

Desabrais Dry Cleaning  
Middlebury, Vermont  
VDEC Site #94-1665

Summary Report and  
Risk Assessment

October 30, 1995

Prepared by:

Lincoln Applied Geology, Inc.  
RD #1 Box 710  
Bristol, Vermont 05443



## Table of Contents

I.	Introduction	Page 1
II.	Soil Borings and Soil Screening	1
III.	Monitor Wells	2
IV.	Soil Sampling Results	3
V.	Ground Water Monitoring	3
VI.	Ground Water Quality Results	4
VII.	Geologic Cross Section and Contaminant Migration	6
VIII.	Residential Indoor Air Quality Screening	7
IX.	Risk Assessment	8
X.	Conclusions	14
XI.	Recommendations	16
<b>Appendix A,</b>	<b>Figures</b>	
<b>Appendix B,</b>	<b>Tables</b>	
<b>Appendix C,</b>	<b>LAG Detailed Well Logs, MW-1, 2, 3, 4, 5,6,7,8,9,10, and 11</b>	
<b>Appendix D,</b>	<b>Adams Engineering Well Logs: MW-5,6,7,8,9,10, and 11</b>	
<b>Appendix E,</b>	<b>Soil Sample Laboratory Reports, July 1995</b>	
<b>Appendix F,</b>	<b>Ground Water Quality Laboratory Reports, July &amp; September 1995</b>	
<b>Appendix G,</b>	<b>Flowchart from ASTM ES 38-94: Risk Based Corrective Action Applied at Petroleum Release Sites"</b>	
<b>Appendix H,</b>	<b>Site Classification Scenarios</b>	
<b>Appendix I,</b>	<b>Exposure Scenario Evaluation Flowchart</b>	



Lincoln Applied Geology, Inc.  
Environmental Consultants

RD # 1 Box 710 • Bristol, Vermont 05443 • (802) 453-4384 • FAX (802) 453-5399

## I. Introduction

The following report describes additional field work carried out in July, August, and September 1995, revised evaluations and conclusions, a risk assessment based on the existing information and standard risk assessment practices, and recommendations for the next phase of study. For results of earlier field work, please refer to the Lincoln Applied Geology, Inc. (LAG) reports of March 24, and June 12, 1995.

## II. Soil Borings and Soil Screening

Seven soil borings were "drilled" and ground water monitor wells were installed by Adams Engineering on July 17, 18, 19, and 20, 1995. Numbered MW-5, 6, 7, 8, 9, 10, and 11, the well locations are shown on **Figure 2** along with the original Groundwater Technology, Inc. (GTI) and previous LAG wells. Adams Engineering used a vibratory coring machine that allows the extraction of undisturbed sediment cores up to five feet long. Extracted 2.375-inch diameter sediment cores encased in polyethylene sleeves were sliced open longitudinally, screened for VOCs using an HNU 10.2 eV photoionization detector (PID) and Foxboro OVA 128 flame ionization detector (FID), and descriptively logged. One to two inch thick sediment samples were collected at selected intervals and preserved in methanol for EPA Method 8260 analysis at the Endyne, Inc. laboratory.

Soil types encountered by LAG are similar to those encountered in the six GTI borings previously drilled, however the clay and silt stratigraphy has been more fully delineated in the eleven LAG borings. Review of the LAG detailed well logs (MW-1 through MW-11) included as **Appendix C** indicate that a surface layer of fill material is present in the locations close to the shopping center to varying depths: 5.6 feet in MW-2; 6.5 feet in MW-3; 2.4 feet in MW-4; 5.0 feet in MW-7; 1.8 feet in MW-9; 4.4 feet in MW-10; and 4.9 feet in MW-11. Under the fill or thin topsoil are unconsolidated glaciolacustrine sediments which are dominantly clay with occasional thin laminations and beds of silt. The clay and silts contained numerous "hairline" fractures and tree root "halos" that are oriented sub-vertical to vertical. These features represent potential preferential conduits that allow the vertical migration of fluids through the low permeability clays and silts. The silt layers also appear to provide a pathway for the natural horizontal migration of fluids at a rate greater than in the clay layers. The glaciolacustrine clay with silt layers is present in all borings to the maximum depths attained or to the top of the reworked glacial till unit. Soft, permeable reworked glacial till is present below the clay and silt unit in MW-5, MW-6, MW-7, MW-8, and MW-10 at depths ranging from 11.6 feet (MW-9) to 24.7 feet (MW-6). The permeable reworked



till may provide fluid related horizontal migration rates greater than within the thin silt layers. A dense, relatively impermeable basal glacial till unit was encountered in MW-10 at a depth of 37.2 feet. It is assumed that this basal till lies in direct contact with the underlying limestone bedrock. Thickness of the basal till and depth to bedrock at MW-10 was not confirmed.

Elevated PID and OVA levels were detected in clay fractures, whereas lower levels were found in the immediately adjacent unfractured clay. In general, water saturated silt layers also displayed elevated PID and OVA levels relative to adjacent clay layers, suggesting that contaminant migration occurs more readily through permeable silt layers rather than within the less permeable unfractured clay.

Soil screening by PID indicated low levels of volatile organic compound (VOC) contaminant vapors in the vadose (or unsaturated) zone in MW-10. Soil screening by OVA indicated low levels of VOCs in the vadose zone in MW-9, and elevated levels in MW-10 and MW-11. Low to moderate levels of VOCs were detected by PID and OVA in the phreatic (or saturated) soil zone in MW-9 and MW-10. Only background (BG) levels were detected by both instruments in the vadose and phreatic zones in MW-5, MW-6, and MW-8. BG levels were detected by both instruments in the vadose zone in MW-7, and only a very low reading of 0.2 parts per million (ppm) was detected at the bottom of the boring from 24.17' to 25.0'. Soil description, soil screening, and monitoring well construction details are included in **Appendix C** and in the Adams Engineering well logs presented as **Appendix D**.

Field data obtained through use of the HNU 10.2 eV PID and the OVA FID (15.4 eV) during soil screening indicated that the FID response was always greater than the PID response for a given screening location. This is largely due to the ability of the FID to ionize and detect a greater range of contaminant compounds because of its' 15.7 eV ionization potential (IP) as compared to the 10.2 eV IP of the PID.

### **III. Monitoring Wells**

Monitoring wells were constructed of 1.5 inch diameter PVC pipe with a 0.010 inch slotted screen. Well MW-10 contains 10 feet of screen and was constructed as a piezometer with the top of the well screen below the ground water surface within the reworked glacial till and basal glacial till. Well MW-9 contains 15 feet of screen, and wells MW-5, 6, 7, 8, and 11 each contain 20 feet of screen. A sand pack surrounds the well screen in MW-5, 6, 7, 8, 9, and 11. Due to the presence of loose saturated reworked glacial till soils within the borehole in MW-10, a sand pack could not be placed and the well screen is surrounded by native till soils. A bentonite seal is present



above the screen in all wells to prevent the downward vertical migration of surface waters into the well. Bolt-down flush mounted well boxes cemented in place provide limited access to the wells.

Following their installation, each well was properly developed, and then a stadia survey was performed to define the top of casing (TOC) elevations and locations for an accurate detailed site map and ground water contouring.

#### **IV. Soil Sampling Results**

A total of twenty soil samples were collected from the seven vibratory soil borings for laboratory analysis by EPA Method 8260. The soil analytical summary results from earlier soil borings HA-1, 2; MW-1, 2, 3, 4, and recent soil borings MW-5, 6, 7, 8, 9, 10, and 11 are included as **Table 1**. The Endyne laboratory reports for the recent soils analyses are presented as **Appendix E**.

Review of **Table 1** indicates that BTEX, MTBE, and naphthalene were not detected above the analytical detection limit of 80 parts per billion (ppb), 50 ppb, and 100 ppb, respectively in any of the recent soil borings (MW-5 through MW-11). These contaminants were previously detected in soils from MW-2, 3, 4, and HA-1, and are related to fuel oil releases associated with five fuel oil USTs that were formerly located along the west side of the Village Court Plaza building. Perchloroethylene (PCE) and its biodegradation products trichloroethylene (TCE), dichloroethylene (1,1-DCE and 1,2-DCE), and vinyl chloride (VC) were detected in soils from MW-7 and MW-10. The greatest concentration of residual solvent-related contaminants were detected in reworked glacial till soils from MW-10 at a depth of 21.16' to 21.33'. Elevated levels were also detected in silt and clay soils above the reworked glacial till at a depth of 19.50' to 19.58'. A soil sample from the dense basal glacial till in MW-10 at a depth of 39.67' to 39.83' contained no detectable levels of solvent-related contaminants.

#### **V. Ground Water Level and Headspace Monitoring**

Historical ground water elevation data is included as **Table 2**. PID data from the headspace in each monitor well is included as **Table 3**. Following installation of the seven MW series monitor wells, complete ground water level surveys were conducted on July 24 and August 30, 1995. Relative elevations of the ground water surface in each well (**Table 2**) were used to generate a ground water contour map for the July 24<sup>th</sup> data which is presented as **Figure 3**. The later August 30<sup>th</sup> data was not used to generate a ground water contour map due to the siltation and infilling of MW-7, 8, and 9. Subsequently, the sediment in these wells was pumped out and the wells were fully



developed and made useable for future monitoring and ground water sampling. Review of **Figure 3** shows a general west-southwest ground water flow direction toward Otter Creek, the ultimate ground water discharge zone in the region. However, the southern and eastern parts of the property have south-southwestern and southern ground water flow components. It is possible that the Village Court Plaza building foundation footers and subsurface utilities may affect the local ground water flow regime, particularly when ground water levels are higher.

Review of **Table 3** indicates that wells GT-2, GT-6, and MW-2 contained elevated vapor phase headspace PID levels (>20 ppm) on July 19, July 24, and August 30, 1995. This data correlates well with the known areas of elevated solvent-related ground water and soils contamination. Wells GT-3, GT-4, and GT-5 have contained moderate levels of vapor phase contamination. Since these wells are located immediately adjacent to the storm sewer pipe and it's associated disturbed fill materials, the moderate PID levels have likely resulted from the migration of solvent-related contaminants out of the storm sewer pipe and/or through the more permeable fill materials associated with the storm sewer pipe. The moderate PID levels in GT-3, GT-4, and GT-5 may also be caused by vapor phase contaminants related to the fuel oil USTs that were formerly located along the west side of the Village Court Plaza building.

## VI. Ground Water Quality Results

Ground water quality samples for EPA Method 8260 analysis were collected from all GT-series wells and all MW-series wells (except MW-3 and GT-2) on July 24, 1995. Due to the lack of ground water in these wells on July 24<sup>th</sup>, MW-3 was sampled on July 31<sup>st</sup>, and GT-2 was sampled on September 5<sup>th</sup>. Prior to sample collection, all wells were properly purged and sampled in accordance with VDEC and industry accepted protocols. Samples from the GT-series wells were obtained using disposable bailers. The MW-series wells were sampled with a 1-inch diameter acrylic bailer that was decontaminated between wells with a water rinse/liquinox soapy water rinse/distilled water rinse/methanol rinse/and a final distilled water rinse. The well sampling order was from least contaminated to most contaminated based upon past water quality data or soils screening analyses during well installation.

The water quality results have been summarized and are presented along with all previous water quality results in **Table 4**. The recent Endyne, Inc. and Green Mountain Laboratories, Inc. (GML) laboratory reports are included as **Appendix F**. The water quality data from July 24, 1995 has been used to generate estimated contaminant concentration maps of the individual solvent related contaminants PCE



(Figure 4), TCE (Figure 5), 1,2-DCE (Figure 6), and VC (Figure 7). Solvent-related dissolved contaminants were detected and quantified in all the wells sampled except MW-5, MW-8, MW-9, and MW-11. These figures provide the best estimate of the extent of dissolved contamination based on the limited ground water quality data set.

Review of Table 4 indicates that levels of PCE have increased in wells GT-1, GT-2, GT-3, MW-2, and MW-3 since April 1995. PCE levels have decreased in GT-4, GT-5, GT-6, MW-1, and MW-4 during the same period. Both increases and decreases in the biodegradation solvent compounds TCE, DCE, and VC have occurred. The bulk of the dissolved solvent contamination continues to be located in the vicinity of MW-2/GT-6, MW-10, and GT-2. Those wells with the greatest dissolved solvent contamination (PCE + TCE + 1,2-DCE + VC) are GT-2 at 86,300 ppb, GT-6 at 51,070 ppb, MW-2 at 46,930 ppb, and MW-10 at 4,120 ppb.

Review of Figures 4, 5, 6, and 7 clearly show that the greatest levels of solvent related ground water contamination is in the vicinity of MW-2/GT-6, MW-10, and GT-2. The estimated areal extent of PCE >100 ppb is larger than for TCE and for 1,2-DCE. The estimated areal extent of VC >10 ppb is again the smallest of the four solvent contaminants. Installation of the seven additional monitor wells and their subsequent ground water quality analyses have resulted in the appearance that the estimated areal extent of PCE, TCE, and 1,2-DCE contamination has expanded toward the south-southwest as compared to the April 1995 ground water quality data. The new wells (specifically MW-6 and MW-7) simply confirmed the presence of the contaminants outside the April estimated extent. The VC data from April and July 1995 results in an unchanged contaminant plume configuration. Solvent contamination detected in MW-6 and MW-7 indicate that the dissolved PCE plume (10 - 100 ppb) extends beneath the Ashley residence and a portion of the Smith residence, while the TCE plume (<2 - 12 ppb) and 1,2-DCE plume (<4 - 7 ppb) extend beneath only the Ashley residence.

As was the case with the April 1995 data, the presence of solvent related contaminants in "upgradient" well GT-1 in July 1995 is again attributed to the migration of contaminants after they leaked or "exfiltrated" out of the storm sewer along pipe joints, cracks, etc. as the dry cleaning related wastewater flowed through the storm sewer pipe from the area west of the building. Another possible cause is preferred migration in the permeable fill materials surrounding the storm sewer pipe at a depth of 8 feet or greater below grade. PID and OVA vapor screening within the sanitary and storm sewer manholes in July 1995 indicated very low levels of VOCs and/or methane ranging from background to 1.6 ppm. There is no longer any dry cleaning wastewater being discharged to the sanitary or storm sewer systems.



## VII. Geologic Cross Section and Contaminant Migration

A review of the descriptions of the subsurface soil types and their physical structures, as well as, soil gas, and soil and ground water quality analyses to date indicate how the PCE and related contaminants have migrated both vertically and horizontally from the source area (vicinity of GT-2, GT-6, MW-10 and MW-2).

LAG detailed well logs from MW-3, 4, 7, 10, and 11 were used to generate a geologic cross section from west-southwest (MW-7) to east-northeast (MW-11) presented as **Figure 8**. Review of **Figure 8** shows the fill materials above the glaciolacustrine clay and silt unit, underlain by the reworked glacial till. The presence of dense basal glacial till below the reworked glacial till is shown at the bottom of MW-10.

The finding of deep contamination below very low permeability clay indicates that highly concentrated PCE migrated vertically downward through the unsaturated fill materials and within visible subvertical to vertical soil fractures and root "halos" in the upper clay and silt glaciolacustrine soils. Downward vertical migration likely continued within these structural fractures below the ground water table in the saturated zone as evidenced in MW-10 in the source area where soil contaminant concentrations were very low at shallow depths (7') and greatest at a depth of 21'.

Horizontal migration of vapor and/or ground water in the siltier layers probably also occurred as evidenced by higher PID readings in the silty soils compared with the clayey layers.

Vertical contaminant migration probably continues through the clay and silt soils into the underlying reworked glacial till. The reworked glacial till is more permeable than the dense basal glacial till encountered at the bottom of MW-10. The top of the reworked glacial till slopes to the west-southwest toward Otter Creek. The shallow aquifer ground water surface (July 24, 1995) also slopes to the west-southwest. Solvent-related soil quality data from April 1995 (MW-3, MW-4) and July 1995 (MW-7, MW-10, MW-11) are shown in **Figure 8**, as well as the July 1995 ground water quality data.

Evidence of horizontal migration of contaminants within this reworked glacial till was present in MW-7 (100 feet downgradient of MW-10) where soil contamination was found only at lower depths (24.4' - 24.6') and not at shallower depths (15' and 19'). Ground water quality data from July 24<sup>th</sup> also indicates horizontal migration from the elevated levels of solvent contaminants in MW-10 to declining levels downgradient



toward the west-southwest (MW-7).

Comparison of the variation in soil concentrations with depth to the concentrations in ground water collected from the fully screened wells also indicate the preferential flow in the more permeable silt and reworked till layers. For example, in MW-10, the ground water concentrations are in approximate equilibrium with the highest soil concentrations observed, indicating that most of the permeable layers must be similarly contaminated. In MW-7 however, the ground water is less contaminated than one would predict based on the highest soil contaminant data, indicating that more contaminated ground water from a few contaminated preferential flow layers is being diluted by clean ground water from the other layers. It should also be noted that the new upgradient well MW-11 has no detectable levels of solvent-related contaminants in the sampled soil or ground water.

A geologic cross section (not included) from the north (MW-9) to south (MW-7) to east (MW-5) that includes wells MW-5, MW-6, MW-7, MW-8, and MW-9 shows that the reworked glacial till surface forms a low trough in the vicinity of MW-7. The presence of moderate soil contamination levels in the upper part of the reworked glacial till in MW-7 suggest downgradient migration of the contaminants within the permeable reworked till unit may be partially controlled by preferred migration in the "saddle" of the till trough depression.

In conclusion, the soil analyses data indicate that the bulk of the solvent contamination remains in the source area clay and silt soils immediately west of the former DDC building. However, elevated soil levels have also been detected in the more permeable reworked glacial till soils in the source area and downgradient to the southwest. Due to the horizontal spreading of the ground water, the ground water plume is slightly larger than the area of contamination described by soil analytical data. However, the ground water in the spreading plume is probably contaminated only in particular permeable layers which have been in contact with the source.

#### **VIII. Residential Indoor Air Quality Screening**

The PID and OVA were used to screen indoor air within the basement and first floor areas of the Ashley, Smith, Banner, Child Care, and Rental Apartments buildings. All PID and OVA readings were at background. No evidence of vapor phase contamination at a level of 0.1 ppm or greater were detected from cut stone foundation walls (Child Care), concrete foundation floor cracks (Ashley, Smith, Apartments) or basement floor drains (Smith).



## IX. Risk Assessment

A public health and environmental risk assessment was performed in order to make informed decisions on what actions, if any, should be taken to remove, control or contain the contamination. The strategy of this risk assessment follows the process flowchart described in ASTM ES 38-94, "Risk-Based Corrective Action Applied at Petroleum Release Sites", commonly called **RBCA**. A copy of the flowchart is included as **Appendix G**. The exposure assessment and risk characterizations followed standard EPA methodologies as referenced at the end of this section.

Although the title refers to petroleum release sites, the procedures describe a decision-making process for evaluating risks and choosing the appropriate corrective actions. Therefore this process can be applied to other classes of chemicals through the use of chemical specific toxicological and environmental fate and transport data.

RBCA is a 10 step tiered procedure in which progressively more detailed site assessments, exposure modeling, and risk assessments are performed depending on the demonstrable need and cost-effectiveness. Although the RBCA procedure is quite logical, the terminology can be confusing at first. In the procedure, "class" refers to 4 classes of site scenarios which depend on the overall threat to receptors; the 10 "steps" describe the actions taken to perform the risk assessment; and the 3 "tiers" describe the increasing level of detail to which a step is performed.

The following three steps have already been completed and reported in the phase I and II reports of March 24, 1995 and June 12, 1995:

- Step 1. Initial Site Assessment
- Step 2. Site Classification and Initial Response Action
- Steps 3&4. Tier 1 Risk Evaluation

These completed tasks will first be reviewed in the context of the RBCA process before proceeding to the subsequent steps.

### Step 1. Initial Site Assessment for Class 1 (immediate threat) scenarios

The phase 1 site assessment consisted of the gathering of information and reporting on:

- the historical release of contamination (quantity, nature, location, timing, etc.),
- the extent of migration (via measurements of the concentrations of contaminants)



- in the ground water, soil and soil gas), and the potential receptors that could become exposed to the contaminants.

The results of the phase 1 site assessment showed an area of contaminated unsaturated soils and shallow ground water at least 2,700 ft<sup>2</sup> in size to the south and west of the Desabrais Dry Cleaners. Located in the center of Middlebury, there are no public water supply wells to impact. However, there are many nearby homes and routes of migration for soil gas and ground water.

## Step 2. Site Classification and Initial Response Action

Step 2 consists of categorizing the site with regard to the possible environmental threat. Table 3 of the RBCA procedure lists 4 classes of the most common site classification scenarios and possible initial response actions. This table is included as **Appendix H**. These classes range from 1 (immediate threats), 2 (short-term effects), 3 (long-term effects), to 4 (no demonstrable long term effects). This site classification becomes updated as more information becomes available.

Based on the initial finding of releases of volatile chlorinated organics (VOCI), classification 1.1 (acute vapor concentrations) could have been possible. Therefore an "initial response action"- air sampling for volatile organic compound (VOC) was performed in the dirt floored basement of what appeared to be the most sensitive receptor, the Child Care Center.

## Steps 3&4. Tier 1 Evaluation of Class 1 Threat

A tier 1 evaluation compares an exposure concentration to a non-site specific **Risk Based Screening Level (RBSL)**.

For the air sampling effort this was done by comparing the results of the air sampling in the basement of the Child Care Center (1.7 PCE ug/m<sup>3</sup> = 0.25 ppb) with a study of background concentrations of volatile organics in the indoor air of rural homes (< 1 to 3 ppb PCE). Since this background level was not exceeded, it was decided that this Class 1 classification was not applicable and no immediate/interim corrective action (such as ventilation) needed to be performed. This measured concentration can also be compared to the risk-based ambient air concentration for PCE of 3.1 ug/m<sup>3</sup> (0.46 ppb) for a cancer risk of 10<sup>-6</sup> (ref.: EPA, 1995). This risk was not exceeded.

Finding that a Class 1 scenario (immediate threat) did not exist, steps 2, 3, & 4 must then be repeated for the Class 2, 3 and 4 scenarios to evaluate these for



applicability. A phase II study was performed to further delineate the extent of contamination. The result indicated a larger plume (20,000 ft<sup>2</sup>), downward gradients, southwest ground water flow, and contamination to depths of 22'.

Step 2: Site Classification and Initial Response Action. (For classes 2 or 3)

To consider the possibility of short-term or long-term threats (Classes 2 and 3 site classification) transport pathways and exposure scenarios, such as those shown in **Figure 2** (also included in **Appendix I**) of the RBCA procedure were evaluated. The possibilities include:

- ingestion of contaminated surficial soils by adults and children in nearby residences,
- inhalation of surficial soil particulate or vapors by workers during disturbances of the soil (excavation),
- vapor transport to building basements and homes followed by inhalation by occupants,
- contamination of potential water supplies,
- contamination of a producing water supply and ingestion and inhalation,
- contamination of surface waters with sensitive environmental habitat or recreational uses, and
- vapor transport, absorption by garden vegetables grown above contaminated soil, and ingestion,

An initial qualitative evaluation of these routes and the potential magnitude of exposure (based on the existing data) did not indicate a likelihood of significant exposure. Therefore, no immediate corrective actions were undertaken. However, the possibility of short-term or long-term effects seems great enough that a more detailed evaluation was warranted.

Class 2, Steps 3&4: Tier 1 non site-specific evaluation.

As with the Class 1 air analysis evaluation, a class 2/3 Tier 1 (non site-specific) evaluation is done with the use of RBSL's. The following are risk evaluations using the measured soil and ground water concentrations and EPA's soil screening levels and drinking water quality regulations.

a. Ground Water -**Table 5** lists the measured concentrations in the ground water in the source area, the **Maximum Contaminant Levels (MCL)** for drinking water, the Vermont Health Advisory drinking water guidelines, and the risk based drinking water protective



concentrations established by EPA, Region III (EPA, 1995). Comparison shows that these screening levels are exceeded in the ground water monitoring wells in the source area.

Another RBSL with which to evaluate the site with respect to ground water are the soil screening levels suggested by EPA Region III as being protective of adjacent ground water (EPA, 1995). **Table 5** lists these soil screening levels and the range in VOCI soil concentrations observed on site. Comparison of these concentrations shows that even the concentrations seen in the silty soils in the source area are at levels that can potentially transfer to and contaminate ground water to unacceptable risk levels (if used as a drinking water source).

As stated in the Class 1 evaluation earlier, this ground water is not being used for drinking water or any other uses. Thus there is no present human exposure from these VOCI and it is extremely unlikely that this presently contaminated ground water in the center of Middlebury would ever be considered for use as a water supply. However, consideration could be given to instituting some type of management/ institutional control as a corrective action to prevent the possibility of this ground water ever being used in the future. This could consist of public notification through the Middlebury Health Officer to all present property owners in the area.

b. Ambient air - **Table 5** also lists the observed soil concentrations and soil RBSL's (EPA, 1995) which are considered to be protective of ambient air above contaminated soils. A comparison of these values shows that the highest measured clayey soil concentrations exceed the levels considered protective of ambient air for PCE, TCE and VC and the more permeable silty soils exceed the screening level only for VC. These soil samples were collected at depths far below the surface. Surface concentrations would be expected to be much lower. The actual soil concentrations on unpaved surfaces (where the vapors could have an adverse affect on ambient air) have not been measured. Considering that fact and that the screening levels are only partially and marginally exceeded, and that much of the soil surface in the source area is paved, it would seem likely that risks due to breathing ambient air are extremely low. If surficial soils become analyzed as discussed in the next section, this evaluation could be reviewed and revised if necessary.

c. Soil - **Table 5** lists risk based soil concentrations considered protective of ingestion in residential areas (concentrations for industrial settings are even higher) and the measured concentrations in clay and silt layers in the source area. Only the VC soil concentrations are greater (barely) than the protective residential concentrations. These soil samples were collected at depths of 8 feet below surface and deeper.

The actual contaminant concentrations near the ground surface where the surface is not paved and ingestion could take place are not known. Although it is unlikely that the surface concentrations are higher than those in deep soils, it might be prudent to collect surficial soil samples at unpaved locations for VOC analysis and perform a Tier 2 site-specific risk assessment.

Another route of exposure, especially for workers during excavation of contaminated soils, is inhalation of vapors and airborne particulate surface soils. Since this is a much shorter exposure scenario than residential ingestion, the industrial exposure concentrations are higher and are not exceeded at this site. Based on the above evaluations, no immediate corrective action (soil removal, soil contact prevention, etc.) seems warranted.

The risk of soil vapor transport to indoor building air was not evaluated as part of this Tier 1 evaluation since there were no non-site-specific screening levels to relate soil concentrations to indoor building air. Additionally, the site-specific ground water migration possibilities should be further considered. Therefore a more site-specific evaluation must be performed on these exposure scenarios.

#### Steps 3&4: Tier 2 Site Specific Evaluation.

From the above risk evaluation, the specific Class 2 RBCA scenarios that deserve further attention for possible risks are 2.1 (potential of long-term health effects from vapor accumulations and inhalation), and 2.2 (possible shallow contaminated soil accessible to ingestion by children). Consideration of possible future spreading of subsurface contamination to surface waters or ground water supplies is also warranted.

##### a. Ingestion of contaminated surficial soils

As recommended above, limited sampling and analysis of surficial soils adjacent to the paved source area should be performed to evaluate the contaminant levels and the risk associated with possible ingestion of soils. On the basis of soil quality data collected to date, we believe these samples will substantiate that no risk exists.

##### b. Vapor transport to building basements and homes

To determine if there is a risk of this scenario, one needs to know the maximum vapor concentrations in the source area, the transport pathways, and the acceptable exposures/risks.

PID levels of VOCs in monitoring well headspace and in soil samples ranged



from low (background) to elevated (saturated lamp). The concentrations of individual VOCI in the soil gas of the source area have not been measured. Maximum values can be estimated based on the measured soil and ground water concentrations and equilibrium assumptions. The results of this prediction are shown in **Table 5** along with the risk based ambient air screening levels (EPA, 1995). The predicted source area soil gas levels are many times higher than the risk based breathing air concentrations.

Vertical fractures observed in the clayey silty soils could provide a transport route for contaminated soil gas from the source to below building basements where it could then diffuse inside. While attenuation through dilution, adsorption, biodegradation, and the concrete foundation basement floor barrier will certainly lead to much lower concentrations in basements as compared to the source area, there is a possibility that these risk based air concentrations could be exceeded in the nearby basements. Sampling and analysis of the VOCI concentrations of soil gas in soils adjacent to the basements and/or in basements and residential interior living spaces therefore seems prudent at this time. It should be noted that there could be household sources of the detected PCE other than the soil and ground water contamination.

c. Spreading of ground water contamination

The concentrations of VOCI in the ground water in the source area are above the drinking water MCL's (Maximum Contaminant Levels). In terms of other water quality indicators, ground water in the unconsolidated sediments that are contaminated with VOCI had the potential to be used as a water supply. However, the yield from the interbedded silt layers or the reworked glacial till is too low to be used as a reliable water supply. Water quality and quantity in the underlying bedrock aquifer may have the potential to be used as a water supply. Contamination of the bedrock aquifer with VOCI has not been evaluated. The dense basal glacial till appears likely to serve as a confining to semi-confining layer by retarding the downward vertical migration of ground water and contaminants into the bedrock aquifer. The ground water level in MW-2 screened in the glaciolacustrine clays and silts is about 12 feet higher than the ground water level in MW-10 screened in the lower reworked glacial till and upper dense basal till. This data indicates that there exists a natural downward gradient and vertical ground water flow component from the clays and silts into the reworked glacial till. Because the site is associated with a regional discharge zone (i.e. Otter Creek), it is possible that either an upward or downward vertical flow condition exists between the dense basal glacial till and the underlying bedrock aquifer. Therefore the migration potential cannot be quantified at this time. Installation of a drilled bedrock monitoring well in the contaminant source area or a short distance downgradient could be used to confirm or refute the presence of VOCI contamination in the bedrock aquifer, as well as, the vertical gradients. Extreme precautions while drilling and constructing the



bedrock well would need to be undertaken to ensure that the bedrock monitoring well does not provide a contaminant route of entry from the shallow unconfined aquifer into the confined bedrock aquifer. ✓

d. Contamination of producing water supplies

All of the homes and businesses in the area are served by the Town of Middlebury municipal public water supply. There are no known water supply wells in the area of contaminated ground water. The closest water supply wells are in East Middlebury, regionally upgradient and many miles away.

e. Contamination of surface waters with sensitive environmental habitats or recreational uses

The closest surface water body is Otter Creek about 600 feet due southwest of the site, and a small drainage swale about 400 feet due south of the site that receives storm water drainage and flows into Otter Creek. The ground water contamination from the source to the furthest detected point has apparently traveled about 135 feet horizontally in about 22 years (i.e. 6 feet/year). If the contamination migration continues to travel at this horizontal velocity, it will take about 76 years (2071 A.D.) before Otter Creek could be impacted. Concentrations should decrease due to continued biodegradation of the VOCI during this migration period. Due to dilution of any discharging ground water by Otter Creek, any contaminant loading to the Otter Creek via ground water discharge would likely be unmeasurable and without effect.

If contaminated ground water infiltrates into the storm sewer or into the more permeable backfill around the storm sewers, VOCI could enter the drainage swale. This drainage swale does not appear to be a sensitive environmental habitat. The water and sediments in the drainage swale could be sampled and analyzed to confirm or refute the presence of any VOCI contamination.

## X. Conclusions

1. Former waste disposal practices related to the former DDC operations has resulted in significant solvent related soil and ground water related contamination.
2. DDC operations have moved and no further solvent-related discharges are now occurring.
3. Some of the solvent-related contamination has migrated off-site to the south,



southwest, and west.

4. The bulk of the contamination remains on-site in the area of MW-2/GT-6, MW-10, and GT-2. The contamination consists of PCE and its biological breakdown products TCE, DCE, and VC. The concentrations of PCE have increased in some wells and decreased in others since April 1995.
5. Low to moderate levels of petroleum type contaminants associated with five former fuel oil USTs on the Village Court Plaza property have been quantified in ground water from 14 of the 17 monitoring wells. These levels do not represent a significant risk.
6. Evaluation of the soil types and structures indicates that the primary route of migration of the solvent contaminants is vertically downward through the unsaturated fill materials and vertical to subvertical fractures and root "halos" within the unsaturated and saturated glaciolacustrine clay and silt unit.
7. Secondary routes of contaminant migration include downgradient lateral and horizontal saturated flow through the glaciolacustrine silt layers and within the underlying permeable reworked glacial till unit.
8. The subsurface utilities backfill materials also provide preferred routes of contaminant migration. PID and OVA levels within the storm sewer and sanitary sewer manholes ranged from background to 1.6 ppm, not indicative of solvent-related contaminants.
9. Geologic cross sections developed from the MW-series well logs show that many of the thin silt layers within the glaciolacustrine clays are not isolated layers but are laterally continuous between wells. The surface of the underlying permeable reworked glacial till slopes to the southwest and forms a low gradient in the vicinity of MW-7. These data indicate that dissolved solvent related contaminants from the source area have migrated downgradient through both the silt layers and the upper part of the reworked glacial till into MW-4 and MW-7.
10. Ground water flow on-site is dominantly to the west-southwest and southwest toward Otter Creek, the ultimate ground water discharge zone in the region.
11. The contaminant migration direction is also toward the west-southwest, southwest, and south from the source area behind the former DDC facility.

12. The contaminated ground water is not being used as a potable water source. All residences and businesses in the area are supplied by the Town of Middlebury municipal water system. ✓
13. PID and OVA assays from within the Smith, Ashley, Banner, Child Care, and Apartments buildings (basement and first floor areas) indicate only background levels at a minimum detection limit of 0.1 ppm.
14. Installation of the seven additional monitoring wells indicates that solvent related contamination has migrated off the former DDC (Village Court Plaza) property onto the Jerome Smith, Richard Ashley, Middlebury Child Care, and Rental Apartments (Mary Johnson Children Center) properties. The contaminant plume is currently present beneath the Smith and Ashley residences. Although recent water quality data indicates fluctuation of solvent-related contaminants in the GT-series wells and MW-1, 2, 3, and 4, contaminant levels have not changed significantly since April 1995. ✓
15. ~~The risk assessment shows that it is unlikely, but possible, that public health risks could exist if certain levels of soil concentrations in unpaved areas near the source are present, or if concentrations of VOC/soil related vapors are not sufficiently attenuated between the source area soils and ground water and nearby residences.~~

## **XI. Recommendations**

1. Conduct quarterly ground water monitoring and water quality sampling from all monitoring wells. Samples will be analyzed via EPA Method 8260 for volatile organic compounds. ~~Screening of storm and sanitary sewer manholes will also be performed. The next monitoring and sampling event is scheduled for November 1995.~~ ✓
2. Conduct sampling and analysis of five soil samples within the top 2 feet of soil in unpaved areas located close to the source area. ✓
3. Conduct soil gas sampling at basement floor depths in soil around the Ashley and Smith residences. ✓
4. Conduct sampling of surface water and sediment at the discharge point of the storm sewer to the drainage swale. ✓
5. Install three more downgradient monitoring wells to complete the delineation of

the VOCI ground water contamination. Two wells would be installed to the south-southwest of the Ashely residence (shallow and deep), and one well would be installed downgradient and to the west-southwest of MW-7 (shallow).

6. Compile and review all data collected to date. Submit a quarterly summary report along with recommendations for remedial activities, if warranted.

11-3-95  
Called Bill Noland to schedule 8 hr. indoor air test at Ashely residence.

- deed restrictions ?

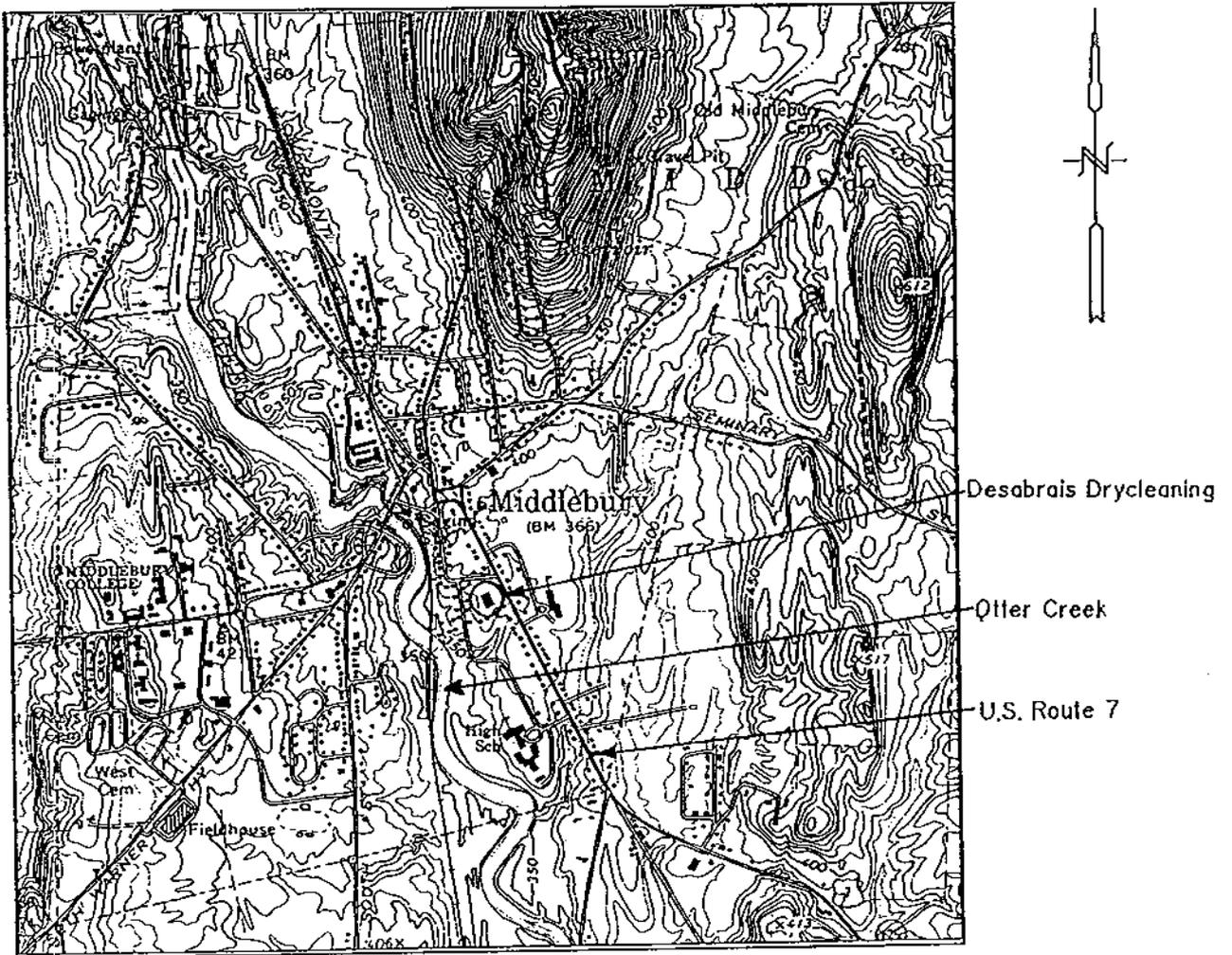


Appendix A

Figures

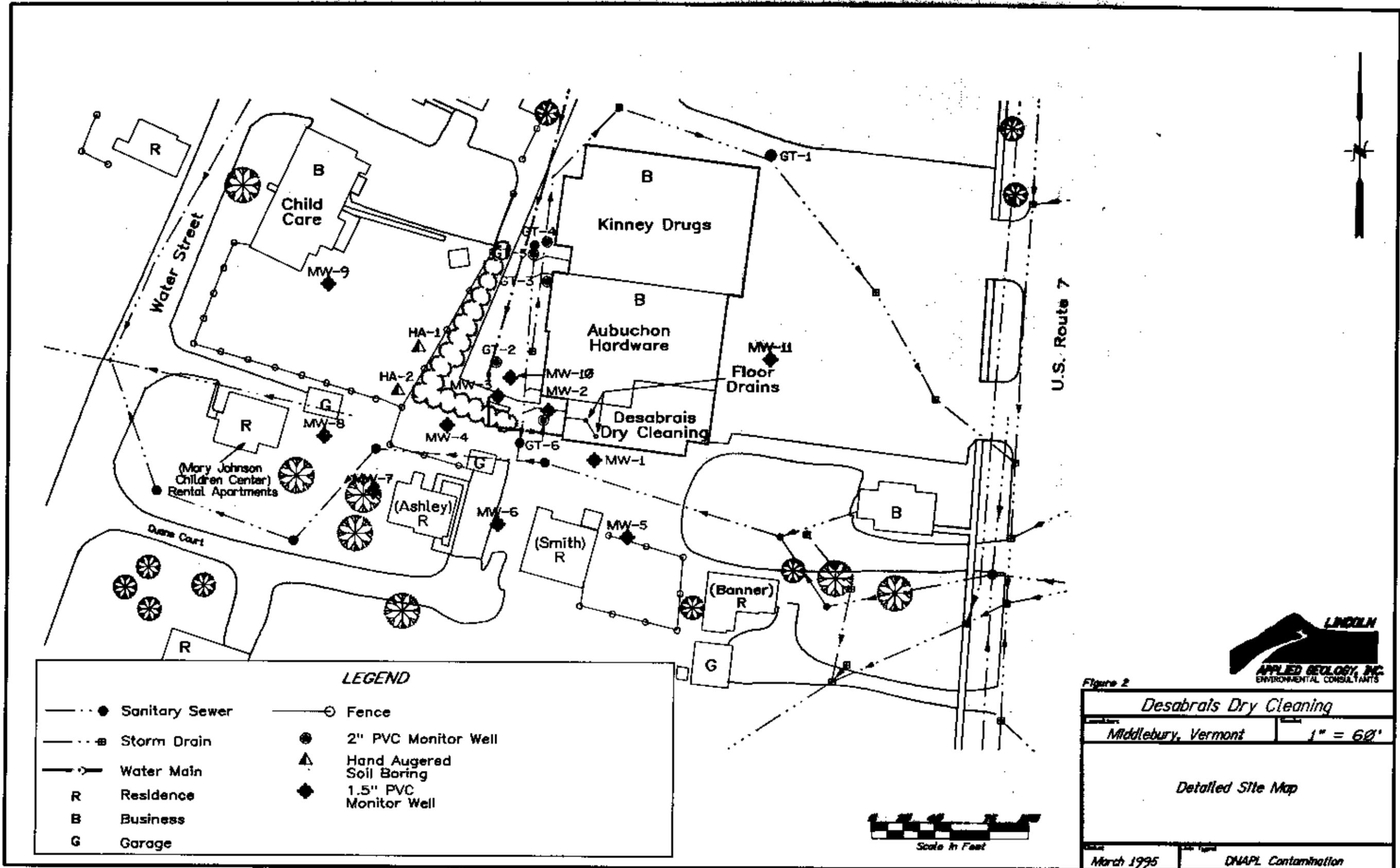
Figure 1

Former Desabrais Drycleaning  
Middlebury, Vermont  
GENERAL LOCATION MAP



Source: U.S.G.S. 7.5 Min  
Topo Series  
Middlebury, Vermont Quad.  
(1963, photorevised 1983)

Scale: 1" = 2,000'



**LEGEND**

—●—	Sanitary Sewer	—○—	Fence
—■—	Storm Drain	●	2" PVC Monitor Well
— —	Water Main	▲	Hand Augered Soil Boring
R	Residence	◆	1.5" PVC Monitor Well
B	Business		
G	Garage		



Figure 2

<b>Desabrais Dry Cleaning</b>	
Middlebury, Vermont	1" = 60'
<b>Detailed Site Map</b>	
March 1995	DNAPL Contamination

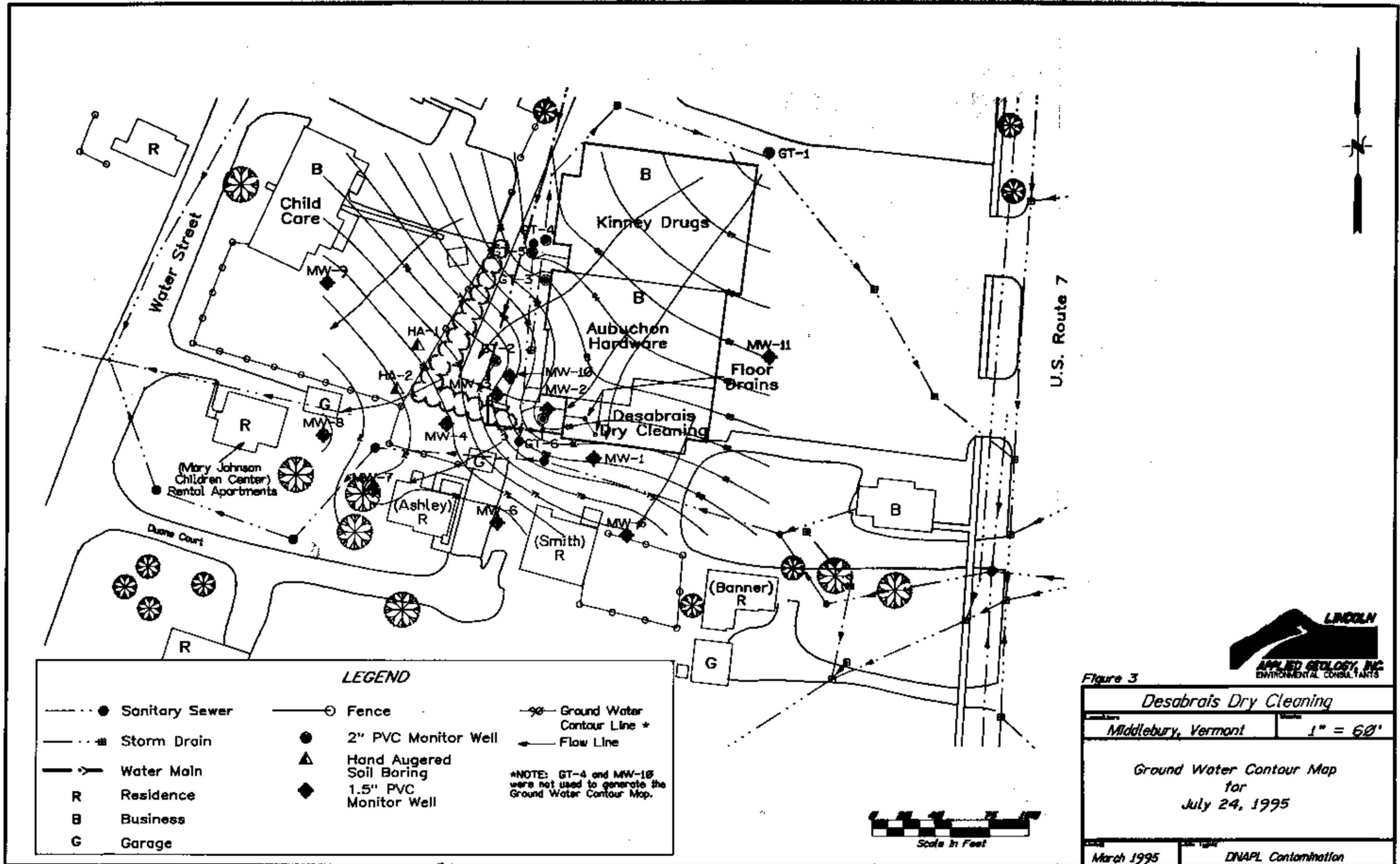
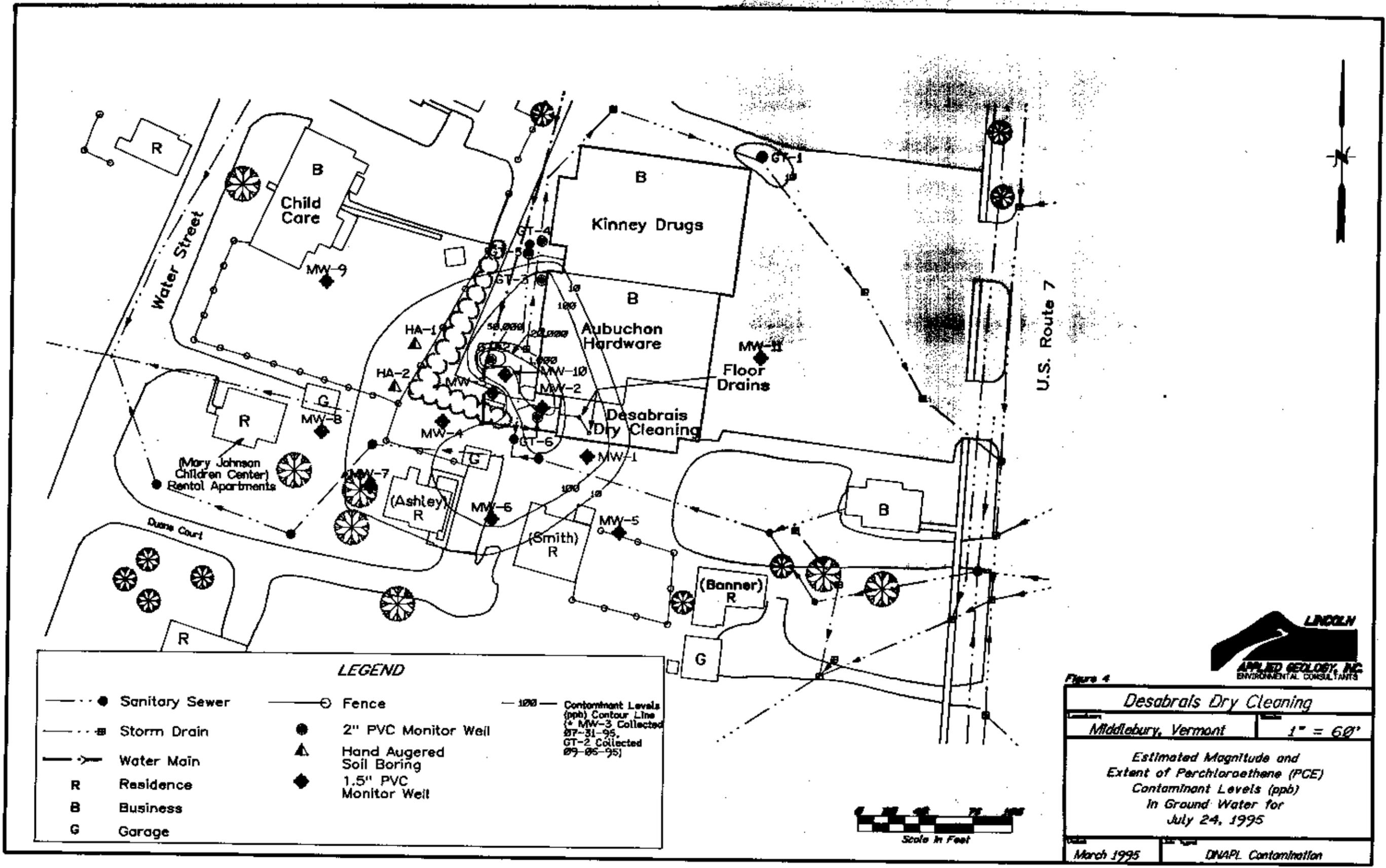


Figure 3  
**Desabrais Dry Cleaning**  
 Middlebury, Vermont  
 Ground Water Contour Map  
 for  
 July 24, 1995  
 March 1995  
 DNAPL Contamination





**LEGEND**

---●--- Sanitary Sewer	○ Fence	---100--- Contaminant Levels (ppb) Contour Line
---■--- Storm Drain	● 2" PVC Monitor Well	* MW-3 Collected 07-31-95
--->--- Water Main	▲ Hand Augered Soil Boring	GT-2 Collected 09-05-95
R Residence	◆ 1.5" PVC Monitor Well	
B Business		
G Garage		



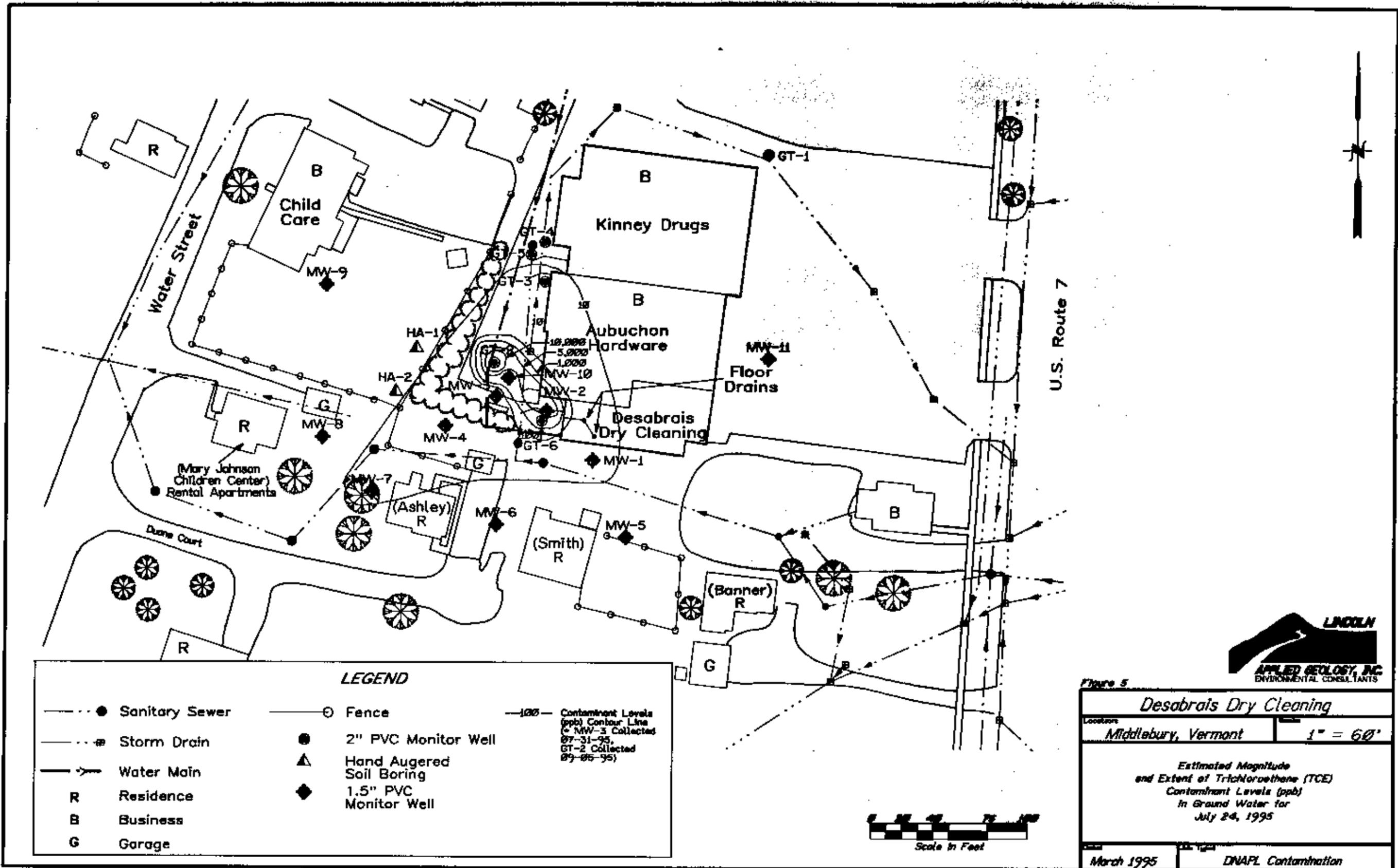
**Figure 4**

**Desabrais Dry Cleaning**

Middlebury, Vermont      1" = 60'

*Estimated Magnitude and Extent of Perchloroethene (PCE) Contaminant Levels (ppb) in Ground Water for July 24, 1995*

March 1995      DNAPL Contamination



**LEGEND**

—●— Sanitary Sewer	○ Fence	—100— Contaminant Levels (ppb) Contour Line (MW-3 Collected 07-31-95, GT-2 Collected 07-05-95)
—●— Storm Drain	● 2" PVC Monitor Well	
— — Water Main	▲ Hand Augered Soil Boring	
R Residence	◆ 1.5" PVC Monitor Well	
B Business		
G Garage		



**Figure 5**

**Desabrais Dry Cleaning**

Location: Middlebury, Vermont	Scale: 1" = 60'
<p>Estimated Magnitude and Extent of Trichloroethene (TCE) Contaminant Levels (ppb) in Ground Water for July 24, 1995</p>	
March 1995	DNAPL Contamination



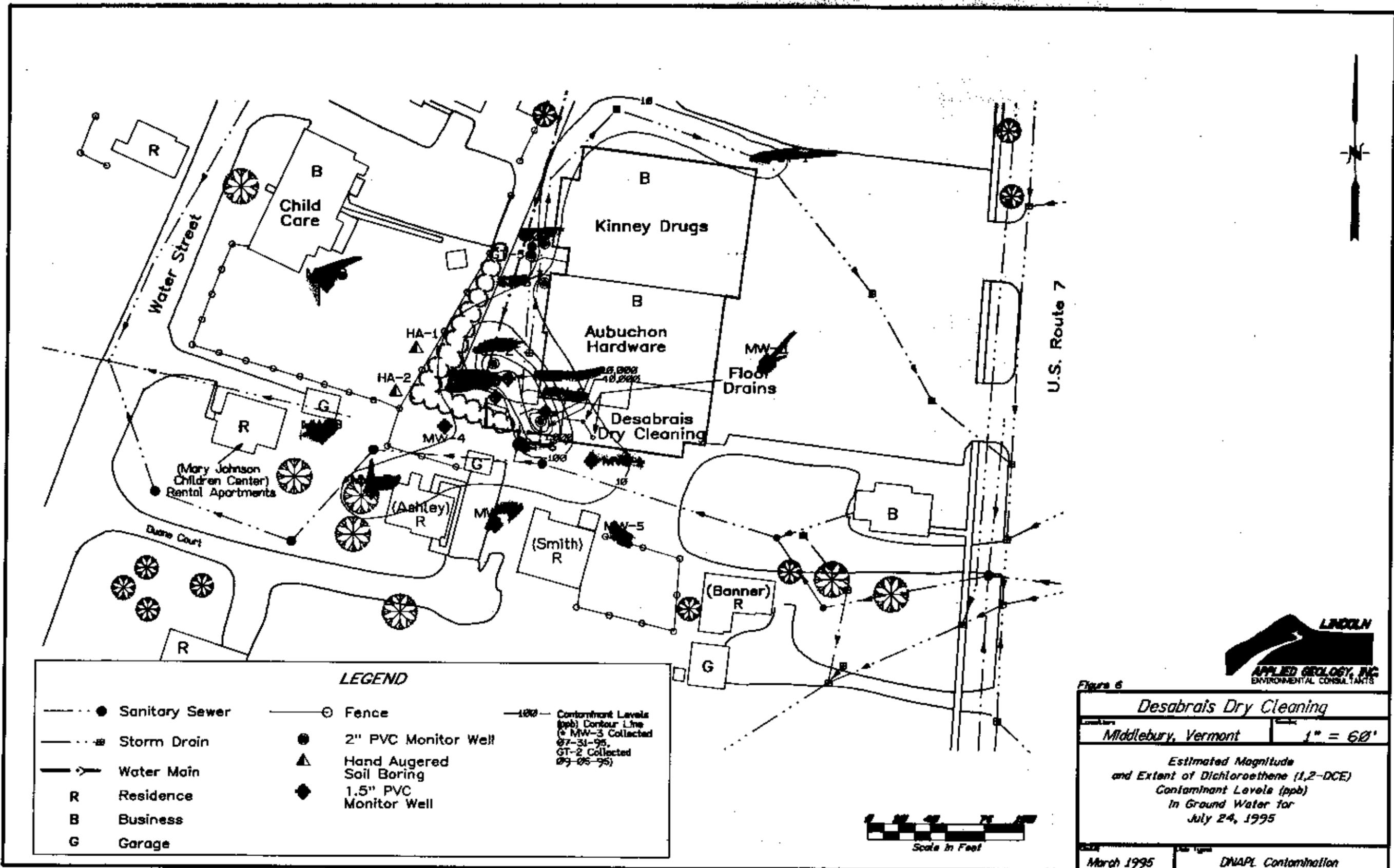
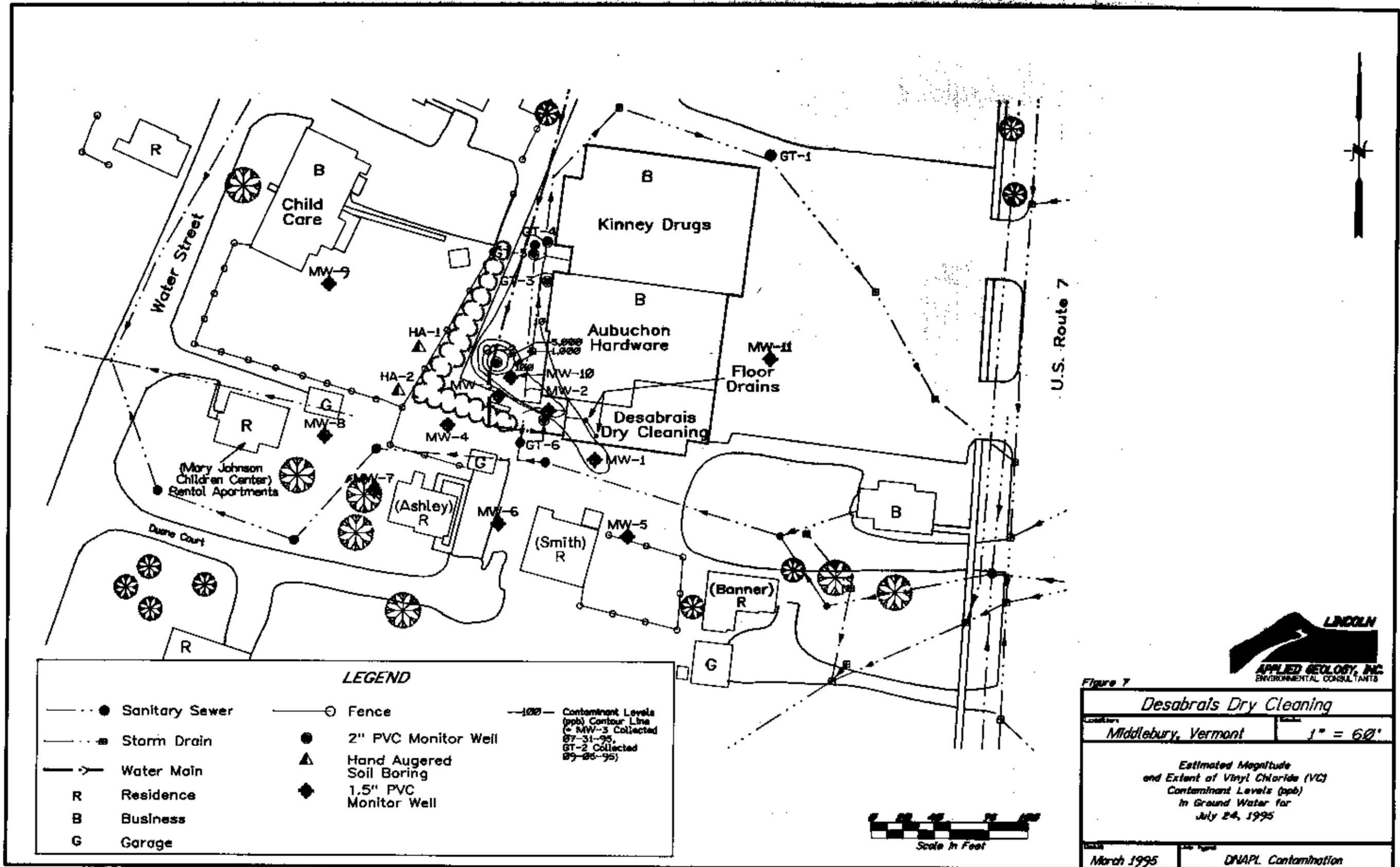


Figure 6  
**Desabrais Dry Cleaning**  
 Middlebury, Vermont 1" = 60'  
 Estimated Magnitude and Extent of Dichloroethene (1,2-DCE) Contaminant Levels (ppb) in Ground Water for July 24, 1995  
 March 1995 DNAPL Contamination

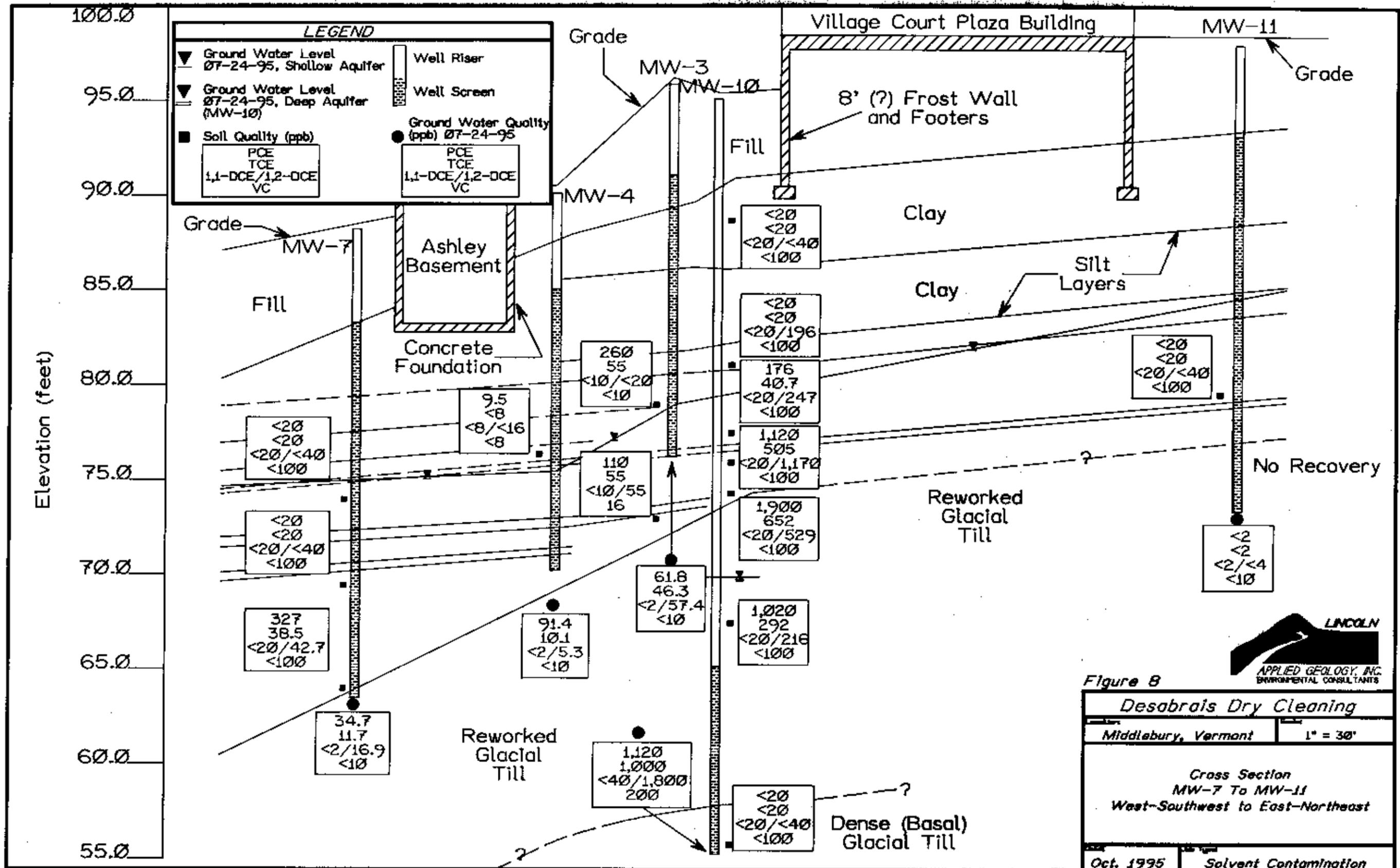


**LEGEND**

—●— Sanitary Sewer	—○— Fence	—100— Contaminant Levels (ppb) Contour Line (MW-3 Collected 87-31-95, GT-2 Collected 89-06-95)
—■— Storm Drain	● 2" PVC Monitor Well	
—Y— Water Main	▲ Hand Augered Soil Boring	
R Residence	◆ 1.5" PVC Monitor Well	
B Business		
G Garage		



**Figure 7**  
**Desabrais Dry Cleaning**  
 Middlebury, Vermont 1" = 60'  
 Estimated Magnitude and Extent of Vinyl Chloride (VC) Contaminant Levels (ppb) in Ground Water for July 24, 1995  
 March 1995 DNAPL Contamination



**Figure 8**  
**Desabrais Dry Cleaning**  
 Middlebury, Vermont 1" = 30'  
 Cross Section  
 MW-7 To MW-11  
 West-Southwest to East-Northeast  
 Oct. 1995 Solvent Contamination

**LINCOLN**  
 APPLIED GEOLOGY, INC.  
 ENVIRONMENTAL CONSULTANTS

Appendix B

Tables

Soil Analytical Summary Results (ppb - ug/Kg)

Data Point	Compound	1				2	
		4-12-95	7-17-95	7-18-95	7-20-95		
HA-1 Silt 9.4' - 10' PID = BG	MTBE	<10					
	BTEX	<60					
	Naphthalene	11					
	Perchloroethene	240					
	Trichloroethene	22					
	1,1-Dichloroethene	<10					
	1,2-Dichloroethene	69					
	Vinyl Chloride	<10					
HA-2 Silt 12.5' PID = BG	MTBE	<10					
	BTEX	<60					
	Naphthalene	<10					
	Perchloroethene	<10					
	Trichloroethene	<10					
	1,1-Dichloroethene	<10					
	1,2-Dichloroethene	<20					
	Vinyl Chloride	<10					
MW-1 Clay 3.98' - 4.15' PID = BG	MTBE	<11					
	BTEX	<66					
	Naphthalene	<11					
	Perchloroethene	<11					
	Trichloroethene	<11					
	1,1-Dichloroethene	<11					
	1,2-Dichloroethene	<22					
	Vinyl Chloride	<11					
MW-1 Silt 14.20' - 14.50' PID = 0.2	MTBE	<10					
	BTEX	<60					
	Naphthalene	<10					
	Perchloroethene	96					
	Trichloroethene	20					
	1,1-Dichloroethene	<10					
	1,2-Dichloroethene	31					
	Vinyl Chloride	<10					
MW-2 Silt 8.33' - 8.42' PID = 7.6	MTBE	<10					
	BTEX	<60					
	Naphthalene	<10					
	Perchloroethene	970					
	Trichloroethene	580					
	1,1-Dichloroethene	<10					
	1,2-Dichloroethene	2310					
	Vinyl Chloride	<10					
MW-2 Clay 9.65' - 9.82' PID = 3.2	MTBE	<15					
	BTEX	198					
	Naphthalene	50					
	Perchloroethene	14000					
	Trichloroethene	8500					
	1,1-Dichloroethene	<15					
	1,2-Dichloroethene	4521					
	Vinyl Chloride	380					

NOTES:  
 < - Contaminant not detected at specified detection limit  
 1=Assayed by LAG/MAV  
 2=Assayed by LAG/Endyne  
 PID OVA = ppm  
 BG = BackGround

Soil Analytical Summary Results (ppb - ug/Kg)

Data Point	Compound	1 4-12-95	2 7-17-95	2 7-18-95	2 7-20-95
MW-2 Clay 13.48' - 13.65' PID = 54	MTBE	<19			
	BTEX	1169			
	Naphthalene	310			
	Perchloroethene	19000			
	Trichloroethene	38000			
	1,1-Dichloroethene	<19			
	1,2-Dichloroethene	7960			
	Vinyl Chloride	500			
MW-2 Clay 18.07' - 18.23' PID = 21	MTBE	<12			
	BTEX	73			
	Naphthalene	24			
	Perchloroethene	4900			
	Trichloroethene	1600			
	1,1-Dichloroethene	<12			
	1,2-Dichloroethene	972			
	Vinyl Chloride	260			
MW-2 Clay 21.58' - 21.75' PID = 11.2	MTBE	<10			
	BTEX	<60			
	Naphthalene	<10			
	Perchloroethene	7100			
	Trichloroethene	260			
	1,1-Dichloroethene	<10			
	1,2-Dichloroethene	130			
	Vinyl Chloride	66			
MW-3 Silt 17.23' - 17.40' PID = BG	MTBE	<10			
	BTEX	<60			
	Naphthalene	<10			
	Perchloroethene	260			
	Trichloroethene	55			
	1,1-Dichloroethene	<10			
	1,2-Dichloroethene	<20			
	Vinyl Chloride	<10			
MW-3 Silt 22.12' - 22.31' PID = BG	MTBE	<10			
	BTEX	<60			
	Naphthalene	12			
	Perchloroethene	110			
	Trichloroethene	55			
	1,1-Dichloroethene	<10			
	1,2-Dichloroethene	55			
	Vinyl Chloride	16			
MW-4 Silt 14.28' - 14.53' PID = BG	MTBE	<8			
	BTEX	<48			
	Naphthalene	8			
	Perchloroethene	9.5			
	Trichloroethene	<8			
	1,1-Dichloroethene	<8			
	1,2-Dichloroethene	<16			
	Vinyl Chloride	<8			

NOTES:  
 < - Contaminant not detected at specified detection limit  
 1=Assayed by LAG/MAV  
 2=Assayed by LAG/Endyne  
 PID OVA = ppm  
 BG = BackGround

Soil Analytical Summary Results (ppb - ug/Kg)

Data Point	Compound	1	2		2	
		4-12-95	7-17-95	7-18-95	7-20-95	
MW-5 Clay 13.08' - 13.25' PID = BG OVA = BG	MTBE			<50		
	BTEX			<80		
	Naphthalene			<100		
	Perchloroethene			<20		
	Trichloroethene			<20		
	1,1-Dichloroethene			<20		
	1,2-Dichloroethene			<40		
	Vinyl Chloride			<100		
MW-5 Glacial Till 23.58' - 23.75' PID = BG OVA = BG	MTBE			<50		
	BTEX			<80		
	Naphthalene			<100		
	Perchloroethene			<20		
	Trichloroethene			<20		
	1,1-Dichloroethene			<20		
	1,2-Dichloroethene			<40		
	Vinyl Chloride			<100		
MW-6 Silt 14.75' - 14.92' PID = BG OVA = BG	MTBE		<50			
	BTEX		<80			
	Naphthalene		<100			
	Perchloroethene		<20			
	Trichloroethene		<20			
	1,1-Dichloroethene		<20			
	1,2-Dichloroethene		<40			
	Vinyl Chloride		<100			
MW-6 Silt 18.74' - 18.91' PID = BG OVA = BG	MTBE		<50			
	BTEX		<80			
	Naphthalene		<100			
	Perchloroethene		<20			
	Trichloroethene		<20			
	1,1-Dichloroethene		<20			
	1,2-Dichloroethene		<40			
	Vinyl Chloride		<100			
MW-7 Clay 14.58' - 14.75' PID = BG OVA = BG	MTBE			<50		
	BTEX			<80		
	Naphthalene			<100		
	Perchloroethene			<20		
	Trichloroethene			<20		
	1,1-Dichloroethene			<20		
	1,2-Dichloroethene			<40		
	Vinyl Chloride			<100		
MW-7 Silt 19.08' - 19.25' PID = BG OVA = BG	MTBE			<50		
	BTEX			<80		
	Naphthalene			<100		
	Perchloroethene			<20		
	Trichloroethene			<20		
	1,1-Dichloroethene			<20		
	1,2-Dichloroethene			<40		
	Vinyl Chloride			<100		

NOTES:

< - Contaminant not detected at specified detection limit

1=Assayed by LAG/MAV

2=Assayed by LAG/Endyne

PID OVA = ppm

BG = BackGround

Soil Analytical Summary Results (ppb - ug/Kg)

Data Point	Compound	1		2	
		4-12-95	7-17-95	7-18-95	7-20-95
MW-7 Glacial Till 24.42' - 24.59' PID = 0.2 OVA = 0.2	MTBE			<50	
	BTEX			<80	
	Naphthalene			<100	
	Perchloroethene			327	
	Trichloroethene			38.5	
	1,1-Dichloroethene			<20	
	1,2-Dichloroethene			42.7	
	Vinyl Chloride			<100	
MW-8 Silt 12.17' - 12.34' PID = BG OVA = BG	MTBE			<50	
	BTEX			<80	
	Naphthalene			<100	
	Perchloroethene			<20	
	Trichloroethene			<20	
	1,1-Dichloroethene			<20	
	1,2-Dichloroethene			<40	
	Vinyl Chloride			<100	
MW-8 Clay 16.84' - 17.01' PID = BG OVA = BG	MTBE			<50	
	BTEX			<80	
	Naphthalene			<100	
	Perchloroethene			<20	
	Trichloroethene			<20	
	1,1-Dichloroethene			<20	
	1,2-Dichloroethene			<40	
	Vinyl Chloride			<100	
MW-9 Silt 9.61' - 9.78' PID = BG OVA = 2.2	MTBE			<50	
	BTEX			<80	
	Naphthalene			<100	
	Perchloroethene			<20	
	Trichloroethene			<20	
	1,1-Dichloroethene			<20	
	1,2-Dichloroethene			<40	
	Vinyl Chloride			<100	
MW-9 Glacial Till 13.20' - 13.37' PID = BG OVA = BG	MTBE			<50	
	BTEX			<80	
	Naphthalene			<100	
	Perchloroethene			<20	
	Trichloroethene			<20	
	1,1-Dichloroethene			<20	
	1,2-Dichloroethene			<40	
	Vinyl Chloride			<100	
MW-9 Glacial Till 18.87' - 19.04' PID = BG OVA = BG	MTBE			<50	
	BTEX			<80	
	Naphthalene			<100	
	Perchloroethene			<20	
	Trichloroethene			<20	
	1,1-Dichloroethene			<20	
	1,2-Dichloroethene			<40	
	Vinyl Chloride			<100	

NOTES:

- < - Contaminant not detected at specified detection limit
- 1=Assayed by LAG/MAV
- 2=Assayed by LAG/Endyne
- PID OVA = ppm
- BG = BackGround

Soil Analytical Summary Results (ppb - ug/Kg)

Data Point	Compound	1	2		2	
		4-12-95	7-17-95	7-18-95	7-20-95	7-20-95
MW-10 Clay <del>6-21' - 7-01'</del> PID = BG OVA = 10	MTBE					<50
	BTEX					<80
	Naphthalene					<100
	Perchloroethene					<20
	Trichloroethene					<20
	1,1-Dichloroethene					<20
	1,2-Dichloroethene					<40
	Vinyl Chloride					<100
MW-10 Clay <del>14-22' - 14-50'</del> PID = 0.2 OVA = 2.8	MTBE					<50
	BTEX					<80
	Naphthalene					<100
	Perchloroethene					<20
	Trichloroethene					<20
	1,1-Dichloroethene					<20
	1,2-Dichloroethene					<del>100</del>
	Vinyl Chloride					<100
MW-10 Silt <del>17-02' - 18-00'</del> PID = 0.2 OVA = 6.6	MTBE					<50
	BTEX					<80
	Naphthalene					<100
	Perchloroethene					<del>470</del>
	Trichloroethene					40.7
	1,1-Dichloroethene					<20
	1,2-Dichloroethene					247
	Vinyl Chloride					<100
MW-10 Clay <del>19-50' - 19-58'</del> PID = 0.8 OVA = 6.9	MTBE					<50
	BTEX					<80
	Naphthalene					<100
	Perchloroethene					<del>1120</del>
	Trichloroethene					505
	1,1-Dichloroethene					<20
	1,2-Dichloroethene					1170
	Vinyl Chloride					<100
MW-10 Glacial Till <del>21-03' - 21-08'</del> PID = 6.2 OVA = 17	MTBE					<50
	BTEX					<80
	Naphthalene					<100
	Perchloroethene					<del>1900</del>
	Trichloroethene					652
	1,1-Dichloroethene					<20
	1,2-Dichloroethene					529
	Vinyl Chloride					<100
MW-10 Glacial Till <del>27-75' - 27-92'</del> PID = 1.8 OVA = 8.8	MTBE					<50
	BTEX					<80
	Naphthalene					<100
	Perchloroethene					<del>1020</del>
	Trichloroethene					292
	1,1-Dichloroethene					<20
	1,2-Dichloroethene					216
	Vinyl Chloride					<100

NOTES:  
 < - Contaminant not detected at specified detection limit  
 1=Assayed by LAG/MAV  
 2=Assayed by LAG/Endyne  
 PID OVA = ppm  
 BG = BackGround

Soil Analytical Summary Results (ppb - ug/Kg)

Data Point	Compound	1	2		2	
		4-12-95	7-17-95	7-18-95	7-20-95	
MW-10 <del>Basal Glacial Till</del> 39.67' - 39.83' PID = BG OVA = 3.0	MTBE					<50
	BTEX					<80
	Naphthalene					<100
	Perchloroethene					
	Trichloroethene					<20
	1,1-Dichloroethene					<20
	1,2-Dichloroethene					<40
	Vinyl Chloride					<100
MW-11 Silt 18.98' - 19.06' PID = BG OVA = BG	MTBE		<50			
	BTEX		<80			
	Naphthalene		<100			
	Perchloroethene		<20			
	Trichloroethene		<20			
	1,1-Dichloroethene		<20			
	1,2-Dichloroethene		<40			
	Vinyl Chloride		<100			

NOTES:  
 < - Contaminant not detected at specified detection limit  
 1=Assayed by LAG/MAV  
 2=Assayed by LAG/Endyne  
 PID OVA = ppm  
 BG = BackGround

Ground Water Elevation/Product Thickness (feet)

Data Point	TOC	9-23-94	1-30-95	3-17-95	4-20-95	5-12-95	7-19-95	7-20-95
GT-1	99.63	90.58	90.43		90.99	90.74	88.04	
GT-2	95.96	79.04	82.37	81.56	84.33	82.79		
GT-3	97.17	86.37	87.23	86.47	87.79	88.01	82.32	
GT-4	97.75	92.17	90.89	91.04	91.99	91.85	91.97	
GT-5	97.52		88.17	88.43	90.26	89.77	84.38	
GT-6	96.51	88.16		89.17	86.68	85.80	82.08	
MW-1	91.24				84.21	83.54	79.91	
MW-2	96.34				87.14	86.23	82.18	
MW-3	96.35				85.25	84.18	79.54	
MW-4	90.47				77.82	77.42	75.51	
MW-5	89.49						76.85	
MW-6	90.45						73.48	
MW-7	88.76						70.58	70.95
MW-8	83.22							72.41
MW-9	86.12						75.66	
MW-10	95.66							
MW-11	98.52						81.62	

Notes:  
 Light Grey Cell = Dry, < refers to limit of measurement  
 Dark Grey Cell = Inaccessible

Ground Water Elevation/Product Thickness (feet)

Data Point	TOC	7-24-95	7-31-95	8-30-95				
GT-1	99.63	88.53		89.13				
GT-2	95.96	77.77		78.53				
GT-3	97.17	82.95		84.56				
GT-4	97.75	91.97		91.58				
GT-5	97.52	84.32		86.27				
GT-6	96.51	82.67		83.06				
MW-1	91.24	80.21		81.19				
MW-2	96.34	82.73		83.19				
MW-3	96.35	79.43	80.92	80.50				
MW-4	90.47	75.73						
MW-5	89.49	76.79		77.19				
MW-6	90.45	74.22		74.80				
MW-7	88.76	75.31		<75.36				
MW-8	83.22	72.64		<71.92				
MW-9	86.12	75.31		<74.92				
MW-10	95.66	70.41		71.68				
MW-11	98.52	85.06		85.31				

Notes:  
 Light Grey Cell = Dry, < refers to limit of measurement  
 Dark Grey Cell = Inaccessible

Photoionization Results (PID - ppm)

Data Point	1-30-95	3-17-95	4-20-95	5-12-95	7-18-95	7-19-95	7-20-95	7-24-95
GT-1	BG		1.2	BG		2.4		2.4
GT-2	52	48	104	136		>1,000		80
GT-3	1	10.8	10.4	16.2		200		9.4
GT-4	1.8	11	17.4	17.6		54		17.0
GT-5	4	14.4	13.4	2.0		880		7.6
GT-6	14	130	108	72		960		150
MW-1			19.5	BG		1.2		0.3
MW-2			230	130		120		122
MW-3			0.3	0.2		45		BG
MW-4			2.4	BG		BG		BG
MW-5						0.6		0.2
MW-6						3.2		0.2
MW-7						0.2	0.4	0.2
MW-8							0.7	BG
MW-9						54		0.6
MW-10								2.6
MW-11						140		2.2
Ashley Residence				BG	BG			
Smith Residence					BG			
Banner Residence						BG		
Child Care Building					BG			
C.C. Rental Residence						BG		

Notes:  
 BG - Background  
 SL - Saturated Lamp  
 Dark Grey Cell - Inaccessible  
 Light Grey Cell - DRY  
 \* - Foxboro OVA

Photoionization Results (PID - ppm)

Data Point	8-30-95	9-12-95	9-18-95					
GT-1	BG							
GT-2	70							
GT-3	10.6							
GT-4	1.6							
GT-5	4.8							
GT-6	78							
MW-1	BG							
MW-2	170							
MW-3	BG							
MW-4								
MW-5	BG							
MW-6	BG	BG						
MW-7	BG		BG					
MW-8	BG	BG						
MW-9	BG	BG						
MW-10	4.2							
MW-11	4.0							
Ashley Residence								
Smith Residence								
Banner Residence								
Child Care Building								
C.C. Rental Residence								

Notes:  
 BG - Background  
 SL - Saturated Lamp  
 Dark Grey Cell - Inaccessible  
 Light Grey Cell - DRY  
 \* - Foxboro OVA

Ground Water Quality Results (ppb-ug/l)

Data Point	Compound	1 9-23-94	2 1-30-95	2 2-16-95	2 4-20-95	3 7-24-95	3 7-31-95	4 9-5-95
GT-1	MTBE				<5	<5		
	BTEX	<20			<30	<8		
	Naphthalene				<5	<10		
	Perchloroethene	<5			30	32.6		
	Trichloroethene	<5			5.7	9		
	1,1-Dichloroethene	<5			<5	<2		
	1,2-Dichloroethene	<5			20	11.5		
Vinyl Chloride	<10			<5	<10			
GT-2	MTBE		<5,000		<20			<2,500
	BTEX	<20,000	<6,000		<120			<3,000
	Naphthalene				<20			<500
	Perchloroethene	85,000	49,000		25,000			51,000
	Trichloroethylene	18,000	11,000		9,200			13,000
	1,1-Dichloroethene	<5,000	<1,000		87			<500
	1,2-Dichloroethene	16,000	9,000		9,340			16,500
Vinyl Chloride	<10,000	6,700		5,400			5,800	
GT-3	MTBE				6.7	<5		
	BTEX	<20			30.4	<8		
	Naphthalene				<5	<10		
	Perchloroethene	<5			18	134		
	Trichloroethene	<5			6.6	15.9		
	1,1-Dichloroethene	<5			<5	<2		
	1,2-Dichloroethene	<5			14.1	9.1		
Vinyl Chloride	<10			<5	<10			
GT-4	MTBE				<10	<5		
	BTEX	261			85	128.1		
	Naphthalene				34	72.7		
	Perchloroethene	<10			14	<2		
	Trichloroethene	<10			<10	2		
	1,1-Dichloroethene	<10			<10	<2		
	1,2-Dichloroethene	<10			26	40.8		
Vinyl Chloride	<20			<10	<10			
GT-5	MTBE				45	98		
	BTEX				68	88.8		
	Naphthalene				18	56.5		
	Perchloroethene				8.8	<2		
	Trichloroethene				<5	<2		
	1,1-Dichloroethene				<5	<2		
	1,2-Dichloroethene				13.3	7.7		
Vinyl Chloride				16	11.2			
GT-6	MTBE				<20	<1,000		
	BTEX	<20,000			126	<1,600		
	Naphthalene				21	2,000		
	Perchloroethene	10,000			5,700	11,840		
	Trichloroethene	<5,000			1,400	3,230		
	1,1-Dichloroethene	<5,000			<20	<400		
	1,2-Dichloroethene	<5,000			11,120	46,200		
Vinyl Chloride	<10,000			220	<10			

NOTES:  
 < - Contaminant not detected at specified detection limit  
 1=Assayed by GTI  
 2=Assayed by LAG/MAV  
 3=Assayed by LAG/Endyne  
 4=Assayed by LAG/GML  
 Light Grey Cell = DRY

Ground Water Quality Results (ppb-ug/l)

Data Point	Compound	1 9-23-94	2 1-30-95	2 2-16-95	2 4-20-95	3 7-24-95	3 7-31-95	4 9-5-95
Waste Water	MTBE			<500				
	BTEX			<3,000				
	Perchloroethene			<del>2,000</del>				
	Trichloroethene			<500				
	1,1-Dichloroethene			<500				
	1,2-Dichloroethene			<1,000				
	Vinyl Chloride			<500				
MW-1	MTBE				<10	<5		
	BTEX				310	55.5		
	Naphthalene				<10	<10		
	Perchloroethene				<del>850</del>	<del>145</del>		
	Trichloroethene				100	41.8		
	1,1-Dichloroethene				<10	<2		
	1,2-Dichloroethene				95	62.8		
Vinyl Chloride				19	10			
MW-2	MTBE				<10	<1,000		
	BTEX				1,700	2,114		
	Naphthalene				36	<2,000		
	Perchloroethene				<del>4,900</del>	<del>7,830</del>		
	Trichloroethene				4,900	7,830		
	1,1-Dichloroethene				11	<400		
	1,2-Dichloroethene				5,144	13,000		
Vinyl Chloride				310	<2,000			
MW-3	MTBE				<1	<5		
	BTEX				87	<8		
	Naphthalene				<del>1</del>	<10		
	Perchloroethene				<del>3.2</del>	<del>61.8</del>		
	Trichloroethene				1.8	46.3		
	1,1-Dichloroethene				<1	<2		
	1,2-Dichloroethene				5.3	57.4		
Vinyl Chloride				2	<10			
MW-4	MTBE				<1	<5		
	BTEX				11.5	<8		
	Naphthalene				1	<10		
	Perchloroethene				<del>230</del>	<del>91.4</del>		
	Trichloroethene				15	10.1		
	1,1-Dichloroethene				<1	<2		
	1,2-Dichloroethene				10.9	5.3		
Vinyl Chloride				7.4	<10			
MW-5	MTBE					<5		
	BTEX					13.4		
	Naphthalene					<10		
	Perchloroethene					<2		
	Trichloroethene					<2		
	1,1-Dichloroethene					<2		
	1,2-Dichloroethene					<4		
Vinyl Chloride					<10			

NOTES:

< - Contaminant not detected at specified detection limit

1=Assayed by GTI

2=Assayed by LAG/MAV

3=Assayed by LAG/Endyne

4=Assayed by LAG/GML

Light Grey Cell = DRY

Ground Water Quality Results (ppb-ug/l)

Data Point	Compound	1 9-23-94	2 1-30-95	2 2-16-95	2 4-20-95	3 7-24-95	3 7-31-95	4 9-5-95
MW-6	MTBE					<5		
	BTEX					29.2		
	Naphthalene					<10		
	Perchloroethene					156		
	Trichloroethene					<2		
	1,1-Dichloroethene					<2		
	1,2-Dichloroethene					<4		
	Vinyl Chloride					<10		
MW-7	MTBE					<5		
	BTEX					41.5		
	Naphthalene					<10		
	Perchloroethene					84.7		
	Trichloroethene					11.7		
	1,1-Dichloroethene					<2		
	1,2-Dichloroethene					16.9		
	Vinyl Chloride					<10		
MW-8	MTBE					<5		
	BTEX					17.5		
	Naphthalene					<10		
	Perchloroethene					<2		
	Trichloroethene					<2		
	1,1-Dichloroethene					<2		
	1,2-Dichloroethene					<4		
	Vinyl Chloride					<10		
MW-9	MTBE					<5		
	BTEX					8		
	Naphthalene					<10		
	Perchloroethene					<2		
	Trichloroethene					<2		
	1,1-Dichloroethene					<2		
	1,2-Dichloroethene					<4		
	Vinyl Chloride					<10		
MW-10	MTBE					<100		
	BTEX					160		
	Naphthalene					<200		
	Perchloroethene					1000		
	Trichloroethene					<40		
	1,1-Dichloroethene					3800		
	1,2-Dichloroethene					200		
	Vinyl Chloride					<5		
MW-11	MTBE					<5		
	BTEX					<8		
	Naphthalene					<10		
	Perchloroethene					<2		
	Trichloroethene					<2		
	1,1-Dichloroethene					<2		
	1,2-Dichloroethene					<4		
	Vinyl Chloride					<10		

NOTES:

< - Contaminant not detected at specified detection limit

1=Assayed by GTI

2=Assayed by LAG/MAV

3=Assayed by LAG/Endyne

4=Assayed by LAG/GML

Light Grey Cell = DRY

Ground Water Quality Results (ppb-ug/l)

Data Point	Compound	9-23-94 <sup>1</sup>	1-30-95 <sup>2</sup>	2-16-95 <sup>2</sup>	4-20-95 <sup>2</sup>	7-24-95 <sup>3</sup>	7-31-95 <sup>3</sup>	9-5-95 <sup>4</sup>
HA-1	MTBE				<1			
	BTEX				<6			
	Naphthalene				<1			
	Perchloroethene							
	Trichloroethene							
	1,1-Dichloroethene				<1			
	1,2-Dichloroethene				89			
Vinyl Chloride				<1				

NOTES:  
 < - Contaminant not detected at specified detection limit  
 1=Assayed by GTI  
 2=Assayed by LAG/MAV  
 3=Assayed by LAG/Endyne  
 4=Assayed by LAG/GML  
 Light Grey Cell = DRY

**Desabrais Monitoring Data  
and  
Risk Based Screening Levels**

		PCE	TCE	c-1,2-DCE	Vinyl Chloride
<b>Site Monitoring Data</b>					
Highest soil concentrations measured (clayey soil @ 13' bg in MW-2)	mg/kg	19	38	8	0.5
Typical soil concentration range (mg/kg) in silty soils in source area (depths = 8' to 26' BG)	Lower Conc.	0.2	0.05	0.05	ND
	Highest Conc.	1	0.6	2.3	0.016
Ground water concentration range (ug/l) in source area.	Lower Conc.	100	5	1	1
	Highest Conc.	20,000	7,000	1,000	6,000
<b>Risk Based Screening Levels</b>					
Drinking water <del>MCLs (Maximum Concentration Levels)</del>	ug/l	<del>5</del>	<del>5</del>	<del>70</del>	<del>70</del>
Vermont Health Advisory Guide for drinking water	ug/l	0.7	3	None	None
<del>EPA Regional III risk-based concentrations for drinking water</del>	<del>ug/l</del>	<del>1</del>	<del>1</del>	<del>1</del>	<del>0.02</del>
EPA protective soil screening (mg/kg) levels for transfer from:					
soil to ambient air	mg/kg	<del>5</del>	<del>5</del>	<del>70</del>	<del>0.002</del>
soil to ground water	mg/kg	<del>0.04</del>	<del>0.02</del>	<del>0.02</del>	<del>0.01</del>
EPA Region III risk-based ambient (breathing) air concentrations	<del>ug/m<sup>3</sup></del>	4.70E-04	1.82E-04	9.02E-03	8.75E-06
EPA Region III risk-based residential soil ingestion screening level	mg/kg	12	58	780	0.34
Equilibrium soil gas concentrations based on low concentrations silty soil					
	ppm	30	9	7	None
	ug/m <sup>3</sup>	200,000	50,000	30,000	None
Equilibrium soil gas concentrations based on high concentrations silty soil					
	ppm	303	182	585	63
	ug/m <sup>3</sup>	2,000,000	1,000,000	2,400,000	150,000
Equilibrium soil gas concentrations (ug/m <sup>3</sup> ) based on ground water concentrations under closest residence					
	ppm	19	0.36	0.02	1.67
	ug/m <sup>3</sup>	125,000	2,000	100	4,000

*Handwritten initials*

*Show MCLs?*

Notes:  
ND = None Detect

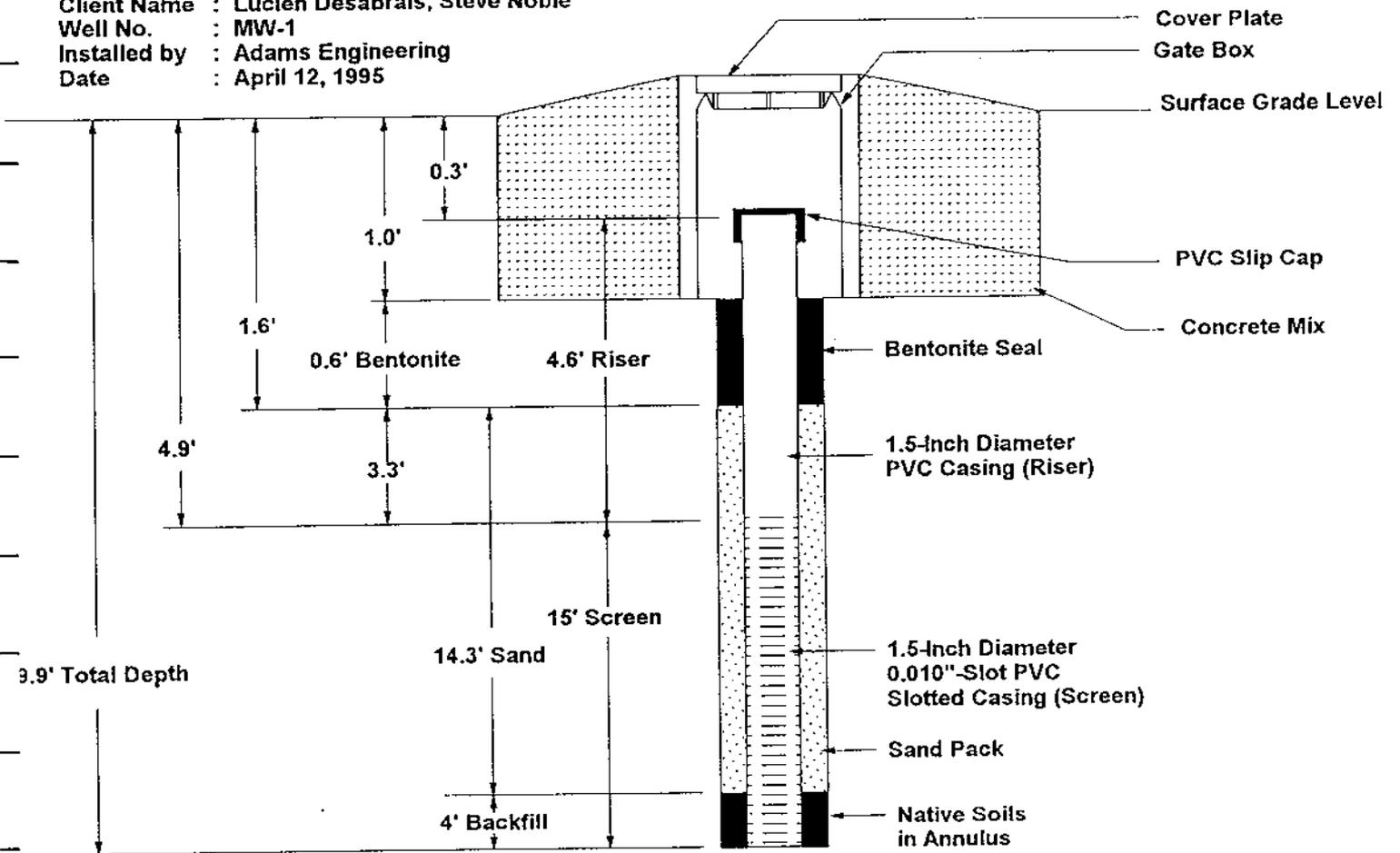
Appendix C

LAG Detailed Well Logs,  
MW-1, 2, 3, 4, 5, 6, 7, 8, 9, 10, and 11



# Monitor Well Construction Details

Site Name : Former Desabrais Dry Cleaning  
 Client Name : Lucien Desabrais, Steve Noble  
 Well No. : MW-1  
 Installed by : Adams Engineering  
 Date : April 12, 1995



NOTE: NOT TO SCALE

**WELL LOG**

Well: MW-2 - Behind (W) former Desabrais Dry Cleaning, rear door.  
 Location: Former Desabrais Dry Cleaning, Village Court Plaza, Court Street, Middlebury, Vermont  
 Driller: Gerry Adams, Adams Engineering, Underhill, Vermont. Vibratory Soil cores.  
 Hydrogeologist: William Norland, Lincoln Applied Geology, Inc.  
 Date: April 13, 1995

Background = BG = 0.2 ppm

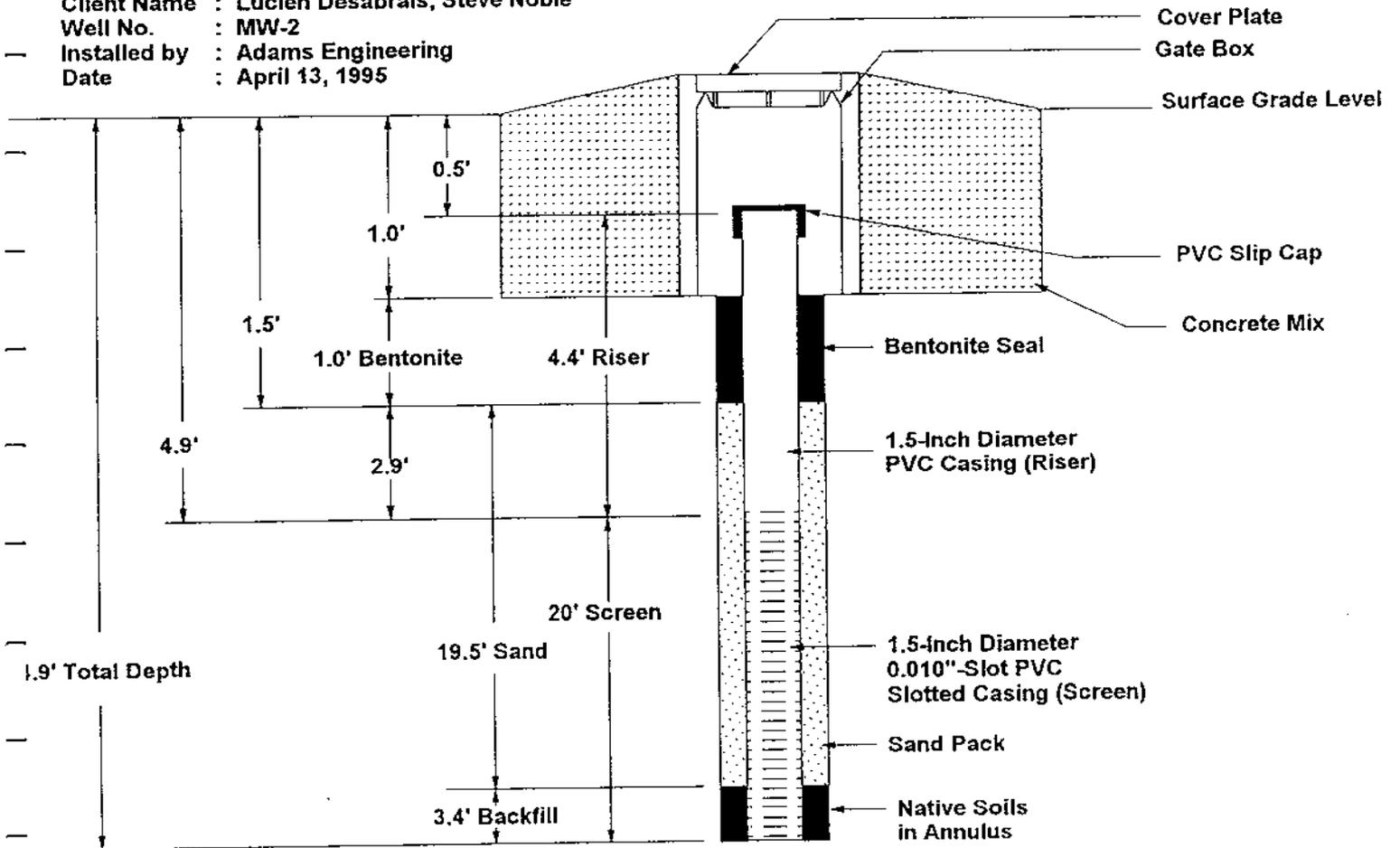
Sampling/Coring Depth below Surface (ft)	Core Interval * (in)	Description	PID (ppm)
0' - 0.3'		Asphalt pavement.	
0.3' - 1.6'		Moist, light brown, <u>medium to coarse sand</u> ; little fine to coarse gravel. Fill.	BG
1.6' - 4.9' (34" recovery)			
2.1' - 2.6'	0" - 6"	Moist, light brown, <u>medium to coarse sand</u> ; little fine to coarse gravel. Fill.	BG
2.6' - 4.4'	6" - 28"	Moist, brown and grey, mottled, <u>clay</u> ; little silt; trace fine to coarse gravel. Fill.	
4.4' - 4.9'	28" - 34"	Moist, dark grey, <u>clay</u> ; little silt; trace wood fragments, medium to coarse sand. Fill.	0.2
4.9' - 9.9' (60" recovery)	0" - 9"	Fill sloughed in from above.	
4.9' - 5.3'	0" - 5"	Moist, dark grey, <u>clay</u> ; little silt; trace wood fragments, medium to coarse sand. Fill.	
5.3' - 5.47'	6" - 8"	Moist, grey, <u>clay</u> ; little wood fragments. Fill.	
5.47' - 5.65'	8" - 9"	Moist, brown, <u>medium to coarse sand and gravel</u> . Fill.	0.6 @ 8"
5.65' - 6.3'	9" - 17"	Moist, grey brown, mottled, laminated, <u>clay</u> ; trace silt.	0.8 @ 16"
6.3' - 8.5'	17" - 43"	Moist, brown, mottled, laminated, <u>clay</u> ; trace silt. Wet, olive, <u>silt</u> layers at 37 1/2" (1/2" thick), 39" (1/2"), and 41" (1 1/2"). EPA 8260 sample 41" - 42".	2.2 @ 29" 7.6 @ 41"
8.5' - 9.9'	43" - 60"	Moist, brown, very firm, mottled, laminated, <u>clay</u> ; trace silt. Blocky, angular structure. Faint fuel oil odor. EPA 8260 sample 57" - 59".	9.2 @ 52" 4.4 @ 54" 3.2 @ 59"
9.9' - 14.9' (63" recovery)	0" - 9"	Sand and clay fill sloughed in from above.	1.9 @ 7"
10.4' - 14.9'	9" - 63"	Moist to wet, brown, very firm, laminated, <u>clay</u> ; trace silt. Very thin, moist to wet, olive, <u>silt</u> layers at 21" (1/8" thick), 38" (1/8"), 44" (1/8"), 54" (1/16"), and 56" (1/8"). EPA 8260 sample 43" - 45". Vertical fracture at 44" offsets silt layer 1/2". Mottles, vertical fractures, tree root "halos", and laminations throughout core. Strong petroleum /PCE odor and sheen on water.	4.9 @ 15" 20 @ 21" 15.2 @ 38" 5.6 @ 42" 54 @ 44" 9.4 @ 50" 21 @ 56" 1.8 @ 59" 9.4 @ 63"
14.9' - 19.9' (61" recovery)	0" - 16"	Sloughed in from above.	
16.2' - 19.9'	16" - 61"	Wet, brown, very firm, mottled dark grey to dark brown, laminated, <u>clay</u> ; trace silt. Many wet, olive, <u>silt</u> layers at 25" (1/2" thick), 27 1/2" (1/4"), 31 1/2" (1/16"), 33 1/2" (1/2" with dropstone), 37" (1/8"), 38 1/2" (3/4"), 41" (1/16"), 42" (1/16"), 43" (1/16"), 48" (1/4"), 52" (1/4"), 53" (1/2"), and 55 1/2" (1/4"). EPA 8260 sample 38" - 40". Strong petroleum/PCE odor and sheen on water.	1.2 @ 20" 20 @ 25" 9.4 @ 27 1/2" 12 @ 33 1/2" 110 @ 36" 21 @ 39" 9.8 @ 44" 8.4 @ 48" 10.4 @ 51" 34 @ 53" 4.6 @ 56"
19.5' - 24.9' (33" recovery)	0" - 18"	Contorted "slop":water/mud mixture.	
23.65' - 24.9'	18" - 33"	Wet, brown, very firm, mottled dark grey to brown, laminated, <u>clay</u> ; trace silt. Several wet, olive, <u>silt</u> layers at 11" (2" thick), 15" (1"), 18" (1"), 21" (1/2"), 26 1/2" (1/4"), 29 1/2" (1/2"), and 32 1/2" (1/4"). EPA 8260 sample 25" - 27".	12.4 @ 17" 9.6 @ 20" 8.8 @ 21 1/2" 7 @ 23"

\* = As per Soil Sampling Delineation.



# Monitor Well Construction Details

Site Name : Former Desabrais Dry Cleaning  
 Client Name : Lucien Desabrais, Steve Noble  
 Well No. : MW-2  
 Installed by : Adams Engineering  
 Date : April 13, 1995



NOTE: NOT TO SCALE

## WELL LOG

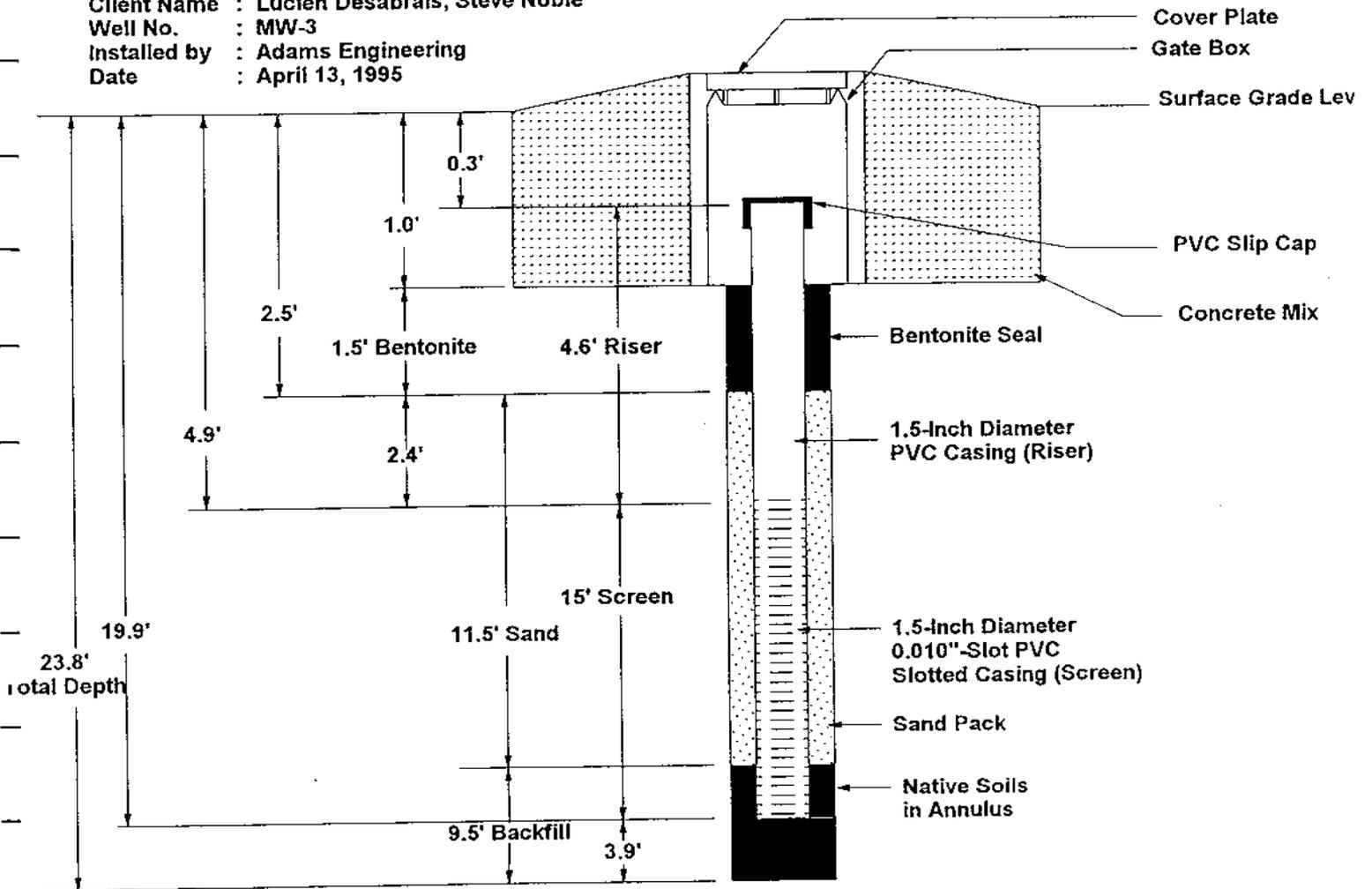
Well: MW-3 - Behind (W) former Desabrais Dry Cleaning, toward Child Care property.  
 Location: Former Desabrais Dry Cleaning, Village Court Plaza, Court Street, Middlebury, Vermont  
 Driller: Gerry Adams, Adams Engineering, Underhill, Vermont. Vibratory Soil cores.  
 Hydrogeologist: William Norland, Lincoln Applied Geology, Inc.  
 Date: April 13, 1995

Background = BG = 0.2 ppm

Sampling/Coring Depth below Surface (ft)	Core Interval * (in)	Description	PID (ppm)
0' - 0.25'		Asphalt pavement.	
0.25' - 1.0'		Sand and gravel fill.	
1.0' - 4.9' (25" recovery)			
2.8' - 4.9'	0" - 25"	Moist, light brown, <u>fine to medium sand</u> ; little coarse sand; trace fine to medium gravel. <u>Fill</u> .	BG
4.9' - 9.9' (44" recovery)			
6.24' - 6.57'	0" - 4"	Dry, light brown, <u>fine to medium sand</u> ; little coarse sand; trace fine to medium gravel. <u>Fill</u> .	BG
6.57' - 6.65'	4" - 5"	Moist, dark brown to black, very stiff, <u>clay</u> ; little silt.	BG
6.65' - 6.9'	5" - 8"	Dry to moist, light grey, very stiff, mottled grey to brown, <u>clay</u> ; trace silt.	BG
6.9' - 7.73'	8" - 18"	Dry to moist, grey to brown, firm, mottled, laminated, <u>clay</u> ; trace silt.	BG
7.73' - 9.4'	18" - 38"	Dry to moist, grey brown, firm, mottled olive, laminated, <u>clay</u> ; trace silt.	BG
9.4' - 9.9'	38" - 44"	Moist, olive, firm, mottled grey, laminated, <u>silt</u> ; little clay.	BG
9.9' - 14.9' (64" recovery)	0" - 5"	Sloughed in from above.	
10.0' - 14.9'	5" - 64"	Moist to wet, brown, mottled grey and rust orange, <u>clay</u> ; trace silt. Vertical plant and tree root "halos" from 31" - 35" provide vertical permeability. 3/4" diameter dropstone at 34". Dry, olive, <u>silt</u> layers at 5" (1/2" thick), 23" (1/16"), 38 1/2" (1/16"), 45" (1/16"), 54" (1/16"), and 56 1/2" (1/16").	BG
14.9' - 19.9' (60" recovery)			
14.9' - 15.65'	0" - 9"	Sloughed in from above.	
15.65' - 19.9'	9" - 60"	Moist to wet, brown, very stiff, laminated, <u>clay</u> ; trace silt. Many wet, olive, <u>silt</u> ; trace clay layers at 17" (1/2" thick), 19" (1/8"), 23" (3/4"), 26 1/2" (1/8"), 28" (2"), 32" (1/8"), 38" (1/8"), 39" (1/2"), 41" (1/4"), 43" (1/4"), 45 1/2" (1/8"), 47" (1/16"), 49" (1/16"), 50" (1/2"), 51" (1/4"), 52 1/2" (3/8"), 54 1/2" (1/2"), 57" (1/4"), and 59" (1/8"). EPA 8260 sample 28" - 30".	BG
19.9' - 23.8' (40" recovery)	0" - 40"	Wet, brown, firm, laminated, <u>clay</u> ; trace silt. Several dark grey to black clay layers - possibly organic matter. Many wet, olive, <u>silt</u> ; trace clay layers at 4" (1/2" thick), 9" (1/4"), 12" (1/4"), 16" (1/4"), 17" (1/8"), 19" (3/8"), 19 1/2" (1/2"), 22" (1/4"), 25 1/2" (1/2"), 28" (5/8"), 30" (1/2"), 31" (3/8"), 33 1/2" (1 1/8"), and 37" (3/8"). EPA 8260 sample 33" - 35". Core sampler refusal at 23.8' depth.	BG

## Monitor Well Construction Details

Site Name : Former Desabrais Dry Cleaning  
 Client Name : Lucien Desabrais, Steve Noble  
 Well No. : MW-3  
 Installed by : Adams Engineering  
 Date : April 13, 1995



NOTE: NOT TO SCALE

## WELL LOG

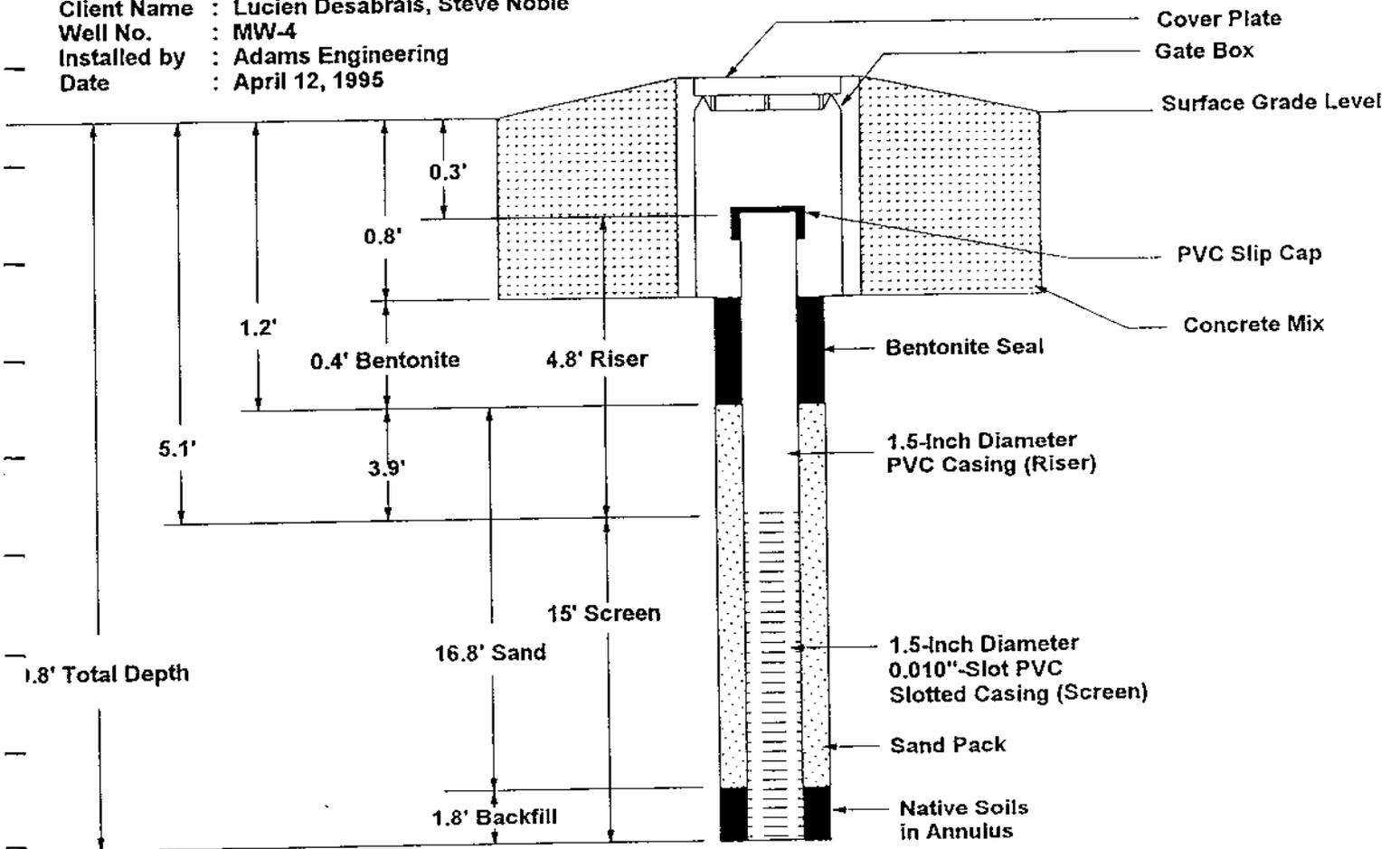
Well: MW-4 - In backyard near southwest corner of Village Court Plaza property.  
 Location: Richard & Helen Ashley property, 5 Duane Court, Middlebury, Vermont  
 Driller: Gerry Adams, Adams Engineering, Underhill, Vermont. Vibratory Soil cores.  
 Hydrogeologist: William Norland, Lincoln Applied Geology, Inc.  
 Date: April 12, 1995

Background = BG = 0.2 ppm

Sampling/Coring Depth below Surface (ft)	Core Interval * (in)	Description	PID (ppm)
0' - 1.0'		Topsoil and fill.	
1.0' - 4.6' (37" recovery)			
1.5' - 2.4'	0" - 10"	Moist, dark brown, <u>fine sand and silt</u> ; little fine to medium gravel, medium sand. <u>Fill</u> .	BG
2.4' - 2.9'	10" - 16"	Moist, dark brown to brown, <u>silt and clay</u> ; little fine gravel. <u>Topsoil</u> .	BG
2.9' - 4.0'	16" - 29"	Moist to dry, brown, firm, mottled olive, <u>clay</u> ; little silt.	BG
4.0' - 4.5'	29" - 35"	Moist to dry, brown and olive, block structure, laminated 1/16" to 1/8" thick, <u>clay</u> ; little silt.	BG
4.5' - 4.6'	35" - 37"	Dry, olive, laminated, <u>silt</u> .	BG
4.6' - 9.7' (62" recovery)			
4.6' - 9.7'	0" - 62"	Moist, brown, very dense, laminated, mottled rust orange and grey, <u>clay</u> ; trace silt. Tree and plant roots to the bottom at 62". Dry, olive, <u>silt</u> layers at 3" (1/8" thick), 33 1/2" (1/16"), and 54" (1/8"). Vertical fractures and tree root "halos" provide vertical permeability.	BG
9.7' - 14.7' (62" recovery)			
	0" - 13"	Sloughed in from above.	
10.6' - 14.7'	13" - 62"	Moist, brown, mottled rust, laminated 1/16" thick, firm, <u>clay</u> ; trace silt. Tree and plant root "halos" provide vertical permeability. Wet, olive, <u>silt</u> ; trace clay layers at 47 1/2" (1/2" thick), 55" (3"), and 59" (3"). EPA 8260 sample 55" - 58".	BG
12.5' - 17.6' (62" recovery)			
12.5' - 14.7'	0" - 27"	Sloughed in from above.	
14.7' - 15.2'	27" - 33"	Wet, olive, <u>silt</u> ; little very fine sand; trace clay.	BG
15.2' - 17.6'	33" - 62"	Moist, brown, laminations 1/16" to 1/8" thick, firm, mottled dark brown and olive, <u>clay</u> ; little to trace silt. Several wet, olive, <u>silt</u> ; trace clay layers at 36" (1/4" thick), 37" (1/4"), 41" (1/4"), 43 1/2" (1/2"), 47" (1/2"), 49" (1/8"), 53" (3/4"), 54" (3/4"), 56" (1/2"), and 58" (3/4").	BG
17.6' - 19.8' (26" recovery)			
17.6' - 19.8'	0" - 26"	Moist to wet, brown, mottled dark brown and grey, laminated, <u>clay</u> ; little to trace silt. Several wet, olive, <u>silt</u> ; trace clay layers at 3" (1/4" thick), 6 1/2" (1/2"), 9" (1/2"), 10" (1/2"), 12" (1/8"), 16 1/2" (1/2"), 19 1/2" (3/4"), 21" (3/4"), and 23" (1/2").	BG

## Monitor Well Construction Details

Site Name : Former Desabrais Dry Cleaning  
 Client Name : Lucien Desabrais, Steve Noble  
 Well No. : MW-4  
 Installed by : Adams Engineering  
 Date : April 12, 1995



*NOTE: NOT TO SCALE*

## WELL LOG

Well: MW-5 - East side of house.  
 Location: Jerome Smith property, 6 Duane Court, Middlebury, Vermont.  
 Driller: Gerry Adams, Adams Engineering, Underhill, Vermont. Vibratory Soil cores.  
 Hydrogeologist: William Norland, Lincoln Applied Geology, Inc.  
 Date: July 18, 1995

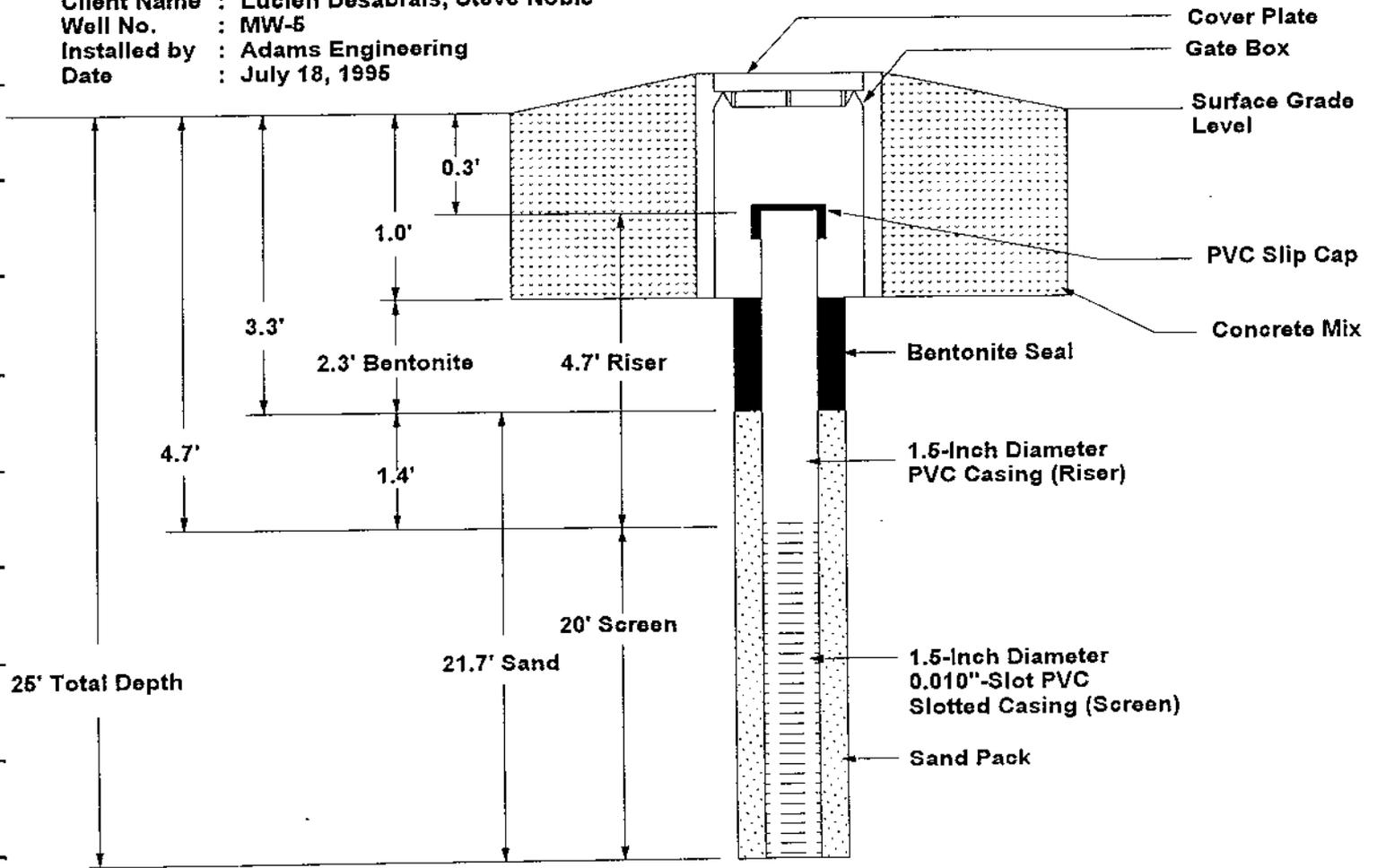
Background = BG = 0.2 ppm

Sampling/Coring Depth below Surface (ft)	Core Interval * (in)	Description	OVA (ppm)	PID (ppm)
0' - 1.0'		Topsoil and grass.		
1.0' - 5.0' (42" recovery)				
1.5' - 2.67'	0" - 14"	Dry, brown to tan, faintly mottled, <u>clay</u> ; trace silt.	BG	BG
2.67' - 3.34'	14" - 22"	Dry, brown, mottled with rust/tan, very firm, <u>clay</u> ; trace silt.	BG	BG
		Tree roots.		
3.34' - 3.51'	22" - 24"	Dry, olive tan, <u>silt</u> ; trace clay.	BG	BG
3.51' - 5.0'	24" - 42"	Dry, most at 36", brown, mottled with rust, black laminated <u>clay</u> ; trace silt. Tree root 1/4" thick at 31".	BG	BG
		Vertical fractures and root "halos".		
		Dry, olive tan, <u>silt</u> ; trace clay layers at 26" (3/4" thick), and 29" (1/4").		
5.0' - 10.0' (62" recovery)				
	0" - 2"	Sloughed in from above.	BG	BG
5.0' - 10.0'	2" - 62"	Moist, brown with grey and black mottles, laminated <u>clay</u> ; trace silt. 1/2" pebble at 57". Dry, tan, <u>silt</u> ; trace clay layers at 29" (1/8" thick), 34-1/2" (1/16"), and 47-1/2" (1/16"). Rust oxidized vertical root "halos" - one very distinct 50" - 54".	BG	BG
10.0' - 15.0' (65" recovery)				
	0" - 5"	Sloughed in from above.	BG	BG
10.0' - 15.0'	5" - 65"	Moist to wet, brown with rust, grey, and black, laminated <u>clay</u> ; trace silt. Wet, olive, <u>silt</u> ; trace clay layers at 8-1/2" (1/8"), 13" (1/16"), 17-1/2" (1/8"), 19-1/2" (1/16"), 21" (1/16"), 25" (1/8"), 30" (1/8"), 35" (1/16"), 37" (1/4"), 40" (1/4"), 42-1/2" (1/4"), 46" (1/8"), 48-1/4" (1/8"), 49-1/2" (1/16"), 56" (3/4"), 59-1/2" (1/4"), and 64-1/2" (1/4"). Abundant vertical fractures and rust root "halos".	BG	BG
13.08' - 13.25'		EPA 8260 sample 42" - 44".		
15.0' - 20.0' (63" recovery)				
15.0' - 20.0'	0" - 63"	Moist to wet, brown with rust, grey, and black, laminated <u>clay</u> ; trace silt. Many wet, olive, <u>silt</u> ; trace clay layers at 3/4" (1/16" thick), 3-1/2" (1/8"), 6-1/4" (1/2"), 8" (1/2"), 9-3/4" (1/4"), 10-1/4" (1/4"), 13" (1/8"), 17-1/4" (1/8"), 20" (1/16"), 21-1/2" (1/8"), 23" (3/8"), 26-1/2" (1/8"), 27-3/4" (1/8"), 28-1/4" (1/8"), 29" (1/4"), 33-1/2" (1/8"), 38" (1/2"), 40-1/2" (1/4"), 43" (3/8"), 45-1/2" (3/8"), 47-1/2" (1/4"), 49-3/4" (1/4"), 51-1/4" (1/8"), and 60" (1/16"). 1/2" pebble at 50-1/2", 1" pebble at 61".	BG	BG
20.0' - 25.2' (63" recovery)				
20.0' - 21.0'	0" - 12"	Moist to wet, brown with grey, black, and rust, laminated <u>clay</u> ; trace silt. Wet, grey, <u>silt</u> ; trace clay layer at 5-1/2" (1/8" thick), 1/4" to 1/2" pebbles at 10".	BG	BG
21.0' - 21.17'	12" - 14"	Wet, brown, <u>clay</u> ; some fine gravel, fine to medium sand; trace silt.	BG	BG
21.17' - 22.50'	14" - 30"	Moist to wet, brown with grey, black, and rust, laminated <u>clay</u> ; trace silt. 1/4" to 1/2" pebbles at 16" and 25".	BG	BG
22.50' - 24.83'	30" - 58"	Wet, olive brown, <u>fine sand and silt</u> ; some medium sand, fine to coarse gravel; trace clay. Subrounded gravel. 2" gravel at 30".	BG	BG
		Reworked glacial till.		
23.58' - 23.75'		EPA 8260 sample 43" - 45".		
24.83' - 25.20'	58" - 63"	Moist to wet, brown with grey, black, and rust, <u>clay</u> ; little fine to coarse gravel; trace silt.	BG	BG

\* = As per Soil Sampling Delineation.

# Monitor Well Construction Details

**Site Name** : Former Desabrais Dry Cleaning  
**Client Name** : Lucien Desabrais, Steve Noble  
**Well No.** : MW-6  
**Installed by** : Adams Engineering  
**Date** : July 18, 1995



**NOTE: NOT TO SCALE**

# WELL LOG

Well: MW-6 - East side of house.  
 Location: Richard & Helen Ashley property, 5 Duane Court, Middlebury, Vermont.  
 Driller: Gerry Adams, Adams Engineering, Underhill, Vermont. Vibratory Soil cores.  
 Hydrogeologist: William Norland, Lincoln Applied Geology, Inc.  
 Date: July 17, 1995

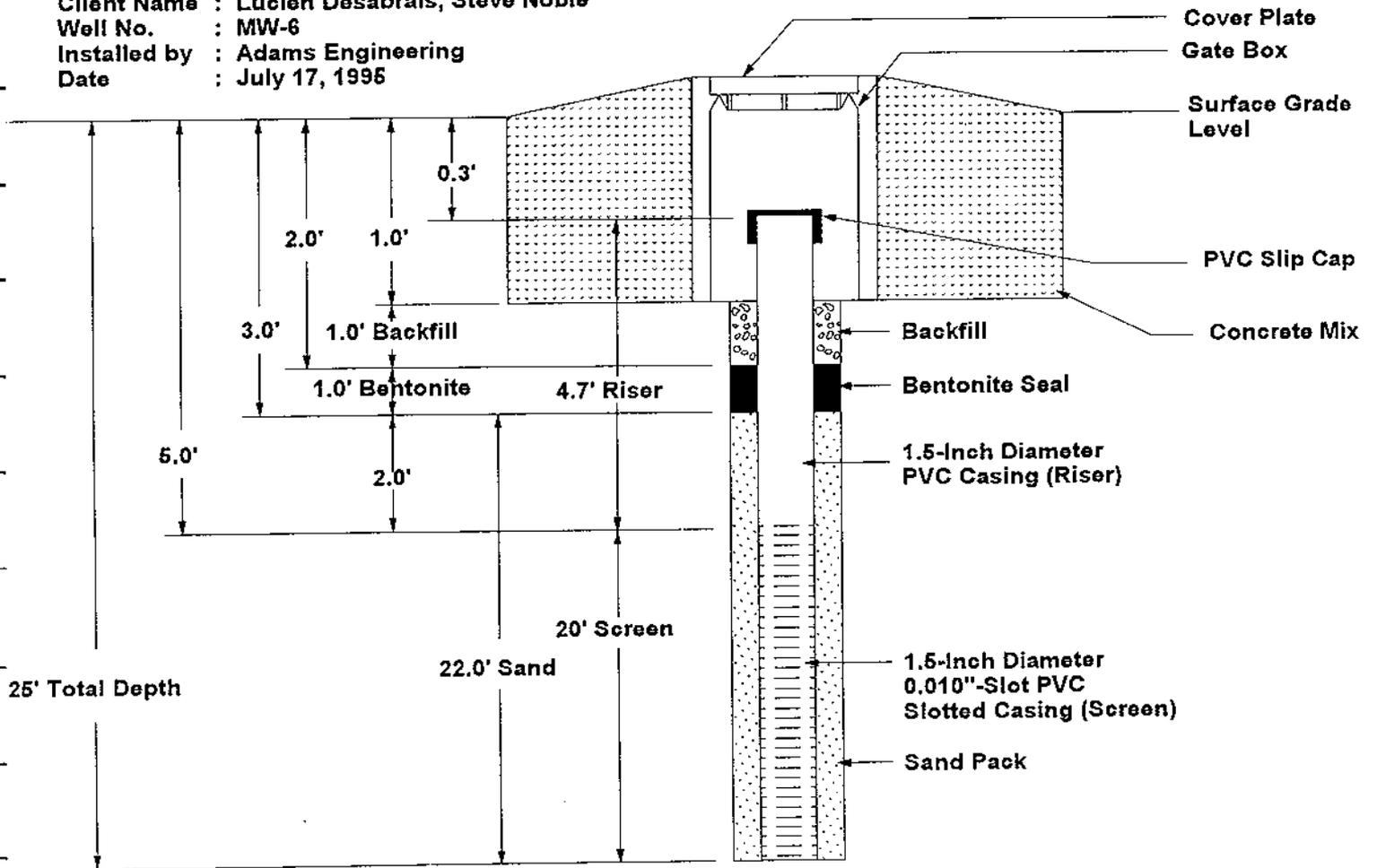
Background = BG = 0.2 ppm

Sampling/Coring Depth below Surface (ft)	Core Interval * (in)	Description	OVA (ppm)	PID (ppm)
0.0' - 5.0' (50" recovery)				
0.84' - 1.34'	0" - 6"	Moist, brown, <u>clay</u> ; trace silt. Grass & tree roots. Topsoil.	BG	BG
1.34' - 1.76'	6" - 11"	Moist, brown, <u>clay</u> ; trace silt. Fewer roots.	BG	BG
1.76' - 4.68'	11" - 46"	Dry, brown, mottled olive, rust, and black, very firm, <u>clay</u> ; trace silt. Laminated. 3/4" pebble at 42-1/2".	BG	BG
4.68' - 5.0'	46" - 50"	Moist, olive, mottled grey and brown, <u>clay</u> ; trace silt. Many root "halos" provide vertical permeability.	BG	BG
5.0' - 10.0' (60" recovery)				
5.0' - 5.17'	0" - 2"	Sloughed in from above.	BG	BG
5.17' - 5.29'	2" - 3-1/2"	Wet, olive and grey, <u>silt</u> ; trace clay.	BG	BG
5.29' - 5.41'	3-1/2" - 5"	Moist, grey and brown, laminated <u>clay</u> ; trace silt. 1/2" pebble at 4-1/2".	BG	BG
5.41' - 5.58'	5" - 7"	Wet, olive and grey, <u>silt</u> ; trace clay.	BG	BG
5.58' - 10.0'	7" - 60"	Dry, brown, grey, and rust, <u>clay</u> ; trace silt. Wet olive, <u>silt</u> ; trace clay layer at 39" (1/8" thick). Vertical root "halo" throughout core. Good vertical permeability.	BG	BG
10.0' - 15.0' (62" recovery)				
10.0' - 10.42'	0" - 7"	Sloughed in from above.	BG	BG
10.42' - 15.0'	7" - 62"	Moist to wet, brown with grey and black, laminated <u>clay</u> ; trace silt. Many vertical root "halos" and fractures. Wet, olive, <u>silt</u> ; trace clay layers at 12-1/2" (1/16" thick), 16" (1/16"), 19-1/2" (1/8"), 27-1/2" (1/8"), 54" (1/8"), and 60" (1/8").	BG	BG
14.75' - 14.92'		EPA 8260 sample 59" - 61".		
15.0' - 20.0' (62" recovery)				
15.0' - 20.0'	0" - 62"	Moist to wet, brown with grey and black, <u>clay</u> ; trace silt, laminated. Many wet, olive, <u>silt</u> ; trace clay layers at 1-1/2" (1/8" thick), 8-1/2" (1/16"), 12 (3/8"), 17" (1/8"), 18-1/2" (1/2"), 22-1/4" (1/4"), 25" (1/2"), 29-1/2" (1/4"), 30" (1/4"), 35-1/2" (1/4"), 39" (1/4"), 41-1/2" (1/8"), 42-1/2" (1/2"), 45" (3/4"), 47-1/2" (1/2"), 50-1/2" (1/4"), 54-1/2" (1/2"), 57" (1/8"), and 59-1/2" (1/4"). EPA 8260 sample 45" - 47".	BG	BG
18.74' - 18.91'				
20.0' - 25.0' (61" recovery)				
20.0' - 25.0'	0" - 61"	Moist to wet, brown with olive, grey, and black, laminated <u>clay</u> ; trace silt. Becomes much coarser toward base. 1/4" pebble at 24", fine to medium sand layers at 44" and 47" (1/8" thick). Fine to coarse gravel in clay at 58" - 61". Many wet, olive, <u>silt</u> layers at 2" (1/8" thick), 3" (1/4"), 7" (1/2"), 9-1/2" (1/2"), 11-1/2" (1/2"), 13-1/2" (1/2"), 17-1/4" (1-1/4"), 20" (1/4"), 22-1/2" (1/4"), 23-1/4" (1/4"), 27-3/4" (1/4"), 30-3/4" (1/4"), 34-1/2" (1/4"), 35" (3/8"), 37" (1/2"), 46-1/4" (1/8").	BG	BG

\* = As per Soil Sampling Delineation.

# Monitor Well Construction Details

**Site Name** : Former Desabrais Dry Cleaning  
**Client Name** : Lucien Desabrais, Steve Noble  
**Well No.** : MW-6  
**Installed by** : Adams Engineering  
**Date** : July 17, 1996



**NOTE: NOT TO SCALE**

## WELL LOG

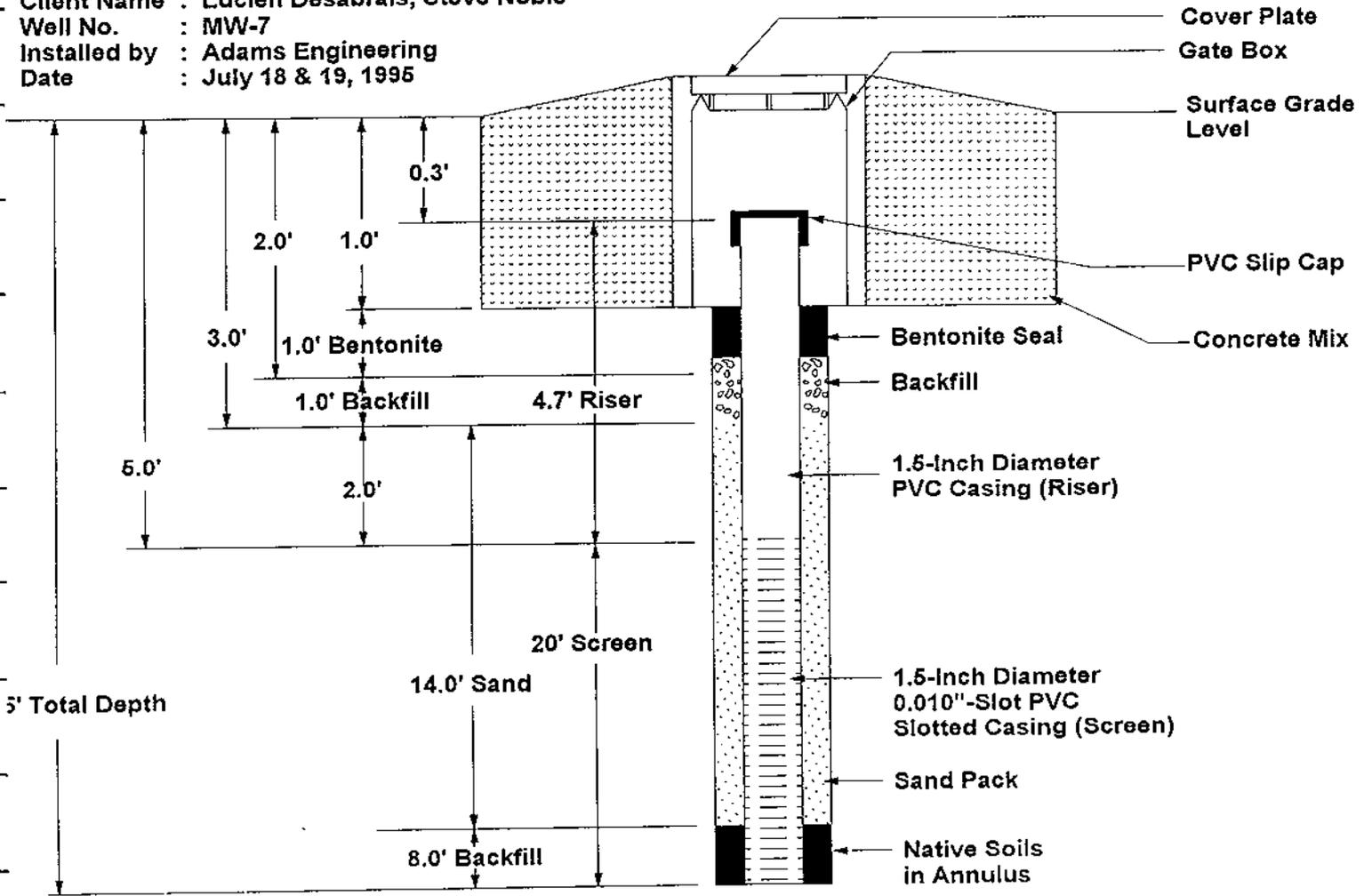
Well: MW-7 - West side of house.  
 Location: Richard & Helen Ashley property, 5 Duane Court, Middlebury, Vermont.  
 Driller: Gerry Adams, Adams Engineering, Underhill, Vermont. Vibratory Soil cores.  
 Hydrogeologist: William Norland, Lincoln Applied Geology, Inc.  
 Date: July 18 & 19, 1995

Background = BG = 0.2 ppm

Sampling/Coring Depth below Surface (ft)	Core Interval * (in)	Description	OVA (ppm)	PID (ppm)
0' - 1.0'		Topsoil and grass.		
1.0' - 5.0' (46" recovery)				
	0" - 22"	Dry, brown, mottled with rust grey and black, contorted clay; trace silt, roots. <u>Fill</u> .	BG	BG
	22" - 24"	Dry, tan, silt; trace clay. <u>Fill</u> .	BG	BG
	24" - 46"	Dry, brown, mottled with rust, grey, and black, contorted clay; trace silt, roots. <u>Fill</u> .	BG	BG
5.0' - 10.0' (60" recovery)				
5.0' - 10.0'	0" - 60"	Moist, brown with rust, grey, and black, very firm, laminated clay; trace silt. 3/8" pebble at 48-1/2". Dry, tan, silt layer at 49" (1/8" thick). Abundant vertical fractures and root "halos".	BG	BG
10.0' - 15.0' (60" recovery)				
10.0' - 14.41'	0" - 53"	Moist to wet, brown with rust, grey, and black, laminated clay; trace silt. 1/2" pebble at 32". Wet, olive, silt; trace clay layers at 11" (1/16"), 28-3/4" (1/16"), 40" (1/8"), and 43" (1/8"). Vertical fractures and root "halos" 8" - 18-1/2".	BG	BG
14.4' - 15.0'	53" - 60"	Wet, olive, silt; trace clay. EPA 8260 Sample 55" - 57" Stop at 15.0' depth - July 18th Start at 13.0' depth - July 19th	BG	BG
13.0' - 17.0' (59" recovery)				
13.0' - 14.75'	0" - 32"	Sloughed in from above overnight.	BG	BG
14.75' - 17.0'	32" - 59"	Wet, brown with grey and rust, laminated clay; trace silt. A few vertical root "halos". Wet, olive, silt; trace clay layers at 32-1/2" (1/8" thick), 33-3/4" (1/16"), 35-3/4" (1/16"), 37-1/2" (1/4"), 40-1/2" (1/4"), 44-1/4" (1/8"), 48-1/4" (1/16"), 55-1/4" (1/8"), and 57" (1/8").	BG	BG
17.0' - 21.0' (62" recovery)				
	0" - 13"	Sloughed in from above.	BG	BG
17.0' - 21.0'	13" - 62"	Wet, brown with grey, rust, and black, laminated clay; trace silt. Dark clay zones at 28" - 29", 33" - 33-1/8", 39-1/2" - 39-3/4", 44-3/4" - 47-3/4", 48-1/4" - 48-3/4", 49-1/4" - 53", 54-3/4" - 55", and 56-1/4" - 57-1/4". Many wet, olive, silt; trace clay layers at 13-1/4" (1/8" thick), 14" (1/8"), 15-1/4" (1/8"), 17" (3/4"), 18" (3/4"), 20" (3/4"), 23-1/2" (1/2"), 27" (1/4"), 30" (1"), 33-1/2" (1"), 34-3/4" (1/2"), 37-1/4" (2"), 39-3/4" (1/2"), 43-3/4" (1/2"), 45-1/2" (1/8"), 47-3/4" (1/2"), 48-3/4" (1/2"), 52-1/4" (1/4"), 55-1/2" (1"), and 61" (1").	BG	BG
19.08' - 19.25'		EPA 8260 sample 38" - 40".		
20.0' - 25.0' (61" recovery)				
20.0' - 20.25'	0" - 4"	Sloughed in from above.	BG	BG
20.25' - 24.17'	4" - 51"	Wet, brown with black and grey, clay; trace silt.	BG	BG
24.17' - 25.0'	51" - 61"	Wet, brown, fine sand and silt; little fine to coarse gravel; trace clay. <u>Reworked glacial till</u> . Black clay zones at 9" - 10-1/4", 13" - 15-1/4", 18-1/4" - 20-1/4", and 26-1/4" - 27-1/4". Pebbles at 24" (1/2"), 31-1/2" (1"), and 40-1/4" (1-1/4"). Wet, olive, silt; trace clay layers at 4-3/4" (1-1/4" thick), 8-1/2" (1/2"), 11" (3/8"), 12-1/4" (1/2"), 16-3/4" (1/4"), 20-3/4" (1/2"), 21-3/4" (3/8"), 23-1/2" (3/4"), 29-3/4" (2-1/4"), 33-1/4" (3/8"), 36" (1/8"), 37-3/4" (1/2"), 39-1/4" (1/8"), 40-3/4" (1/2"), 42-3/4" (1/16"), 44" (1/16"), 47" (1/4"), 48-1/4" (1/8"), and 50-1/4" (1/4").	0.2	0.2
24.42' - 24.59'		EPA 8260 sample 54" - 56".		

# Monitor Well Construction Details

**Site Name** : Former Desabrais Dry Cleaning  
**Client Name** : Lucien Desabrais, Steve Noble  
**Well No.** : MW-7  
**Installed by** : Adams Engineering  
**Date** : July 18 & 19, 1995

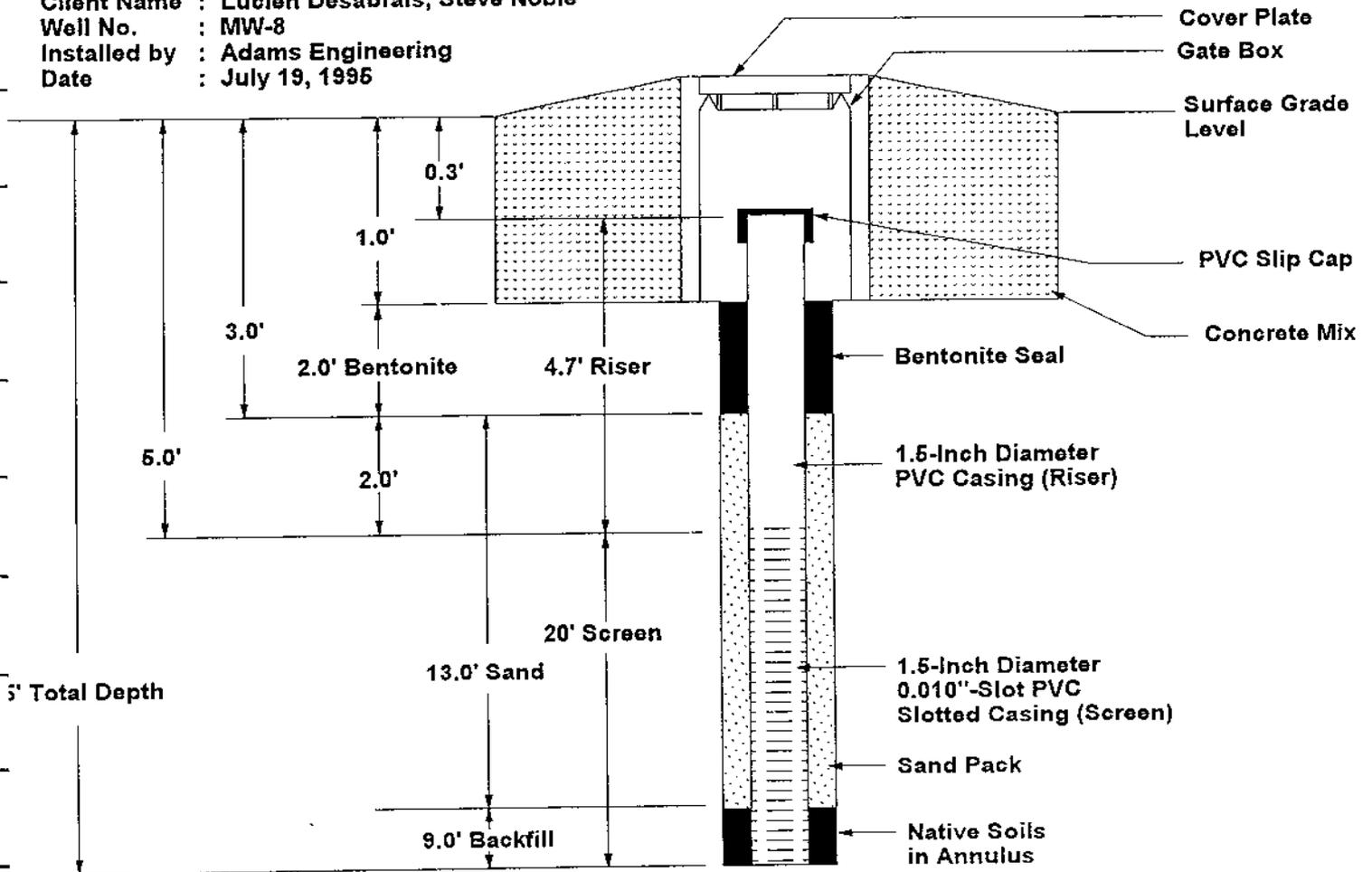


**NOTE: NOT TO SCALE**



## Monitor Well Construction Details

**Site Name** : Former Desabrais Dry Cleaning  
**Client Name** : Lucien Desabrais, Steve Noble  
**Well No.** : MW-8  
**Installed by** : Adams Engineering  
**Date** : July 19, 1995

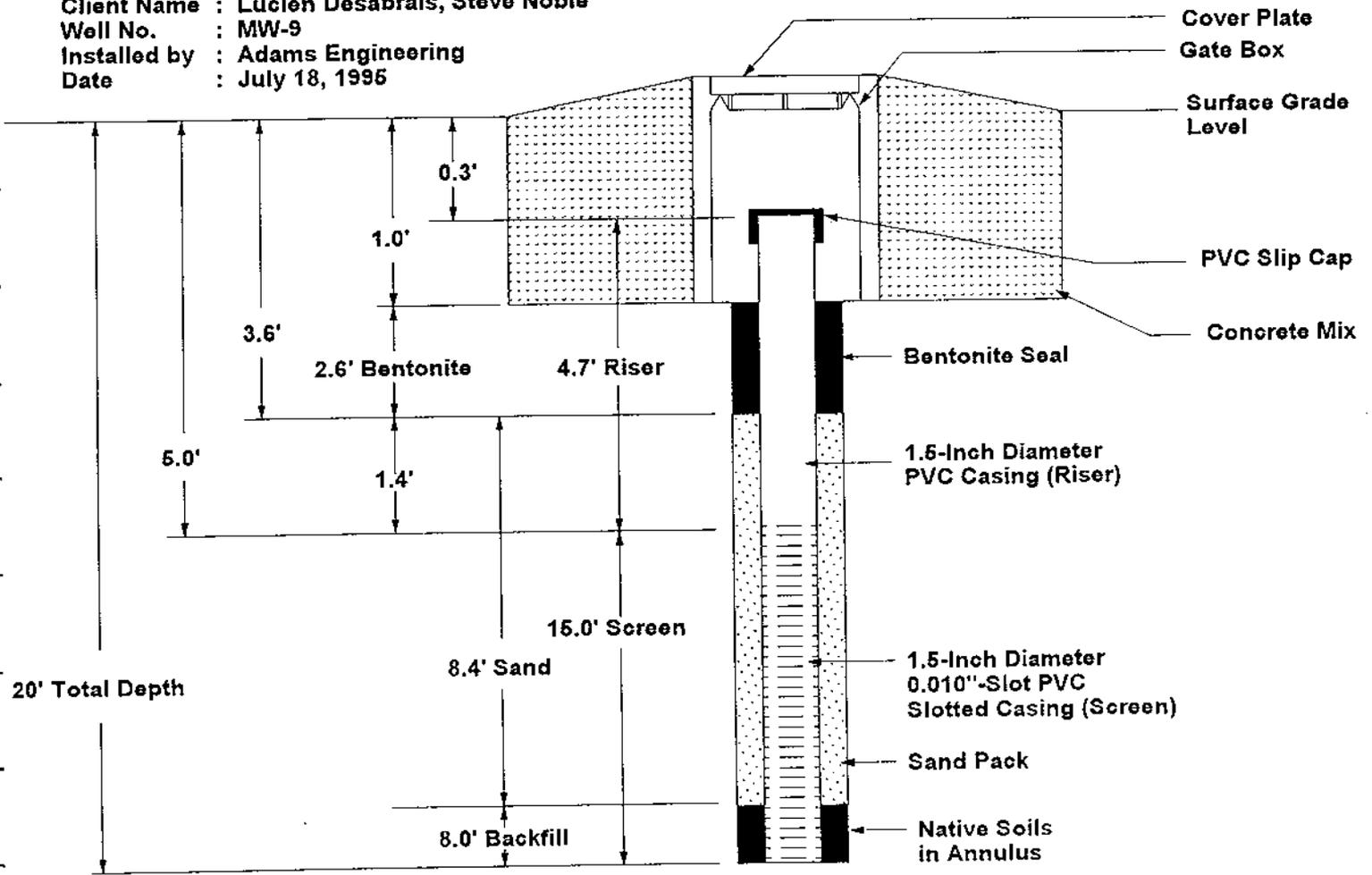


*NOTE: NOT TO SCALE*



# Monitor Well Construction Details

**Site Name** : Former Desabrais Dry Cleaning  
**Client Name** : Lucien Desabrais, Steve Noble  
**Well No.** : MW-9  
**Installed by** : Adams Engineering  
**Date** : July 18, 1995



*NOTE: NOT TO SCALE*

## WELL LOG

Well: MW-10 - Behind Aubuchon Hardware and former Desabrais Dry Cleaning.  
 Location: Village Court Plaza, Court Street, Middlebury, Vermont  
 Driller: Gerry Adams, Adams Engineering, Underhill, Vermont. Vibratory Soil cores.  
 Hydrogeologist: William Norland, Lincoln Applied Geology, Inc.  
 Date: July 20, 1995

Background = BG = 0.2 ppm

Sampling/Coring Depth below Surface (ft)	Core Interval * (in)	Description	OVA (ppm)	PID (ppm)
0' - 0.5'		Asphalt pavement.	BG	BG
0.5' - 2.0'		Dry, brown tan, sand and gravel. Fill.	BG	BG
2.0' - 5.0' (19" recovery)				
3.42' - 3.67'	0" - 3"	Dry, brown tan, fine to medium sand and fine to coarse gravel. Fill.		
3.67' - 4.25'	3" - 10"	Moist to dry, grey with black and brown mottles, clay; trace silt. Fill.	3.2 (5")	BG
			86 (8")	0.6 (7")
4.25' - 4.42'	10" - 12"	Dry, red, brick. Fill.		
4.42' - 5.0'	12" - 19"	Moist, olive grey, mottled with black and grey, laminated clay; trace silt.	44 (13")	BG
			14 (16")	BG
			3 (18")	BG
5.0' - 10.0' (51" recovery)				
	0" - 8"	Sloughed in from above.		
6.84' - 7.01'		EPA 8260 sample 13" - 15".	2.2 (54")	BG
6.42' - 7.13'	8" - 16-1/2"	Moist, grey and brown, mottled with black and grey, laminated clay; trace silt.	5.2 (11")	0.2 (12")
			10 (13")	BG
			4.0 (16")	BG
			0.8 (19")	BG
			2.0 (25")	0.1 (26")
			7.0 (30")	BG
			1.0 (33")	0.1 (33")
			1.3 (39")	BG
			0.7 (42")	BG
			5.0 (46")	BG
			4.6 (19")	BG
10.0' - 15.0' (62" recovery)				
	0" - 7"	Sloughed in from above.		
10.42' - 15.0'	7" - 62"	Moist to wet, brown, with grey and black and rust, clay; trace silt. Laminated, with many vertical root "halos" and fractures.	1.0 (10")	0.2 (12")
		Wet, olive, silt; little clay layers at 39-1/2" (1/16" thick), 55-1/4" (1/8"), 57-1/4" (1/8"), 60-1/4" (1/16"), and 61-1/2" (1/2").	0.4 (21-1/2")	BG (23")
			1.0 (26")	0.2 (27")
			2.2 (32")	0.2 (32")
14.42' - 14.50'		EPA 8260 sample 55" - 56".	2.2 (37-1/2")	0.2 (36")
			0.6 (39-1/2")	0.2 (39")
			1.5 (46")	0.2 (44")
			1.8 (49")	0.2 (48-1/2")
			1.6 (52-1/2")	
			2.8 (55-1/2")	0.2 (55-1/2")
			1.7 (58")	0.2 (58")
			1.4 (62-1/2")	1.2 (61-1/2")
15.0' - 19.0' (60" recovery)				
	0" - 13"	Sloughed in from above.		
15.08' - 19.0'	13" - 60"	Wet, brown, with grey and black, laminated clay; trace silt. Many wet, olive, silt; trace clay layers at 13" (3/4" thick), 17-3/4" (1/2"), 19" (1/16"), 21-3/4" (1/16"), 24-1/2" (1/8"), 25-1/2" (1/8"), 28-3/4" (1/8"), 31-1/4" (1/4"), 34-1/2" (1/8"), 37-1/2" (1/16"), 40" (1/2"), 40-3/4" (1/2"), 43-1/2" (1/2"), 46-1/2" (5/8"), 50-1/2" (1/4"), 53-1/2" (3/8"), and 58-1/4" (3/8").	0.5 (18")	0.2
			1.2 (22")	0.2
			1.6 (24-1/2")	0.2
			2.2 (25-1/2")	0.2
			2.2 (29")	0.2
			3.6 (31-1/4")	0.2
			3.4 (35")	0.2
17.83' - 18.0'		EPA 8260 sample 46" - 48".	3.4 (38")	0.2
			3.4 (40")	0.2

\* = As per Soil Sampling Delineation.

## WELL LOG

Well: MW-10 - Behind Aubuchon Hardware and former Desabrais Dry Cleaning.  
 Location: Village Court Plaza, Court Street, Middlebury, Vermont  
 Driller: Gerry Adams, Adams Engineering, Underhill, Vermont. Vibratory Soil cores.  
 Hydrogeologist: William Norland, Lincoln Applied Geology, Inc.  
 Date: July 20, 1995

Background = BG = 0.2 ppm

Sampling/Coring Depth below Surface (ft)	Core Interval * (in)	Description	OVA (ppm)	PID (ppm)
			4.8 (41-1/4")	0.2
			0.5 (43")	0.2
			3.2 (44")	0.2
			6.6 (47")	0.2
			2.4 (50-3/4")	0.2
			1.8 (54")	0.2
			2.8 (57")	0.2
			6.4 (59")	0.3
19.0' - 21.0' (39" recovery)	0" - 14"	Sloughed in from above.	4.6 (6")	
			9.2 (12")	
19.0' - 20.83'	14" - 37"	Wet, brown with rust black, and grey, clay; trace silt. Many wet, olive, silt; trace clay layers at 15" (1/4" thick), 16" (1/8"), 19-1/4" (1/2"), 21" (1/16"), 21-1/2" (1/4"), 23-1/2" (1/8"), 24" (1/2"), 26-1/4" (1/4"), 27-1/2" (1/2"), 30-1/2" (1/8"), 32" (1/16"), 33-1/2" (1/16"), 34-1/2" (1/8"), and 36-3/4" (1/16").	1.8 (15-1/2")	0.2 (15")
			6.2 (16-1/2")	0.3 (16-1/2")
			1.4 (18-1/2")	
			2.3 (19-1/2")	
			2.4 (20-3/4")	0.6 (21")
19.50' - 19.58'		EPA 8260 sample 21" - 22".		
20.83' - 21.0'	37" - 39"	Wet, olive, fine sand and silt; some fine to medium gravel; little clay.	6.9 (21-3/4")	0.8 (22")
			2.0 (22-1/2")	0.3 (23")
			2.4 (24-1/2")	0.7 (24-1/2")
			3.2 (27")	0.6 (27")
			3.6 (28")	0.6 (28")
			1.2 (31")	2.0 (30-1/2")
			3.3 (32-1/2")	1.4 (32-1/2")
			3.5 (35")	1.0 (34-1/2")
			8.0 (37-1/2")	1.0 (37")
21.0' - 25.0' (60" recovery)	0" - 5"	Wet, brown, with grey and black, clay; trace silt.	3.2 (1")	3.2 (2")
21.0' - 25.0'	5" - 60"	Wet, brown and olive, fine sand and silt; some fine to coarse gravel; little clay; trace medium to coarse sand. <u>Reworked glacial till.</u>	1.8 (3")	1.2 (3")
			17 (5")	2.2 (7")
21.16' - 21.33'		EPA 8260 sample 14" - 16".	9 (9")	2.2 (8")
			12 (13")	1.8 (12")
			17 (15-1/2")	6.2 (15")
			10 (18")	
			6 (21")	3.0 (20")
			15 (23")	2.6 (24")
			14 (26")	
			8 (30")	3.8 (29")
			14 (33")	1.4 (32")
			9 (36")	1.4 (34")
			8 (39")	1.6 (38")
			7 (41")	1.8 (40-1/2")
			8 (44")	2.0 (42-1/2")
			7 (46")	1.6 (47")
			5 (48")	
			8 (50")	
			6 (52")	
			5 (54")	
			8 (50")	
			6 (52")	
			5 (54")	

\* = As per Soil Sampling Delineation.

# WELL LOG

Well: MW-10 - Behind Aubuchon Hardware and former Desabrais Dry Cleaning.  
 Location: Village Court Plaza, Court Street, Middlebury, Vermont  
 Driller: Gerry Adams, Adams Engineering, Underhill, Vermont. Vibratory Soil cores.  
 Hydrogeologist: William Norland, Lincoln Applied Geology, Inc.  
 Date: July 20, 1995

Background = BG = 0.2 ppm

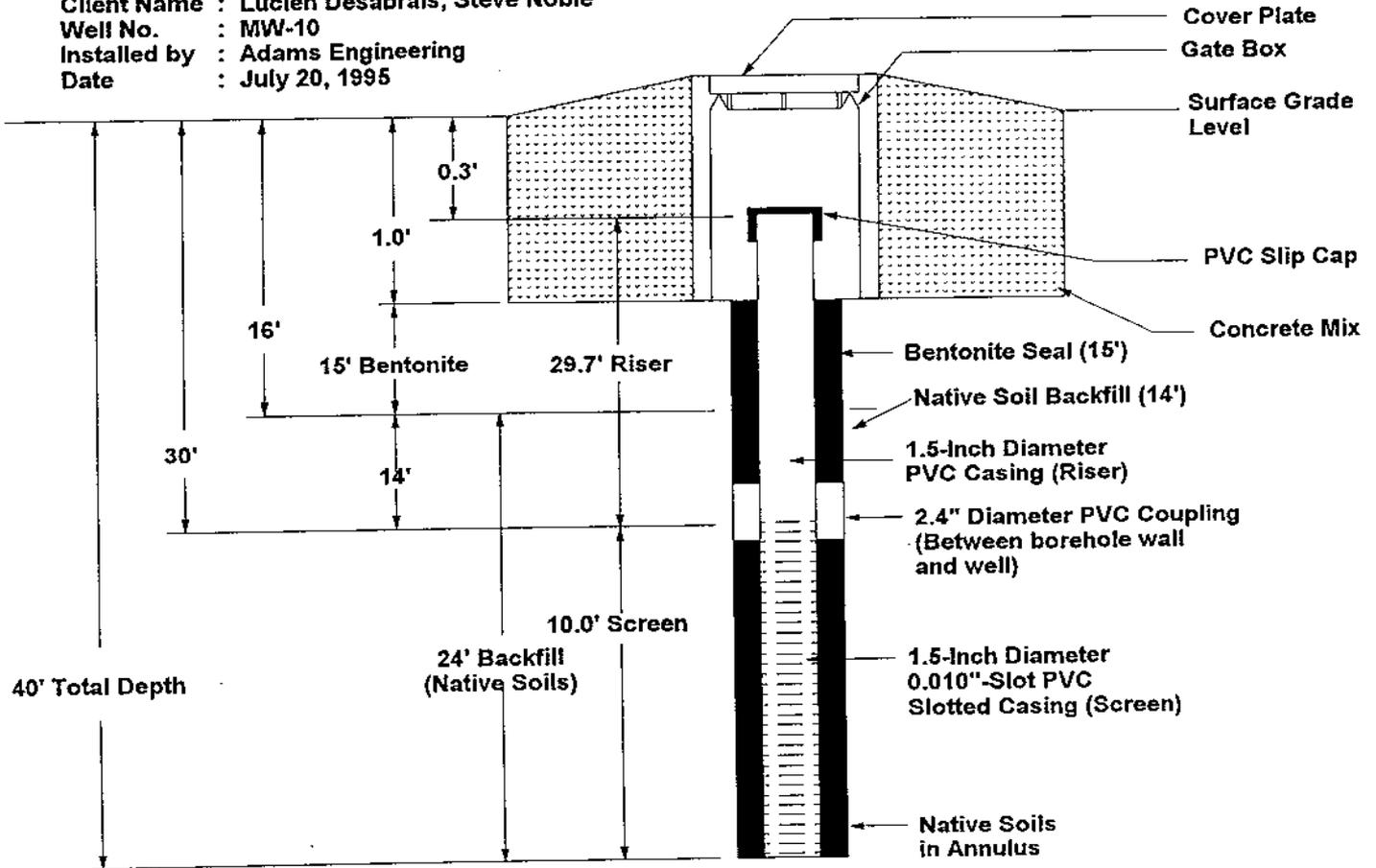
Sampling/Coring Depth below Surface (ft)	Core Interval * (in)	Description	OVA (ppm)	PID (ppm)
			3 (56")	0.2 (56")
			4 (58")	0.7 (58")
			4 (59")	
25.0' - 30.0' (62" recovery)				
25.0' - 29.25'	0" - 53"	Wet, olive, fine sand and silt; some fine to coarse gravel; little clay; trace medium to coarse sand. <u>Reworked glacial till.</u>	0.8 (1")	
			1.2 (4")	0.6 (3")
			2.5 (6")	0.4 (6")
27.75' - 27.92'		EPA 8260 sample 35" - 37"	2.8 (9")	
29.25' - 30.0'	53" - 62"	Wet, grey, <u>fine sand and silt</u> ; some fine to coarse gravel; little clay; trace medium to coarse sand. <u>Reworked glacial till.</u>	3.2 (12")	0.4 (12")
			2.2 (16")	0.4 (16")
			1.8 (20")	0.4 (20")
			2.3 (23")	
			2.4 (25")	
			8.8 (29")	0.8 (30")
			1.2 (31")	0.4 (32")
			4.8 (34")	
			8.8 (36")	1.8 (35")
			8.0 (40")	0.6 (38")
			3.2 (42")	0.4 (42")
			3.2 (46")	0.6 (46")
			1.7 (48")	0.2 (49")
			2.2 (51")	0.2 (52")
			1.6 (53")	
			1.2 (55")	0.2 (56")
			2.0 (57")	
			1.0 (60")	0.4 (59")
			1.7 (61")	0.6 (62")
30.0' - 35.0' (63" recovery)				
30.0' - 35.0'	0" - 63"	Wet, grey, <u>fine sand and silt</u> ; some fine to coarse gravel; little clay; trace medium to coarse sand. <u>Reworked glacial till.</u>	1.2 (4")	0.2
			4.2 (8")	0.2
			2.8 (12")	0.2
			2.0 (16")	0.2
			2.8 (20")	BG
			1.6 (24")	BG
			2.4 (29")	BG
			1.2 (32")	BG
			3.6 (35")	BG
			6.0 (39")	BG
			1.5 (42")	BG
			2.4 (46")	BG
			2.2 (49")	BG
			3.8 (52")	BG
			3.3 (54")	BG
			4.0 (56")	BG
			4.4 (59")	BG
			2.1 (62")	BG
35.0' - 40.0' (60" recovery)				
35.0' - 37.17'	0" - 26"	Wet, grey, <u>fine sand and silt</u> ; some fine to coarse gravel; little clay; trace medium to coarse sand. <u>Reworked glacial till.</u>	6.6 (1")	BG
			3.6 (6")	BG
			5.2 (8-1/2")	BG
			3.2 (12")	BG

\* = As per Soil Sampling Delineation.



## Monitor Well Construction Details

**Site Name** : Former Desabrais Dry Cleaning  
**Client Name** : Lucien Desabrais, Steve Noble  
**Well No.** : MW-10  
**Installed by** : Adams Engineering  
**Date** : July 20, 1995

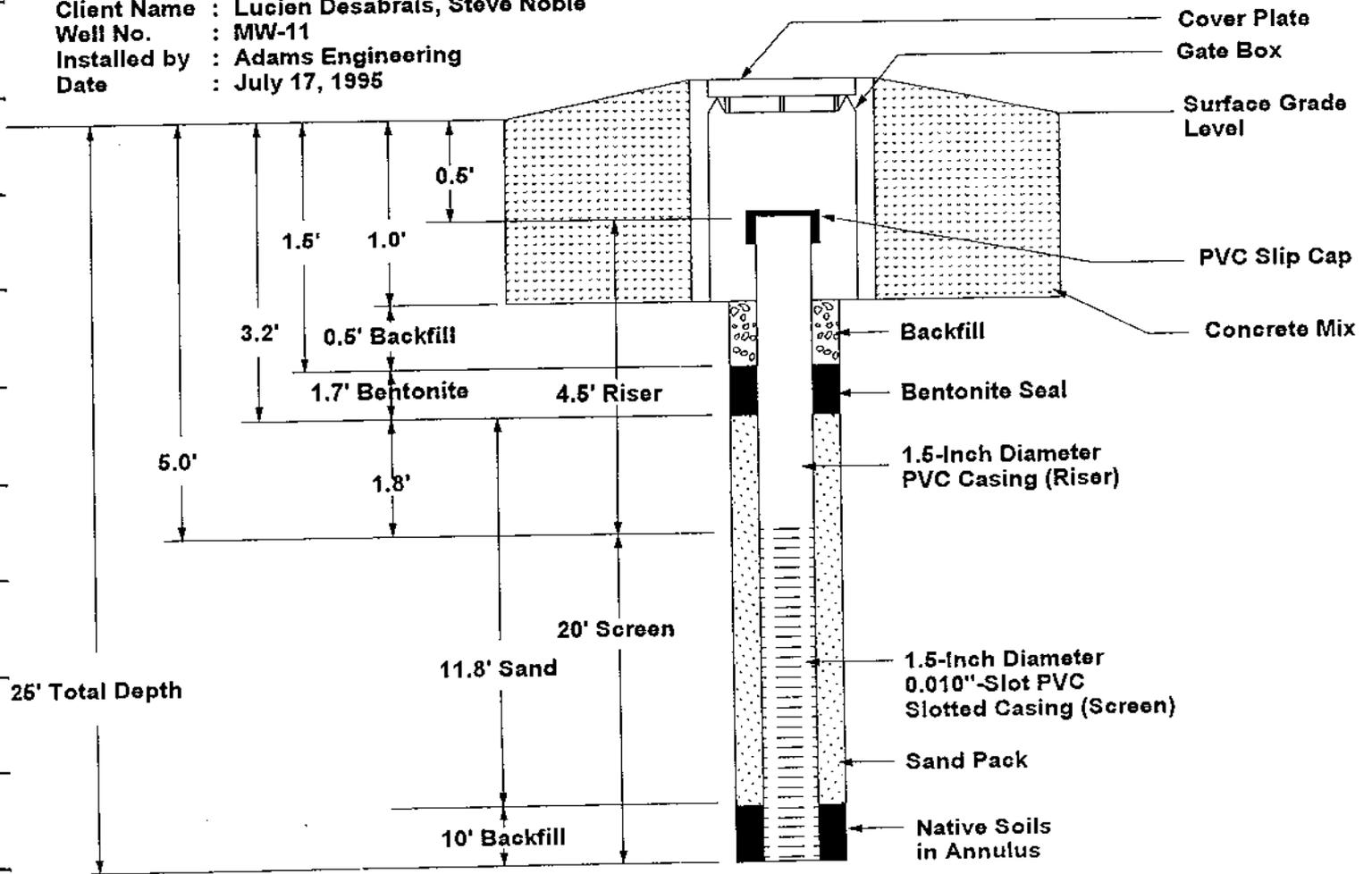


NOTE: NOT TO SCALE



# Monitor Well Construction Details

**Site Name** : Former Desabrais Dry Cleaning  
**Client Name** : Lucien Desabrais, Steve Noble  
**Well No.** : MW-11  
**Installed by** : Adams Engineering  
**Date** : July 17, 1995



NOTE: NOT TO SCALE

Appendix D

Adams Engineering Well Logs:  
MW-5, 6, 7, 8, 9, 10, and 11

ADAMS ENGINEERING  
Gerard Adams  
RD #1, Box #3700, Underhill, VT 05489

July 24, 1995

Mr. Bill Norland  
Lincoln Applied Geology Inc.

Well Logs: Desabrais Dry Cleaning/Middlebury

Manways cemented in place drilled with 9" auger to -1.0'; sampled with polyethylene (PE) lined 5' X 2.375" ID NQ or 1 13/16" ID BQ sampler vibrated to depth, pulled, & sample vibrated from sampler in PE liner for examination; well with slip cap to create annulus & sandpack vibrated to depth in open 2.75" borehole left by sampler; bentonite slurry placed in open hole. Well developed with peristaltic pump using dedicated PE suction hose.

7/17/95 MW #11

SOILS WELL

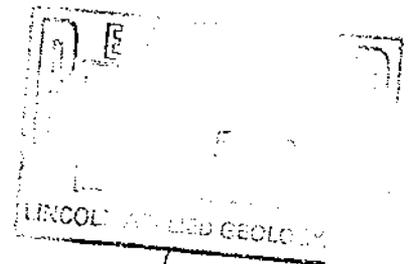
- G Manway, concreted in place.
- .3' Top of well riser, 4.7', typ.
- 1' Top of bentonite slurry.
- 3.2' Bottom bentonite-top sand pack.
- 1 > 4.9' NQ, saturated brown gravel subgrade// (over) medium gray silt/clay.
- 5.0' Top of well screen 4-5' X 1.5" X .010" slot Hi. Flo, typ.  
Saturated gravel sloughed into hole, cased with NQ to -3' necessitating BQ sampler.
- 4.9 > 9.9' BQ, gray stiff silt/clay, PE liner broke.
- 9.9 > 14.9' Silt/clay PE liner broke.
- 15' Bottom sand pack top native soils.
- 14.9 > 19.9' BQ piston sampler with piston fully retracted prior to sampling, silt/clay Acetate liner failed.
- 19.9 > 25.0' BQ sampler with Acetate liner, silt/clay, liner failed.
- 25.0' Bottom of well.  
Not developed.

MW #6

- G Manway, concreted in place.
- 0 > -5.0' NQ Sample, brown sandy loam top soil medium gray silt/clay.
- .3' Top of well riser, 4.7', typ.
- 1' Top of bentonite slurry.
- 2' Bottom bentonite-top native soils.
- 3' Bottom native soils top sand pack.
- 5.0' Top well screen 4-5'.
- 5.0 > 10.0' Silt/clay.
- 10.0 > 25.0' Same.
- 25.0' -5.0' ~~Bottom~~ of well, bottom sand pack.  
Developed slow recovery slightly cloudy.

7/18/95 MW #5

- G Manway, concreted in place.
- .3' Top of well riser, 4.7', typ.



- 1' Top of bentonite slurry.
- 1 > 5.0' NQ, silt/clay.
- 3' Bottom bentonite top sand pack.
- 5.0' Top well screen 4-5'.
- 5.0 > 20.0' Same
- 20.0 > 25.2' Same//gray saturated silt, clay, sand, & stones "soft till".
- 25' Bottom well.

MW #7 Started to -15' 7/18 completed 7/19/95

- G Manway, concreted in place.
- .3' Top of well riser, 4.7', typ.
- 1' Top of bentonite slurry.
- 1 > 5.0' NQ Sample, silt/clay.
- 2' Bottom bentonite-top native soils.
- 3' Bottom native soils top sand pack.
- 5.0' Top well screen 4-5'.
- 5.0 > 10.0' Silt/clay.
- 17' Bottom sand pack.
- 10.0 > 15.0' Same//soupy clay & silt.
- 13 > 17.0' Fill//silt/clay
- 17.0 > 21.0' "Goopy" silt/clay.
- 21 > 25.0' 10' Spoon, silt/clay// "soft till".
- 25.0' Bottom well.

Developed cloudy slow.

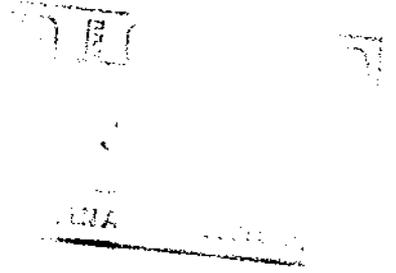
MW #9

- G Manway, concreted in place.
- .3' Top of well riser, 4.7', typ.
- 1' Top of bentonite slurry.
- 0 > -5.2' NQ Sample, gray silt/clay.
- 3.6' Bottom bentonite top sand pack.
- 5.0' Top well screen 3-5'.
- 5.2 > 10.2' Silt/clay with sandy lenses.
- 10.2 > 15.2' Same// "soft till", water -10.6' collapsed to -14.6'.
- 15 > 20' Not logged.
- 20.0' Bottom well, PVC point.

Not developed.

MW #8 7/19/95

- G Manway concreted in place.
- 1' Top bentonite.
- 1 > 5.0' NQ, silt/clay.
- 3' Top sand pack.
- 5.0' Top well screen 4-5'.
- 5.0 > 10.0' Same, collapsed to -9.6'
- 9.6 > 14.0' Silt/clay lenses sand @ tip.
- 14.0 > 18.0' Silt/clay, collapsed to 16'.
- 16' Bottom sand pack.
- 16 > 20' Lost entire sample.



- 16 > 21.0' Lost sample.
- 16 > 25.2' 10' NQ Spoon, lost sample.
- 25.0' Bottom well, PVC point.
- 7/20/95 MW #10
- G Manway concreted in place.
- 1' Top bentonite slurry.
- 1 > 2' Large stone fill.
- 2 > 5.0' Stony fill.
- 5.0 > 10.0' Same//silt/clay.
- 10.0 > 15.0' Silt/clay.
- 14' +/- Bottom bentonite.
- 15.0 > 19.0' Goopy silt/clay//stiff silt/clay, caved to -14'
- 14 > 25.0' 10' NQ Spoon, silt clay//"soft till".
- 25.0 > 30.0' BQ Piston sampler, piston fully retracted prior to sampling, typ. Silt/clay//"soft till".
- 30' Top well screen 2-5' with 2.2" Dia. coupling @ -30'
- 30.0 > 35.0' "Soft till".
- 35.0 > 40.0' Same.
- 40.0' Bottom well, PVC point.

G. Adams

*G. Adams*

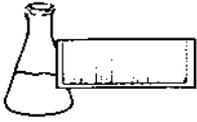
25

25

25

Appendix E

Soil Sample Laboratory Reports, July 1995



**ENDYNE, INC.**

Laboratory Services

32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103

REPORT OF LABORATORY ANALYSIS

CLIENT: Lincoln Applied Geology  
PROJECT NAME: Desabrais  
DATE REPORTED: July 31, 1995  
DATE SAMPLED: July 17, 1995

PROJECT CODE: LADE1474  
REF. #: 77,055 - 77,057

Enclosed please find the results of the analyses performed for the samples referenced on the attached chain of custody record.

Chain of custody did not indicate sample preservation.

All samples were prepared and analyzed by requirements outlined in the referenced methods and within the specified holding times.

All instrumentation was calibrated with the appropriate frequency and verified by the requirements outlined in the referenced methods.

Blank contamination was not observed at levels affecting the analytical results.

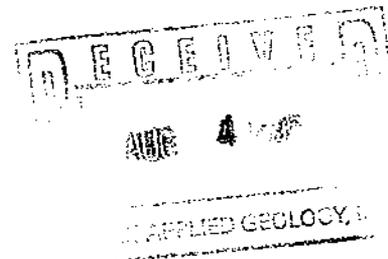
Analytical method precision and accuracy were monitored by laboratory control standards which included matrix spike, duplicate and quality control analyses. These standards were determined to be within established laboratory method acceptance limits.

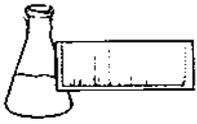
Individual sample performance was monitored by the addition of surrogate analytes to each sample. All surrogate data was determined to be within Laboratory QA/QC guidelines unless otherwise noted.

Reviewed by,

Harry B. Locker, Ph.D.  
Laboratory Director

enclosures





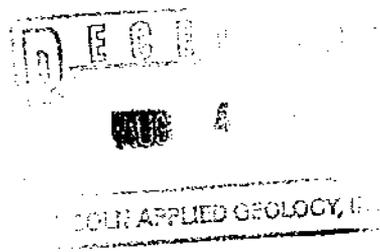
LABORATORY REPORT

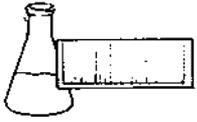
EPA METHOD 8260 SOIL MATRIX

CLIENT: Lincoln Applied Geology  
PROJECT NAME: Desebrais  
REPORT DATE: July 31, 1995  
DATE SAMPLED: July 17, 1995  
DATE RECEIVED: July 18, 1995  
ANALYSIS DATE: July 26, 1995

PROJECT CODE: LADE1474  
REF #: 77,055  
STATION: MW-11, Core 14.9 - 19.9, 46"-47"  
TIME SAMPLED: 1050  
SAMPLER: Bill Norland

<u>Parameter</u>	<u>Detection Limit (ug/kg)</u>	<u>Concentration As Received (ug/kg)</u>
Benzene	20	ND <sup>1</sup>
Bromobenzene	20	ND
Bromochloromethane	20	ND
Bromodichloromethane	20	ND
Bromoform	20	ND
Bromomethane	50	ND
n-Butylbenzene	20	ND
sec-Butylbenzene	20	ND
Carbon tetrachloride	20	ND
Chlorobenzene	20	ND
Chloroethane	50	ND
Chloroform	50	ND
Chloromethane	100	ND
(2&4)Chlorotoluene	20	ND
Dibromochloromethane	20	ND
1,2-Dibromo-3-chloropropane	20	ND
1,2-Dibromoethane	20	ND
Dibromomethane	20	ND



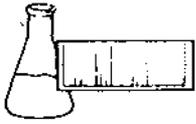


REF #: 77,055

<u>Parameter</u>	<u>Detection Limit (ug/kg)</u>	<u>Concentration As Received (ug/kg)</u>
1,2-Dichlorobenzene	20	ND
1,3-Dichlorobenzene	20	ND
1,4-Dichlorobenzene	20	ND
Dichlorodifluoromethane	100	ND
1,1-Dichloroethane	20	ND
1,2-Dichloroethane	20	ND
1,1-Dichloroethene	20	ND
cis-1,2-Dichloroethene	20	ND
trans-1,2-Dichloroethene	20	ND
1,2-Dichloropropane	20	ND
1,3-Dichloropropane	20	ND
2,2-Dichloropropane	20	ND
1,1-Dichloropropene	20	ND
Ethylbenzene	20	ND
Hexachlorobutadiene	50	ND
Isopropylbenzene	20	ND
p-Isopropyltoluene	20	ND
Methylene chloride	100	ND
Naphthalene	100	ND
n-Propylbenzene	20	ND
Styrene	20	ND
1,1,1,2-Tetrachloroethane	20	ND
1,1,2,2-Tetrachloroethane	20	ND
Tetrachloroethene	20	ND
Toluene	20	ND

**ENDYNE**

APPLIED GEOLOGY, INC.



REF #: 77,055

<u>Parameter</u>	<u>Detection Limit (ug/kg)</u>	<u>Concentration As Received (ug/kg)</u>
1,2,3-Trichlorobenzene	20	ND
1,2,4-Trichlorobenzene	20	ND
1,1,1-Trichloroethane	20	ND
1,1,2-Trichloroethane	20	ND
Trichloroethene	20	ND
Trichlorofluoromethane	20	ND
1,2,3-Trichloropropane	20	ND
1,2,4-Trimethylbenzene	20	ND
1,3,5-Trimethylbenzene	20	ND
Vinyl chloride	100	ND
Total Xylenes	20	ND
MTBE	50	ND

NUMBER OF UNIDENTIFIED PEAKS: 0

ANALYTICAL SURROGATE RECOVERY:

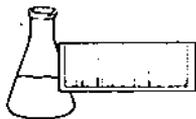
Dibromofluoromethane:	102.%
Toluene-d8:	104.%
4-Bromofluorobenzene:	97.%

PERCENT SOLIDS: 72.%

Notes:

1 None detected

7/10/05  
2005  
7/10/05



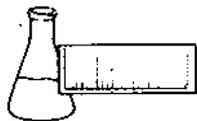
LABORATORY REPORT

EPA METHOD 8260 SOIL MATRIX

CLIENT: Lincoln Applied Geology  
PROJECT NAME: Desebrais  
REPORT DATE: July 31, 1995  
DATE SAMPLED: July 17, 1995  
DATE RECEIVED: July 18, 1995  
ANALYSIS DATE: July 26, 1995

PROJECT CODE: LADE1474  
REF #: 77,056  
STATION: MW-6, Core 10' - 15', 59" - 61"  
TIME SAMPLED: 1645  
SAMPLER: Bill Norland

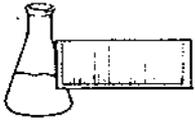
<u>Parameter</u>	<u>Detection Limit (ug/kg)</u>	<u>Concentration As Received (ug/kg)</u>
Benzene	20	ND <sup>1</sup>
Bromobenzene	20	ND
Bromochloromethane	20	ND
Bromodichloromethane	20	ND
Bromoform	20	ND
Bromomethane	50	ND
n-Butylbenzene	20	ND
sec-Butylbenzene	20	ND
Carbon tetrachloride	20	ND
Chlorobenzene	20	ND
Chloroethane	50	ND
Chloroform	50	ND
Chloromethane	100	ND
(2&4)Chlorotoluene	20	ND
Dibromochloromethane	20	ND
1,2-Dibromo-3-chloropropane	20	ND
1,2-Dibromoethane	20	ND
Dibromomethane	20	ND



REF #: 77,056

<u>Parameter</u>	<u>Detection Limit (ug/kg)</u>	<u>Concentration As Received (ug/kg)</u>
1,2-Dichlorobenzene	20	ND
1,3-Dichlorobenzene	20	ND
1,4-Dichlorobenzene	20	ND
Dichlorodifluoromethane	100	ND
1,1-Dichloroethane	20	ND
1,2-Dichloroethane	20	ND
1,1-Dichloroethene	20	ND
cis-1,2-Dichloroethene	20	ND
trans-1,2-Dichloroethene	20	ND
1,2-Dichloropropane	20	ND
1,3-Dichloropropane	20	ND
2,2-Dichloropropane	20	ND
1,1-Dichloropropene	20	ND
Ethylbenzene	20	ND
Hexachlorobutadiene	50	ND
Isopropylbenzene	20	ND
p-Isopropyltoluene	20	ND
Methylene chloride	100	ND
Naphthalene	100	ND
n-Propylbenzene	20	ND
Styrene	20	ND
1,1,1,2-Tetrachloroethane	20	ND
1,1,2,2-Tetrachloroethane	20	ND
Tetrachloroethene	20	ND
Toluene	20	ND

APR 13 2001  
SAGE  
LABORATORY SERVICES



REF #: 77,056

<u>Parameter</u>	<u>Detection Limit (ug/kg)</u>	<u>Concentration As Received (ug/kg)</u>
1,2,3-Trichlorobenzene	20	ND
1,2,4-Trichlorobenzene	20	ND
1,1,1-Trichloroethane	20	ND
1,1,2-Trichloroethane	20	ND
Trichloroethene	20	ND
Trichlorofluoromethane	20	ND
1,2,3-Trichloropropane	20	ND
1,2,4-Trimethylbenzene	20	ND
1,3,5-Trimethylbenzene	20	ND
Vinyl chloride	100	ND
Total Xylenes	20	ND
MTBE	50	ND

NUMBER OF UNIDENTIFIED PEAKS: 0

ANALYTICAL SURROGATE RECOVERY:

Dibromofluoromethane:	107.%
Toluene-d8:	99.%
4-Bromofluorobenzene:	101.%

PERCENT SOLIDS: 73.%

Notes:

1 None detected



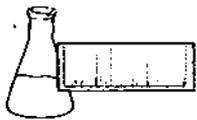
LABORATORY REPORT

EPA METHOD 8260 SOIL MATRIX

CLIENT: Lincoln Applied Geology  
PROJECT NAME: Desebrais  
REPORT DATE: July 31, 1995  
DATE SAMPLED: July 17, 1995  
DATE RECEIVED: July 18, 1995  
ANALYSIS DATE: July 26, 1995

PROJECT CODE: LADE1474  
REF #: 77,057  
STATION: MW-6, Core 15' - 20', 45" - 47"  
TIME SAMPLED: 1730  
SAMPLER: Bill Norland

<u>Parameter</u>	<u>Detection Limit (ug/kg)</u>	<u>Concentration As Received (ug/kg)</u>
Benzene	20	ND <sup>1</sup>
Bromobenzene	20	ND
Bromochloromethane	20	ND
Bromodichloromethane	20	ND
Bromoform	20	ND
Bromomethane	50	ND
n-Butylbenzene	20	ND
sec-Butylbenzene	20	ND
Carbon tetrachloride	20	ND
Chlorobenzene	20	ND
Chloroethane	50	ND
Chloroform	50	ND
Chloromethane	100	ND
(2&4)Chlorotoluene	20	ND
Dibromochloromethane	20	ND
1,2-Dibromo-3-chloropropane	20	ND
1,2-Dibromoethane	20	ND
Dibromomethane	20	ND



REF #: 77,057

<u>Parameter</u>	<u>Detection Limit (ug/kg)</u>	<u>Concentration As Received (ug/kg)</u>
1,2-Dichlorobenzene	20	ND
1,3-Dichlorobenzene	20	ND
1,4-Dichlorobenzene	20	ND
Dichlorodifluoromethane	100	ND
1,1-Dichloroethane	20	ND
1,2-Dichloroethane	20	ND
1,1-Dichloroethene	20	ND
cis-1,2-Dichloroethene	20	ND
trans-1,2-Dichloroethene	20	ND
1,2-Dichloropropane	20	ND
1,3-Dichloropropane	20	ND
2,2-Dichloropropane	20	ND
1,1-Dichloropropene	20	ND
Ethylbenzene	20	ND
Hexachlorobutadiene	50	ND
Isopropylbenzene	20	ND
p-Isopropyltoluene	20	ND
Methylene chloride	100	ND
Naphthalene	100	ND
n-Propylbenzene	20	ND
Styrene	20	ND
1,1,1,2-Tetrachloroethane	20	ND
1,1,2,2-Tetrachloroethane	20	ND
Tetrachloroethene	20	ND
Toluene	20	ND

4/18/10

4/18/10



REF #: 77,057

<u>Parameter</u>	<u>Detection Limit (ug/kg)</u>	<u>Concentration As Received (ug/kg)</u>
1,2,3-Trichlorobenzene	20	ND
1,2,4-Trichlorobenzene	20	ND
1,1,1-Trichloroethane	20	ND
1,1,2-Trichloroethane	20	ND
Trichloroethene	20	ND
Trichlorofluoromethane	20	ND
1,2,3-Trichloropropane	20	ND
1,2,4-Trimethylbenzene	20	ND
1,3,5-Trimethylbenzene	20	ND
Vinyl chloride	100	ND
Total Xylenes	20	ND
MTBE	50	ND

NUMBER OF UNIDENTIFIED PEAKS: 0

ANALYTICAL SURROGATE RECOVERY:

Dibromofluoromethane:	99.%
Toluene-d8:	101.%
4-Bromofluorobenzene:	96.%

PERCENT SOLIDS: 72.%

Notes:

1 None detected

7/18/16  
APPLIED GEOLOGY, INC.

**CHAIN-OF-CUSTODY RECORD**

14991

Project Name: <i>Desabrais</i>	Reporting Address: <i>L.A.G.</i>	Billing Address:
Site Location: <i>Middlebury, VT</i>	<i>PO Box 710 Bristol, VT 05443</i>	<i>Same</i>
Endyne Project Number: <i>L.A.D.E 1474</i>	Company: <i>L.A.G.</i>	Sampler Name: <i>Bill Norlund</i>
	Contact Name/Phone #: <i>Bill Norlund 453-4384</i>	Phone #: <i>453-4384</i>

Lab #	Sample Location	Matrix	G R A B	C O M P	Date/Time	Sample Containers		Field Results/Remarks	Analysis Required	Sample Preservation	Rush
						No.	Type/Size				
77,055	MW-11, Core 14.9-19.9, 46"-47"	Soil	X		7/17/95 1050	1	40ml VOA	Methanol Extraction	8260	Methanol	
	<i>same as above</i>	Soil	X		<i>same</i>	1	Whirlpack	Moisture	Moisture	—	
77,056	MW-6, Core 10'-15', 59"-61"	Soil	X		7/17/95 1645	1	40ml VOA	Methanol Ext.	8260	Methanol	
	<i>same as above</i>	Soil	X		<i>same</i>	1	Whirlpack	Moisture	Moisture	—	
77,057	MW-6, Core 15'-20', 45"-47"	Soil	X		7/17/95 1730	1	40ml VOA	Methanol Ext.	8260	Methanol	
	<i>same as above</i>	Soil	X		<i>same</i>	1	Whirlpack	Moisture	Moisture	—	

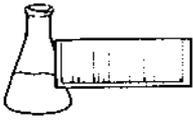
APPLIED GEOLOGY

Relinquished by: Signature <i>[Signature]</i>	Received by: Signature <i>[Signature]</i>	Date/Time <i>7-18-95</i>
Relinquished by: Signature	Received by: Signature	Date/Time

New York State Project: Yes  No

**Requested Analyses**

1	pH	6	TKN	11	Total Solids	16	Metals (Specify)	21	EPA 624	26	EPA 8270 B/N or Acid
2	Chloride	7	Total P	12	TSS	17	Coliform (Specify)	22	EPA 625 B/N or A	27	EPA 8010/8020
3	Ammonia N	8	Total Diss. P	13	TDS	18	COD	23	EPA 418.1	28	EPA 8080 Pest/PCB
4	Nitrite N	9	BOD <sub>5</sub>	14	Turbidity	19	BTEX	24	EPA 608 Pest/PCB		
5	Nitrate N	10	Alkalinity	15	Conductivity	20	EPA 601/602	25	EPA 8240		
29	TCLP (Specify: volatiles, semi-volatiles, metals, pesticides, herbicides)										
30	Other (Specify): <i>HL: Call John Amador if you have questions re: 8260 Analysis</i>										



**ENDYNE, INC.**

Laboratory Services

32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103

REPORT OF LABORATORY ANALYSIS

CLIENT: Lincoln Applied Geology  
PROJECT NAME: Desabrais  
DATE REPORTED: August 3, 1995  
DATE SAMPLED: July 18-19, 1995

PROJECT CODE: LAGD1523  
REF. #: 77,193 - 77,202

Enclosed please find the results of the analyses performed for the samples referenced on the attached chain of custody record.

Chain of custody indicated sample preservation with Methanol.

All samples were prepared and analyzed by requirements outlined in the referenced methods and within the specified holding times.

All instrumentation was calibrated with the appropriate frequency and verified by the requirements outlined in the referenced methods.

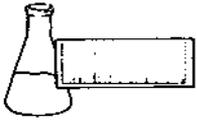
Blank contamination was not observed at levels affecting the analytical results.

Analytical method precision and accuracy were monitored by laboratory control standards which included matrix spike, duplicate and quality control analyses. These standards were determined to be within established laboratory method acceptance limits.

Reviewed by,

Harry B. Locker, Ph.D.  
Laboratory Director

AUG 1 1995



**ENDYNE, INC.**

Laboratory Services

32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103

LABORATORY REPORT

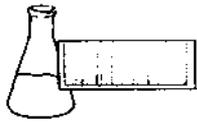
EPA METHOD 8260 SOIL MATRIX

CLIENT: Lincoln Applied Geology  
PROJECT NAME: Desabrais  
REPORT DATE: August 4, 1995  
DATE SAMPLED: July 18, 1995  
DATE RECEIVED: July 20, 1995  
ANALYSIS DATE: July 26, 1995

PROJECT CODE: LAGD1523  
REF #: 77,193  
STATION: MW-5 Core 10'-15', 42"-44"  
TIME SAMPLED: 11:25  
SAMPLER: Bill Norland

<u>Parameter</u>	<u>Detection Limit (ug/kg)</u>	<u>Concentration As Received (ug/kg)</u>
Benzene	20	ND <sup>1</sup>
Bromobenzene	20	ND
Bromochloromethane	20	ND
Bromodichloromethane	20	ND
Bromoform	20	ND
Bromomethane	50	ND
n-Butylbenzene	20	ND
sec-Butylbenzene	20	ND
Carbon tetrachloride	20	ND
Chlorobenzene	20	ND
Chloroethane	50	ND
Chloroform	50	ND
Chloromethane	100	ND
(2&4)Chlorotoluene	20	ND
Dibromochloromethane	20	ND
1,2-Dibromo-3-chloropropane	20	ND
1,2-Dibromoethane	20	ND
Dibromomethane	20	ND

AUG 1 1995



REF #: 77,193

<u>Parameter</u>	<u>Detection Limit (ug/kg)</u>	<u>Concentration As Received (ug/kg)</u>
1,2-Dichlorobenzene	20	ND
1,3-Dichlorobenzene	20	ND
1,4-Dichlorobenzene	20	ND
Dichlorodifluoromethane	100	ND
1,1-Dichloroethane	20	ND
1,2-Dichloroethane	20	ND
1,1-Dichloroethene	20	ND
cis-1,2-Dichloroethene	20	ND
trans-1,2-Dichloroethene	20	ND
1,2-Dichloropropane	20	ND
1,3-Dichloropropane	20	ND
2,2-Dichloropropane	20	ND
1,1-Dichloropropene	20	ND
Ethylbenzene	20	ND
Hexachlorobutadiene	50	ND
Isopropylbenzene	20	ND
p-Isopropyltoluene	20	ND
Methylene chloride	100	ND
Naphthalene	100	ND
n-Propylbenzene	20	ND
Styrene	20	ND
1,1,1,2-Tetrachloroethane	20	ND
1,1,2,2-Tetrachloroethane	20	ND
Tetrachloroethene	20	ND
Toluene	20	ND

7088 1 1005



**ENDYNE, INC.**

Laboratory Services

32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103

REF #: 77,193

<u>Parameter</u>	<u>Detection Limit (ug/kg)</u>	<u>Concentration As Received (ug/kg)</u>
1,2,3-Trichlorobenzene	20	ND
1,2,4-Trichlorobenzene	20	ND
1,1,1-Trichloroethane	20	ND
1,1,2-Trichloroethane	20	ND
Trichloroethene	20	ND
Trichlorofluoromethane	20	ND
1,2,3-Trichloropropane	20	ND
1,2,4-Trimethylbenzene	20	ND
1,3,5-Trimethylbenzene	20	ND
Vinyl chloride	100	ND
Total Xylenes	20	ND
MTBE	50	ND

NUMBER OF UNIDENTIFIED PEAKS: 0

ANALYTICAL SURROGATE RECOVERY:

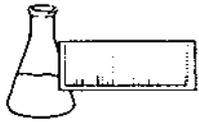
Dibromofluoromethane: 98%  
Toluene-d8: 98%  
4-Bromofluorobenzene: 98%

PERCENT SOLIDS: 67%

Notes:

1 None detected

AUG 1 1995



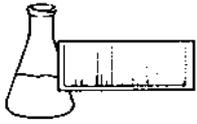
LABORATORY REPORT

EPA METHOD 8260 SOIL MATRIX

CLIENT: Lincoln Applied Geology  
PROJECT NAME: Desabrais  
REPORT DATE: August 4, 1995  
DATE SAMPLED: July 18, 1995  
DATE RECEIVED: July 20, 1995  
ANALYSIS DATE: July 26, 1995

PROJECT CODE: LAGD1523  
REF #: 77,194  
STATION: MW-5 Core 20'-25', 43"-45"  
TIME SAMPLED: 1235  
SAMPLER: Bill Norland

<u>Parameter</u>	<u>Detection Limit (ug/kg)</u>	<u>Concentration As Received (ug/kg)</u>
Benzene	20	ND <sup>1</sup>
Bromobenzene	20	ND
Bromochloromethane	20	ND
Bromodichloromethane	20	ND
Bromoform	20	ND
Bromomethane	50	ND
n-Butylbenzene	20	ND
sec-Butylbenzene	20	ND
Carbon tetrachloride	20	ND
Chlorobenzene	20	ND
Chloroethane	50	ND
Chloroform	50	ND
Chloromethane	100	ND
(2&4)Chlorotoluene	20	ND
Dibromochloromethane	20	ND
1,2-Dibromo-3-chloropropane	20	ND
1,2-Dibromoethane	20	ND
Dibromomethane	20	ND



# ENDYNE, INC.

## Laboratory Services

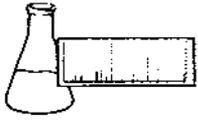
32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103

REF #: 77,194

<u>Parameter</u>	<u>Detection Limit (ug/kg)</u>	<u>Concentration As Received (ug/kg)</u>
1,2-Dichlorobenzene	20	ND
1,3-Dichlorobenzene	20	ND
1,4-Dichlorobenzene	20	ND
Dichlorodifluoromethane	100	ND
1,1-Dichloroethane	20	ND
1,2-Dichloroethane	20	ND
1,1-Dichloroethene	20	ND
cis-1,2-Dichloroethene	20	ND
trans-1,2-Dichloroethene	20	ND
1,2-Dichloropropane	20	ND
1,3-Dichloropropane	20	ND
2,2-Dichloropropane	20	ND
1,1-Dichloropropene	20	ND
Ethylbenzene	20	ND
Hexachlorobutadiene	50	ND
Isopropylbenzene	20	ND
p-Isopropyltoluene	20	ND
Methylene chloride	100	ND
Naphthalene	100	ND
n-Propylbenzene	20	ND
Styrene	20	ND
1,1,1,2-Tetrachloroethane	20	ND
1,1,2,2-Tetrachloroethane	20	ND
Tetrachloroethene	20	ND
Toluene	20	ND

AUG 1995

LABORATORY



**ENDYNE, INC.**

Laboratory Services

32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103

REF #: 77,193

<u>Parameter</u>	<u>Detection Limit (ug/kg)</u>	<u>Concentration As Received (ug/kg)</u>
1,2,3-Trichlorobenzene	20	ND
1,2,4-Trichlorobenzene	20	ND
1,1,1-Trichloroethane	20	ND
1,1,2-Trichloroethane	20	ND
Trichloroethene	20	ND
Trichlorofluoromethane	20	ND
1,2,3-Trichloropropane	20	ND
1,2,4-Trimethylbenzene	20	ND
1,3,5-Trimethylbenzene	20	ND
Vinyl chloride	100	ND
Total Xylenes	20	ND
MTBE	50	ND

NUMBER OF UNIDENTIFIED PEAKS: 0

ANALYTICAL SURROGATE RECOVERY:

Dibromofluoromethane: 105%  
Toluene-d8: 102%  
4-Bromofluorobenzene: 100%

PERCENT SOLIDS: 91%

Notes:

1 None detected

AUG 1 1995



**ENDYNE, INC.**

Laboratory Services

32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103

LABORATORY REPORT

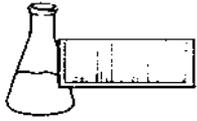
EPA METHOD 8260 SOIL MATRIX

CLIENT: Lincoln Applied Geology  
PROJECT NAME: Desabrais  
REPORT DATE: August 4, 1995  
DATE SAMPLED: July 18, 1995  
DATE RECEIVED: July 20, 1995  
ANALYSIS DATE: July 26, 1995

PROJECT CODE: LAGD1523  
REF #: 77,195  
STATION: MW-7 Core 10'-15', 55"-57"  
TIME SAMPLED: 1530  
SAMPLER: Bill Norland

<u>Parameter</u>	<u>Detection Limit (ug/kg)</u>	<u>Concentration As Received (ug/kg)</u>
Benzene	20	ND <sup>1</sup>
Bromobenzene	20	ND
Bromochloromethane	20	ND
Bromodichloromethane	20	ND
Bromoform	20	ND
Bromomethane	50	ND
n-Butylbenzene	20	ND
sec-Butylbenzene	20	ND
Carbon tetrachloride	20	ND
Chlorobenzene	20	ND
Chloroethane	50	ND
Chloroform	50	ND
Chloromethane	100	ND
(2&4)Chlorotoluene	20	ND
Dibromochloromethane	20	ND
1,2-Dibromo-3-chloropropane	20	ND
1,2-Dibromoethane	20	ND
Dibromomethane	20	ND

1005



**ENDYNE, INC.**

Laboratory Services

32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103

REF #: 77,195

<u>Parameter</u>	<u>Detection Limit (ug/kg)</u>	<u>Concentration As Received (ug/kg)</u>
1,2-Dichlorobenzene	20	ND
1,3-Dichlorobenzene	20	ND
1,4-Dichlorobenzene	20	ND
Dichlorodifluoromethane	100	ND
1,1-Dichloroethane	20	ND
1,2-Dichloroethane	20	ND
1,1-Dichloroethene	20	ND
cis-1,2-Dichloroethene	20	ND
trans-1,2-Dichloroethene	20	ND
1,2-Dichloropropane	20	ND
1,3-Dichloropropane	20	ND
2,2-Dichloropropane	20	ND
1,1-Dichloropropene	20	ND
Ethylbenzene	20	ND
Hexachlorobutadiene	50	ND
Isopropylbenzene	20	ND
p-Isopropyltoluene	20	ND
Methylene chloride	100	ND
Naphthalene	100	ND
n-Propylbenzene	20	ND
Styrene	20	ND
1,1,1,2-Tetrachloroethane	20	ND
1,1,1,2-Tetrachloroethane	20	ND
Tetrachloroethene	20	ND
Toluene	20	ND

AUG



**ENDYNE, INC.**

Laboratory Services

32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103

REF #: 77,195

<u>Parameter</u>	<u>Detection Limit (ug/kg)</u>	<u>Concentration As Received (ug/kg)</u>
1,2,3-Trichlorobenzene	20	ND
1,2,4-Trichlorobenzene	20	ND
1,1,1-Trichloroethane	20	ND
1,1,2-Trichloroethane	20	ND
Trichloroethene	20	ND
Trichlorofluoromethane	20	ND
1,2,3-Trichloropropane	20	ND
1,2,4-Trimethylbenzene	20	ND
1,3,5-Trimethylbenzene	20	ND
Vinyl chloride	100	ND
Total Xylenes	20	ND
MTBE	50	ND

NUMBER OF UNIDENTIFIED PEAKS: 0

ANALYTICAL SURROGATE RECOVERY:

Dibromofluoromethane: 100%  
Toluene-d8: 107%  
4-Bromofluorobenzene: 97%

PERCENT SOLIDS: 76%

Notes:

1 None detected

AUG 1995  
11/26/95



LABORATORY REPORT

EPA METHOD 8260 SOIL MATRIX

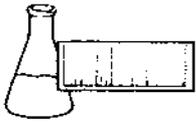
CLIENT: Lincoln Applied Geology  
PROJECT NAME: Desabrais  
REPORT DATE: August 4, 1995  
DATE SAMPLED: July 18, 1995  
DATE RECEIVED: July 20, 1995  
ANALYSIS DATE: July 26, 1995

PROJECT CODE: LAGD1523  
REF #: 77,196  
STATION: MW-9 Core 5.2'-10.2', 53"-55"  
TIME SAMPLED: 1720  
SAMPLER: Bill Norland

<u>Parameter</u>	<u>Detection Limit (ug/kg)</u>	<u>Concentration As Received (ug/kg)</u>
Benzene	20	ND <sup>1</sup>
Bromobenzene	20	ND
Bromochloromethane	20	ND
Bromodichloromethane	20	ND
Bromoform	20	ND
Bromomethane	50	ND
n-Butylbenzene	20	ND
sec-Butylbenzene	20	ND
Carbon tetrachloride	20	ND
Chlorobenzene	20	ND
Chloroethane	50	ND
Chloroform	50	ND
Chloromethane	100	ND
(2&4)Chlorotoluene	20	ND
Dibromochloromethane	20	ND
1,2-Dibromo-3-chloropropane	20	ND
1,2-Dibromoethane	20	ND
Dibromomethane	20	ND

AUG 1 1995

LABORATORY



**ENDYNE, INC.**

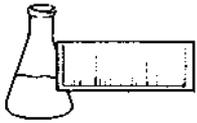
Laboratory Services

32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103

REF #: 77,196

<u>Parameter</u>	<u>Detection Limit (ug/kg)</u>	<u>Concentration As Received (ug/kg)</u>
1,2-Dichlorobenzene	20	ND
1,3-Dichlorobenzene	20	ND
1,4-Dichlorobenzene	20	ND
Dichlorodifluoromethane	100	ND
1,1-Dichloroethane	20	ND
1,2-Dichloroethane	20	ND
1,1-Dichloroethene	20	ND
cis-1,2-Dichloroethene	20	ND
trans-1,2-Dichloroethene	20	ND
1,2-Dichloropropane	20	ND
1,3-Dichloropropane	20	ND
2,2-Dichloropropane	20	ND
1,1-Dichloropropene	20	ND
Ethylbenzene	20	ND
Hexachlorobutadiene	50	ND
Isopropylbenzene	20	ND
p-Isopropyltoluene	20	ND
Methylene chloride	100	ND
Naphthalene	100	ND
n-Propylbenzene	20	ND
Styrene	20	ND
1,1,1,2-Tetrachloroethane	20	ND
1,1,2,2-Tetrachloroethane	20	ND
Tetrachloroethene	20	ND
Toluene	20	ND

AUG



**ENDYNE, INC.**

Laboratory Services

32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103

REF #: 77,196

<u>Parameter</u>	<u>Detection Limit (ug/kg)</u>	<u>Concentration As Received (ug/kg)</u>
1,2,3-Trichlorobenzene	20	ND
1,2,4-Trichlorobenzene	20	ND
1,1,1-Trichloroethane	20	ND
1,1,2-Trichloroethane	20	ND
Trichloroethene	20	ND
Trichlorofluoromethane	20	ND
1,2,3-Trichloropropane	20	ND
1,2,4-Trimethylbenzene	20	ND
1,3,5-Trimethylbenzene	20	ND
Vinyl chloride	100	ND
Total Xylenes	20	ND
MTBE	50	ND

NUMBER OF UNIDENTIFIED PEAKS: 0

ANALYTICAL SURROGATE RECOVERY:

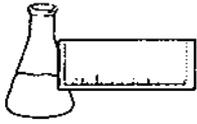
Dibromofluoromethane: 110%  
Toluene-d8: 97%  
4-Bromofluorobenzene: 103%

PERCENT SOLIDS: 81%

Notes:

1 None detected

AUG 11 1995



LABORATORY REPORT

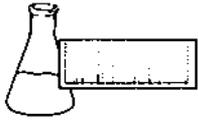
EPA METHOD 8260 SOIL MATRIX

CLIENT: Lincoln Applied Geology  
PROJECT NAME: Desabrais  
REPORT DATE: August 4, 1995  
DATE SAMPLED: July 18, 1995  
DATE RECEIVED: July 20, 1995  
ANALYSIS DATE: July 27, 1995

PROJECT CODE: LAGD1523  
REF #: 77,197  
STATION: MW-9 Core 10.2'-15.2', 37"-39"  
TIME SAMPLED: 1255  
SAMPLER: Bill Norland

<u>Parameter</u>	<u>Detection Limit (ug/kg)</u>	<u>Concentration As Received (ug/kg)</u>
Benzene	20	ND <sup>1</sup>
Bromobenzene	20	ND
Bromochloromethane	20	ND
Bromodichloromethane	20	ND
Bromoform	20	ND
Bromomethane	50	ND
n-Butylbenzene	20	ND
sec-Butylbenzene	20	ND
Carbon tetrachloride	20	ND
Chlorobenzene	20	ND
Chloroethane	50	ND
Chloroform	50	ND
Chloromethane	100	ND
(2&4)Chlorotoluene	20	ND
Dibromochloromethane	20	ND
1,2-Dibromo-3-chloropropane	20	ND
1,2-Dibromoethane	20	ND
Dibromomethane	20	ND

AUG 11 1995



**ENDYNE, INC.**

Laboratory Services

32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103

REF #: 77,197

<u>Parameter</u>	<u>Detection Limit (ug/kg)</u>	<u>Concentration</u> <u>As Received (ug/kg)</u>
1,2-Dichlorobenzene	20	ND
1,3-Dichlorobenzene	20	ND
1,4-Dichlorobenzene	20	ND
Dichlorodifluoromethane	100	ND
1,1-Dichloroethane	20	ND
1,2-Dichloroethane	20	ND
1,1-Dichloroethene	20	ND
cis-1,2-Dichloroethene	20	ND
trans-1,2-Dichloroethene	20	ND
1,2-Dichloropropane	20	ND
1,3-Dichloropropane	20	ND
2,2-Dichloropropane	20	ND
1,1-Dichloropropene	20	ND
Ethylbenzene	20	ND
Hexachlorobutadiene	50	ND
Isopropylbenzene	20	ND
p-Isopropyltoluene	20	ND
Methylene chloride	100	ND
Naphthalene	100	ND
n-Propylbenzene	20	ND
Styrene	20	ND
1,1,1,2-Tetrachloroethane	20	ND
1,1,2,2-Tetrachloroethane	20	ND
Tetrachloroethene	20	ND
Toluene	20	ND

**AUG 1995**



**ENDYNE, INC.**

Laboratory Services

32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103

REF #: 77,197

<u>Parameter</u>	<u>Detection Limit (ug/kg)</u>	<u>Concentration As Received (ug/kg)</u>
1,2,3-Trichlorobenzene	20	ND
1,2,4-Trichlorobenzene	20	ND
1,1,1-Trichloroethane	20	ND
1,1,2-Trichloroethane	20	ND
Trichloroethene	20	ND
Trichlorofluoromethane	20	ND
1,2,3-Trichloropropane	20	ND
1,2,4-Trimethylbenzene	20	ND
1,3,5-Trimethylbenzene	20	ND
Vinyl chloride	100	ND
Total Xylenes	20	ND
MTBE	50	ND

NUMBER OF UNIDENTIFIED PEAKS: 0

ANALYTICAL SURROGATE RECOVERY:

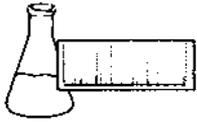
Dibromofluoromethane: 85%  
Toluene-d8: 107%  
4-Bromofluorobenzene: 100%

PERCENT SOLIDS: 90%

Notes:

1 None detected

AUG 11 1995



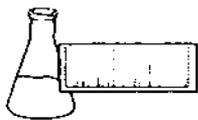
LABORATORY REPORT

EPA METHOD 8260 SOIL MATRIX

CLIENT: Lincoln Applied Geology  
PROJECT NAME: Desabrais  
REPORT DATE: August 4, 1995  
DATE SAMPLED: July 18, 1995  
DATE RECEIVED: July 20, 1995  
ANALYSIS DATE: July 27, 1995

PROJECT CODE: LAGD1523  
REF #: 77,198  
STATION: MW-9 Core 15.2'-20.2', 39"-41"  
TIME SAMPLED: 1840  
SAMPLER: Bill Norland

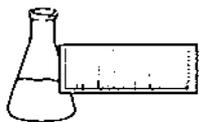
<u>Parameter</u>	<u>Detection Limit (ug/kg)</u>	<u>Concentration As Received (ug/kg)</u>
Benzene	20	ND <sup>1</sup>
Bromobenzene	20	ND
Bromochloromethane	20	ND
Bromodichloromethane	20	ND
Bromoform	20	ND
Bromomethane	50	ND
n-Butylbenzene	20	ND
sec-Butylbenzene	20	ND
Carbon tetrachloride	20	ND
Chlorobenzene	20	ND
Chloroethane	50	ND
Chloroform	50	ND
Chloromethane	100	ND
(2&4)Chlorotoluene	20	ND
Dibromochloromethane	20	ND
1,2-Dibromo-3-chloropropane	20	ND
1,2-Dibromoethane	20	ND
Dibromomethane	20	ND



REF #: 77,198

<u>Parameter</u>	<u>Detection Limit (ug/kg)</u>	<u>Concentration As Received (ug/kg)</u>
1,2-Dichlorobenzene	20	ND
1,3-Dichlorobenzene	20	ND
1,4-Dichlorobenzene	20	ND
Dichlorodifluoromethane	100	ND
1,1-Dichloroethane	20	ND
1,2-Dichloroethane	20	ND
1,1-Dichloroethene	20	ND
cis-1,2-Dichloroethene	20	ND
trans-1,2-Dichloroethene	20	ND
1,2-Dichloropropane	20	ND
1,3-Dichloropropane	20	ND
2,2-Dichloropropane	20	ND
1,1-Dichloropropene	20	ND
Ethylbenzene	20	ND
Hexachlorobutadiene	50	ND
Isopropylbenzene	20	ND
p-Isopropyltoluene	20	ND
Methylene chloride	100	ND
Naphthalene	100	ND
n-Propylbenzene	20	ND
Styrene	20	ND
1,1,1,2-Tetrachloroethane	20	ND
1,1,2,2-Tetrachloroethane	20	ND
Tetrachloroethene	20	ND
Toluene	20	ND

AUG 11 1997



REF #: 77,198

<u>Parameter</u>	<u>Detection Limit (ug/kg)</u>	<u>Concentration As Received (ug/kg)</u>
1,2,3-Trichlorobenzene	20	ND
1,2,4-Trichlorobenzene	20	ND
1,1,1-Trichloroethane	20	ND
1,1,2-Trichloroethane	20	ND
Trichloroethene	20	ND
Trichlorofluoromethane	20	ND
1,2,3-Trichloropropane	20	ND
1,2,4-Trimethylbenzene	20	ND
1,3,5-Trimethylbenzene	20	ND
Vinyl chloride	100	ND
Total Xylenes	20	ND
MTBE	50	ND

NUMBER OF UNIDENTIFIED PEAKS: 0

ANALYTICAL SURROGATE RECOVERY:

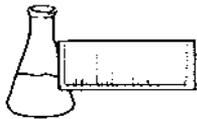
Dibromofluoromethane: 83%  
Toluene-d8: 106%  
4-Bromofluorobenzene: 101%

PERCENT SOLIDS: 91%

Notes:

1 None detected

AUG 11 1995



**ENDYNE, INC.**

Laboratory Services

32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103

LABORATORY REPORT

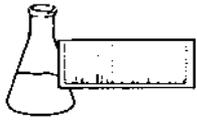
EPA METHOD 8260 SOIL MATRIX

CLIENT: Lincoln Applied Geology  
PROJECT NAME: Desabrais  
REPORT DATE: August 4, 1995  
DATE SAMPLED: July 19, 1995  
DATE RECEIVED: July 20, 1995  
ANALYSIS DATE: July 27, 1995

PROJECT CODE: LAGD1523  
REF #: 77,199  
STATION: MW-7 Core 17'-21', 38"-40"  
TIME SAMPLED: 1130  
SAMPLER: Bill Norland

<u>Parameter</u>	<u>Detection Limit (ug/kg)</u>	<u>Concentration As Received (ug/kg)</u>
Benzene	20	ND <sup>1</sup>
Bromobenzene	20	ND
Bromochloromethane	20	ND
Bromodichloromethane	20	ND
Bromoform	20	ND
Bromomethane	50	ND
n-Butylbenzene	20	ND
sec-Butylbenzene	20	ND
Carbon tetrachloride	20	ND
Chlorobenzene	20	ND
Chloroethane	50	ND
Chloroform	50	ND
Chloromethane	100	ND
(2&4)Chlorotoluene	20	ND
Dibromochloromethane	20	ND
1,2-Dibromo-3-chloropropane	20	ND
1,2-Dibromoethane	20	ND
Dibromomethane	20	ND

AUG 11 1995



**ENDYNE, INC.**

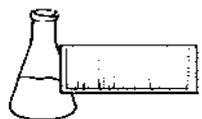
Laboratory Services

32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103

REF #: 77,199

<u>Parameter</u>	<u>Detection Limit (ug/kg)</u>	<u>Concentration As Received (ug/kg)</u>
1,2-Dichlorobenzene	20	ND
1,3-Dichlorobenzene	20	ND
1,4-Dichlorobenzene	20	ND
Dichlorodifluoromethane	100	ND
1,1-Dichloroethane	20	ND
1,2-Dichloroethane	20	ND
1,1-Dichloroethene	20	ND
cis-1,2-Dichloroethene	20	ND
trans-1,2-Dichloroethene	20	ND
1,2-Dichloropropane	20	ND
1,3-Dichloropropane	20	ND
2,2-Dichloropropane	20	ND
1,1-Dichloropropene	20	ND
Ethylbenzene	20	ND
Hexachlorobutadiene	50	ND
Isopropylbenzene	20	ND
p-Isopropyltoluene	20	ND
Methylene chloride	100	ND
Naphthalene	100	ND
n-Propylbenzene	20	ND
Styrene	20	ND
1,1,1,2-Tetrachloroethane	20	ND
1,1,1,2-Tetrachloroethane	20	ND
Tetrachloroethene	20	ND
Toluene	20	ND

AUG 1995



**ENDYNE, INC.**

Laboratory Services

32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103

REF #: 77,199

<u>Parameter</u>	<u>Detection Limit (ug/kg)</u>	<u>Concentration As Received (ug/kg)</u>
1,2,3-Trichlorobenzene	20	ND
1,2,4-Trichlorobenzene	20	ND
1,1,1-Trichloroethane	20	ND
1,1,2-Trichloroethane	20	ND
Trichloroethene	20	ND
Trichlorofluoromethane	20	ND
1,2,3-Trichloropropane	20	ND
1,2,4-Trimethylbenzene	20	ND
1,3,5-Trimethylbenzene	20	ND
Vinyl chloride	100	ND
Total Xylenes	20	ND
MTBE	50	ND

NUMBER OF UNIDENTIFIED PEAKS: 0

ANALYTICAL SURROGATE RECOVERY:

Dibromofluoromethane: 87%  
Toluene-d8: 103%  
4-Bromofluorobenzene: 110%

PERCENT SOLIDS: 75%

Notes:

1 None detected

AUG 10



**ENDYNE, INC.**

Laboratory Services

32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103

LABORATORY REPORT

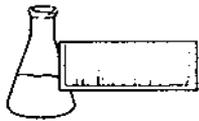
EPA METHOD 8260 SOIL MATRIX

CLIENT: Lincoln Applied Geology  
PROJECT NAME: Desabrais  
REPORT DATE: August 4, 1995  
DATE SAMPLED: July 19, 1995  
DATE RECEIVED: July 20, 1995  
ANALYSIS DATE: JULY 27, 1995

PROJECT CODE: LAGD1523  
REF #: 77,200  
STATION: MW-7 Core 20'-25', 54"-56"  
TIME SAMPLED: 1220  
SAMPLER: Bill Norland

<u>Parameter</u>	<u>Detection Limit (ug/kg)</u>	<u>Concentration As Received (ug/kg)</u>
Benzene	20	ND <sup>1</sup>
Bromobenzene	20	ND
Bromochloromethane	20	ND
Bromodichloromethane	20	ND
Bromoform	20	ND
Bromomethane	50	ND
n-Butylbenzene	20	ND
sec-Butylbenzene	20	ND
Carbon tetrachloride	20	ND
Chlorobenzene	20	ND
Chloroethane	50	ND
Chloroform	50	ND
Chloromethane	100	ND
(2&4)Chlorotoluene	20	ND
Dibromochloromethane	20	ND
1,2-Dibromo-3-chloropropane	20	ND
1,2-Dibromoethane	20	ND
Dibromomethane	20	ND

AUG



**ENDYNE, INC.**

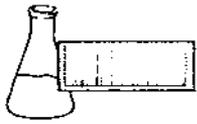
Laboratory Services

32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103

REF #: 77,200

<u>Parameter</u>	<u>Detection Limit (ug/kg)</u>	<u>Concentration</u> <u>As Received (ug/kg)</u>
1,2-Dichlorobenzene	20	ND
1,3-Dichlorobenzene	20	ND
1,4-Dichlorobenzene	20	ND
Dichlorodifluoromethane	100	ND
1,1-Dichloroethane	20	ND
1,2-Dichloroethane	20	ND
1,1-Dichloroethene	20	ND
cis-1,2-Dichloroethene	20	22.7
trans-1,2-Dichloroethene	20	ND
1,2-Dichloropropane	20	ND
1,3-Dichloropropane	20	ND
2,2-Dichloropropane	20	ND
1,1-Dichloropropene	20	ND
Ethylbenzene	20	ND
Hexachlorobutadiene	50	ND
Isopropylbenzene	20	ND
p-Isopropyltoluene	20	ND
Methylene chloride	100	ND
Naphthalene	100	ND
n-Propylbenzene	20	ND
Styrene	20	ND
1,1,1,2-Tetrachloroethane	20	ND
1,1,1,2,2-Tetrachloroethane	20	ND
Tetrachloroethene	20	327.
Toluene	20	ND

AUG 1995



**ENDYNE, INC.**

Laboratory Services

32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103

REF #: 77,200

<u>Parameter</u>	<u>Detection Limit (ug/kg)</u>	<u>Concentration As Received (ug/kg)</u>
1,2,3-Trichlorobenzene	20	ND
1,2,4-Trichlorobenzene	20	ND
1,1,1-Trichloroethane	20	ND
1,1,2-Trichloroethane	20	ND
Trichloroethene	20	38.5
Trichlorofluoromethane	20	ND
1,2,3-Trichloropropane	20	ND
1,2,4-Trimethylbenzene	20	ND
1,3,5-Trimethylbenzene	20	ND
Vinyl chloride	100	ND
Total Xylenes	20	ND
MTBE	50	ND

NUMBER OF UNIDENTIFIED PEAKS: 0

**ANALYTICAL SURROGATE RECOVERY:**

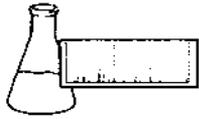
Dibromofluoromethane: 84%  
Toluene-d8: 101%  
4-Bromofluorobenzene: 102%

PERCENT SOLIDS: 92%

Notes:

1 None detected

4/15/95 1995



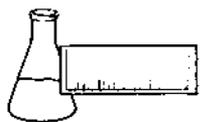
LABORATORY REPORT

EPA METHOD 8260 SOIL MATRIX

CLIENT: Lincoln Applied Geology  
PROJECT NAME: Desabrais  
REPORT DATE: August 4, 1995  
DATE SAMPLED: July 19, 1995  
DATE RECEIVED: July 20, 1995  
ANALYSIS DATE: JULY 27, 1995

PROJECT CODE: LAGD1523  
REF #: 77,201  
STATION: MW-8 Core 9.6'-14', 38"-40"  
TIME SAMPLED: 1530  
SAMPLER: Bill Norland

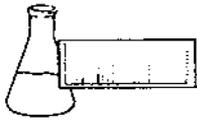
<u>Parameter</u>	<u>Detection Limit (ug/kg)</u>	<u>Concentration As Received (ug/kg)</u>
Benzene	20	ND <sup>1</sup>
Bromobenzene	20	ND
Bromochloromethane	20	ND
Bromodichloromethane	20	ND
Bromoform	20	ND
Bromomethane	50	ND
n-Butylbenzene	20	ND
sec-Butylbenzene	20	ND
Carbon tetrachloride	20	ND
Chlorobenzene	20	ND
Chloroethane	50	ND
Chloroform	50	ND
Chloromethane	100	ND
(2&4)Chlorotoluene	20	ND
Dibromochloromethane	20	ND
1,2-Dibromo-3-chloropropane	20	ND
1,2-Dibromoethane	20	ND
Dibromomethane	20	ND



REF #: 77,201

<u>Parameter</u>	<u>Detection Limit (ug/kg)</u>	<u>Concentration</u> <u>As Received (ug/kg)</u>
1,2-Dichlorobenzene	20	ND
1,3-Dichlorobenzene	20	ND
1,4-Dichlorobenzene	20	ND
Dichlorodifluoromethane	100	ND
1,1-Dichloroethane	20	ND
1,2-Dichloroethane	20	ND
1,1-Dichloroethene	20	ND
cis-1,2-Dichloroethene	20	ND
trans-1,2-Dichloroethene	20	ND
1,2-Dichloropropane	20	ND
1,3-Dichloropropane	20	ND
2,2-Dichloropropane	20	ND
1,1-Dichloropropene	20	ND
Ethylbenzene	20	ND
Hexachlorobutadiene	50	ND
Isopropylbenzene	20	ND
p-Isopropyltoluene	20	ND
Methylene chloride	100	ND
Naphthalene	100	ND
n-Propylbenzene	20	ND
Styrene	20	ND
1,1,1,2-Tetrachloroethane	20	ND
1,1,2,2-Tetrachloroethane	20	ND
Tetrachloroethene	20	ND
Toluene	20	ND

**AUG**



REF #: 77,201

<u>Parameter</u>	<u>Detection Limit (ug/kg)</u>	<u>Concentration As Received (ug/kg)</u>
1,2,3-Trichlorobenzene	20	ND
1,2,4-Trichlorobenzene	20	ND
1,1,1-Trichloroethane	20	ND
1,1,2-Trichloroethane	20	ND
Trichloroethene	20	ND
Trichlorofluoromethane	20	ND
1,2,3-Trichloropropane	20	ND
1,2,4-Trimethylbenzene	20	ND
1,3,5-Trimethylbenzene	20	ND
Vinyl chloride	100	ND
Total Xylenes	20	ND
MTBE	50	ND

NUMBER OF UNIDENTIFIED PEAKS: 0

ANALYTICAL SURROGATE RECOVERY:

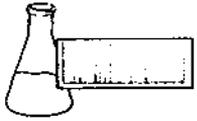
Dibromofluoromethane: 90%  
Toluene-d8: 101%  
4-Bromofluorobenzene: 102%

PERCENT SOLIDS: 75%

Notes:

1 None detected

AUG 11 1995



LABORATORY REPORT

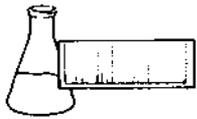
EPA METHOD 8260 SOIL MATRIX

CLIENT: Lincoln Applied Geology  
PROJECT NAME: Desabrais  
REPORT DATE: August 4, 1995  
DATE SAMPLED: July 19, 1995  
DATE RECEIVED: July 20, 1995  
ANALYSIS DATE: JULY 27, 1995

PROJECT CODE: LAGD1523  
REF #: 77,202  
STATION: MW-8 Core 14'-18', 37"-39"  
TIME SAMPLED: 1715  
SAMPLER: Bill Norland

<u>Parameter</u>	<u>Detection Limit (ug/kg)</u>	<u>Concentration As Received (ug/kg)</u>
Benzene	20	ND <sup>1</sup>
Bromobenzene	20	ND
Bromochloromethane	20	ND
Bromodichloromethane	20	ND
Bromoform	20	ND
Bromomethane	50	ND
n-Butylbenzene	20	ND
sec-Butylbenzene	20	ND
Carbon tetrachloride	20	ND
Chlorobenzene	20	ND
Chloroethane	50	ND
Chloroform	50	ND
Chloromethane	100	ND
(2&4)Chlorotoluene	20	ND
Dibromochloromethane	20	ND
1,2-Dibromo-3-chloropropane	20	ND
1,2-Dibromoethane	20	ND
Dibromomethane	20	ND

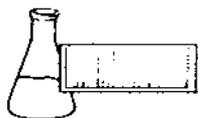
AUG 11 1995



REF #: 77,202

<u>Parameter</u>	<u>Detection Limit (ug/kg)</u>	<u>Concentration</u> <u>As Received (ug/kg)</u>
1,2-Dichlorobenzene	20	ND
1,3-Dichlorobenzene	20	ND
1,4-Dichlorobenzene	20	ND
Dichlorodifluoromethane	100	ND
1,1-Dichloroethane	20	ND
1,2-Dichloroethane	20	ND
1,1-Dichloroethene	20	ND
cis-1,2-Dichloroethene	20	ND
trans-1,2-Dichloroethene	20	ND
1,2-Dichloropropane	20	ND
1,3-Dichloropropane	20	ND
2,2-Dichloropropane	20	ND
1,1-Dichloropropene	20	ND
Ethylbenzene	20	ND
Hexachlorobutadiene	50	ND
Isopropylbenzene	20	ND
p-Isopropyltoluene	20	ND
Methylene chloride	100	ND
Naphthalene	100	ND
n-Propylbenzene	20	ND
Styrene	20	ND
1,1,1,2-Tetrachloroethane	20	ND
1,1,1,2,2-Tetrachloroethane	20	ND
Tetrachloroethene	20	ND
Toluene	20	ND

AUG 11 1995



REF #: 77,202

<u>Parameter</u>	<u>Detection Limit (ug/kg)</u>	<u>Concentration As Received (ug/kg)</u>
1,2,3-Trichlorobenzene	20	ND
1,2,4-Trichlorobenzene	20	ND
1,1,1-Trichloroethane	20	ND
1,1,2-Trichloroethane	20	ND
Trichloroethene	20	ND
Trichlorofluoromethane	20	ND
1,2,3-Trichloropropane	20	ND
1,2,4-Trimethylbenzene	20	ND
1,3,5-Trimethylbenzene	20	ND
Vinyl chloride	100	ND
Total Xylenes	20	ND
MTBE	50	ND

NUMBER OF UNIDENTIFIED PEAKS: 0

ANALYTICAL SURROGATE RECOVERY:

Dibromofluoromethane: 92%  
Toluene-d8: 99%  
4-Bromofluorobenzene: 97%

PERCENT SOLIDS: 74%

Notes:

1 None detected

AUG 11 1995

**CHAIN-OF-CUSTODY RECORD**

14992

Project Name: <i>Desabrais</i>	Reporting Address: <i>L.A.G.</i>	Billing Address: <i>Same</i>
Site Location: <i>Middlebury, VT</i>	<i>RD 1 Box 710 Bristol, VT 05443</i>	
Endyne Project Number: <i>LACD 1523</i>	Company: <i>L.A.G.</i>	Sampler Name: <i>Same</i>
	Contact Name/Phone #: <i>Bill Norland 453-4384</i>	Phone #: <i>Same</i>

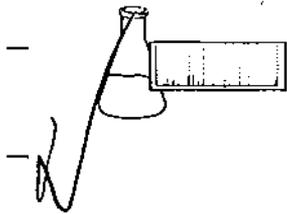
Lab #	Sample Location	Matrix	G R A B	C O M P	Date/Time	Sample Containers		Field Results/Remarks	Analysis Required	Sample Preservation	Rush
						No.	Type/Size				
77193	MW-5, Core 10'-15', 42"-44"	Soil	X		7/18/95 1125	2	Plastic Bag 40 ml VOA	<del>SO4</del> Extraction	Moisture EPA 8260	Methanol	
77194	MW-5, Core 20'-25', 43"-45"	Soil	X		↓ 1235	2					
77195	MW-7, Core 10'-15', 55"-57"	Soil	X		↓ 1530	2					
77196	MW-9, Core 5.2'-10.2', 53"-55"	Soil	X		↓ 1720	2					
77197	MW-9, Core 10.2'-15.2', 37"-39"	Soil	X		↓ 1755	2					
77198	MW-9, Core 15.2'-20.2', 39"-41"	Soil	X		↓ 1840	2					
77199	MW-7, Core 17'-21', 38"-40"	Soil	X		7/19/95 1130	2					
77200	MW-7, Core 20'-25', 54"-56"	Soil	X		↓ 1220	2					
77201	MW-8, Core 9.6'-14', 38"-40"	Soil	X		↓ 1530	2					
77202	MW-8, Core 14'-18', 37"-39"	Soil	X		↓ 1715	2					

 AUG 10 1995  
 LABORATORY

Relinquished by: Signature <i>William Norland</i>	Received by: Signature <i>Louis M. Chamberlain</i>	Date/Time <i>7-20-95</i>
Relinquished by: Signature	Received by: Signature	Date/Time

 New York State Project: Yes  No 
**Requested Analyses**

1	pH	6	TKN	11	Total Solids	16	Metals (Specify)	21	EPA 624	26	EPA 8270 B/N or Acid
2	Chloride	7	Total P	12	TSS	17	Coliform (Specify)	22	EPA 625 B/N or A	27	EPA 8010/8020
3	Ammonia N	8	Total Diss. P	13	TDS	18	COD	23	EPA 418.1	28	EPA 8080 Pest/PCB
4	Nitrite N	9	BOD <sub>5</sub>	14	Turbidity	19	BTEX	24	EPA 608 Pest/PCB		
5	Nitrate N	10	Alkalinity	15	Conductivity	20	EPA 601/602	25	EPA 8240		
29	TCLP (Specify: volatiles, semi-volatiles, metals, pesticides, herbicides)										
30	Other (Specify):										



**ENDYNE, INC.**

Laboratory Services

32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103

REPORT OF LABORATORY ANALYSIS

CLIENT: Lincoln Applied Geology  
PROJECT NAME: Desabrais  
DATE REPORTED: August 10, 1995  
DATE SAMPLED: July 20, 1995

PROJECT CODE: LAGD1530  
REF. #: 77,223 - 77,229

Enclosed please find the results of the analyses performed for the samples referenced on the attached chain of custody record.

Chain of custody did not indicate sample preservation.

All samples were prepared and analyzed by requirements outlined in the referenced methods and within the specified holding times.

All instrumentation was calibrated with the appropriate frequency and verified by the requirements outlined in the referenced methods.

Blank contamination was not observed at levels affecting the analytical results.

Analytical method precision and accuracy were monitored by laboratory control standards which included matrix spike, duplicate and quality control analyses. These standards were determined to be within established laboratory method acceptance limits.

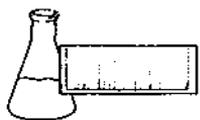
Individual sample performance was monitored by the addition of surrogate analytes to each sample. All surrogate data was determined to be within Laboratory QA/QC guidelines unless otherwise noted.

Reviewed by,

Harry B. Locker, Ph.D.  
Laboratory Director

enclosures





LABORATORY REPORT

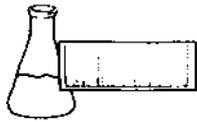
EPA METHOD 8260 SOIL MATRIX

CLIENT: Lincoln Applied Geology  
PROJECT NAME: Desabrais  
REPORT DATE: August 10, 1995  
DATE SAMPLED: July 20, 1995  
DATE RECEIVED: July 21, 1995  
ANALYSIS DATE: July 27, 1995

PROJECT CODE: LAGD1530  
REF #: 77,223  
STATION: MW-10, Core 5'-10', 13"-15"  
TIME SAMPLED: 0935  
SAMPLER: Bill Norland

<u>Parameter</u>	<u>Detection Limit (ug/kg)</u>	<u>Concentration As Received (ug/kg)</u>
Benzene	20	ND <sup>1</sup>
Bromobenzene	20	ND
Bromochloromethane	20	ND
Bromodichloromethane	20	ND
Bromoform	20	ND
Bromomethane	50	ND
n-Butylbenzene	20	ND
sec-Butylbenzene	20	ND
Carbon tetrachloride	20	ND
Chlorobenzene	20	ND
Chloroethane	50	ND
Chloroform	50	ND
Chloromethane	100	ND
(2&4)Chlorotoluene	20	ND
Dibromochloromethane	20	ND
1,2-Dibromo-3-chloropropane	20	ND
1,2-Dibromoethane	20	ND
Dibromomethane	20	ND

ALL 132



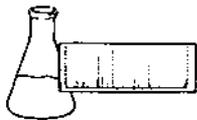
**ENDYNE, INC.**

REF #: 77,223

Laboratory Services

32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103

<u>Parameter</u>	<u>Detection Limit (ug/kg)</u>	<u>Concentration As Received (ug/kg)</u>
1,2-Dichlorobenzene	20	ND
1,3-Dichlorobenzene	20	ND
1,4-Dichlorobenzene	20	ND
Dichlorodifluoromethane	100	ND
1,1-Dichloroethane	20	ND
1,2-Dichloroethane	20	ND
1,1-Dichloroethene	20	ND
cis-1,2-Dichloroethene	20	ND
trans-1,2-Dichloroethene	20	ND
1,2-Dichloropropane	20	ND
1,3-Dichloropropane	20	ND
2,2-Dichloropropane	20	ND
1,1-Dichloropropene	20	ND
Ethylbenzene	20	ND
Hexachlorobutadiene	50	ND
Isopropylbenzene	20	ND
p-Isopropyltoluene	20	ND
Methylene chloride	100	ND
Naphthalene	100	ND
n-Propylbenzene	20	ND
Styrene	20	ND
1,1,1,2-Tetrachloroethane	20	ND
1,1,2,2-Tetrachloroethane	20	ND
Tetrachloroethene	20	ND
Toluene	20	ND



REF #: 77,223

<u>Parameter</u>	<u>Detection Limit (ug/kg)</u>	<u>Concentration As Received (ug/kg)</u>
1,2,3-Trichlorobenzene	20	ND
1,2,4-Trichlorobenzene	20	ND
1,1,1-Trichloroethane	20	ND
1,1,2-Trichloroethane	20	ND
Trichloroethene	20	ND
Trichlorofluoromethane	20	ND
1,2,3-Trichloropropane	20	ND
1,2,4-Trimethylbenzene	20	ND
1,3,5-Trimethylbenzene	20	ND
Vinyl chloride	100	ND
Total Xylenes	20	ND
MTBE	50	ND

NUMBER OF UNIDENTIFIED PEAKS: 0

ANALYTICAL SURROGATE RECOVERY:

Dibromofluoromethane: 94.%  
Toluene-d8: 109.%  
4-Bromofluorobenzene: 104.%

PERCENT SOLIDS: 73.%

Notes:

1 None detected

APR 18 1990

ENDYNE, INC.



**ENDYNE, INC.**

Laboratory Services

32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103

LABORATORY REPORT

EPA METHOD 8260 SOIL MATRIX

CLIENT: Lincoln Applied Geology  
PROJECT NAME: Desabrais  
REPORT DATE: August 10, 1995  
DATE SAMPLED: July 20, 1995  
DATE RECEIVED: July 21, 1995  
ANALYSIS DATE: July 27, 1995

PROJECT CODE: LAGD1530  
REF #: 77,224  
STATION: MW-10, Core 10'-15', 55"-56"  
TIME SAMPLED: 1015  
SAMPLER: Bill Norland

<u>Parameter</u>	<u>Detection Limit (ug/kg)</u>	<u>Concentration As Received (ug/kg)</u>
Benzene	20	ND <sup>1</sup>
Bromobenzene	20	ND
Bromochloromethane	20	ND
Bromodichloromethane	20	ND
Bromoform	20	ND
Bromomethane	50	ND
n-Butylbenzene	20	ND
sec-Butylbenzene	20	ND
Carbon tetrachloride	20	ND
Chlorobenzene	20	ND
Chloroethane	50	ND
Chloroform	50	ND
Chloromethane	100	ND
(2&4)Chlorotoluene	20	ND
Dibromochloromethane	20	ND
1,2-Dibromo-3-chloropropane	20	ND
1,2-Dibromoethane	20	ND
Dibromomethane	20	ND

18 1995



**ENDYNE, INC.**

REF #: 77,224

Laboratory Services

32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103

<u>Parameter</u>	<u>Detection Limit (ug/kg)</u>	<u>Concentration</u> <u>As Received (ug/kg)</u>
1,2-Dichlorobenzene	20	ND
1,3-Dichlorobenzene	20	ND
1,4-Dichlorobenzene	20	ND
Dichlorodifluoromethane	100	ND
1,1-Dichloroethane	20	ND
1,2-Dichloroethane	20	ND
1,1-Dichloroethene	20	ND
cis-1,2-Dichloroethene	20	176.
trans-1,2-Dichloroethene	20	ND
1,2-Dichloropropane	20	ND
1,3-Dichloropropane	20	ND
2,2-Dichloropropane	20	ND
1,1-Dichloropropene	20	ND
Ethylbenzene	20	ND
Hexachlorobutadiene	50	ND
Isopropylbenzene	20	ND
p-Isopropyltoluene	20	ND
Methylene chloride	100	ND
Naphthalene	100	ND
n-Propylbenzene	20	ND
Styrene	20	ND
1,1,1,2-Tetrachloroethane	20	ND
1,1,2,2-Tetrachloroethane	20	ND
Tetrachloroethene	20	ND
Toluene	20	ND



**ENDYNE, INC.**

Laboratory Services

32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103

REF #: 77,224

<u>Parameter</u>	<u>Detection Limit (ug/kg)</u>	<u>Concentration As Received (ug/kg)</u>
1,2,3-Trichlorobenzene	20	ND
1,2,4-Trichlorobenzene	20	ND
1,1,1-Trichloroethane	20	ND
1,1,2-Trichloroethane	20	ND
Trichloroethene	20	ND
Trichlorofluoromethane	20	ND
1,2,3-Trichloropropane	20	ND
1,2,4-Trimethylbenzene	20	ND
1,3,5-Trimethylbenzene	20	ND
Vinyl chloride	100	ND
Total Xylenes	20	ND
MTBE	50	ND

NUMBER OF UNIDENTIFIED PEAKS: 0

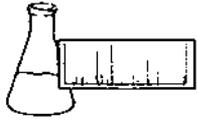
ANALYTICAL SURROGATE RECOVERY:

Dibromofluoromethane:	80.0%
Toluene-d8:	100.0%
4-Bromofluorobenzene:	99.0%

PERCENT SOLIDS: 68.0%

Notes:

1 None detected



**ENDYNE, INC.**

Laboratory Services

32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103

LABORATORY REPORT

EPA METHOD 8260 SOIL MATRIX

CLIENT: Lincoln Applied Geology  
PROJECT NAME: Desabrais  
REPORT DATE: August 10, 1995  
DATE SAMPLED: July 20, 1995  
DATE RECEIVED: July 21, 1995  
ANALYSIS DATE: July 27, 1995

PROJECT CODE: LAGD1530  
REF #: 77,225  
STATION: MW-10, Core 15'-19', 46"-48"  
TIME SAMPLED: 1055  
SAMPLER: Bill Norland

<u>Parameter</u>	<u>Detection Limit (ug/kg)</u>	<u>Concentration As Received (ug/kg)</u>
Benzene	20	ND <sup>1</sup>
Bromobenzene	20	ND
Bromochloromethane	20	ND
Bromodichloromethane	20	ND
Bromoform	20	ND
Bromomethane	50	ND
n-Butylbenzene	20	ND
sec-Butylbenzene	20	ND
Carbon tetrachloride	20	ND
Chlorobenzene	20	ND
Chloroethane	50	ND
Chloroform	50	ND
Chloromethane	100	ND
(2&4)Chlorotoluene	20	ND
Dibromochloromethane	20	ND
1,2-Dibromo-3-chloropropane	20	ND
1,2-Dibromoethane	20	ND
Dibromomethane	20	ND



# ENDYNE, INC.

REF #: 77,225

## Laboratory Services

32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103

<u>Parameter</u>	<u>Detection Limit (ug/kg)</u>	<u>Concentration As Received (ug/kg)</u>
1,2-Dichlorobenzene	20	ND
1,3-Dichlorobenzene	20	ND
1,4-Dichlorobenzene	20	ND
Dichlorodifluoromethane	100	ND
1,1-Dichloroethane	20	ND
1,2-Dichloroethane	20	ND
1,1-Dichloroethene	20	ND
cis-1,2-Dichloroethene	20	227.
trans-1,2-Dichloroethene	20	ND
1,2-Dichloropropane	20	ND
1,3-Dichloropropane	20	ND
2,2-Dichloropropane	20	ND
1,1-Dichloropropene	20	ND
Ethylbenzene	20	ND
Hexachlorobutadiene	50	ND
Isopropylbenzene	20	ND
p-Isopropyltoluene	20	ND
Methylene chloride	100	ND
Naphthalene	100	ND
n-Propylbenzene	20	ND
Styrene	20	ND
1,1,1,2-Tetrachloroethane	20	ND
1,1,2,2-Tetrachloroethane	20	ND
Tetrachloroethene	20	176.
Toluene	20	ND



REF #: 77,225

<u>Parameter</u>	<u>Detection Limit (ug/kg)</u>	<u>Concentration As Received (ug/kg)</u>
1,2,3-Trichlorobenzene	20	ND
1,2,4-Trichlorobenzene	20	ND
1,1,1-Trichloroethane	20	ND
1,1,2-Trichloroethane	20	ND
Trichloroethene	20	40.7
Trichlorofluoromethane	20	ND
1,2,3-Trichloropropane	20	ND
1,2,4-Trimethylbenzene	20	ND
1,3,5-Trimethylbenzene	20	ND
Vinyl chloride	100	ND
Total Xylenes	20	ND
MTBE	50	ND

NUMBER OF UNIDENTIFIED PEAKS: 0

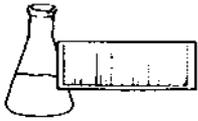
ANALYTICAL SURROGATE RECOVERY:

Dibromofluoromethane:	88.%
Toluene-d8:	106.%
4-Bromofluorobenzene:	100.%

PERCENT SOLIDS: 67.%

Notes:

1 None detected



**ENDYNE, INC.**

Laboratory Services

32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103

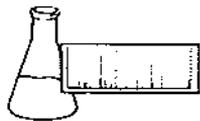
LABORATORY REPORT

EPA METHOD 8260 SOIL MATRIX

CLIENT: Lincoln Applied Geology  
PROJECT NAME: Desabrais  
REPORT DATE: August 10, 1995  
DATE SAMPLED: July 20, 1995  
DATE RECEIVED: July 21, 1995  
ANALYSIS DATE: July 27, 1995

PROJECT CODE: LAGD1530  
REF #: 77,226  
STATION: MW-10, Core 19'-21', 21"-22"  
TIME SAMPLED: 1140  
SAMPLER: Bill Norland

<u>Parameter</u>	<u>Detection Limit (ug/kg)</u>	<u>Concentration As Received (ug/kg)</u>
Benzene	20	ND <sup>1</sup>
Bromobenzene	20	ND
Bromochloromethane	20	ND
Bromodichloromethane	20	ND
Bromoform	20	ND
Bromomethane	50	ND
n-Butylbenzene	20	ND
sec-Butylbenzene	20	ND
Carbon tetrachloride	20	ND
Chlorobenzene	20	ND
Chloroethane	50	ND
Chloroform	50	ND
Chloromethane	100	ND
(2&4)Chlorotoluene	20	ND
Dibromochloromethane	20	ND
1,2-Dibromo-3-chloropropane	20	ND
1,2-Dibromoethane	20	ND
Dibromomethane	20	ND



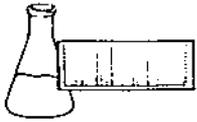
**ENDYNE, INC.**

REF #: 77,226

Laboratory Services

32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103

<u>Parameter</u>	<u>Detection Limit (ug/kg)</u>	<u>Concentration As Received (ug/kg)</u>
1,2-Dichlorobenzene	20	ND
1,3-Dichlorobenzene	20	ND
1,4-Dichlorobenzene	20	ND
Dichlorodifluoromethane	100	ND
1,1-Dichloroethane	20	ND
1,2-Dichloroethane	20	ND
1,1-Dichloroethene	20	ND
cis-1,2-Dichloroethene	20	1,150.
trans-1,2-Dichloroethene	20	ND
1,2-Dichloropropane	20	ND
1,3-Dichloropropane	20	ND
2,2-Dichloropropane	20	ND
1,1-Dichloropropene	20	ND
Ethylbenzene	20	ND
Hexachlorobutadiene	50	ND
Isopropylbenzene	20	ND
p-Isopropyltoluene	20	ND
Methylene chloride	100	ND
Naphthalene	100	ND
n-Propylbenzene	20	ND
Styrene	20	ND
1,1,1,2-Tetrachloroethane	20	ND
1,1,2,2-Tetrachloroethane	20	ND
Tetrachloroethene	20	1,120.
Toluene	20	ND



REF #: 77,226

<u>Parameter</u>	<u>Detection Limit (ug/kg)</u>	<u>Concentration As Received (ug/kg)</u>
1,2,3-Trichlorobenzene	20	ND
1,2,4-Trichlorobenzene	20	ND
1,1,1-Trichloroethane	20	ND
1,1,2-Trichloroethane	20	ND
Trichloroethene	20	505.
Trichlorofluoromethane	20	ND
1,2,3-Trichloropropane	20	ND
1,2,4-Trimethylbenzene	20	ND
1,3,5-Trimethylbenzene	20	ND
Vinyl chloride	100	ND
Total Xylenes	20	ND
MTBE	50	ND

NUMBER OF UNIDENTIFIED PEAKS: 0

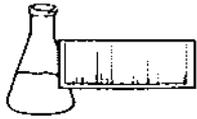
ANALYTICAL SURROGATE RECOVERY:

Dibromofluoromethane: 86.%  
Toluene-d8: 111.%  
4-Bromofluorobenzene: 107.%

PERCENT SOLIDS: 76.%

Notes:

1 None detected



**ENDYNE, INC.**

Laboratory Services

32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103

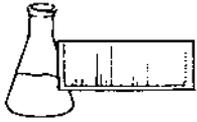
LABORATORY REPORT

EPA METHOD 8260 SOIL MATRIX

CLIENT: Lincoln Applied Geology  
PROJECT NAME: Desabrais  
REPORT DATE: August 10, 1995  
DATE SAMPLED: July 20, 1995  
DATE RECEIVED: July 21, 1995  
ANALYSIS DATE: July 27, 1995

PROJECT CODE: LAGD1530  
REF #: 77,227  
STATION: MW-10, Core 21'-25', 14"-16"  
TIME SAMPLED: 1225  
SAMPLER: Bill Norland

<u>Parameter</u>	<u>Detection Limit (ug/kg)</u>	<u>Concentration As Received (ug/kg)</u>
Benzene	20	ND <sup>1</sup>
Bromobenzene	20	ND
Bromochloromethane	20	ND
Bromodichloromethane	20	ND
Bromoform	20	ND
Bromomethane	50	ND
n-Butylbenzene	20	ND
sec-Butylbenzene	20	ND
Carbon tetrachloride	20	ND
Chlorobenzene	20	ND
Chloroethane	50	ND
Chloroform	50	ND
Chloromethane	100	ND
(2&4)Chlorotoluene	20	ND
Dibromochloromethane	20	ND
1,2-Dibromo-3-chloropropane	20	ND
1,2-Dibromoethane	20	ND
Dibromomethane	20	ND



ENDYNE, INC.

REF #: 77,227

Laboratory Services

32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103

<u>Parameter</u>	<u>Detection Limit (ug/kg)</u>	<u>Concentration</u> <u>As Received (ug/kg)</u>
1,2-Dichlorobenzene	20	ND
1,3-Dichlorobenzene	20	ND
1,4-Dichlorobenzene	20	ND
Dichlorodifluoromethane	100	ND
1,1-Dichloroethane	20	ND
1,2-Dichloroethane	20	ND
1,1-Dichloroethene	20	ND
cis-1,2-Dichloroethene	20	509.
trans-1,2-Dichloroethene	20	ND
1,2-Dichloropropane	20	ND
1,3-Dichloropropane	20	ND
2,2-Dichloropropane	20	ND
1,1-Dichloropropene	20	ND
Ethylbenzene	20	ND
Hexachlorobutadiene	50	ND
Isopropylbenzene	20	ND
p-Isopropyltoluene	20	ND
Methylene chloride	100	ND
Naphthalene	100	ND
n-Propylbenzene	20	ND
Styrene	20	ND
1,1,1,2-Tetrachloroethane	20	ND
1,1,2,2-Tetrachloroethane	20	ND
Tetrachloroethene	20	1,900.
Toluene	20	ND



REF #: 77,227

<u>Parameter</u>	<u>Detection Limit (ug/kg)</u>	<u>Concentration As Received (ug/kg)</u>
1,2,3-Trichlorobenzene	20	ND
1,2,4-Trichlorobenzene	20	ND
1,1,1-Trichloroethane	20	ND
1,1,2-Trichloroethane	20	ND
Trichloroethene	20	652.
Trichlorofluoromethane	20	ND
1,2,3-Trichloropropane	20	ND
1,2,4-Trimethylbenzene	20	ND
1,3,5-Trimethylbenzene	20	ND
Vinyl chloride	100	ND
Total Xylenes	20	ND
MTBE	50	ND

NUMBER OF UNIDENTIFIED PEAKS: 0

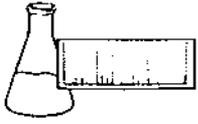
ANALYTICAL SURROGATE RECOVERY:

Dibromofluoromethane:	85.%
Toluene-d8:	106.%
4-Bromofluorobenzene:	108.%

PERCENT SOLIDS: 87.%

Notes:

1 None detected



**ENDYNE, INC.**

Laboratory Services

32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103

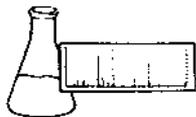
LABORATORY REPORT

EPA METHOD 8260 SOIL MATRIX

CLIENT: Lincoln Applied Geology  
PROJECT NAME: Desabrais  
REPORT DATE: August 10, 1995  
DATE SAMPLED: July 20, 1995  
DATE RECEIVED: July 21, 1995  
ANALYSIS DATE: July 27, 1995

PROJECT CODE: LAGD1530  
REF #: 77,228  
STATION: MW-10, Core 25'-30', 35"-37"  
TIME SAMPLED: 1350  
SAMPLER: Bill Norland

<u>Parameter</u>	<u>Detection Limit (ug/kg)</u>	<u>Concentration As Received (ug/kg)</u>
Benzene	20	ND <sup>1</sup>
Bromobenzene	20	ND
Bromochloromethane	20	ND
Bromodichloromethane	20	ND
Bromoform	20	ND
Bromomethane	50	ND
n-Butylbenzene	20	ND
sec-Butylbenzene	20	ND
Carbon tetrachloride	20	ND
Chlorobenzene	20	ND
Chloroethane	50	ND
Chloroform	50	ND
Chloromethane	100	ND
(2&4)Chlorotoluene	20	ND
Dibromochloromethane	20	ND
1,2-Dibromo-3-chloropropane	20	ND
1,2-Dibromoethane	20	ND
Dibromomethane	20	ND



**ENDYNE, INC.**

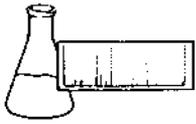
REF #: 77,228

Laboratory Services

32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103

<u>Parameter</u>	<u>Detection Limit (ug/kg)</u>	<u>Concentration As Received (ug/kg)</u>
1,2-Dichlorobenzene	20	ND
1,3-Dichlorobenzene	20	ND
1,4-Dichlorobenzene	20	ND
Dichlorodifluoromethane	100	ND
1,1-Dichloroethane	20	ND
1,2-Dichloroethane	20	ND
1,1-Dichloroethene	20	ND
cis-1,2-Dichloroethene	20	196.
trans-1,2-Dichloroethene	20	ND
1,2-Dichloropropane	20	ND
1,3-Dichloropropane	20	ND
2,2-Dichloropropane	20	ND
1,1-Dichloropropene	20	ND
Ethylbenzene	20	ND
Hexachlorobutadiene	50	ND
Isopropylbenzene	20	ND
p-Isopropyltoluene	20	ND
Methylene chloride	100	ND
Naphthalene	100	ND
n-Propylbenzene	20	ND
Styrene	20	ND
1,1,1,2-Tetrachloroethane	20	ND
1,1,2,2-Tetrachloroethane	20	ND
Tetrachloroethene	20	1,020.
Toluene	20	ND

10/1



REF #: 77,228

<u>Parameter</u>	<u>Detection Limit (ug/kg)</u>	<u>Concentration As Received (ug/kg)</u>
1,2,3-Trichlorobenzene	20	ND
1,2,4-Trichlorobenzene	20	ND
1,1,1-Trichloroethane	20	ND
1,1,2-Trichloroethane	20	ND
Trichloroethene	20	292.
Trichlorofluoromethane	20	ND
1,2,3-Trichloropropane	20	ND
1,2,4-Trimethylbenzene	20	ND
1,3,5-Trimethylbenzene	20	ND
Vinyl chloride	100	ND
Total Xylenes	20	ND
MTBE	50	ND

NUMBER OF UNIDENTIFIED PEAKS: 0

ANALYTICAL SURROGATE RECOVERY:

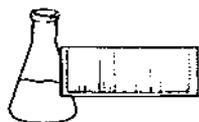
Dibromofluoromethane:	83.%
Toluene-d8:	114.%
4-Bromofluorobenzene:	106.%

PERCENT SOLIDS: 91.%

ASK 180

Notes:

1 None detected



**ENDYNE, INC.**

Laboratory Services

32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103

LABORATORY REPORT

EPA METHOD 8260 SOIL MATRIX

CLIENT: Lincoln Applied Geology  
PROJECT NAME: Desabrais  
REPORT DATE: August 10, 1995  
DATE SAMPLED: July 20, 1995  
DATE RECEIVED: July 21, 1995  
ANALYSIS DATE: July 27, 1995

PROJECT CODE: LAGD1530  
REF #: 77,229  
STATION: MW-10, Core 35'-40', 56"-58"  
TIME SAMPLED: 1635  
SAMPLER: Bill Norland

<u>Parameter</u>	<u>Detection Limit (ug/kg)</u>	<u>Concentration As Received (ug/kg)</u>
Benzene	20	ND <sup>1</sup>
Bromobenzene	20	ND
Bromochloromethane	20	ND
Bromodichloromethane	20	ND
Bromoform	20	ND
Bromomethane	50	ND
n-Butylbenzene	20	ND
sec-Butylbenzene	20	ND
Carbon tetrachloride	20	ND
Chlorobenzene	20	ND
Chloroethane	50	ND
Chloroform	50	ND
Chloromethane	100	ND
(2&4)Chlorotoluene	20	ND
Dibromochloromethane	20	ND
1,2-Dibromo-3-chloropropane	20	ND
1,2-Dibromoethane	20	ND
Dibromomethane	20	ND



**ENDYNE, INC.**

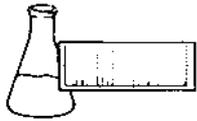
REF #: 77,229

Laboratory Services

32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103

<u>Parameter</u>	<u>Detection Limit (ug/kg)</u>	<u>Concentration As Received (ug/kg)</u>
1,2-Dichlorobenzene	20	ND
1,3-Dichlorobenzene	20	ND
1,4-Dichlorobenzene	20	ND
Dichlorodifluoromethane	100	ND
1,1-Dichloroethane	20	ND
1,2-Dichloroethane	20	ND
1,1-Dichloroethene	20	ND
cis-1,2-Dichloroethene	20	ND
trans-1,2-Dichloroethene	20	ND
1,2-Dichloropropane	20	ND
1,3-Dichloropropane	20	ND
2,2-Dichloropropane	20	ND
1,1-Dichloropropene	20	ND
Ethylbenzene	20	ND
Hexachlorobutadiene	50	ND
Isopropylbenzene	20	ND
p-Isopropyltoluene	20	ND
Methylene chloride	100	ND
Naphthalene	100	ND
n-Propylbenzene	20	ND
Styrene	20	ND
1,1,1,2-Tetrachloroethane	20	ND
1,1,2,2-Tetrachloroethane	20	ND
Tetrachloroethene	20	ND
Toluene	20	ND

10/18



REF #: 77,229

<u>Parameter</u>	<u>Detection Limit (ug/kg)</u>	<u>Concentration As Received (ug/kg)</u>
1,2,3-Trichlorobenzene	20	ND
1,2,4-Trichlorobenzene	20	ND
1,1,1-Trichloroethane	20	ND
1,1,2-Trichloroethane	20	ND
Trichloroethene	20	ND
Trichlorofluoromethane	20	ND
1,2,3-Trichloropropane	20	ND
1,2,4-Trimethylbenzene	20	ND
1,3,5-Trimethylbenzene	20	ND
Vinyl chloride	100	ND
Total Xylenes	20	ND
MTBE	50	ND

NUMBER OF UNIDENTIFIED PEAKS: 0

ANALYTICAL SURROGATE RECOVERY:

Dibromofluoromethane: 89.%  
Toluene-d8: 112.%  
4-Bromofluorobenzene: 106.%

PERCENT SOLIDS: 92.%

Notes:

1 None detected

7/15/99



**ENDYNE, INC.**

Laboratory Services

32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103

EPA METHOD 8260 LABORATORY REPORT

MATRIX SPIKE AND DUPLICATE LABORATORY CONTROL DATA

CLIENT: Lincoln Applied Geology  
PROJECT NAME: Desabrais  
REPORT DATE: August 10, 1995  
DATE SAMPLED: July 20, 1995  
DATE RECEIVED: July 21, 1995  
ANALYSIS DATE: July 27, 1995

PROJECT CODE: LAGD1530  
REF.#: 77,229  
STATION: MW-10, Core 35'-40', 56"-58"  
TIME SAMPLED: 1635  
SAMPLER: Bill Norland

<u>Parameter</u>	<u>Sample(ug/L)</u>	<u>Spike(ug/L)</u>	<u>Dup 1(ug/L)</u>	<u>Dup 2(ug/L)</u>	<u>Average %Recovery</u>
1,1 Dichloroethene	ND <sup>1</sup>	50	48.8	50.1	99.0%
Benzene	ND	50	52.4	54.2	107.0%
Trichloroethene	ND	50	44.1	48.2	92.0%
Toluene	ND	50	52.4	52.7	105.0%
Chlorobenzene	ND	50	55.4	51.7	107.0%

Notes:

1 None detected



32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333

### CHAIN-OF-CUSTODY RECORD

14993

Project Name: <i>Desabrais</i>	Reporting Address: <i>L.A.G.</i>	Billing Address: <i>same</i>
Site Location: <i>Middlebury, VT</i>	<i>RD 1 Box 710, Bristol VT 05443</i>	
Endyne Project Number: <i>LAGD/530</i>	Company: <i>LAG</i>	Sampler Name: <i>same</i>
	Contact Name/Phone #: <i>Bill Norland 453-4384</i>	Phone #: <i>same</i>

Lab #	Sample Location	Matrix	G R A B	C O M P	Date/Time	Sample Containers		Field Results/Remarks	Analysis Required	Sample Preservation	Rush
						No.	Type/Size				
77223	MW-10, Core 5'-10', 13"-15"	Soil	X		7/20/95 0935	2	40ml VOA plastic bag	Methanol Extraction	EPA 8260	Methanol	
77234	Core 10'-15', 55"-56"				1015				& Moisture	None	
77235	Core 15'-19', 46"-48"				1055						
77236	Core 19'-21', 21"-22"				1140						
77237	Core 21'-25', 14"-16"				1225						
77238	Core 25'-30', 35"-37"				1350						
77239	Core 35'-40', 56"-58"				1635						

Relinquished by: Signature <i>William Norland</i>	Received by: Signature <i>Loew Besaw</i>	Date/Time <i>7/21/95 9:30 AM</i>
Relinquished by: Signature	Received by: Signature	Date/Time

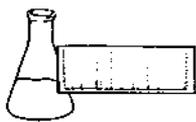
New York State Project: Yes  No

#### Requested Analyses

1	pH	6	TRN	11	Total Solids	16	Metals (Specify)	21	EPA 624	26	EPA 8270 B/N or Acid
2	Chloride	7	Total P	12	TSS	17	Coliform (Specify)	22	EPA 625 B/N or A	27	EPA 8010/8020
3	Ammonia N	8	Total Diss. P	13	TDS	18	COD	23	EPA 418.1	28	EPA 8080 Pest/PCB
4	Nitrite N	9	BOD <sub>5</sub>	14	Turbidity	19	BTEX	24	EPA 608 Pest/PCB		
5	Nitrate N	10	Alkalinity	15	Conductivity	20	EPA 601/602	25	EPA 8240		
29	TCLP (Specify: volatiles, semi-volatiles, metals, pesticides, herbicides)										
30	Other (Specify):										

Appendix F

Ground Water Quality Laboratory Reports,  
July and September 1995



**ENDYNE, INC.**

Laboratory Services

32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103

REPORT OF LABORATORY ANALYSIS

CLIENT: Lincoln Applied Geology  
PROJECT NAME: Desabrais  
DATE REPORTED: August 22, 1995  
DATE SAMPLED: July 24, 1995

PROJECT CODE: LAGD1556  
REF. #: 77,347-77,362

Enclosed please find the results of the analyses performed for the samples referenced on the attached chain of custody record.

Chain of custody indicated sample preservation with HCl.

All samples were prepared and analyzed by requirements outlined in the referenced methods and within the specified holding times.

All instrumentation was calibrated with the appropriate frequency and verified by the requirements outlined in the referenced methods.

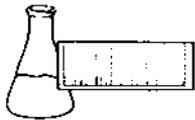
Blank contamination was not observed at levels affecting the analytical results.

Analytical method precision and accuracy were monitored by laboratory control standards which included matrix spike, duplicate and quality control analyses. These standards were determined to be within established laboratory method acceptance limits.

Individual sample performance was monitored by the addition of surrogate analytes to each sample. All surrogate data was determined to be within Laboratory QA/QC guidelines unless otherwise noted.

Reviewed by,

for  
Harry B. Locker, Ph.D.  
Laboratory Director  
enclosures



**ENDYNE, INC.**

Laboratory Services

32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103

LABORATORY REPORT

EPA METHOD 8260 WATER MATRIX

CLIENT: Lincoln Applied Geology  
PROJECT NAME: Desabrais  
REPORT DATE: August 23, 1995  
DATE SAMPLED: July 24, 1995  
DATE RECEIVED: July 24, 1995  
ANALYSIS DATE: August 1, 1995

PROJECT CODE: LAGD1556  
REF #: 77,347  
STATION: Trip  
TIME SAMPLED: 7:10 a.m.  
SAMPLER: James R.

<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
Benzene	2	ND <sup>1</sup>
Bromobenzene	2	ND
Bromochloromethane	2	ND
Bromodichloromethane	2	ND
Bromoform	2	ND
Bromomethane	5	ND
n-Butylbenzene	2	ND
sec-Butylbenzene	2	ND
Carbon tetrachloride	2	ND
Chlorobenzene	2	ND
Chloroethane	5	ND
Chloroform	5	ND
Chloromethane	10	ND
(2&4)Chlorotoluene	2	ND
Dibromochloromethane	2	ND
1,2-Dibromo-3-chloropropane	2	ND
1,2-Dibromoethane	2	ND
Dibromomethane	2	ND



<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
1,2-Dichlorobenzene	2	ND
1,3-Dichlorobenzene	2	ND
1,4-Dichlorobenzene	2	ND
Dichlorodifluoromethane	10	ND
1,1-Dichloroethane	2	ND
1,2-Dichloroethane	2	ND
1,1-Dichloroethene	2	ND
cis-1,2-Dichloroethene	2	ND
trans-1,2-Dichloroethene	2	ND
1,2-Dichloropropane	2	ND
1,3-Dichloropropane	2	ND
2,2-Dichloropropane	2	ND
1,1-Dichloropropene	2	ND
Ethylbenzene	2	ND
Hexachlorobutadiene	5	ND
Isopropylbenzene	2	ND
p-Isopropyltoluene	2	ND
Methylene chloride	10	ND
Naphthalene	10	ND
n-Propylbenzene	2	ND
Styrene	2	ND
1,1,1,2-Tetrachloroethane	2	ND
1,1,2,2-Tetrachloroethane	2	ND
Tetrachloroethene	2	ND
Toluene	2	ND



REF #: 77,347

<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
1,2,3-Trichlorobenzene	2	ND
1,2,4-Trichlorobenzene	2	ND
1,1,1-Trichloroethane	2	ND
1,1,2-Trichloroethane	2	ND
Trichloroethene	2	ND
Trichlorofluoromethane	2	ND
1,2,3-Trichloropropane	2	ND
1,2,4-Trimethylbenzene	2	ND
1,3,5-Trimethylbenzene	2	ND
Vinyl chloride	10	ND
Total Xylenes	2	ND
MTBE	5	ND

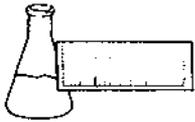
NUMBER OF UNIDENTIFIED PEAKS: 0

ANALYTICAL SURROGATE RECOVERY:

Dibromofluoromethane: 106.%  
Toluene-d8: 104.%  
4-Bromofluorobenzene: 102.%

Notes:

1 None detected



**ENDYNE, INC.**

Laboratory Services

32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103

LABORATORY REPORT

EPA METHOD 8260 WATER MATRIX

CLIENT: Lincoln Applied Geology  
PROJECT NAME: Desabrais  
REPORT DATE: August 22, 1995  
DATE SAMPLED: July 24, 1995  
DATE RECEIVED: July 24, 1995  
ANALYSIS DATE: August 1, 1995

PROJECT CODE: LAGD1556  
REF #: 77,353  
STATION: GT-1  
TIME SAMPLED: 1:50 p.m.  
SAMPLER: James R.

<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
Benzene	2	ND <sup>1</sup>
Bromobenzene	2	ND
Bromochloromethane	2	ND
Bromodichloromethane	2	ND
Bromoform	2	ND
Bromomethane	5	ND
n-Butylbenzene	2	ND
sec-Butylbenzene	2	ND
Carbon tetrachloride	2	ND
Chlorobenzene	2	ND
Chloroethane	5	ND
Chloroform	5	ND
Chloromethane	10	ND
(2&4)Chlorotoluene	2	ND
Dibromochloromethane	2	ND
1,2-Dibromo-3-chloropropane	2	ND
1,2-Dibromoethane	2	ND
Dibromomethane	2	ND



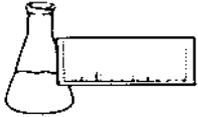
**ENDYNE, INC.**

REF #: 77,353

Laboratory Services

32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103

<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
1,2-Dichlorobenzene	2	ND
1,3-Dichlorobenzene	2	ND
1,4-Dichlorobenzene	2	ND
Dichlorodifluoromethane	10	ND
1,1-Dichloroethane	2	ND
1,2-Dichloroethane	2	ND
1,1-Dichloroethene	2	ND
cis-1,2-Dichloroethene	2	9.5
trans-1,2-Dichloroethene	2	ND
1,2-Dichloropropane	2	ND
1,3-Dichloropropane	2	ND
2,2-Dichloropropane	2	ND
1,1-Dichloropropene	2	ND
Ethylbenzene	2	ND
Hexachlorobutadiene	5	ND
Isopropylbenzene	2	ND
p-Isopropyltoluene	2	ND
Methylene chloride	10	ND
Naphthalene	10	ND
n-Propylbenzene	2	ND
Styrene	2	ND
1,1,1,2-Tetrachloroethane	2	ND
1,1,2,2-Tetrachloroethane	2	ND
Tetrachloroethene	2	32.6
Toluene	2	ND



REF #: 77,353

<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
1,2,3-Trichlorobenzene	2	ND
1,2,4-Trichlorobenzene	2	ND
1,1,1-Trichloroethane	2	ND
1,1,2-Trichloroethane	2	ND
Trichloroethene	2	9.0
Trichlorofluoromethane	2	ND
1,2,3-Trichloropropane	2	ND
1,2,4-Trimethylbenzene	2	ND
1,3,5-Trimethylbenzene	2	ND
Vinyl chloride	10	ND
Total Xylenes	2	ND
MTBE	5	ND

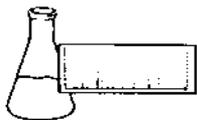
NUMBER OF UNIDENTIFIED PEAKS: 0

ANALYTICAL SURROGATE RECOVERY:

Dibromofluoromethane: 110.%  
Toluene-d8: 103.%  
4-Bromofluorobenzene: 102.%

Notes:

1 None detected



**ENDYNE, INC.**

Laboratory Services

32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103

LABORATORY REPORT

EPA METHOD 8260 WATER MATRIX

CLIENT: Lincoln Applied Geology  
PROJECT NAME: Desabrais  
REPORT DATE: August 22, 1995  
DATE SAMPLED: July 24, 1995  
DATE RECEIVED: July 24, 1995  
ANALYSIS DATE: August 1, 1995

PROJECT CODE: LAGD1556  
REF #: 77,352  
STATION: GT-3  
TIME SAMPLED: 1:37 p.m.  
SAMPLER: James R.

<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
Benzene	2	ND <sup>1</sup>
Bromobenzene	2	ND
Bromochloromethane	2	ND
Bromodichloromethane	2	ND
Bromoform	2	ND
Bromomethane	5	ND
n-Butylbenzene	2	ND
sec-Butylbenzene	2	ND
Carbon tetrachloride	2	ND
Chlorobenzene	2	ND
Chloroethane	5	ND
Chloroform	5	ND
Chloromethane	10	ND
(2&4)Chlorotoluene	2	ND
Dibromochloromethane	2	ND
1,2-Dibromo-3-chloropropane	2	ND
1,2-Dibromoethane	2	ND
Dibromomethane	2	ND



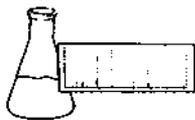
**ENDYNE, INC.**

REF #: 77,352

Laboratory Services

32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103

<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
1,2-Dichlorobenzene	2	ND
1,3-Dichlorobenzene	2	ND
1,4-Dichlorobenzene	2	ND
Dichlorodifluoromethane	10	ND
1,1-Dichloroethane	2	ND
1,2-Dichloroethane	2	ND
1,1-Dichloroethene	2	ND
cis-1,2-Dichloroethene	2	7.1
trans-1,2-Dichloroethene	2	ND
1,2-Dichloropropane	2	ND
1,3-Dichloropropane	2	ND
2,2-Dichloropropane	2	ND
1,1-Dichloropropene	2	ND
Ethylbenzene	2	ND
Hexachlorobutadiene	5	ND
Isopropylbenzene	2	ND
p-Isopropyltoluene	2	ND
Methylene chloride	10	ND
Naphthalene	10	ND
n-Propylbenzene	2	ND
Styrene	2	ND
1,1,1,2-Tetrachloroethane	2	ND
1,1,2,2-Tetrachloroethane	2	ND
Tetrachloroethene	2	134.
Toluene	2	ND



REF #: 77,352

<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
1,2,3-Trichlorobenzene	2	ND
1,2,4-Trichlorobenzene	2	ND
1,1,1-Trichloroethane	2	ND
1,1,2-Trichloroethane	2	ND
Trichloroethene	2	13.9
Trichlorofluoromethane	2	ND
1,2,3-Trichloropropane	2	ND
1,2,4-Trimethylbenzene	2	ND
1,3,5-Trimethylbenzene	2	ND
Vinyl chloride	10	ND
Total Xylenes	2	ND
MTBE	5	ND

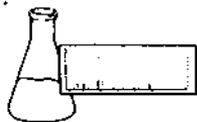
NUMBER OF UNIDENTIFIED PEAKS: 0

ANALYTICAL SURROGATE RECOVERY:

Dibromofluoromethane: 111.%  
Toluene-d8: 104.%  
4-Bromofluorobenzene: 108.%

Notes:

1 None detected



LABORATORY REPORT

EPA METHOD 8260 WATER MATRIX

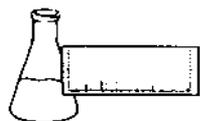
CLIENT: Lincoln Applied Geology  
PROJECT NAME: Desabrais  
REPORT DATE: August 22, 1995  
DATE SAMPLED: July 24, 1995  
DATE RECEIVED: July 24, 1995  
ANALYSIS DATE: August 1, 1995

PROJECT CODE: LAGD1556  
REF #: 77,356  
STATION: GT-4  
TIME SAMPLED: 2:50 p.m.  
SAMPLER: James R.

<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
Benzene	2	11.0
Bromobenzene	2	ND <sup>1</sup>
Bromochloromethane	2	ND
Bromodichloromethane	2	ND
Bromoform	2	ND
Bromomethane	5	ND
n-Butylbenzene	2	ND
sec-Butylbenzene	2	8.3
Carbon tetrachloride	2	ND
Chlorobenzene	2	ND
Chloroethane	5	ND
Chloroform	5	ND
Chloromethane	10	ND
(2&4)Chlorotoluene	2	ND
Dibromochloromethane	2	ND
1,2-Dibromo-3-chloropropane	2	ND
1,2-Dibromoethane	2	ND
Dibromomethane	2	ND



<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
1,2-Dichlorobenzene	2	ND
1,3-Dichlorobenzene	2	ND
1,4-Dichlorobenzene	2	ND
Dichlorodifluoromethane	10	ND
1,1-Dichloroethane	2	ND
1,2-Dichloroethane	2	ND
1,1-Dichloroethene	2	ND
cis-1,2-Dichloroethene	2	38.8
trans-1,2-Dichloroethene	2	ND
1,2-Dichloropropane	2	ND
1,3-Dichloropropane	2	ND
2,2-Dichloropropane	2	ND
1,1-Dichloropropene	2	ND
Ethylbenzene	2	38.4
Hexachlorobutadiene	5	ND
Isopropylbenzene	2	17.7
p-Isopropyltoluene	2	19.5
Methylene chloride	10	ND
Naphthalene	10	72.7
n-Propylbenzene	2	19.5
Styrene	2	ND
1,1,1,2-Tetrachloroethane	2	ND
1,1,2,2-Tetrachloroethane	2	ND
Tetrachloroethene	2	TBQ <sup>2</sup>
Toluene	2	8.6



REF #: 77,356

<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
1,2,3-Trichlorobenzene	2	ND
1,2,4-Trichlorobenzene	2	ND
1,1,1-Trichloroethane	2	ND
1,1,2-Trichloroethane	2	ND
Trichloroethene	2	TBQ
Trichlorofluoromethane	2	ND
1,2,3-Trichloropropane	2	ND
1,2,4-Trimethylbenzene	2	69.1
1,3,5-Trimethylbenzene	2	30.1
Vinyl chloride	10	ND
Total Xylenes	2	70.1
MTBE	5	TBQ

NUMBER OF UNIDENTIFIED PEAKS: >10

ANALYTICAL SURROGATE RECOVERY:

Dibromofluoromethane: 106.%  
Toluene-d8: 101.%  
4-Bromofluorobenzene: 93.%

Notes:

- 1 None detected
- 2 Trace below quantitation limit



**ENDYNE, INC.**

Laboratory Services

32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103

LABORATORY REPORT

EPA METHOD 8260 WATER MATRIX

CLIENT: Lincoln Applied Geology  
PROJECT NAME: Desabrais  
REPORT DATE: August 22, 1995  
DATE SAMPLED: July 24, 1995  
DATE RECEIVED: July 24, 1995  
ANALYSIS DATE: August 1, 1995

PROJECT CODE: LAGD1556  
REF #: 77,355  
STATION: GT-5  
TIME SAMPLED: 2:30 p.m.  
SAMPLER: James R.

<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
Benzene	2	35.5
Bromobenzene	2	ND
Bromochloromethane	2	ND
Bromodichloromethane	2	ND
Bromoform	2	ND
Bromomethane	5	ND
n-Butylbenzene	2	ND
sec-Butylbenzene	2	7.2
Carbon tetrachloride	2	ND
Chlorobenzene	2	ND
Chloroethane	5	ND
Chloroform	5	ND
Chloromethane	10	ND
(2&4)Chlorotoluene	2	ND
Dibromochloromethane	2	ND
1,2-Dibromo-3-chloropropane	2	ND
1,2-Dibromoethane	2	ND
Dibromomethane	2	ND



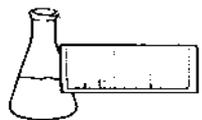
**ENDYNE, INC.**

REF #: 77,355

Laboratory Services

32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103

<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
1,2-Dichlorobenzene	2	ND
1,3-Dichlorobenzene	2	ND
1,4-Dichlorobenzene	2	ND
Dichlorodifluoromethane	10	ND
1,1-Dichloroethane	2	ND
1,2-Dichloroethane	2	ND
1,1-Dichloroethene	2	ND
cis-1,2-Dichloroethene	2	5.7
trans-1,2-Dichloroethene	2	ND
1,2-Dichloropropane	2	ND
1,3-Dichloropropane	2	ND
2,2-Dichloropropane	2	ND
1,1-Dichloropropene	2	ND
Ethylbenzene	2	45.5
Hexachlorobutadiene	5	ND
Isopropylbenzene	2	18.7
p-Isopropyltoluene	2	13.1
Methylene chloride	10	ND
Naphthalene	10	56.5
n-Propylbenzene	2	19.5
Styrene	2	ND
1,1,1,2-Tetrachloroethane	2	ND
1,1,2,2-Tetrachloroethane	2	ND
Tetrachloroethene	2	ND
Toluene	2	TBQ <sup>2</sup>



REF #: 77,355

<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
1,2,3-Trichlorobenzene	2	ND
1,2,4-Trichlorobenzene	2	ND
1,1,1-Trichloroethane	2	ND
1,1,2-Trichloroethane	2	ND
Trichloroethene	2	ND
Trichlorofluoromethane	2	ND
1,2,3-Trichloropropane	2	ND
1,2,4-Trimethylbenzene	2	23.9
1,3,5-Trimethylbenzene	2	6.3
Vinyl chloride	10	11.2
Total Xylenes	2	5.8
MTBE	5	98.0

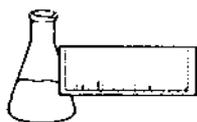
NUMBER OF UNIDENTIFIED PEAKS: >10

ANALYTICAL SURROGATE RECOVERY:

Dibromofluoromethane: 95.%  
Toluene-d8: 104.%  
4-Bromofluorobenzene: 107.%

Notes:

- 1 None detected
- 2 Trace below quantitation limit



**ENDYNE, INC.**

Laboratory Services

32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103

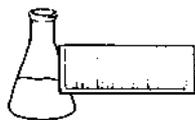
LABORATORY REPORT

EPA METHOD 8260 WATER MATRIX

CLIENT: Lincoln Applied Geology  
PROJECT NAME: Desabrais  
REPORT DATE: August 22, 1995  
DATE SAMPLED: July 24, 1995  
DATE RECEIVED: July 24, 1995  
ANALYSIS DATE: August 3, 1995

PROJECT CODE: LAGD1556  
REF #: 77,362  
STATION: GT-6  
TIME SAMPLED: 3:30 p.m.  
SAMPLER: James R.

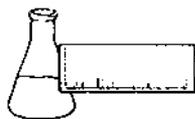
<u>Parameter</u>	<u>Detection Limit (ug/L)<sup>1</sup></u>	<u>Concentration (ug/L)</u>
Benzene	400	ND <sup>2</sup>
Bromobenzene	400	ND
Bromochloromethane	400	ND
Bromodichloromethane	400	ND
Bromoform	400	ND
Bromomethane	1000	ND
n-Butylbenzene	400	ND
sec-Butylbenzene	400	ND
Carbon tetrachloride	400	ND
Chlorobenzene	400	ND
Chloroethane	1000	ND
Chloroform	1000	ND
Chloromethane	2000	ND
(2&4)Chlorotoluene	400	ND
Dibromochloromethane	400	ND
1,2-Dibromo-3-chloropropane	400	ND
1,2-Dibromoethane	400	ND
Dibromomethane	400	ND



REF #: 77,362

32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103

<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
1,2-Dichlorobenzene	400	ND
1,3-Dichlorobenzene	400	ND
1,4-Dichlorobenzene	400	ND
Dichlorodifluoromethane	2000	ND
1,1-Dichloroethane	400	ND
1,2-Dichloroethane	400	ND
1,1-Dichloroethene	400	ND
cis-1,2-Dichloroethene	400	46,400.
trans-1,2-Dichloroethene	400	TBQ <sup>3</sup>
1,2-Dichloropropane	400	ND
1,3-Dichloropropane	400	ND
2,2-Dichloropropane	400	ND
1,1-Dichloropropene	400	ND
Ethylbenzene	400	ND
Hexachlorobutadiene	1000	ND
Isopropylbenzene	400	ND
p-Isopropyltoluene	400	ND
Methylene chloride	2000	ND
Naphthalene	2000	TBQ
n-Propylbenzene	400	ND
Styrene	400	ND
1,1,1,2-Tetrachloroethane	400	ND
1,1,2-Tetrachloroethane	400	ND
Tetrachloroethene	400	1,630.
Toluene	400	ND



REF #: 77,362

<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
1,2,3-Trichlorobenzene	400	ND
1,2,4-Trichlorobenzene	400	ND
1,1,1-Trichloroethane	400	ND
1,1,2-Trichloroethane	400	ND
Trichloroethene	400	3,230.
Trichlorofluoromethane	400	ND
1,2,3-Trichloropropane	400	ND
1,2,4-Trimethylbenzene	400	ND
1,3,5-Trimethylbenzene	400	ND
Vinyl chloride	10	ND
Total Xylenes	400	ND
MTBE	1000	ND

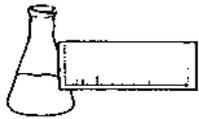
NUMBER OF UNIDENTIFIED PEAKS: >10

ANALYTICAL SURROGATE RECOVERY:

Dibromofluoromethane:	106.%
Toluene-d8:	100.%
4-Bromofluorobenzene:	104.%

Notes:

- 1 Detection limit increased due to high levels of contaminants.  
Sample run at a 0.5% dilution.
- 2 None detected.
- 3 Trace below quantitation level.



**ENDYNE, INC.**

Laboratory Services

32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103

LABORATORY REPORT

EPA METHOD 8260 WATER MATRIX

CLIENT: Lincoln Applied Geology  
PROJECT NAME: Desabrais  
REPORT DATE: August 22, 1995  
DATE SAMPLED: July 24, 1995  
DATE RECEIVED: July 24, 1995  
ANALYSIS DATE: August 1, 1995

PROJECT CODE: LAGD1556  
REF #: 77,359  
STATION: MW-1  
TIME SAMPLED: 3:05 p.m.  
SAMPLER: James R.

<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
Benzene	2	ND <sup>1</sup>
Bromobenzene	2	ND
Bromochloromethane	2	ND
Bromodichloromethane	2	ND
Bromoform	2	ND
Bromomethane	5	ND
n-Butylbenzene	2	ND
sec-Butylbenzene	2	ND
Carbon tetrachloride	2	ND
Chlorobenzene	2	ND
Chloroethane	5	ND
Chloroform	5	ND
Chloromethane	10	ND
(2&4)Chlorotoluene	2	ND
Dibromochloromethane	2	ND
1,2-Dibromo-3-chloropropane	2	ND
1,2-Dibromoethane	2	ND
Dibromomethane	2	ND



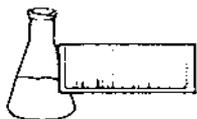
**ENDYNE, INC.**

REF #: 77,359

Laboratory Services

32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103

<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
1,2-Dichlorobenzene	2	ND
1,3-Dichlorobenzene	2	ND
1,4-Dichlorobenzene	2	ND
Dichlorodifluoromethane	10	ND
1,1-Dichloroethane	2	ND
1,2-Dichloroethane	2	ND
1,1-Dichloroethene	2	ND
cis-1,2-Dichloroethene	2	60.7
trans-1,2-Dichloroethene	2	2.1
1,2-Dichloropropane	2	ND
1,3-Dichloropropane	2	ND
2,2-Dichloropropane	2	ND
1,1-Dichloropropene	2	ND
Ethylbenzene	2	ND
Hexachlorobutadiene	5	ND
Isopropylbenzene	2	ND
p-Isopropyltoluene	2	ND
Methylene chloride	10	ND
Naphthalene	10	ND
n-Propylbenzene	2	ND
Styrene	2	ND
1,1,1,2-Tetrachloroethane	2	ND
1,1,2,2-Tetrachloroethane	2	ND
Tetrachloroethene	2	145.
Toluene	2	49.5



REF #: 77,359

<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
1,2,3-Trichlorobenzene	2	ND
1,2,4-Trichlorobenzene	2	ND
1,1,1-Trichloroethane	2	ND
1,1,2-Trichloroethane	2	ND
Trichloroethene	2	41.8
Trichlorofluoromethane	2	ND
1,2,3-Trichloropropane	2	ND
1,2,4-Trimethylbenzene	2	ND
1,3,5-Trimethylbenzene	2	ND
Vinyl chloride	10	TBQ <sup>2</sup>
Total Xylenes	2	ND
MTBE	5	ND

NUMBER OF UNIDENTIFIED PEAKS: 0

ANALYTICAL SURROGATE RECOVERY:

Dibromofluoromethane: 97.%  
Toluene-d8: 107.%  
4-Bromofluorobenzene: 109.%

Notes:

- 1 None detected
- 2 Trace below quantitation limit



Laboratory Services

32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103

LABORATORY REPORT

EPA METHOD 8260 WATER MATRIX

CLIENT: Lincoln Applied Geology  
PROJECT NAME: Desabrais  
REPORT DATE: August 22, 1995  
DATE SAMPLED: July 24, 1995  
DATE RECEIVED: July 24, 1995  
ANALYSIS DATE: August 3, 1995

PROJECT CODE: LAGD1556  
REF #: 77,361  
STATION: MW-2  
TIME SAMPLED: 3:20 p.m.  
SAMPLER: James R

<u>Parameter</u>	<u>Detection Limit (ug/L)<sup>1</sup></u>	<u>Concentration (ug/L)</u>
Benzene	400	ND <sup>2</sup>
Bromobenzene	400	ND
Bromochloromethane	400	ND
Bromodichloromethane	400	ND
Bromoform	400	ND
Bromomethane	2000	ND
n-Butylbenzene	400	ND
sec-Butylbenzene	400	ND
Carbon tetrachloride	400	ND
Chlorobenzene	400	ND
Chloroethane	2000	ND
Chloroform	2000	ND
Chloromethane	2000	ND
(2&4)Chlorotoluene	400	ND
Dibromochloromethane	400	ND
1,2-Dibromo-3-chloropropane	400	ND
1,2-Dibromoethane	400	ND
Dibromomethane	400	ND



**ENDYNE, INC.**

REF #: 77,361

Laboratory Services

32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103

<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
1,2-Dichlorobenzene	400	ND
1,3-Dichlorobenzene	400	ND
1,4-Dichlorobenzene	400	ND
Dichlorodifluoromethane	2000	ND
1,1-Dichloroethane	400	ND
1,2-Dichloroethane	400	ND
1,1-Dichloroethene	400	ND
cis-1,2-Dichloroethene	400	12,600.
trans-1,2-Dichloroethene	400	ND
1,2-Dichloropropane	400	ND
1,3-Dichloropropane	400	ND
2,2-Dichloropropane	400	ND
1,1-Dichloropropene	400	ND
Ethylbenzene	400	ND
Hexachlorobutadiene	2000	ND
Isopropylbenzene	400	ND
p-Isopropyltoluene	400	ND
Methylene chloride	2000	ND
Naphthalene	2000	ND
n-Propylbenzene	400	ND
Styrene	400	ND
1,1,1,400-Tetrachloroethane	400	ND
1,1,2,400-Tetrachloroethane	400	ND
Tetrachloroethene	400	24,100.
Toluene	400	914.



Laboratory Services

32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103

REF #: 77,361

<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
1,2,3-Trichlorobenzene	400	ND
1,2,4-Trichlorobenzene	400	ND
1,1,1-Trichloroethane	400	ND
1,1,2-Trichloroethane	400	ND
Trichloroethene	400	7,830.
Trichlorofluoromethane	400	ND
1,2,3-Trichloropropane	400	ND
1,2,4-Trimethylbenzene	400	ND
1,3,5-Trimethylbenzene	400	ND
Vinyl chloride	2000	ND
Total Xylenes	400	ND
MTBE	1000	ND

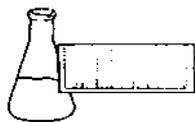
NUMBER OF UNIDENTIFIED PEAKS: 0

ANALYTICAL SURROGATE RECOVERY:

Dibromofluoromethane: 107.%  
Toluene-d8: 101.%  
4-Bromofluorobenzene: 107.%

Notes:

- 1 Detection limit increased due to high levels of contaminants.  
Sample run at a 0.5% dilution.
- 2 None detected



**ENDYNE, INC.**

Laboratory Services

32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103

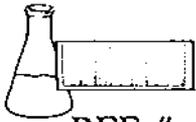
LABORATORY REPORT

EPA METHOD 8260 WATER MATRIX

CLIENT: Lincoln Applied Geology  
PROJECT NAME: Desabrais  
REPORT DATE: August 22, 1995  
DATE SAMPLED: July 24, 1995  
DATE RECEIVED: July 24, 1995  
ANALYSIS DATE: August 1, 1995

PROJECT CODE: LAGD1556  
REF #: 77,358  
STATION: MW-4  
TIME SAMPLED: 3:00 p.m.  
SAMPLER: James R.

<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
Benzene	2	ND <sup>1</sup>
Bromobenzene	2	ND
Bromochloromethane	2	ND
Bromodichloromethane	2	ND
Bromoform	2	ND
Bromomethane	5	ND
n-Butylbenzene	2	ND
sec-Butylbenzene	2	ND
Carbon tetrachloride	2	ND
Chlorobenzene	2	ND
Chloroethane	5	ND
Chloroform	5	ND
Chloromethane	10	ND
(2&4)Chlorotoluene	2	ND
Dibromochloromethane	2	ND
1,2-Dibromo-3-chloropropane	2	ND
1,2-Dibromoethane	2	ND
Dibromomethane	2	ND



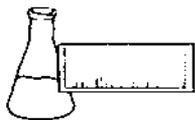
**ENDYNE, INC.**

REF #: 77,358

Laboratory Services

32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103

<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
1,2-Dichlorobenzene	2	ND
1,3-Dichlorobenzene	2	ND
1,4-Dichlorobenzene	2	ND
Dichlorodifluoromethane	10	ND
1,1-Dichloroethane	2	ND
1,2-Dichloroethane	2	ND
1,1-Dichloroethene	2	ND
cis-1,2-Dichloroethene	2	3.3
trans-1,2-Dichloroethene	2	ND
1,2-Dichloropropane	2	ND
1,3-Dichloropropane	2	ND
2,2-Dichloropropane	2	ND
1,1-Dichloropropene	2	ND
Ethylbenzene	2	ND
Hexachlorobutadiene	5	ND
Isopropylbenzene	2	ND
p-Isopropyltoluene	2	ND
Methylene chloride	10	ND
Naphthalene	10	ND
n-Propylbenzene	2	ND
Styrene	2	ND
1,1,1,2-Tetrachloroethane	2	ND
1,1,2,2-Tetrachloroethane	2	ND
Tetrachloroethene	2	91.4
Toluene	2	ND



REF #: 77,358

<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
1,2,3-Trichlorobenzene	2	ND
1,2,4-Trichlorobenzene	2	ND
1,1,1-Trichloroethane	2	ND
1,1,2-Trichloroethane	2	ND
Trichloroethene	2	10.1
Trichlorofluoromethane	2	ND
1,2,3-Trichloropropane	2	ND
1,2,4-Trimethylbenzene	2	ND
1,3,5-Trimethylbenzene	2	ND
Vinyl chloride	10	ND
Total Xylenes	2	ND
MTBE	5	ND

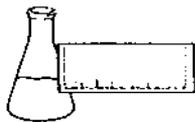
NUMBER OF UNIDENTIFIED PEAKS: 0

**ANALYTICAL SURROGATE RECOVERY:**

Dibromofluoromethane: 104.%  
Toluene-d8: 93.%  
4-Bromofluorobenzene: 111.%

**Notes:**

1 None detected



**ENDYNE, INC.**

Laboratory Services

32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103

LABORATORY REPORT

EPA METHOD 8260 WATER MATRIX

CLIENT: Lincoln Applied Geology  
PROJECT NAME: Desabrais  
REPORT DATE: August 22, 1995  
DATE SAMPLED: July 24, 1995  
DATE RECEIVED: July 24, 1995  
ANALYSIS DATE: August 1, 1995

PROJECT CODE: LAGD1556  
REF #: 77,348  
STATION: MW-5  
TIME SAMPLED: 12:00 p.m.  
SAMPLER: James R.

<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
Benzene	2	ND <sup>1</sup>
Bromobenzene	2	ND
Bromochloromethane	2	ND
Bromodichloromethane	2	ND
Bromoform	2	ND
Bromomethane	5	ND
n-Butylbenzene	2	ND
sec-Butylbenzene	2	ND
Carbon tetrachloride	2	ND
Chlorobenzene	2	ND
Chloroethane	5	ND
Chloroform	5	ND
Chloromethane	10	ND
(2&4)Chlorotoluene	2	ND
Dibromochloromethane	2	ND
1,2-Dibromo-3-chloropropane	2	ND
1,2-Dibromoethane	2	ND
Dibromomethane	2	ND



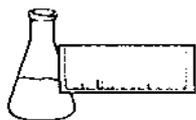
**ENDYNE, INC.**

REF #: 77,348

Laboratory Services

32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103

<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
1,2-Dichlorobenzene	2	ND
1,3-Dichlorobenzene	2	ND
1,4-Dichlorobenzene	2	ND
Dichlorodifluoromethane	10	ND
1,1-Dichloroethane	2	ND
1,2-Dichloroethane	2	ND
1,1-Dichloroethene	2	ND
cis-1,2-Dichloroethene	2	ND
trans-1,2-Dichloroethene	2	ND
1,2-Dichloropropane	2	ND
1,3-Dichloropropane	2	ND
2,2-Dichloropropane	2	ND
1,1-Dichloropropene	2	ND
Ethylbenzene	2	ND
Hexachlorobutadiene	5	ND
Isopropylbenzene	2	ND
p-Isopropyltoluene	2	ND
Methylene chloride	10	ND
Naphthalene	10	ND
n-Propylbenzene	2	ND
Styrene	2	ND
1,1,1,2-Tetrachloroethane	2	ND
1,1,2,2-Tetrachloroethane	2	ND
Tetrachloroethene	2	ND
Toluene	2	7.4



REF #: 77,348

<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
1,2,3-Trichlorobenzene	2	ND
1,2,4-Trichlorobenzene	2	ND
1,1,1-Trichloroethane	2	ND
1,1,2-Trichloroethane	2	ND
Trichloroethene	2	ND
Trichlorofluoromethane	2	ND
1,2,3-Trichloropropane	2	ND
1,2,4-Trimethylbenzene	2	ND
1,3,5-Trimethylbenzene	2	ND
Vinyl chloride	10	ND
Total Xylenes	2	ND
MTBE	5	ND

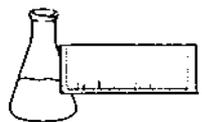
NUMBER OF UNIDENTIFIED PEAKS: 0

ANALYTICAL SURROGATE RECOVERY:

Dibromofluoromethane: 108.%  
Toluene-d8: 107.%  
4-Bromofluorobenzene: 104.%

Notes:

1 None detected



**ENDYNE, INC.**

Laboratory Services

32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103

LABORATORY REPORT

EPA METHOD 8260 WATER MATRIX

CLIENT: Lincoln Applied Geology  
PROJECT NAME: Desabrais  
REPORT DATE: August 22, 1995  
DATE SAMPLED: July 24, 1995  
DATE RECEIVED: July 24, 1995  
ANALYSIS DATE: August 1, 1995

PROJECT CODE: LAGD1556  
REF #: 77,349  
STATION: MW-6  
TIME SAMPLED: 12:20 p.m.  
SAMPLER: James R.

<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
Benzene	2	ND <sup>1</sup>
Bromobenzene	2	ND
Bromochloromethane	2	ND
Bromodichloromethane	2	ND
Bromoform	2	ND
Bromomethane	5	ND
n-Butylbenzene	2	ND
sec-Butylbenzene	2	ND
Carbon tetrachloride	2	ND
Chlorobenzene	2	ND
Chloroethane	5	ND
Chloroform	5	ND
Chloromethane	10	ND
(2&4)Chlorotoluene	2	ND
Dibromochloromethane	2	ND
1,2-Dibromo-3-chloropropane	2	ND
1,2-Dibromoethane	2	ND
Dibromomethane	2	ND



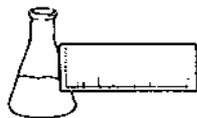
**ENDYNE, INC.**

REF #: 77,349

Laboratory Services

32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103

<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
1,2-Dichlorobenzene	2	ND
1,3-Dichlorobenzene	2	ND
1,4-Dichlorobenzene	2	ND
Dichlorodifluoromethane	10	ND
1,1-Dichloroethane	2	ND
1,2-Dichloroethane	2	ND
1,1-Dichloroethene	2	ND
cis-1,2-Dichloroethene	2	ND
trans-1,2-Dichloroethene	2	ND
1,2-Dichloropropane	2	ND
1,3-Dichloropropane	2	ND
2,2-Dichloropropane	2	ND
1,1-Dichloropropene	2	ND
Ethylbenzene	2	ND
Hexachlorobutadiene	5	ND
Isopropylbenzene	2	ND
p-Isopropyltoluene	2	ND
Methylene chloride	10	ND
Naphthalene	10	ND
n-Propylbenzene	2	ND
Styrene	2	ND
1,1,1,2-Tetrachloroethane	2	ND
1,1,2,2-Tetrachloroethane	2	ND
Tetrachloroethene	2	156.
Toluene	2	23.2



REF #: 77,349

<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
1,2,3-Trichlorobenzene	2	ND
1,2,4-Trichlorobenzene	2	ND
1,1,1-Trichloroethane	2	ND
1,1,2-Trichloroethane	2	ND
Trichloroethene	2	TBQ <sup>2</sup>
Trichlorofluoromethane	2	ND
1,2,3-Trichloropropane	2	ND
1,2,4-Trimethylbenzene	2	ND
1,3,5-Trimethylbenzene	2	ND
Vinyl chloride	10	ND
Total Xylenes	2	ND
MTBE	5	ND

NUMBER OF UNIDENTIFIED PEAKS: 0

ANALYTICAL SURROGATE RECOVERY:

Dibromofluoromethane: 109.%  
Toluene-d8: 101.%  
4-Bromofluorobenzene: 105.%

Notes:

- 1 None detected
- 2 Trace below quantitation limit



Laboratory Services

32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103

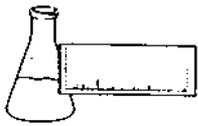
LABORATORY REPORT

EPA METHOD 8260 WATER MATRIX

CLIENT: Lincoln Applied Geology  
PROJECT NAME: Desabrais  
REPORT DATE: August 22, 1995  
DATE SAMPLED: July 24, 1995  
DATE RECEIVED: July 24, 1995  
ANALYSIS DATE: August 1, 1995

PROJECT CODE: LAGD1556  
REF #: 77,350  
STATION: MW-7  
TIME SAMPLED: 12:50 p.m.  
SAMPLER: James R.

<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
Benzene	2	ND <sup>1</sup>
Bromobenzene	2	ND
Bromochloromethane	2	ND
Bromodichloromethane	2	ND
Bromoform	2	ND
Bromomethane	5	ND
n-Butylbenzene	2	ND
sec-Butylbenzene	2	ND
Carbon tetrachloride	2	ND
Chlorobenzene	2	ND
Chloroethane	5	ND
Chloroform	5	ND
Chloromethane	10	ND
(2&4)Chlorotoluene	2	ND
Dibromochloromethane	2	ND
1,2-Dibromo-3-chloropropane	2	ND
1,2-Dibromoethane	2	ND
Dibromomethane	2	ND



<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
1,2-Dichlorobenzene	2	ND
1,3-Dichlorobenzene	2	ND
1,4-Dichlorobenzene	2	ND
Dichlorodifluoromethane	10	ND
1,1-Dichloroethane	2	ND
1,2-Dichloroethane	2	ND
1,1-Dichloroethene	2	ND
cis-1,2-Dichloroethene	2	14.9
trans-1,2-Dichloroethene	2	ND
1,2-Dichloropropane	2	ND
1,3-Dichloropropane	2	ND
2,2-Dichloropropane	2	ND
1,1-Dichloropropene	2	ND
Ethylbenzene	2	ND
Hexachlorobutadiene	5	ND
Isopropylbenzene	2	ND
p-Isopropyltoluene	2	ND
Methylene chloride	10	ND
Naphthalene	10	ND
n-Propylbenzene	2	ND
Styrene	2	ND
1,1,1,2-Tetrachloroethane	2	ND
1,1,2,2-Tetrachloroethane	2	ND
Tetrachloroethene	2	34.7
Toluene	2	35.5



REF #: 77,350

<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
1,2,3-Trichlorobenzene	2	ND
1,2,4-Trichlorobenzene	2	ND
1,1,1-Trichloroethane	2	ND
1,1,2-Trichloroethane	2	ND
Trichloroethene	2	11.7
Trichlorofluoromethane	2	ND
1,2,3-Trichloropropane	2	ND
1,2,4-Trimethylbenzene	2	ND
1,3,5-Trimethylbenzene	2	ND
Vinyl chloride	10	ND
Total Xylenes	2	ND
MTBE	5	ND

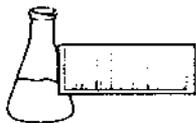
NUMBER OF UNIDENTIFIED PEAKS: 0

ANALYTICAL SURROGATE RECOVERY:

Dibromofluoromethane: 109.%  
Toluene-d8: 99.%  
4-Bromofluorobenzene: 106.%

Notes:

1 None detected



**ENDYNE, INC.**

Laboratory Services

32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103

LABORATORY REPORT

EPA METHOD 8260 WATER MATRIX

CLIENT: Lincoln Applied Geology  
PROJECT NAME: Desabrais  
REPORT DATE: August 22, 1995  
DATE SAMPLED: July 24, 1995  
DATE RECEIVED: July 24, 1995  
ANALYSIS DATE: August 1, 1995

PROJECT CODE: LAGD1556  
REF #: 77,351  
STATION: MW-8  
TIME SAMPLED: 1:10 p.m.  
SAMPLER: James R.

<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
Benzene	2	ND <sup>1</sup>
Bromobenzene	2	ND
Bromochloromethane	2	ND
Bromodichloromethane	2	ND
Bromoform	2	ND
Bromomethane	5	ND
n-Butylbenzene	2	ND
sec-Butylbenzene	2	ND
Carbon tetrachloride	2	ND
Chlorobenzene	2	ND
Chloroethane	5	ND
Chloroform	5	ND
Chloromethane	10	ND
(2&4)Chlorotoluene	2	ND
Dibromochloromethane	2	ND
1,2-Dibromo-3-chloropropane	2	ND
1,2-Dibromoethane	2	ND
Dibromomethane	2	ND



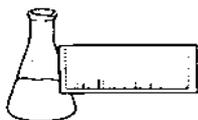
**ENDYNE, INC.**

REF #: 77,351

Laboratory Services

32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103

<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
1,2-Dichlorobenzene	2	ND
1,3-Dichlorobenzene	2	ND
1,4-Dichlorobenzene	2	ND
Dichlorodifluoromethane	10	ND
1,1-Dichloroethane	2	ND
1,2-Dichloroethane	2	ND
1,1-Dichloroethene	2	ND
cis-1,2-Dichloroethene	2	ND
trans-1,2-Dichloroethene	2	ND
1,2-Dichloropropane	2	ND
1,3-Dichloropropane	2	ND
2,2-Dichloropropane	2	ND
1,1-Dichloropropene	2	ND
Ethylbenzene	2	ND
Hexachlorobutadiene	5	ND
Isopropylbenzene	2	ND
p-Isopropyltoluene	2	ND
Methylene chloride	10	ND
Naphthalene	10	ND
n-Propylbenzene	2	ND
Styrene	2	ND
1,1,1,2-Tetrachloroethane	2	ND
1,1,2,2-Tetrachloroethane	2	ND
Tetrachloroethene	2	ND
Toluene	2	11.5



REF #: 77,351

<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
1,2,3-Trichlorobenzene	2	ND
1,2,4-Trichlorobenzene	2	ND
1,1,1-Trichloroethane	2	ND
1,1,2-Trichloroethane	2	ND
Trichloroethene	2	ND
Trichlorofluoromethane	2	ND
1,2,3-Trichloropropane	2	ND
1,2,4-Trimethylbenzene	2	ND
1,3,5-Trimethylbenzene	2	ND
Vinyl chloride	10	ND
Total Xylenes	2	ND
MTBE	5	ND

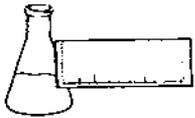
NUMBER OF UNIDENTIFIED PEAKS: 0

ANALYTICAL SURROGATE RECOVERY:

Dibromofluoromethane: 113.%  
Toluene-d8: 101.%  
4-Bromofluorobenzene: 106.%

Notes:

1 None detected



LABORATORY REPORT

EPA METHOD 8260 WATER MATRIX

CLIENT: Lincoln Applied Geology  
PROJECT NAME: Desabrais  
REPORT DATE: August 22, 1995  
DATE SAMPLED: July 24, 1995  
DATE RECEIVED: July 24, 1995  
ANALYSIS DATE: August 1, 1995

PROJECT CODE: LAGD1556  
REF #: 77,357  
STATION: MW-9  
TIME SAMPLED: 2:55 p.m.  
SAMPLER: James R.

<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
Benzene	2	ND <sup>1</sup>
Bromobenzene	2	ND
Bromochloromethane	2	ND
Bromodichloromethane	2	ND
Bromoform	2	ND
Bromomethane	5	ND
n-Butylbenzene	2	ND
sec-Butylbenzene	2	ND
Carbon tetrachloride	2	ND
Chlorobenzene	2	ND
Chloroethane	5	ND
Chloroform	5	ND
Chloromethane	10	ND
(2&4)Chlorotoluene	2	ND
Dibromochloromethane	2	ND
1,2-Dibromo-3-chloropropane	2	ND
1,2-Dibromoethane	2	ND
Dibromomethane	2	ND



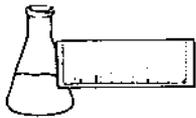
**ENDYNE, INC.**

REF #: 77,357

Laboratory Services

32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103

<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
1,2-Dichlorobenzene	2	ND
1,3-Dichlorobenzene	2	ND
1,4-Dichlorobenzene	2	ND
Dichlorodifluoromethane	10	ND
1,1-Dichloroethane	2	ND
1,2-Dichloroethane	2	ND
1,1-Dichloroethene	2	ND
cis-1,2-Dichloroethene	2	ND
trans-1,2-Dichloroethene	2	ND
1,2-Dichloropropane	2	ND
1,3-Dichloropropane	2	ND
2,2-Dichloropropane	2	ND
1,1-Dichloropropene	2	ND
Ethylbenzene	2	ND
Hexachlorobutadiene	5	ND
Isopropylbenzene	2	ND
p-Isopropyltoluene	2	ND
Methylene chloride	10	ND
Naphthalene	10	ND
n-Propylbenzene	2	ND
Styrene	2	ND
1,1,1,2-Tetrachloroethane	2	ND
1,1,2,2-Tetrachloroethane	2	ND
Tetrachloroethene	2	ND
Toluene	2	2.0



REF #: 77,357

<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
1,2,3-Trichlorobenzene	2	ND
1,2,4-Trichlorobenzene	2	ND
1,1,1-Trichloroethane	2	ND
1,1,2-Trichloroethane	2	ND
Trichloroethene	2	ND
Trichlorofluoromethane	2	ND
1,2,3-Trichloropropane	2	ND
1,2,4-Trimethylbenzene	2	ND
1,3,5-Trimethylbenzene	2	ND
Vinyl chloride	10	ND
Total Xylenes	2	ND
MTBE	5	ND

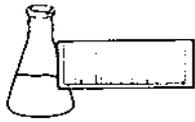
NUMBER OF UNIDENTIFIED PEAKS: 0

ANALYTICAL SURROGATE RECOVERY:

Dibromofluoromethane: 107.%  
Toluene-d8: 109.%  
4-Bromofluorobenzene: 103.%

Notes:

1 None detected



LABORATORY REPORT

EPA METHOD 8260 WATER MATRIX

CLIENT: Lincoln Applied Geology  
PROJECT NAME: Desabrais  
REPORT DATE: August 22, 1995  
DATE SAMPLED: July 24, 1995  
DATE RECEIVED: July 24, 1995  
ANALYSIS DATE: August 3, 1995

PROJECT CODE: LAGD1556  
REF #: 77,360  
STATION: MW-10  
TIME SAMPLED: 3:15 p.m.  
SAMPLER: James R.

<u>Parameter</u>	<u>Detection Limit (ug/L)<sup>1</sup></u>	<u>Concentration (ug/L)</u>
Benzene	40	ND <sup>2</sup>
Bromobenzene	40	ND
Bromochloromethane	40	ND
Bromodichloromethane	40	ND
Bromoform	40	ND
Bromomethane	100	ND
n-Butylbenzene	40	ND
sec-Butylbenzene	40	ND
Carbon tetrachloride	40	ND
Chlorobenzene	40	ND
Chloroethane	100	ND
Chloroform	100	ND
Chloromethane	10	ND
(2&2)Chlorotoluene	40	ND
Dibromochloromethane	40	ND
1,2-Dibromo-3-chloropropane	40	ND
1,2-Dibromoethane	40	ND
Dibromomethane	40	ND



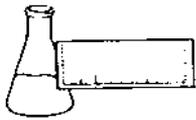
**ENDYNE, INC.**

REF #: 77,360

Laboratory Services

32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103

<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
1,2-Dichlorobenzene	40	ND
1,3-Dichlorobenzene	40	ND
1,4-Dichlorobenzene	40	ND
Dichlorodifluoromethane	200	ND
1,1-Dichloroethane	40	ND
1,2-Dichloroethane	40	ND
1,1-Dichloroethene	40	ND
cis-1,2-Dichloroethene	40	1,760.
trans-1,2-Dichloroethene	40	ND
1,2-Dichloropropane	40	ND
1,3-Dichloropropane	40	ND
2,2-Dichloropropane	40	ND
1,1-Dichloropropene	40	ND
Ethylbenzene	40	ND
Hexachlorobutadiene	100	ND
Isopropylbenzene	40	ND
p-Isopropyltoluene	40	ND
Methylene chloride	200	ND
Naphthalene	200	ND
n-Propylbenzene	40	ND
Styrene	40	ND
1,1,1,2-Tetrachloroethane	40	ND
1,1,2,2-Tetrachloroethane	40	ND
Tetrachloroethene	40	1,120.
Toluene	40	TBQ <sup>3</sup>



REF #: 77,360

<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
1,2,3-Trichlorobenzene	40	ND
1,2,4-Trichlorobenzene	40	ND
1,1,1-Trichloroethane	40	ND
1,1,2-Trichloroethane	40	ND
Trichloroethene	40	1,000.
Trichlorofluoromethane	40	ND
1,2,3-Trichloropropane	40	ND
1,2,4-Trimethylbenzene	40	ND
1,3,5-Trimethylbenzene	40	ND
Vinyl chloride	200	TBQ
Total Xylenes	40	ND
MTBE	100	ND

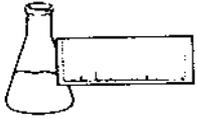
NUMBER OF UNIDENTIFIED PEAKS: 0

ANALYTICAL SURROGATE RECOVERY:

Dibromofluoromethane: 109.%  
Toluene-d8: 98.%  
4-Bromofluorobenzene: 103.%

Notes:

- 1 Detection limit increased due to high levels of contaminants. Sample run at a 5% dilution.
- 2 None detected
- 3 Trace below quantitation limit



**ENDYNE, INC.**

Laboratory Services

32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103

LABORATORY REPORT

EPA METHOD 8260 WATER MATRIX

CLIENT: Lincoln Applied Geology  
PROJECT NAME: Desabrais  
REPORT DATE: August 22, 1995  
DATE SAMPLED: July 24, 1995  
DATE RECEIVED: July 24, 1995  
ANALYSIS DATE: August 1, 1995

PROJECT CODE: LAGD1556  
REF #: 77,354  
STATION: MW-11  
TIME SAMPLED: 2:00 p.m.  
SAMPLER: James R.

<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
Benzene	2	ND <sup>1</sup>
Bromobenzene	2	ND
Bromochloromethane	2	ND
Bromodichloromethane	2	ND
Bromoform	2	ND
Bromomethane	5	ND
n-Butylbenzene	2	ND
sec-Butylbenzene	2	ND
Carbon tetrachloride	2	ND
Chlorobenzene	2	ND
Chloroethane	5	ND
Chloroform	5	ND
Chloromethane	10	ND
(2&4)Chlorotoluene	2	ND
Dibromochloromethane	2	ND
1,2-Dibromo-3-chloropropane	2	ND
1,2-Dibromoethane	2	ND
Dibromomethane	2	ND



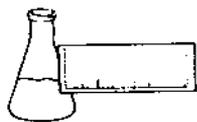
**ENDYNE, INC.**

REF #: 77,354

Laboratory Services

32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103

<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
1,2-Dichlorobenzene	2	ND
1,3-Dichlorobenzene	2	ND
1,4-Dichlorobenzene	2	ND
Dichlorodifluoromethane	10	ND
1,1-Dichloroethane	2	ND
1,2-Dichloroethane	2	ND
1,1-Dichloroethene	2	ND
cis-1,2-Dichloroethene	2	ND
trans-1,2-Dichloroethene	2	ND
1,2-Dichloropropane	2	ND
1,3-Dichloropropane	2	ND
2,2-Dichloropropane	2	ND
1,1-Dichloropropene	2	ND
Ethylbenzene	2	ND
Hexachlorobutadiene	5	ND
Isopropylbenzene	2	ND
p-Isopropyltoluene	2	ND
Methylene chloride	10	ND
Naphthalene	10	ND
n-Propylbenzene	2	ND
Styrene	2	ND
1,1,1,2-Tetrachloroethane	2	ND
1,1,2,2-Tetrachloroethane	2	ND
Tetrachloroethene	2	ND
Toluene	2	TBQ <sup>2</sup>



REF #: 77,354

<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
1,2,3-Trichlorobenzene	2	ND
1,2,4-Trichlorobenzene	2	ND
1,1,1-Trichloroethane	2	ND
1,1,2-Trichloroethane	2	ND
Trichloroethene	2	ND
Trichlorofluoromethane	2	ND
1,2,3-Trichloropropane	2	ND
1,2,4-Trimethylbenzene	2	ND
1,3,5-Trimethylbenzene	2	ND
Vinyl chloride	10	ND
Total Xylenes	2	ND
MTBE	5	ND

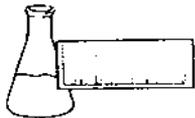
NUMBER OF UNIDENTIFIED PEAKS: 0

ANALYTICAL SURROGATE RECOVERY:

Dibromofluoromethane: 106.%  
Toluene-d8: 103.%  
4-Bromofluorobenzene: 97.%

Notes:

- 1 None detected
- 2 Trace below quantitation limit



**ENDYNE, INC.**

Laboratory Services

32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103

EPA METHOD 8260 LABORATORY REPORT

MATRIX SPIKE AND DUPLICATE LABORATORY CONTROL DATA

CLIENT: Lincoln Applied Geology  
PROJECT NAME: Desabrais  
REPORT DATE: August 22, 1995  
DATE SAMPLED: July 24, 1995  
DATE RECEIVED: July 24, 1995  
ANALYSIS DATE: August 1, 1995

PROJECT CODE: LAGD1556  
REF.#: 77,359  
STATION: MW-1  
TIME SAMPLED: 3:05 p.m.  
SAMPLER: James R.

<u>Parameter</u>	<u>Sample(ug/L)</u>	<u>Spike(ug/L)</u>	<u>Dup 1(ug/L)</u>	<u>Dup 2(ug/L)</u>	<u>Average %Recovery</u>
1,1 Dichloroethene	ND <sup>1</sup>	50	54.7	56.8	111.0%
Benzene	ND	50	53.0	51.0	104.0%
Trichloroethene	41.8	50	93.4	93.4	103.0%
Toluene	49.5	50	99.7	103.	104.0%
Chlorobenzene	ND	50	49.3	55.9	105.0%

NOTES:

1 None detected



32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333

### CHAIN-OF-CUSTODY RECORD

14976

Project Name: <i>DESABRAIS</i> Site Location:	Reporting Address: <i>R D 1 BOX 710 BRISTOL, VT 05443</i>	Billing Address: <i>S A M E</i>
Endyne Project Number: <i>LAGD 1356</i>	Company: <i>L. A. G.</i> Contact Name/Phone #: <i>453-4584</i>	Sampler Name: <i>JAMES R.</i> Phone #: <i>453-4354</i>

Lab #	Sample Location	Matrix	G R A B	C O M P	Date/Time	Sample Containers		Field Results/Remarks	Analysis Required	Sample Preservation	Rush
						No.	Type/Size				
<i>77347</i>	<i>TRIP</i>				<i>7/24/95 7:10 AM</i>	<i>2</i>	<i>40mL</i>		<i>8260</i>	<i>HCL</i>	
<i>77348</i>	<i>MW-5</i>				<i>12:00 PM</i>	<i>2</i>	<i>40mL</i>		<i>8260</i>	<i>HCL</i>	
<i>77349</i>	<i>MW-6</i>				<i>12:20 PM</i>	<i>2</i>	<i>40mL</i>		<i>8260</i>	<i>HCL</i>	
<i>77350</i>	<i>MW-7</i>				<i>12:50 PM</i>	<i>2</i>	<i>40mL</i>		<i>8260</i>	<i>HCL</i>	
<i>77351</i>	<i>MW-8</i>				<i>1:10 PM</i>	<i>2</i>	<i>40mL</i>		<i>8260</i>	<i>HCL</i>	
<i>77352</i>	<i>GT-3</i>				<i>1:37 PM</i>	<i>2</i>	<i>40mL</i>		<i>8260</i>	<i>HCL</i>	
<i>77353</i>	<i>GT-1</i>				<i>1:50 PM</i>	<i>2</i>	<i>40mL</i>		<i>8260</i>	<i>HCL</i>	
<i>77354</i>	<i>MW-11</i>				<i>2:00 PM</i>	<i>2</i>	<i>40mL</i>		<i>8260</i>	<i>HCL</i>	
	<i>MW-3 - NO SAMPLE</i>				<i>2:25 PM</i>	<i>2</i>	<i>40mL</i>		<i>8260</i>	<i>HCL</i>	
<i>77355</i>	<i>GT-5</i>				<i>2:30 PM</i>	<i>2</i>	<i>40mL</i>		<i>8260</i>	<i>HCL</i>	
<i>77356</i>	<i>GT-4</i>				<i>2:50 PM</i>	<i>2</i>	<i>40mL</i>		<i>8260</i>	<i>HCL</i>	
<i>77357</i>	<i>MW-9</i>				<i>2:55 PM</i>	<i>2</i>	<i>40mL</i>		<i>8260</i>	<i>HCL</i>	

Relinquished by: Signature <i>James W. Rollins</i>	Received by: Signature <i>John Green</i>	Date/Time <i>7/24/95 4:50 PM</i>
Relinquished by: Signature	Received by: Signature	Date/Time

New York State Project: Yes  No  Requested Analyses

1	pH	6	TKN	11	Total Solids	16	Metals (Specify)	21	EPA 624	26	EPA 8270 B/N or Acid
2	Chloride	7	Total P	12	TSS	17	Coliform (Specify)	22	EPA 625 B/N or A	27	EPA 8010/8020
3	Ammonia N	8	Total Diss. P	13	TDS	18	COD	23	EPA 418.1	28	EPA 8080 Pest/PCB
4	Nitrite N	9	BOD <sub>5</sub>	14	Turbidity	19	BTEX	24	EPA 608 Pest/PCB		
5	Nitrate N	10	Alkalinity	15	Conductivity	20	EPA 601/602	25	EPA 8240		
29	TCLP (Specify: volatiles, semi-volatiles, metals, pesticides, herbicides)										
30	Other (Specify):										



**ENDYNE, INC.**

32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333

**CHAIN-OF-CUSTODY RECORD**

14287

Project Name: <i>Desabrais</i> Site Location:	Reporting Address: <i>Rd 1 Box 710 Bristol, VT 05445</i>	Billing Address: <i>Same</i>
Endyne Project Number: <i>LAGD1556</i>	Company: <i>L.A.G.</i> Contact Name/Phone #: <i>453-4544</i>	Sampler Name: <i>JAMES R</i> Phone #: <i>453-4384</i>

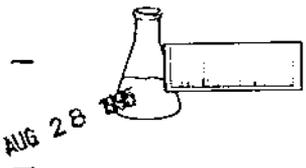
Lab #	Sample Location	Matrix	GRA B	COMP	Date/Time	Sample Containers		Field Results/Remarks	Analysis Required	Sample Preservation	Rush
						No.	Type/Size				
77358	MW-4				<i>2/6/95</i> <i>3:00 PM</i>	2	40ml		8260	HCL	
77359	MW-1				<i>3:05 PM</i>	2	40ml		8260	HCL	
77360	MW-10				<i>3:15 PM</i>	2	40ml		8260	HCL	
77361	MW-2				<i>3:20 PM</i>	2	40ml		8260	HCL	
77362	GT-6				<i>3:30 PM</i>	2	40ml		8260	HCL	
	<del>GT-2</del>	<i>NO SAMPLE</i>			<del><i>3:40 PM</i></del>		<del>40ml</del>		<del>8260</del>	<del>HCL</del>	

Relinquished by: Signature <i>James R. Debrais</i>	Received by: Signature <i>John Bean</i>	Date/Time <i>7/24/95 4:50 PM</i>
Relinquished by: Signature	Received by: Signature	Date/Time

New York State Project: Yes  No

**Requested Analyses**

1	pH	6	TKN	11	Total Solids	16	Metals (Specify)	21	EPA 624	26	EPA 8270 B/N or Acid
2	Chloride	7	Total P	12	TSS	17	Coliform (Specify)	22	EPA 625 B/N or A	27	EPA 8010/8020
3	Ammonia N	8	Total Diss. P	13	TDS	18	COD	23	EPA 418.1	28	EPA 8080 Pest/PCB
4	Nitrite N	9	BOD <sub>5</sub>	14	Turbidity	19	BTEX	24	EPA 608 Pest/PCB		
5	Nitrate N	10	Alkalinity	15	Conductivity	20	EPA 601/602	25	EPA 8240		
29	TCLP (Specify: volatiles, semi-volatiles, metals, pesticides, herbicides)										
30	Other (Specify):										



**ENDYNE, INC.**

Laboratory Services

32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103

REPORT OF LABORATORY ANALYSIS

CLIENT: Lincoln Applied Geology  
PROJECT NAME: Desabrais Dry Cleaning  
DATE REPORTED: August 22, 1995  
DATE SAMPLED: July 31, 1995

PROJECT CODE: LADD1684  
REF. #: 77,850

Enclosed please find the results of the analyses performed for the samples referenced on the attached chain of custody record.

Chain of custody indicated correct sample preservation with HCl.

All samples were prepared and analyzed by requirements outlined in the referenced methods and within the specified holding times.

All instrumentation was calibrated with the appropriate frequency and verified by the requirements outlined in the referenced methods.

Blank contamination was not observed at levels affecting the analytical results.

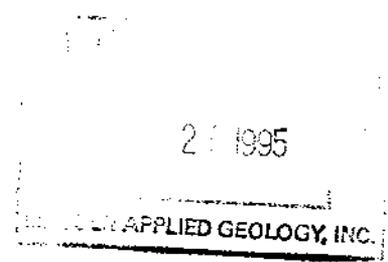
Analytical method precision and accuracy were monitored by laboratory control standards which included matrix spike, duplicate and quality control analyses. These standards were determined to be within established laboratory method acceptance limits.

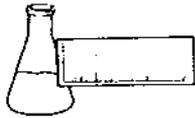
Individual sample performance was monitored by the addition of surrogate analytes to each sample. All surrogate data was determined to be within Laboratory QA/QC guidelines unless otherwise noted.

Reviewed by,

Harry B. Locker, Ph.D.  
Laboratory Director

enclosures





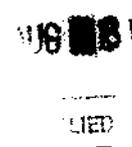
LABORATORY REPORT

EPA METHOD 8260 WATER MATRIX

CLIENT: Lincoln Applied Geology  
PROJECT NAME: Desabrais Dry Cleaning  
REPORT DATE: August 22, 1995  
DATE SAMPLED: July 31, 1995  
DATE RECEIVED: August 2, 1995  
ANALYSIS DATE: August 9, 1995

PROJECT CODE: LADD1684  
REF #: 77,850  
STATION: MW-3  
TIME SAMPLED: 9:30  
SAMPLER: Brian C.

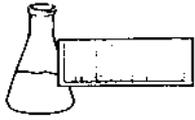
<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
Benzene	2	ND <sup>1</sup>
Bromobenzene	2	ND
Bromochloromethane	2	ND
Bromodichloromethane	2	ND
Bromoform	2	ND
Bromomethane	5	ND
n-Butylbenzene	2	ND
sec-Butylbenzene	2	ND
Carbon tetrachloride	2	ND
Chlorobenzene	2	ND
Chloroethane	5	ND
Chloroform	5	ND
Chloromethane	10	ND
(2&4)Chlorotoluene	2	ND
Dibromochloromethane	2	ND
1,2-Dibromo-3-chloropropane	2	ND
1,2-Dibromoethane	2	ND
Dibromomethane	2	ND





<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
1,2-Dichlorobenzene	2	ND
1,3-Dichlorobenzene	2	ND
1,4-Dichlorobenzene	2	ND
Dichlorodifluoromethane	10	ND
1,1-Dichloroethane	2	ND
1,2-Dichloroethane	2	ND
1,1-Dichloroethene	2	ND
cis-1,2-Dichloroethene	2	55.4
trans-1,2-Dichloroethene	2	ND
1,2-Dichloropropane	2	ND
1,3-Dichloropropane	2	ND
2,2-Dichloropropane	2	ND
1,1-Dichloropropene	2	ND
Ethylbenzene	2	ND
Hexachlorobutadiene	5	ND
Isopropylbenzene	2	ND
p-Isopropyltoluene	2	ND
Methylene chloride	10	ND
Naphthalene	10	ND
n-Propylbenzene	2	ND
Styrene	2	ND
1,1,1,2-Tetrachloroethane	2	ND
1,1,2,2-Tetrachloroethane	2	ND
Tetrachloroethene	2	61.8
Toluene	2	ND

ALG26E



REF #: 77,850

<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
1,2,3-Trichlorobenzene	2	ND
1,2,4-Trichlorobenzene	2	ND
1,1,1-Trichloroethane	2	ND
1,1,2-Trichloroethane	2	ND
Trichloroethene	2	46.3
Trichlorofluoromethane	2	ND
1,2,3-Trichloropropane	2	ND
1,2,4-Trimethylbenzene	2	ND
1,3,5-Trimethylbenzene	2	ND
Vinyl chloride	10	ND
Total Xylenes	2	ND
MTBE	5	ND

NUMBER OF UNIDENTIFIED PEAKS: 0

ANALYTICAL SURROGATE RECOVERY:

Dibromofluoromethane: 102.%  
Toluene-d8: 105.%  
4-Bromofluorobenzene: 106.%

Notes:

1 None detected



# Green Mountain Laboratories, Inc.

RR#3 Box 5210  
Montpelier, Vermont 05602

Phone (802) 223-1468

Fax (802) 223-8688

## LABORATORY RESULTS

CLIENT NAME:	Lincoln Applied Geology	REF #:	0152
ADDRESS:	RD1 Box 710 Bristol, Vermont 05443	PROJECT NO.:	not given
SAMPLE LOCATION:	Desabrais	DATE OF SAMPLE:	9/5/95
SAMPLER:	Jim Holman	DATE OF RECEIPT:	9/5/95
		DATE OF ANALYSIS:	9/6/95
ATTENTION:	Bill Norland	DATE OF REPORT:	9/6/95

Pertaining to the analyses of specimens submitted under the accompanying chain of custody form, please note the following:

- Water samples submitted for VOC analysis were preserved with HCl. The trip blank was prepared by the client from reagent water supplied by the laboratory.
- Specimens were processed and examined according to the procedures outlined in the specified method.
- Holding times were honored.
- Instruments were appropriately tuned and calibrations were checked with the frequencies required in the specified method.
- Blank contamination was not observed at levels interfering with the analytical results.
- Continuing calibration standards were monitored at intervals indicated in the specified method. The resulting analytical precision and accuracy were determined to be within method QA/QC acceptance limits.
- The efficiency of analyte recovery for individual samples was monitored by the addition of surrogate analytes to all samples, standards, and blanks. Surrogate recoveries were found to be within laboratory QA/QC acceptance limits, unless noted otherwise.

Reviewed by:

*Arthur L. Ardell*

Director, Chemical Services

# Green Mountain Laboratories, Inc

RR#3, Box 5210

Montpelier, Vermont 05602

Phone: (802) 223-1428

Fax: (802) 223-8688

## LABORATORY RESULTS

CLIENT NAME:	Lincoln Applied Geology	PROJECT CODE:	NA
PROJECT NAME:	Desabrais	REF.#:	0152
REPORT DATE:	September 6, 1995	STATION:	GT-2
DATE SAMPLED:	September 5, 1995	TIME SAMPLED:	9:10
DATE RECEIVED:	September 5, 1995	SAMPLER:	Jim Holman
ANALYSIS DATE:	September 6, 1995	SAMPLE TYPE:	Water

### EPA METHOD 8260

PARAMETERS	PQL	µg/l	PARAMETERS	PQL	µg/l
Benzene	500	ND	Ethylbenzene	500	ND
Bromobenzene	500	ND	Hexachlorobutadiene	500	ND
Bromochloromethane	1000	ND	Isopropylbenzene	500	ND
Bromodichloromethane	500	ND	p-Isopropyltoluene	500	ND
Bromoform	500	ND	Methylene Chloride	5000	ND
Bromomethane	5000	ND	Methyl-t-butyl ether	2500	ND
n-Butylbenzene	500	ND	Naphthalene	500	ND
sec-Butylbenzene	500	ND	n-Propylbenzene	500	ND
tert-Butylbenzene	500	ND	Styrene	500	ND
Carbon tetrachloride	500	ND	1,1,1,2-Tetrachloroethane	500	ND
Chlorobenzene	500	ND	1,1,2,2-Tetrachloroethane	500	ND
Chloroethane	5000	ND	Tetrachloroethylene	500	51000
Chloroform	500	ND	Toluene	500	ND
Chloromethane	5000	ND	1,2,3-Trichlorobenzene	500	ND
2-Chlorotoluene	500	ND	1,2,4-Trichlorobenzene	500	ND
4-Chlorotoluene	500	ND	1,1,1-Trichloroethane	500	ND
1,2-Dibromo-3-chloropropane	500	ND	1,1,2-Trichloroethane	500	ND
Dibromochloromethane	500	ND	Trichloroethylene	500	13000
1,2-Dibromoethane	500	ND	Trichlorofluoromethane	5000	ND
Dibromomethane	500	ND	1,2,3-Trichloropropane	500	ND
1,2-Dichlorobenzene	500	ND	1,2,4-Trimethylbenzene	500	ND
1,3-Dichlorobenzene	500	ND	1,3,5-Trimethylbenzene	500	ND
1,4-Dichlorobenzene	500	ND	Vinyl Chloride	5000	5800
Dichlorodifluoromethane	5000	ND	o-Xylene	500	ND
1,1-Dichloroethane	500	ND	m+p-Xylene	1000	ND
1,2-Dichloroethane	500	ND			
1,1-Dichloroethylene	500	ND	Surrogates:		
cis-1,2-Dichloroethylene	500	16000	Dibromofluoromethane	131%	
trans-1,2-Dichloroethylene	500	ND	Toluene-D8	108 %	
1,2-Dichloropropane	500	ND	4-Bromofluorobenzene	122 %	
1,3-Dichloropropane	500	ND			
2,2-Dichloropropane	500	ND			
1,1-Dichloropropene	500	ND			

ND - Not Detected

Concentration units = µg/l



Appendix G

Flowchart from ASTM ES 38-94;  
Risk Based Corrective Action  
Applied at Petroleum Release Sites

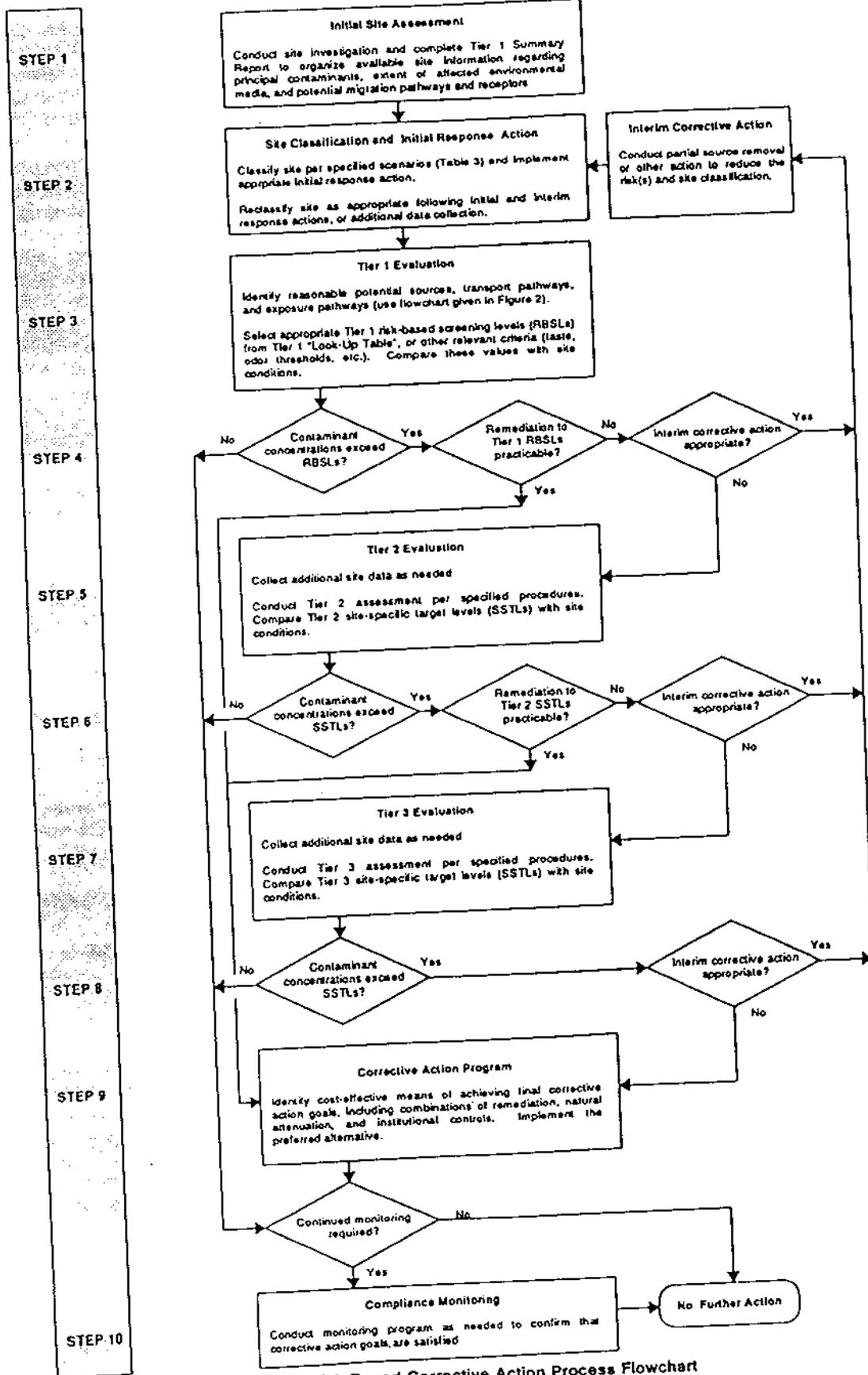


FIG. 1 Risk-Based Corrective Action Process Flowchart

Appendix H  
Site Classification Scenarios

**TABLE 3 Site Classification Scenarios and Potential Initial Response Actions<sup>a</sup>**

NOTE—For the purpose of this site classification process, an aquifer is considered to be a potential potable water supply if it has the potential to yield > 200 gal/day (756 L/day), and meets local water quality criteria (that is total dissolved solids (TDS) < 10 000 mg/L).

Classification	Criteria and Prescribed Scenarios	Possible Initial Response Actions <sup>b</sup>
1	<b>Immediate Threat to Human Health, Safety, or Sensitive Environmental Receptors:</b>	<b>Notify Appropriate Authorities, Property Owners, and Potentially Affected Parties, and Evaluate the Need to:</b>
1.1	Explosive levels, or concentrations of vapors that could cause acute health effects, are present in a residence or other building.	Evacuate occupants, begin abatement measures such as subsurface ventilation, or building pressurization.
1.2	Explosive levels of vapors are present in subsurface utility system(s), but no building or residences are impacted.	Evacuate immediate vicinity, begin abatement measures such as ventilation
1.3	Free-product is present in significant quantities at ground surface, on surface water bodies, in utilities other than water supply lines, or in surface water runoff.	Prevent further free-product migration by appropriate containment measures, institute free-product recovery, restrict area access.
1.4	An active public water supply well, public water supply line, or public surface water intake is impacted or immediately threatened.	Notify user(s), provide alternate water supply, hydraulically control contaminated water, and treat water at point-of-use.
1.5	Ambient vapor/particulate concentrations exceed concentrations of concern from an acute exposure, or safety viewpoint.	Install vapor barrier (capping, foams, etc.), remove source, or restrict access to affected area.
1.6	A sensitive habitat or sensitive resources (sport fish, economically important species, threatened and endangered species, etc.) are impacted and affected.	Minimize extent of impact by containment measures and implement habitat management to minimize exposure.
2	<b>Short-Term (0 to 2 years) Threat to Human Health, Safety, or Sensitive Environmental Receptors:</b>	<b>Notify Appropriate Authorities, Property Owners, and Potentially Affected Parties, and Evaluate the Need to:</b>
2.1	There is potential for explosive levels, or concentrations of vapors that could cause acute effects, to accumulate in a residence or other building.	Assess the potential for vapor migration (through monitoring/modeling) and remove source (if necessary), or install vapor migration barrier.
2.2	Shallow contaminated surface soils are open to public access, and dwellings, parks, playgrounds, day-care centers, schools, or similar use facilities are within 500 ft (152.4 m) of those soils.	Remove soils, cover soils, or restrict access.
2.3	A non-potable water supply well is impacted or immediately threatened.	Notify owner/user, evaluate the need to install point-of-use water treatment, hydraulic control, or alternate water supply.
2.4	Ground water is impacted and a public or domestic water supply well producing from the impacted aquifer is located within two years projected ground water travel distance downgradient of the known extent of contamination.	Institute monitoring, then evaluate if natural attenuation is sufficient, or if hydraulic control is required.
2.5	Ground water is impacted and a public or domestic water supply well producing from a different interval is located within the known extent of contamination.	Monitor ground water well quality and evaluate if control is necessary to prevent vertical migration to the supply well.
2.6	Impacted surface water, storm water, or ground water discharges within 500 ft (152.4 m) of a sensitive habitat, or surface water body used for human drinking water or contact recreation.	Institute containment measures, restrict access to areas near discharge, and evaluate the magnitude and impact of the discharge.
3	<b>Long-Term (&gt;2 Years) Threat to Human Health, Safety, or Sensitive Environmental Receptors:</b>	<b>Notify Appropriate Authorities, Property Owners, and Potentially Affected Parties, and Evaluate the Need to:</b>
3.1	Subsurface soils (>3 ft (0.9 m) BGS) are impacted and depth between impacted soils and the first potable aquifer is less than 50 ft (15.2 m).	Monitor ground water and determine the potential for future contaminant migration to the aquifer.
3.2	Ground water is impacted and potable water supply wells producing from the impacted interval are located >2 years ground water travel time from the dissolved plume.	Monitor the dissolved plume and evaluate the potential for natural attenuation and the need for hydraulic control.
3.3	Ground water is impacted and non-potable water supply wells producing from the impacted interval are located >2 years ground water travel time from the dissolved plume.	Identify water usage of well, assess the effect of potential impact, monitor the dissolved plume, and evaluate whether natural attenuation or hydraulic control are appropriate control measures.
3.4	Ground water is impacted and non-potable water supply wells that do not produce from the impacted interval are located within the known extent of contamination.	Monitor the dissolved plume, determine the potential for vertical migration, notify the user, and determine if any impact is likely.
3.5	Impacted surface water, storm water, or ground water discharges within 1500 ft (457.2 m) of a sensitive habitat, or surface water body used for human drinking water or contact recreation.	Investigate current impact on sensitive habitat or surface water body, restrict access to area of discharge (if necessary), and evaluate the need for containment/control measures.
3.6	Shallow contaminated surface soils are open to public access, and dwellings, parks, playgrounds, day-care centers, schools, or similar use facilities are more than 500 ft (152.4 m) of those soils.	Restrict access to impact soils.
4	<b>No Demonstrable Long-Term Threat to Human Health, Safety, or Sensitive Environmental Receptors:</b> Priority 4 scenarios encompass all other conditions not described in Priorities 1, 2, and 3, and that are consistent with the priority description previously given. Some examples are:	<b>Notify Appropriate Authorities, Property Owners, and Potentially Affected Parties, and Evaluate the Need to:</b>
4.1	Non-potable aquifer with no existing local use impacted.	Monitor ground water and evaluate effect of natural attenuation on dissolved plume migration.
4.2	Impacted soils located more than 3 ft (0.9 m) BGS and greater than 50 ft (15.2 m) above nearest aquifer.	Monitor ground water and evaluate effect of natural attenuation on leachate migration.
4.3	Ground water is impacted and non-potable wells are located down-gradient outside the known extent of contamination, and they produce from a nonimpacted zone.	Monitor ground water and evaluate effect of natural attenuation on dissolved plume migration.

<sup>a</sup> Johnson, D. C., DeVaulk, G. E., Ettinger, R. A., MacDonald, R. L. M., Stanley, C. C., Westby, T. S., and Conner, J., "Risk-Based Corrective Action: Tier 1 Guidance Manual," Shell Oil Co., July 1993.

<sup>b</sup> Note that these are potential initial response actions that may not be appropriate for all sites. The user is encouraged to select options that best address the short-term health and safety concerns of the site, while the RBCA process progresses.

Appendix I

Exposure Scenario Evaluation Flowchart

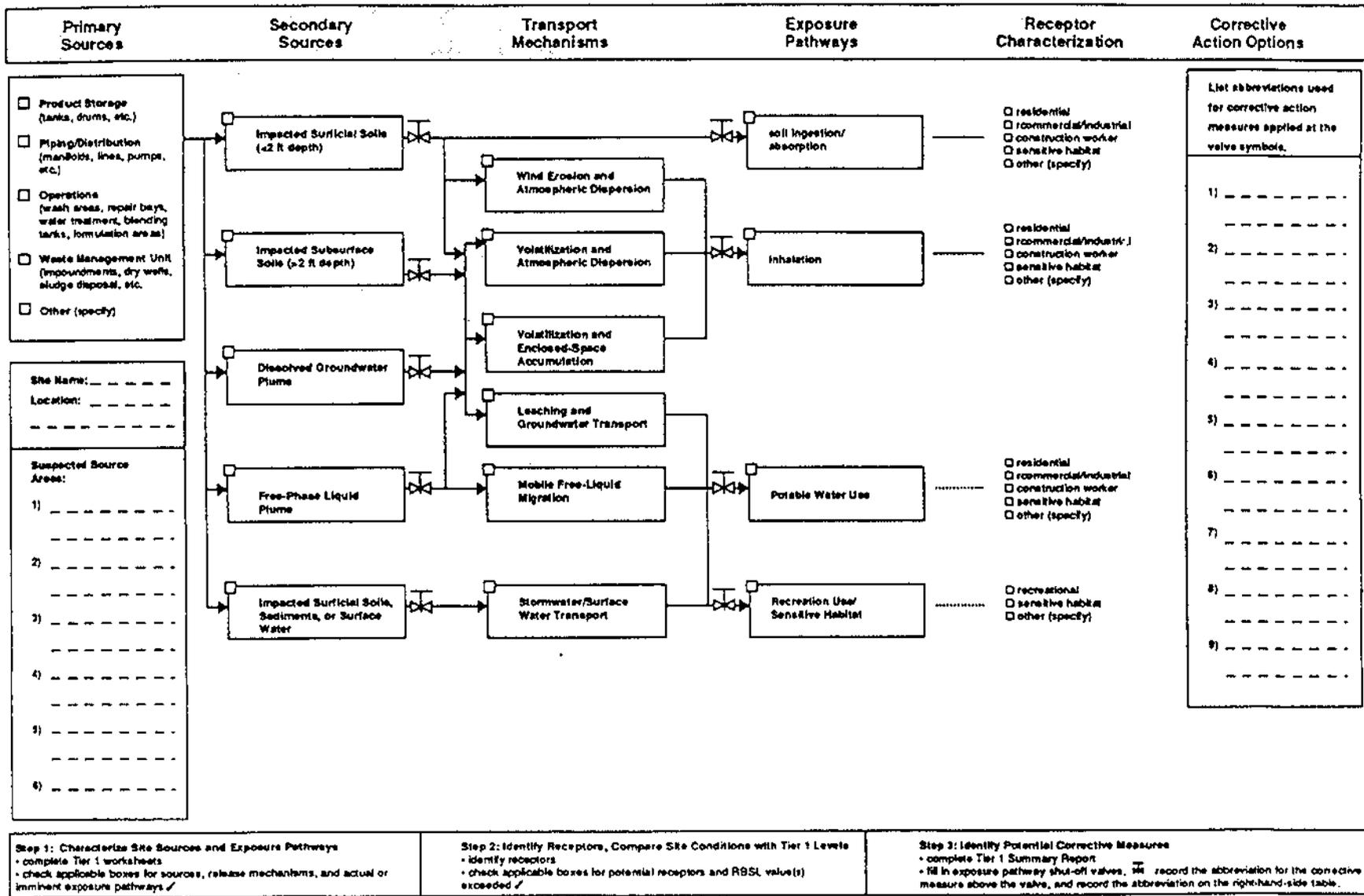


FIG. 2 Exposure Scenario Evaluation Flowchart