60	1.2
0955	7.06		200	10.11	1080	6.93	-141.6	0.54	1.1
1000	7.07		200	10.26	1080	6.92	-142.7	0.49	0.0
1005	7.07		200	10.25	1083	6.92	-143.7	0.49	0.0
1010	7.08		200	10.28	1088	6.92	-143.8	0.44	0.0
1015	Sample Collected								

COMMENTS:

Signature: Danielle Gray

	LOW-FLOW/ LOW-STRESS GROUNDWATER SAMPLING LOG SHEET	SOP No: SA-003 Date: 8/21/2007	Page: 1 of 2 Rev.: 0
		Prepared by: John St. John	
		Approved by:	

Site Name: Commerce Street Plume Superfund Site
Project Number/Task: 80036.03 0330
Sampler(s): John St. John

Temperature Range: High 20s Sunny
Precipitation: None
Wind Speed/Direction: None

SAMPLE INFORMATION

Sampling Round: April 2008 Long-Term Monitoring
Sample ID: AS1-05D2
Sample Date / Time: 12/18/08

QA/QC Sample:
QA/QC Sample Time:
Initial Water Level: 6.82

Equipment Information

Pump Type: Peristaltic
Pump Name/ID: GeoPump EL2 #499
Water Level Name/ID: Solinst 101 35452

Multimeter Name/ID: YSI 556 06J08 @37°
Turbidity Name/ID: Lamotte 2020 #4303

WELL ID:

Time	Water Level Reading	Bladder Pressure/ Refill/ Discharge	Purge Rate (mL/min)	Temp (°C)	Specific Conductivity (mS/m)	pH	ORP / Eh3 (mV)	DO (mg/L)	Turbidity (NTU)
				3%	3%	+/-0.1	+/-10mV	3%	10% or <10
9:15	6.85			Set up pump, fill flow-through cell, etc.					
9:30	7.10		260	6.99	382	6.70	-78.6	19.7	11
9:35	7.43		270	7.83	400	8.11	-187.9	6.2	3.5
9.40	7.40		240	7.74	403	7.94	-193.2	5.0	0.70
9:45	7.40		240	7.61	405	7.86	-195.2	4.8	0.70
9:50	7.40		240	7.56	402	7.80	-195.2	4.5	0.70
9:55	7.40		240	7.64	403	7.81	-196.6	4.0	0.45
10:00	7.40		240	7.86	405	7.80	-196.8	3.6	0.30
10:05	7.41		250	7.96	407	7.82	-198.9	3.8	0.30
10:10	7.42		240	8.12	411	7.87	-201.2	3.1	0.20
10:15	7.42		240	8.22	412	7.87	-201.4	2.7	0.25
10:20	7.42		240	8.35	415	7.88	-201.6	2.6	0.00
10:25	7.44		250	8.21	414	7.88	-202.3	2.6	0.00
10:30	7.44		240	8.12	414	7.90	-202.0	2.7	0.00
10:35	7.42		240	8.03	414	7.85	-199.0	3.3	0.00
10:40	7.42		240	7.83	410	7.84	-196.2	2.7	0.00
10:45	7.42		240	7.91	412	7.87	-197.8	2.7	0.00
10:50	7.42		240	7.71	411	7.85	-196.6	2.9	0.00
10:55	7.42		240	7.81	411	7.82	-195.8	2.7	0.00

COMMENTS:

Signature: John St. John

	LOW-FLOW/ LOW-STRESS GROUNDWATER SAMPLING LOG SHEET	SOP No: SA-003 Date: 8/21/2007	Page: 2 of 2 Rev.: 0
		Prepared by: John St. John	
		Approved by:	

Site Name: Commerce Street Plume Superfund Site
Project Number/Task: 80036.03 0330
Sampler(s): John St. John

Temperature Range:
Precipitation:
Wind Speed/Direction:

SAMPLE INFORMATION

Sampling Round: April 2008 Long-Term Monitoring
Sample ID: A31-05D2
Sample Date / Time: 12/18/08 11:35

QA/QC Sample:
QA/QC Sample Time:
Initial Water Level: 6.82

Equipment Information

Pump Type: Peristaltic
Pump Name/ID: Geopump E/L II #499
Water Level Name/ID: Solinst 101 35452

Multimeter Name/ID: YSI 556 06108
Turbidity Name/ID: Lamotte 2020 #4303

WELL ID:

Time	Water Level Reading	Bladder Pressure/ Refill/ Discharge	Purge Rate (mL/min)	Temp (°C)	Specific Conductivity (mS/m)	pH	ORP / Eh3 (mV)	DO (mg/L)	Turbidity (NTU)
				3%	3%	+/-0.1	+/-10mV	3%	10% or <10
cont.				Set up pump, fill flow-through cell, etc.					
11:00	7.42		240	7.78	412	7.83	-196.0	2.6	0.00
11:05	7.42		240	7.81	412	7.82	-195.3	2.5	0.00
11:10	7.42		240	8.04	414	7.82	-196.4	2.4	0.00
11:15	7.42		240	8.05	413	7.84	-197.0	2.3	0.00
11:20	7.42		240	8.22	417	7.89	-200.1	2.1	0.00
11:25	7.42		240	8.30	417	7.86	-199.7	2.3	0.00
11:30	7.42		240	8.11	415	7.84	-198.1	2.1	0.00
11:35			SAMPLE TAKEN						

COMMENTS:

Signature: John St. John

NOTS	LOW-FLOW/ LOW-STRESS GROUNDWATER SAMPLING LOG SHEET	SOP No: SA-003 Date: 8/21/2007	Page: 1 of 2 Rev.: 0
		Prepared by: John St. John	
		Approved by:	

Site Name:	Commerce Street Plume Superfund Site	Temperature Range:	30s
Project Number/Task:	80036.03 0330	Precipitation:	NONE
Sampler(s):	John St. John	Wind Speed/Direction:	NONE

SAMPLE INFORMATION

Sampling Round:	April 2008 Long-Term Monitoring	QA/QC Sample:	
Sample ID:	AS1 35D2	QA/QC Sample Time:	
Sample Date / Time:	12/18/08	Initial Water Level:	6.27

Equipment Information

Pump Type:	Peristaltic	Multimeter Name/ID:	YSI 556 06108
Pump Name/ID:	Geopump E/LIT #499	Turbidity Name/ID:	Lamotte 2020 ~~#4303~~ #4303
Water Level Name/ID:	Solinst 101 35452		

WELL ID:

Time	Water Level Reading	Bladder Pressure/ Refill/ Discharge	Purge Rate (mL/min)	Temp (°C)	Specific Conductivity (µS/m)	pH	ORP / Eh3 (mV)	DO (mg/L)	Turbidity (NTU)
				3%	3%	+/-0.1	+/-10mV	3%	10% or <10
13:20	6.27			Set up pump, fill flow-through cell, etc.					
13:25	6.57		220	4.26	481	7.72	-48.6	33.9	9.3
13:30	6.59		220	3.12	485	7.79	-151.4	10.8	6.7
13:35	6.61		220	3.90	492	7.85	-164.9	6.9	3.0
13:40	6.61		210	4.22	503	7.75	-170.6	5.5	2.5
13:45	6.61		210	4.24	504	7.82	-171.4	5.4	1.7
13:50	6.61		210	4.27	506	8.53	-175.2	5.1	2.0
13:55	6.61		210	4.76	511	7.85	-175.5	4.7	2.0
14:00	6.61		220	4.90	514	7.84	-176.3	4.0	0.95
14:05	6.61		220	4.83	513	7.82	-176.9	4.3	0.50
14:10	6.61		220	4.90	514	7.82	-178.1	4.0	0.60
14:15	6.61		220	5.25	517	7.81	-190.5	3.9	0.50
14:20	6.61		220	5.45	522	7.87	-182.7	4.0	0.00
14:25	6.61		220	5.83	527	7.91	-183.8	3.6	0.00
14:30	6.61		220	6.26	534	7.77	-184.2	3.3	0.00
14:35	6.61		220	6.42	538	7.72	-183.9	3.4	0.00
14:40	6.61		220	6.56	540	7.77	-183.0	3.5	0.00
14:45	6.61		220	6.63	542	7.81	-183.4	3.4	0.00
14:50	6.61		220	6.85	545	7.79	-185.5	3.3	0.00

COMMENTS:

Signature: John St. John

	LOW-FLOW/ LOW-STRESS GROUNDWATER SAMPLING LOG SHEET	SOP No: SA-003 Date: 8/21/2007	Page: 2 of 2 Rev.: 0
		Prepared by: John St. John	
		Approved by:	

Site Name: Commerce Street Plume Superfund Site
Project Number/Task: 80036.03 0330
Sampler(s): John St. John

Temperature Range: 20s
Precipitation: None
Wind Speed/Direction: None

SAMPLE INFORMATION

Sampling Round: April 2008 Long-Term Monitoring
Sample ID: AS1 35D2
Sample Date / Time: 12/18/08

QA/QC Sample:
QA/QC Sample Time:
Initial Water Level: 6.27

Equipment Information

Pump Type: Peristaltic
Pump Name/ID: GeoPump E/L II #499
Water Level Name/ID: Solinst 101 35452

Multimeter Name/ID: YSI-556 06J08
Turbidity Name/ID: Lamotte 2020 #4303

WELL ID:

Time	Water Level Reading	Bladder Pressure/ Refill/ Discharge	Purge Rate (mL/min)	Temp (°C)	Specific Conductivity (mS/m)	pH	ORP / Eh3 (mV)	DO (mg/L)	Turbidity (NTU)
				3%	3%	+/-0.1	+/-10mV	3%	10% or <10
Continued -			-	-	—	Set up pump, fill flow-through cell, etc.			
14:55	6.61		220	7.01	548	7.79	-185.0	3.2	0.00
15:00	6.61		220	6.85	545	7.77	-184.0	3.1	0.00
15:05	6.61		220	6.74	543	7.76	-184.0	3.0	0.20
15:10	6.61		220	6.93	547	7.76	-184.8	3.0	0.25
15:15	6.61		220	6.86	546	7.75	-182.9	2.9	0.20
15:20	6.61		220	6.81	544	7.74	-183.8	2.8	0.15
15:25			SAMPLE TAKEN						

COMMENTS:

Signature: _____

	LOW-FLOW/ LOW-STRESS GROUNDWATER SAMPLING LOG SHEET	SOP No: SA-003 Date: 8/21/2007	Page: 1 of Rev.: 0
		Prepared by:	
		Approved by:	

Site Name: Commerce Street Plume Superfund Site
Project Number/Task: 80036.03 0330
Sampler(s): ELDRID MOSSMAN

Temperature Range:
Precipitation:
Wind Speed/Direction:

SAMPLE INFORMATION

Sampling Round: 11 April 2008 Long-Term Monitoring
Sample ID: MI-8
Sample Date / Time: 12-19-08 1020

QA/QC Sample: MS/MSD
QA/QC Sample Time: 1020
Initial Water Level: 4.1

Equipment Information

Pump Type: Peristaltic
Pump Name/ID:
Water Level Name/ID: KECK 100'

Multimeter Name/ID: YSI 600 XLM
Turbidity Name/ID: LaMotte 2020

WELL ID: 0.3ft

Time	Water Level Reading	Bladder Pressure/ Refill/ Discharge	Purge Rate (mL/min)	Temp (°C)	Specific Conductivity (mS/m)	pH	ORP / Eh3 (mV)	DO (mg/L)	Turbidity (NTU)
				3%	3%	+/-0.1	+/-10mV	3%	10% or <10
				Set up pump, fill flow-through cell, etc.					
09:08	4.2		300	BATTERY CHANGED IN YSI					2.7
09:12	4.2		300	8.55	487	5.77	240.7	1.49	2.9
09:17	4.2		300	8.56	508	5.57	250.6	1.55	2.5
09:22	4.25		300	8.57	518	5.52	251	1.58	2.2
09:27	4.25		300	8.63	522	5.50	245.5	1.65	2.3
0932	4.25		300	8.67	532	5.49	240.1	1.68	2.1
0937	4.25		300	8.45	534	5.49	237.2	1.71	1.99
0942	4.25		300	8.57	531	5.48	237.8	1.76	1.90
0947	4.25		360	8.52	537	5.48	238.1	1.88	1.84
0952	4.25		300	8.53	535	5.49	238.4	1.81	1.93
0957	4.25		300	8.56	545	5.47	237.1	1.79	2.21
1002	4.25		300	8.66	539	5.47	240.7	180	2.71
1007	4.25		300	8.78	543	5.47	242.8	180	2.
1012	4.25		300	8.73	544	5.47	243.9	1.79	2.1
1017	4.25		300	8.77	549	5.47	245	181	
1020	Sample		Collected						

COMMENTS:

Signature:

	LOW-FLOW/ LOW-STRESS GROUNDWATER SAMPLING LOG SHEET	SOP No: SA-003 Date: 8/21/2007	Page: 1 of 1 Rev.: 0
		Prepared by: John St. John	
		Approved by:	

Site Name: Commerce Street Plume Superfund Site
Project Number/Task: 80036.03 0330
Sampler(s): John St. John

Temperature Range: Teens
Precipitation: None
Wind Speed/Direction: None

SAMPLE INFORMATION

Sampling Round: April 2008 Long-Term Monitoring
Sample ID: ASI-11D2
Sample Date / Time: 12/19/08 9:55

QA/QC Sample:
QA/QC Sample Time:
Initial Water Level: 2.86

Equipment Information

Pump Type: Peri
Pump Name/ID: Geopump E/L II #2219
Water Level Name/ID: Solinst 101 #35452

Multimeter Name/ID: YSI 556 06J08
Turbidity Name/ID: Lamotte 2020 #4197

WELL ID: ASI-11D2

Time	Water Level Reading	Bladder Pressure/ Refill/ Discharge	Purge Rate (mL/min)	Temp (°C)	Specific Conductivity (mS/m)	pH	ORP / Eh3 (mV)	DO (mg/L)	Turbidity (NTU)
				3%	3%	+/-0.1	+/-10mV	3%	10% or <10
8:30	2.86			Set up pump, fill flow-through cell, etc.					
8:40	3.12	240		9.13	404	6.22	-27.6	21.2	12
8:45	3.12	240		9.72	423	7.13	-126.0	8.9	6.8
8:50	3.12	240		9.87	432	7.21	-141.7	7.7	5.3
8:55	3.12	240		10.20	446	7.42	-169.5	4.2	5.0
9:00	3.12	240		10.30	447	7.55	-195.6	2.5	2.3
9:05	3.13	240		10.31	447	7.56	-197.3	2.4	2.2
9:10	3.14	250		10.29	448	7.54	-200.3	2.6	3.2
9:15	3.14	250		10.15	446	7.56	-197.6	2.4	2.3
9:20	3.14	250		10.18	445	7.56	-196.5	2.1	1.6
9:25	3.15	240		10.09	444	7.57	-198.8	2.1	1.9
9:30	3.13	240		10.00	444	7.57	-202.5	2.3	1.5
9:35	3.14	240		10.15	443	7.57	-205.3	2.5	1.3
9:40	3.14	240		10.13	442	7.57	-207.3	2.2	1.4
9:45	3.14	240		10.10	441	7.59	-208.6	2.2	1.4
9:50	3.14	240		10.07	438	7.59	-211.6	2.2	0.80
9:55		SAMPLE		TAKEN					

COMMENTS:

Signature: John St. John

NOTS	**LOW-FLOW/ LOW-STRESS GROUNDWATER SAMPLING LOG SHEET**	SOP No: SA-003 Date: 8/21/2007	Page: 1 of 1 Rev.: 0
		Prepared by: Ken Marks	
		Approved by:	

Site Name: Commerce Street Plume Superfund Site
Project Number/Task: 80036.03 0330
Sampler(s): Ken Marks

Temperature Range: 25-30°F
Precipitation: None
Wind Speed/Direction: light

SAMPLE INFORMATION

Sampling Round: April 2008 Long-Term Monitoring
Sample ID: AL-15
Sample Date / Time: 12-19-08 1050

QA/QC Sample:
QA/QC Sample Time:
Initial Water Level: 7.59

Equipment Information

Pump Type: Geo-Pump
Pump Name/ID:
Water Level Name/ID:

Multimeter Name/ID:
Turbidity Name/ID:

WELL ID:

Time	Water Level Reading	Bladder Pressure/ Refill/ Discharge	Purge Rate (mL/min)	Temp (°C)	Specific Conductivity (mS/m)	pH	ORP / Eh3 (mV)	DO (mg/L)	Turbidity (NTU)
				3%	3%	+/-0.1	+/-10mV	3%	10% or <10
1010	7.59	N/A		Set up pump, fill flow-through cell, etc.					
1025	7.59	↓	200	8.58	161	5.92	123.1	5.30	116
1030	7.59	↓	200	8.47	168	5.74	130.0	3.77	21.7
1035	7.59	↓	200	8.45	182	5.48	153.9	3.04	11.5
1040	7.59	↓	200	8.45	183	5.42	181.2	2.48	4.86
1045	7.59	↓	200	8.44	178	5.50	182.2	2.36	4.01

COMMENTS: TD = 14.31

Signature: Ken Marks

NOVA	**LOW-FLOW/ LOW-STRESS GROUNDWATER SAMPLING LOG SHEET**	SOP No: SA-003 Date: 8/21/2007	Page: 1 of 1 Rev.: 0
		Prepared by: Ken Marks	
		Approved by:	

Site Name: Commerce Street Plume Superfund Site
Project Number/Task: 80036.03 0330
Sampler(s): Ken Marks

Temperature Range: 25 to 30
Precipitation: None
Wind Speed/Direction: light

SAMPLE INFORMATION

Sampling Round: April 2008 Long-Term Monitoring
Sample ID: BM-3 S
Sample Date / Time: 12-19-08 940

QA/QC Sample:
QA/QC Sample Time:
Initial Water Level: 7.42

Equipment Information

Pump Type: Geo Pump
Pump Name/ID:
Water Level Name/ID:

Multimeter Name/ID:
Turbidity Name/ID:

WELL ID:

Time	Water Level Reading	Bladder Pressure/ Refill/ Discharge	Purge Rate (mL/min)	Temp (°C)	Specific Conductivity (mS/m)	pH	ORP / Eh3 (mV)	DO (mg/L)	Turbidity (NTU)
				3%	3%	+/-0.1	+/-10mV	3%	10% or <10
0905	7.51	N/A	200	Set up pump, fill flow-through cell, etc.					
0915	7.51		200	8.86	459	6.70	50.5	4.11	52.2
0920	7.51		200	9.16	476	6.64	51.9	3.21	40.1
0925	7.51		200	9.31	483	6.63	52.8	2.92	27.9
0930	7.51		200	9.24	487	6.57	64.9	2.68	23.2
0935	7.51		200	9.23	488	6.57	69.9	2.59	19.1

COMMENTS: TD = 15.30

Signature: Ken Marks

	LOW-FLOW/ LOW-STRESS GROUNDWATER SAMPLING LOG SHEET	SOP No: SA-003 Date: 8/21/2007	Page: 1 of 1 Rev.: 0
		Prepared by: Ken Marks	
		Approved by:	

Site Name: Commerce Street Plume Superfund Site
Project Number/Task: 80036.03 0330
Sampler(s): Ken Marks

Temperature Range: 18-23
Precipitation: None
Wind Speed/Direction: N 1+3 mph

SAMPLE INFORMATION

Sampling Round: April 2008 Long-Term Monitoring
Sample ID: BE-4
Sample Date / Time: 12-19-08 0840

QA/QC Sample:
QA/QC Sample Time:
Initial Water Level: 8.42

Equipment Information

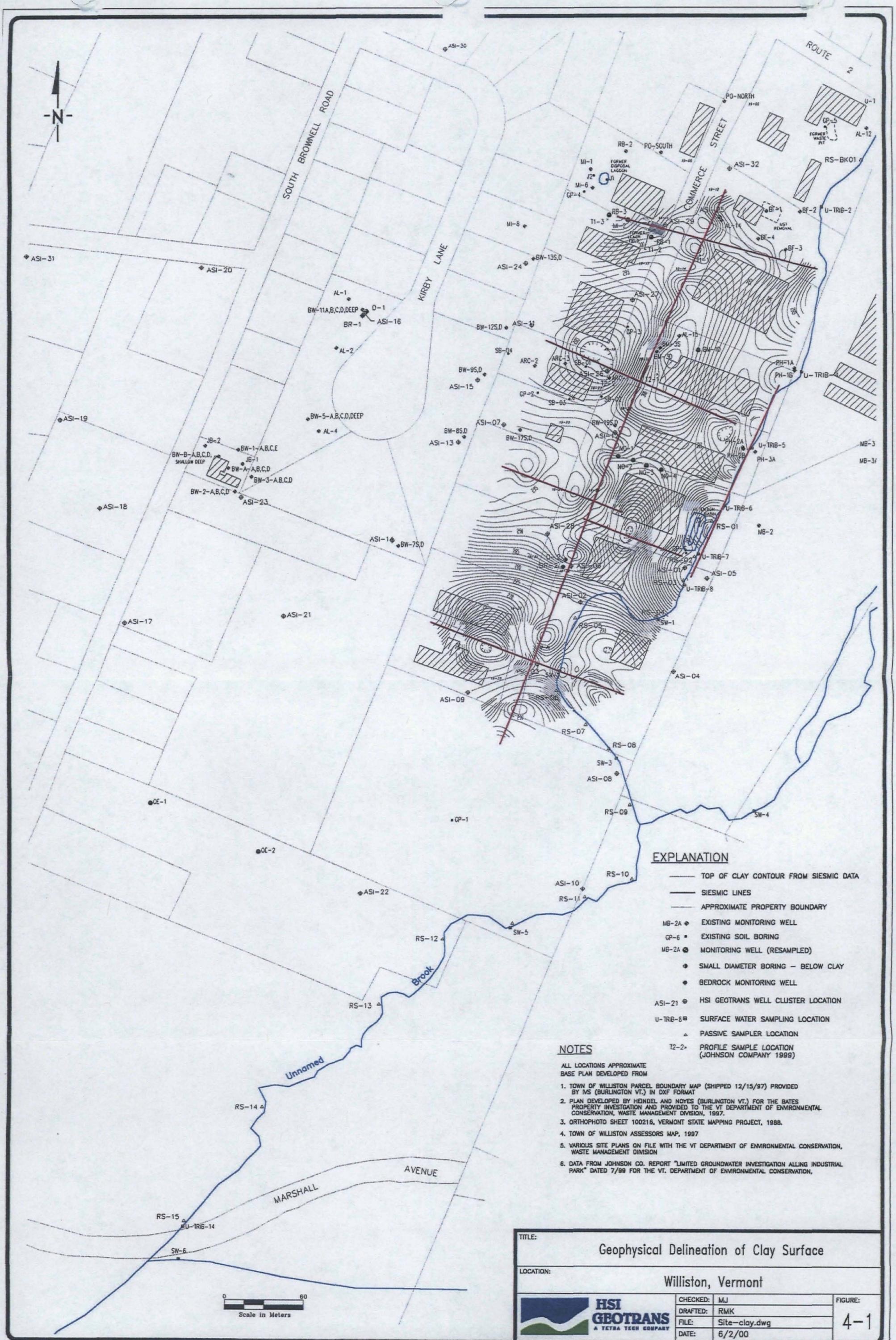
Pump Type: Geo Pump
Pump Name/ID:
Water Level Name/ID:

Multimeter Name/ID:
Turbidity Name/ID:

WELL ID:

Time	Water Level Reading	Bladder Pressure/ Refill/ Discharge	Purge Rate (mL/min)	Temp (°C)	Specific Conductivity (mS/m)	pH	ORP / Eh3 (mV)	DO (mg/L)	Turbidity (NTU)
				3%	3%	+/-0.1	+/-10mV	3%	10% or <10
0800	8.42	N/A	200	Set up pump, fill flow-through cell, etc.					
0815	8.55	↓	200	7.15	345	7.51	199.3	3.41	359
0820	8.55	↓	200	7.05	281	7.21	151.0	2.25	210
0825	8.55	↓	200	7.91	219	6.68	29.3	0.84	183
0830	8.55	↓	200	8.71	208	6.55	-33.6	0.68	41
0835	8.55	↓	200	8.78	206	6.55	-42.5	0.64	30

COMMENTS: TD= 12.60
0800= Purge cloudy orange light sheen, Signature: Ken Marks



NOTES

ALL LOCATIONS APPROXIMATE
BASE PLAN DEVELOPED FROM

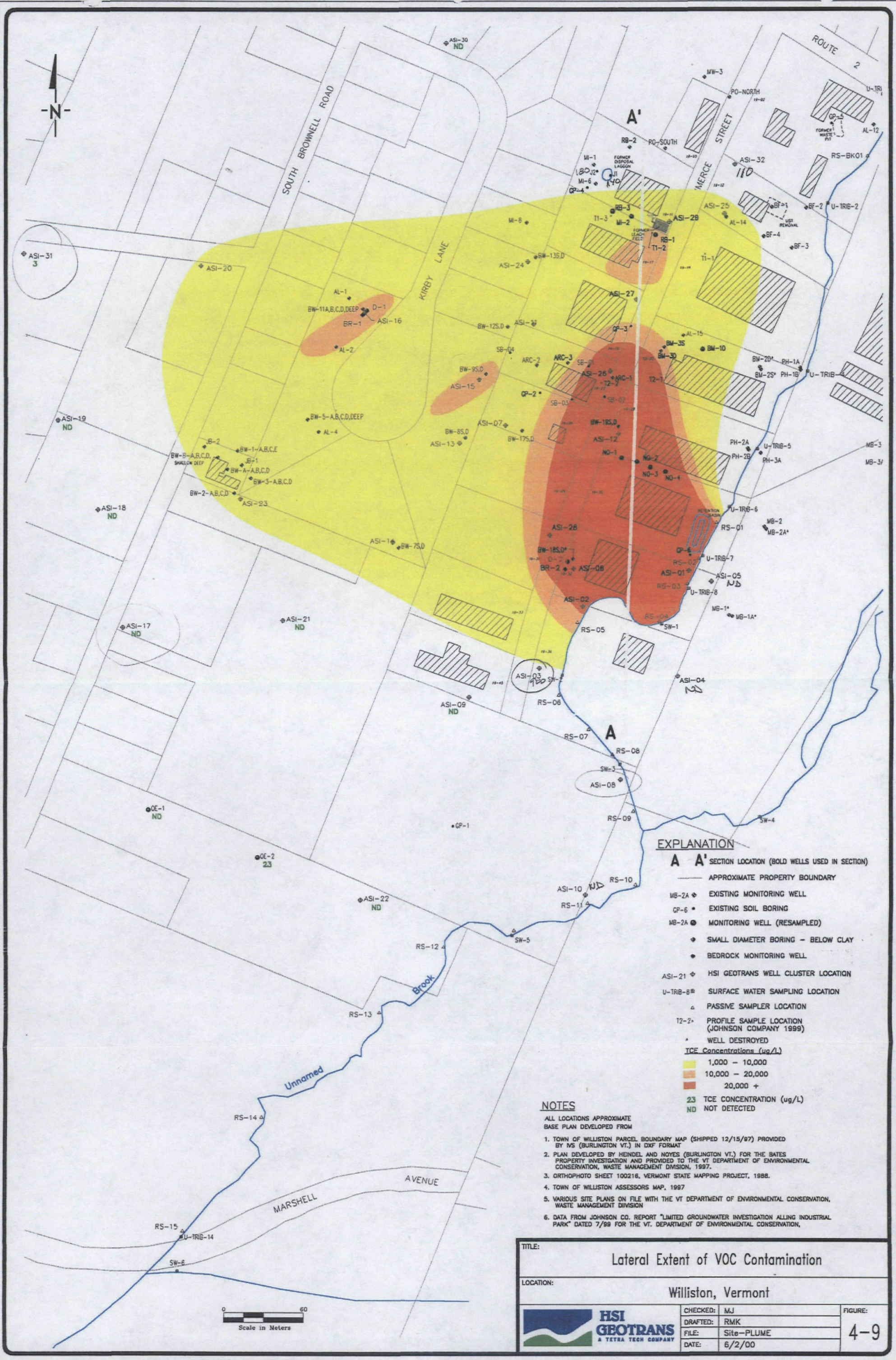
1. TOWN OF WILLISTON PARCEL BOUNDARY MAP (SHIPPED 12/15/97) PROVIDED BY IVS (BURLINGTON VT.) IN DXF FORMAT
2. PLAN DEVELOPED BY HEINDEL AND NOYES (BURLINGTON VT.) FOR THE BATES PROPERTY INVESTGATION AND PROVIDED TO THE VT DEPARTMENT OF ENVIRONMENTAL CONSERVATION, WASTE MANAGEMENT DIVISION, 1997.
3. ORTHOPHOTO SHEET 100216, VERMONT STATE MAPPING PROJECT, 1988.
4. TOWN OF WILLISTON ASSESSORS MAP, 1997
5. VARIOUS SITE PLANS ON FILE WITH THE VT DEPARTMENT OF ENVIRONMENTAL CONSERVATION, WASTE MANAGEMENT DIMSION
6. DATA FROM JOHNSON CO. REPORT "LIMITED GROUNDWATER INVESTIGATION ALLING INDUSTRIAL PARK" DATED 7/99 FOR THE VT. DEPARTMENT OF ENVIRONMENTAL CONSERVATION.

TITLE: Geophysical Delineation of Clay Surface

LOCATION: Williston, Vermont

HSI GEOTRANS A TETRA TECH COMPANY

CHECKED:	MJ	FIGURE: 4-1
DRAFTED:	RMK	
FILE:	Site-clay.dwg	
DATE:	6/2/00	


N
SOUTH BROWNELL ROAD
KIRBY LANE
COMMERCE STREET
ROUTE 2
A'
A
Unnamed Brook
MARSHELL AVENUE
EXPLANATION
A A' SECTION LOCATION (BOLD WELLS USED IN SECTION)
APPROXIMATE PROPERTY BOUNDARY
MB-2A EXISTING MONITORING WELL
GP-6 EXISTING SOIL BORING
MB-2A MONITORING WELL (RESAMPLED)
SMALL DIAMETER BORING - BELOW CLAY
BEDROCK MONITORING WELL
ASI-21 HSI GEOTRANS WELL CLUSTER LOCATION
U-TRIB-8 SURFACE WATER SAMPLING LOCATION
PASSIVE SAMPLER LOCATION
T2-2 PROFILE SAMPLE LOCATION (JOHNSON COMPANY 1999)
WELL DESTROYED
TCE Concentrations (ug/L)
1,000 - 10,000
10,000 - 20,000
20,000 +
23 TCE CONCENTRATION (ug/L)
ND NOT DETECTED
NOTES
ALL LOCATIONS APPROXIMATE
BASE PLAN DEVELOPED FROM
1. TOWN OF WILLISTON PARCEL BOUNDARY MAP (SHIPPED 12/15/97) PROVIDED BY IVS (BURLINGTON VT.) IN DXF FORMAT
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6. DATA FROM JOHNSON CO. REPORT "LIMITED GROUNDWATER INVESTIGATION ALLING INDUSTRIAL PARK" DATED 7/99 FOR THE VT. DEPARTMENT OF ENVIRONMENTAL CONSERVATION,
TITLE:
Lateral Extent of VOC Contamination
LOCATION:
Williston, Vermont
HSI GEOTRANS
A TETRA TECH COMPANY
CHECKED: MJ
DRAFTED: RMK
FILE: Site-PLUME
DATE: 6/2/00
FIGURE:
4-9
0 60
Scale in Meters