Environmental
PRODUCTS & SERVICES, INC.

242 Stafford Street, Worcester, MA 01603 (508) 754-6100, FAX (508) 754-4277, (800) 977-4557

June 9, 1999

Chuck Schwer, Supervisor
Sites Management Section
103 South Main Street
Waterbury, VT 05671-0404

RE: Bourdreau Brothers, Inc.
25 Severance Road
Sheldon, VT 05483
SMS Site Number 98-2336

Dear Mr. Schwer:

Enclosed is a copy of the site investigation report completed for the above-referenced UST site. Please review the findings and respond with any comments or questions you might have.

Should you have any questions, feel free to contact the undersigned at (508) 754-6100.

Sincerely,

Stephen R. Lemoine
Geosciences Manager

cc: Remi Bourdreau
EPS, Burlington

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Environmental
PRODUCTS & SERVICES, INC.

242 Stafford Street, Worcester, MA 01603 (508) 754-6100, FAX (508) 754-4277, (800) 977-4557

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WASTE MANAGEMENT

LIMITED SUBSURFACE SITE INVESTIGATION

BOURDREAU BROTHERS, INC.
25 SEVERANCE ROAD
SHELDON, VERMONT 05483

SMS SITE NUMBER 98-2336
EPS PROJECT NO. V2133

PREPARED FOR:

Bourdreau Brothers, Inc.
25 Severance Road
Sheldon, Vermont

PREPARED BY:

ENVIRONMENTAL PRODUCTS AND SERVICES, INC.
2 FLYNN STREET
BURLINGTON, VT 05401

PHONE: (802) 862-1212

DATE ISSUED: JUNE 3, 1999

9709.srl.902.doc

The following Limited Subsurface Site Investigation was conducted by the undersigned of Environmental Products & Services, Inc. and is subject to the Limitations and Service Constraints included as Appendix A of this report:

Stephen R. Lemoine, REM, LEP
Geologist
Burlington Office

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1.0 INTRODUCTION

This report presents the methods and findings of a Limited Subsurface Site Investigation conducted by Environmental Products and Services, Inc. (EPS) of the property located at 25 Severance Road, Sheldon, Vermont (the site).

The investigation presented in this report was conducted by EPS for Bourdreau Brothers, Inc. solely for the purpose of an environmental evaluation of impacts at the site associated with former underground storage tanks (USTs). The results of this investigation are limited by the Limitations and Service Constraints included as Appendix A.

In accordance with a request by the Vermont Department of Environmental Conservation (DEC), the purpose of the subject Investigation was to further define the degree and extent of petroleum contamination in soil and groundwater, associated with potential releases from two USTs which were removed from the site on August 27, 1998. The Investigation was performed in accordance with the methods and standards described in the Site Investigation Guidance (SIG) document issued by DEC's Waste Management Division, dated August 1996.

1.1 Scope of Work

The Scope of this investigation included the following:

1. Advancing ten test borings on the site to evaluate the potential for subsurface soil contamination.

2. Collecting continuous soil samples from each of the test borings and field screening the samples for total volatile organic compounds using a portable photoionization detector.

3. Installing three 1.5-inch PVC monitoring wells in selected test borings, purging each well of a minimum of three well volumes, and collecting groundwater samples.

4. Analyzing selected soil samples for total petroleum hydrocarbons by EPA Method 8100M and volatile organic compounds (VOCs) by EPA Method 8020. Groundwater samples were collected and analyzed for total petroleum hydrocarbons (TPHs) by EPA Method 8100M and volatile organic compounds (VOCs) by EPA Method 602.

5. Preparing a report presenting the methods and findings of this investigation.

1.2 Study Area Description

The site consists of approximately 3 acres of land that is occupied by a seed and fertilizer retailer known as "Bourdreau Brothers". Improvements consist of a two-story warehouse/office building which is used to store and distribute bulk quantities of agricultural seed and fertilizer. Abutting and adjacent properties are primarily residential and agricultural. A small convenience store is located on the south side of Route 105 immediately to the west of the site. According to a local drilling contractor, all properties in the vicinity have private supply wells which, for the most part, are producing water from bedrock aquifers. A site locus map is included as Figure 1 and a site plan is included as Figure 2.

1.3 Background Information

According to a tank closure assessment report issued by EPS on October 9, 1998, two USTs were excavated and removed from the site on August 27, 1998 by John Martell Excavating, Inc. The USTs included one 7000-gallon diesel tank (Tank #1) and one 1000-gallon gasoline tank (Tank #2). Both USTs were located adjacent to the on-site warehouse (Figure 2). No free product or sheen was observed on the water table which was present at approximately 6 feet below the ground surface. A peak PID reading of 140 ppm was observed in soil samples collected from the east sidewall of the Tank #2 excavation. Approximately 3 to 4 yards of contaminated soil was excavated from the Tank #1 excavaion and 20 yards of contaminated soil was excavated from the Tank #2 excavation. Soils were temporarily stockpiled on the Bourdreau family's farm property on the south side of Route 105 (see Appendix B). On January 7, 1999, the DEC issued a letter to the Bourdreau Brothers requesting that additional assessment of the former UST area be conducted, a receptor survey be completed, and, that a plan to treat and/or monitor the stockpiled soils be prepared (Appendix C).

2.0 DESCRIPTION OF SUBSURFACE INVESTIGATION

EPS performed a subsurface investigation consisting of the tasks described in the Scope of Work presented in Section 1.1. The investigation program included the advancement of ten (10) soil borings and the collection and analysis of five (5) selected soil samples. Monitoring wells were installed in three borings and groundwater samples were collected one hour after the wells were developed. An overview of the field investigation program is provided below.

2.1 Drilling Procedures

Ten soil borings were advanced on-site by Adams Engineering Inc. on May 7, 1999 using a truck-mounted vibratory drilling rig. Borings were logged and supervised by Mr. Stephen R. Lemoine, geologist for EPS. Logs for the test borings are provided in Appendix C. The approximate locations of the borings are depicted on Figure 2.

2.2 Subsurface Soil Sampling

Soil samples were obtained continuously in each boring utilizing a 5-foot long by 1.5-inch diameter shelby tube sampler lined with vinyl core sleeves.
In general, subsurface soils consisted of poorly graded sand and silt fill overlying a uniform gray clay or silt. A complete description of the subsurface soils encountered is provided in the boring logs included as Appendix C.

The five soil samples with the highest PID readings (typically from the capillary fringe immediately at the top of the water table) were submitted for laboratory analysis. Soil samples were placed on ice and delivered under chain of custody protocol to Environmental Laboratory Services in Syracuse, NY, on May 10, 1999.

2.3 Monitoring Well Installation

Groundwater monitoring wells were installed in three selected boreholes. The wells were constructed of 1.5-inch diameter, 0.010-inch slot schedule 40 PVC screen attached to a solid-walled PVC riser. No tape, glue, or other solvent-containing materials was used to join pipe sections. Clean silica sand was placed around the annulus of the well screens to minimize the amount of fine sediment entering the wells. A seal of bentonite pellets was placed above the sand filter pack to prevent infiltration of surface water into the wells and a cast iron road box was fitted flush-to-grade at the surface.

Immediately after installation, the monitoring wells were developed with a peristaltic pump to remove the fine grained material in the vicinity of the well screen and to ensure that a good hydrologic connection existed between the well and the aquifer. The monitoring wells were observed to have relatively slow to moderate recharge rate and were purged dry during the development process.

2.4 Groundwater Elevation Survey

A groundwater elevation survey was not conducted under the project scope of work. However, the groundwater flow direction is inferred to be westerly towards a drainage ditch which runs through the center of the site. This inferred flow direction assumes homogeneous isotropic aquifer conditions and can be subject to seasonal variations and/or weather conditions.

2.5 Groundwater Sampling

Groundwater sampling was performed by EPS, one hour after well development, using dedicated disposable bailers. All monitoring wells were purged of at least three well volumes of groundwater prior to sampling. All non-disposable and non-dedicated sampling equipment was decontaminated before and between each use. The decontamination process consisted of an Alconox wash, a tap water rinse, a methanol spray and a final deionized water rinse.

The depth to the static water table as measured on May 7, 1999 was observed to range from approximately 2.6 to 5.0 feet below ground surface. No odors or sheens were observed during sampling. Groundwater samples were placed on ice and delivered under chain of custody protocol to Environmental Laboratory Services in Syracuse, New York on May 10, 1999.

Groundwater sampling logs are included as Appendix D of this report.

3.0 RESULTS OF ANALYTICAL DATA

The following sections present the results of the field screening program and laboratory analyses. Laboratory analytical reports for samples collected during the field investigation are presented in Appendix E.

3.1 Results of Field Screening of Subsurface Soils for Total Volatile Organic Compounds (TVOCs)

EPS collected continuous soil samples from each boring location. Soil samples were screened in the field for total VOCs utilizing a calibrated Thermoenvironmental 580EZ photoionization detector. Soil samples from each boring were placed in a clean glass jar and field screened for total VOCs approximately twenty minutes after collection. Readings were observed to range from 1.4 ppm (B-3, 5'-6.5') to 162 ppm (B-8, 0-5'). Field screening results are recorded on the test boring logs included in Appendix C.

3.2 Soil Analyses

The five soil samples with the highest field screening readings were submitted for laboratory analysis of total petroleum hydrocarbons (TPH) via EPA Method 8100M and volatile organic compounds via EPA Method 8020. The laboratory results are summarized below on Table 1. Vermont currently evaluates soil contamination on a case-by-case basis and has no established soil cleanup standards. Soil clean up standards for the State of New Hampshire are included for relative guidance purposes on Table 1:

TABLE 1:
SOIL ANALYTICAL RESULTS
Sample Date: 5/7/99

Constituent	BoringNumber/Depth Concentration (mg/kg)					Guideline Cleanup Standard* (mg/kg)
	B-4 0-5'	B-5 0-5'	B-7 0-5'	B-8 0-5'	B-10 0-5'	
benzene	ND	ND	**0.945**	**0.600**	ND	0.2
ethylbenzene	ND	ND	3.58	1.16	ND	75
toluene	ND	ND	2.45	0.857	ND	75
xylenes	ND	ND	61.1	13.4	0.149	750
TPH	63.2	5180	605	615	19.9	10,000

* = New Hampshire DES, Virgin Petroleum Cleanup Guidelines, 1994
ND = Not Detected

The above results indicate elevated concentrations of benzene in fill within borings B-7 and B-8. These borings are situated in the vicinity of the former gasoline UST (Tank #2).

3.3 Groundwater Analyses

Groundwater samples from the three monitoring wells were submitted for analysis of total petroleum hydrocarbons (TPH) via EPA Method 8100M and volatile organic compounds via EPA Method 602. Results are summarized on Table 2:

TABLE 2:
GROUNDWATER ANALYTICAL RESULTS
Sample Date: 5/7/99

Constituent	Well Number/ Concentration (ug/L)			Enforcement Standard*
	MW-1	MW-2	MW-3	
benzene	ND	ND	**69.1**	5.0
ethylbenzene	ND	1.8	154	700
toluene	7.1	4.1	7.5	1000
xylenes	ND	31.0	301	10,000
MTBE	ND	ND	**48.7**	40
TPH	ND	9070	775	NA

ug/L = micrograms/liter (parts-per-billion)
* = Vt. Groundwater Protection Rule, November 1997
ND = Not Detected NA = Not Applicable

The above results indicate elevated concentrations of benzene and methyl-tert-butyl-ether (MTBE) in MW-3. MW-3 is situated immediately downgradient of former gasoline Tank #2. In addition, anomalous levels of TPH are present in MW-2, located immediately downgradient of the former diesel UST (Tank #1).

4.0 SUMMARY OF FINDINGS

The following is a summary of EPS's major findings from the subsurface investigation:

1. In general, subsurface soils on the site consist of granular fill (sand and silt) overlying gray clay. The depth to the static water table was observed to range from approximately 2.6 to 5.0 feet below ground surface. The groundwater flow direction is inferred to be to be westerly.

2. The results of soil sample analysis has indicated elevated concentrations of benzene in fill within borings B-7 and B-8. These borings are situated in the vicinity of the former gasoline UST (Tank #2).

3. Groundwater analytical results indicate concentrations of benzene and methyl-tert-butyl-ether (MTBE) in MW-3 in excess of Vermont Groundwater Enforcement Standards. MW-3 is situated immediately downgradient of former gasoline UST, (Tank #2). In addition, anomalous levels of TPH (9070 ppm) are present in MW-2, located immediately downgradient of the former diesel UST, (Tank #1).

5.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the above observations and findings, EPS concludes that soil and groundwater on the subject site has been adversely impacted by a release from the former gasoline UST and possibly been impacted by a release from the former diesel UST. Based on available information, it appears that an additional 20 to 40 yards of contaminated soil may have to be removed from the area east of and within the former Tank #2 excavation. EPS's recommendations for additional responses and site investigations are as follows:

1. In accordance with DEC's previous requests (Appendix B), a receptor survey should be conducted as soon as possible. As appropriate, the receptor survey should determine if the air space beneath the on-site or adjacent buildings has been adversely impacted. Sampling and analysis of the on-site supply well should also be conducted. In addition, a plan to treat and/or monitor the previously stockpiled soils must be developed and implemented.

Yes!

2. Groundwater sampling has revealed anomalous levels of TPH (9,070 ppm) in monitoring well MW-2, however no major concentrations of BTEX constituents were observed. To evaluate if there is a semi-volatile component to the TPH, EPS recommends that MW-2 be resampled and the groundwater sample laboratory analyzed for semi-volatile contaminants via EPA Method 8270. no

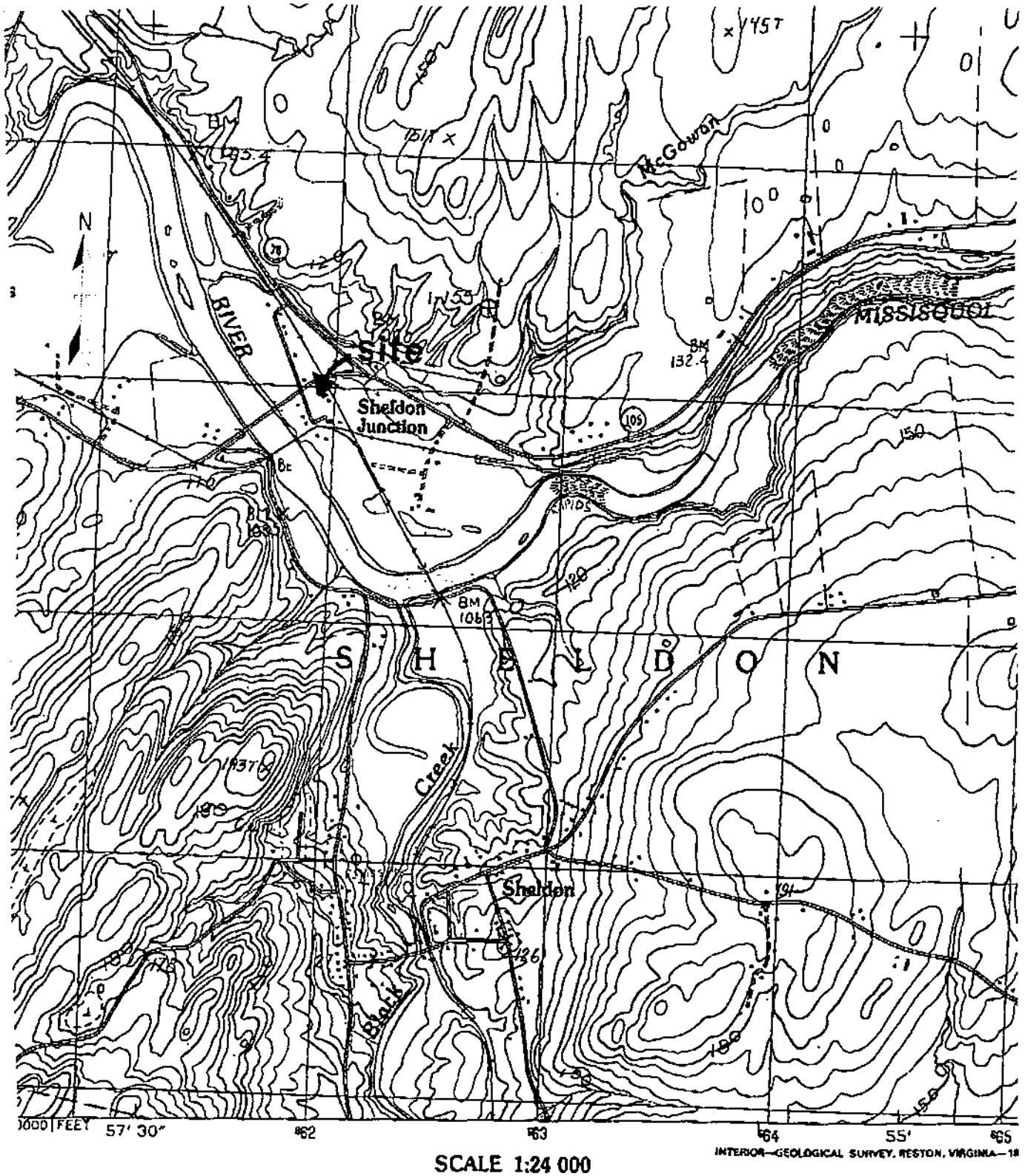
use 8021B !

3. To evaluate the lateral and vertical extent of the contaminant plume in the vicinity of Tank #2, EPS recommends that a minimum of three additional monitoring wells be installed and groundwater samples be analyzed for BTEX constituents via EPA Method 602. A groundwater elevation survey should be performed to determine the groundwater flow direction on the site. One of the additional monitoring wells should be completed as a potential groundwater recovery well. ?

8021B

Yes !

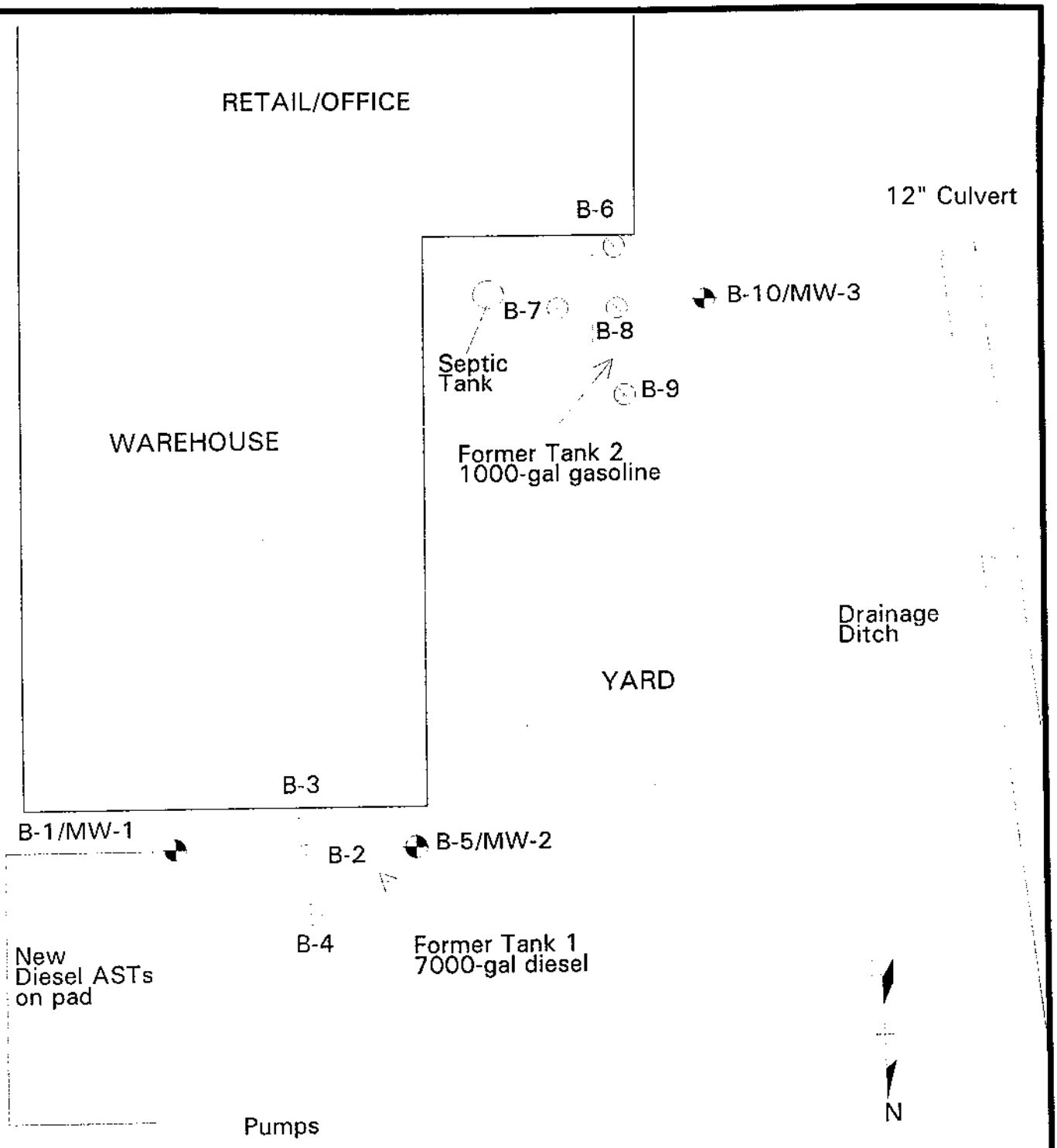
FIGURES



SCALE 1:24 000

SMS SITE NO. 98-2336

Environmental Products & Services, Inc.	Date: MAY 13. 1999	Project No.: V2133
SITE LOCATION PLAN BOURDREAU BROTHERS 25 SEVERANCE ROAD SHELDON JUNCTION, VERMONT	Scale: 1" = 2000'	Figure No.: 1
	Drawn By: SRL	Location: Vermont



SMS SITE NO. 98-2336

Environmental Products & Services, Inc.	Date: May 13, 1999	Project No.: V2133
SITE PLAN BOURDREAU BROTHERS 25 SEVERANCE ROAD SHELDON JUNCTION, VT	Scale: 1" = 20' approx.	Figure No.: 2
	Drawn By: SRL	Location: Vermont

APPENDIX A

Limitations and Service Constraints

LIMITATIONS AND SERVICE CONSTRAINTS

The findings set forth in the attached Environmental Site Assessment Report are strictly limited in time and scope to the date of the evaluation(s). The conclusions presented in the Report are based solely on the services described therein, and not on scientific tasks or procedures beyond the scope of agreed upon services or the time budgeting restraints imposed by the client.

This report may contain recommendations which are partially based on the analysis of data accumulated at the time and place set forth in the report through subsurface exploration. However, further investigations may reveal additional data or variations of the current data which may require the enclosed recommendations to be reevaluated.

Chemical analyses may have been performed for specific parameters during the course of this site assessment, as described in the text. However, it should be noted that additional chemical constituents not searched for during the current study may be present in soil and/or ground water at the site.

Partial findings of this investigation are based on data provided by others. No warranty is expressed or implied with the usage of such data.

Much of the information provided in this report is based upon personal interviews and research of all available documents, records and maps held by the appropriated government and private agencies. This is subject to the limitations of historical documentation, availability and accuracy of pertinent records, and the personal recollection of those persons contacted.

The initial site investigation took into account the natural and man-made features of the site, including any unusual or suspect phenomenon. These factors, combined with the site's geology, hydrology, topography and past and present land uses served as a basis for choosing a methodology and location for subsurface exploration as well as ground water and subsurface sampling, if done. The subsurface data, if provided, is meant as a representative overview of the site.

The location and analyses of soil, groundwater and surface water samples, if provided, was based on the same considerations listed in the paragraphs above. If samples were analyzed, they were analyzed for those parameters unique to the site as determined from the preceding site evaluation.

The presence of radioactive materials, biological hazards and asbestos was not investigated unless specifically noted otherwise.

This report is intended for the use listed in the section of this report described as the Introduction or Scope of Work. Reliance by others on the information and opinions contained herein is strictly prohibited and requires the written consent of Environmental Products and Services, Inc. This report must be presented in its entirety.

APPENDIX B

DEC Letter / Tank Closure Report

01/11/1999 17:31 1-802-933-6660

Post-it® Fax Note 7671	Date 1 12 99	# of pages ▸ 2
To Bob Flatley	From John Ferrara	
Co./Dept. GEO	Co. VT	
Phone #	Phone #	
Fax # (508)-754-4277	Fax #	

State of Vermont

Department of Environmental Conservation

Department of Fish and Wildlife
Department of Forests, Parks and Recreation
Department of Environmental Conservation
State Geologist
RELAY SERVICE FOR THE HEARING IMPAIRED
1-800-253-0191 TDD>Voice
1-800-253-0195 Voice>TDD

Waste Management Division
103 South Main Street/West Office
Waterbury, Vermont 05671-0404
(802) 241-3888
FAX (802) 241-3296

January 7, 1999

Mr. Remi Boudreau
Boudreau Brothers, Inc
25 Severance Road
Sheldon, Vermont 05483

RE: Petroleum Contamination at Boudreau Brothers
Sheldon, Vermont
SMS Site # 98-2336

Dear Mr. Boudreau:

The Sites Management Section (SMS) has received the Underground Storage Tank (UST) closure site report outlining subsurface conditions for the above referenced site. The fieldwork was conducted by Environmental Products & Services on August 27, 1998. This report, dated October 9, 1998 and summarizes the degree and extent of contamination encountered. The USTs removed include:

- UST #1 - 7,000 gallon gas diesel UST
- UST #2 - 1,000 gallon gasoline UST

During the site activities, soils screened had concentrations up to 140 parts per million (ppm) as measured by a photoionization detector (PID). The peak PID reading was measured at a depth of 6 feet below ground surface (fbgs) in the excavation. Approximately 23 cubic yards of excavated soil were stockpiled off-site due to the presence of PID elevated headspace readings. Permission for off-site stockpiling was given by Ted Unkles. The limits of soil contamination were reported as defined. However, no confirmatory soils samples were submitted for laboratory analyses.

Site soils consisted of gravel over clay. Groundwater was encountered at a depth of approximately 6 fbgs. Visual observations of groundwater during the UST removal did not exhibit signs of contamination (e.g. free-product or sheens).

The Boudreau Brothers was not reported to have been inspected for potentially sensitive receptors. The receptors potentially affected include groundwater, basements of adjacent buildings, nearby surface water, and public or private drinking water wells which are located within the vicinity of the site.

Based on the report information, the SMS has determined that additional work is necessary at the site in order to determine the severity of contamination present. Due to the possibility of contaminant impact to nearby receptors, the SMS is requesting that Boudreau Brothers, Inc retain the services of a qualified environmental consultant to perform the following:

- ☐ Further define the degree and extent of contamination to the soil.
- ☐ As appropriate, determine if the airspace beneath the site building(s) or site adjacent buildings has been impacted by the release using a PID. Wall and floor construction as well as susceptibility to vapor migration should be noted. If the ambient airspace has been impacted, SMS requests that confirmatory sampling and laboratory analyses be performed using EPA Method TO-2.
- ☐ Determine the degree and extent of contamination, if any, to groundwater. A sufficient number of monitoring sites should be installed to adequately define the severity of contamination. All groundwater samples taken should be analyzed for TPH, BTEX and MTBE compounds. At sites with nearby water supply sources, data should be collected to determine the hydrologic relationship of the contaminated area to the water supply source. Pumping influences should be considered in the evaluation.

- ☐ Assess the potential for sensitive receptors to be impacted by the contamination. Base this update on all available information. This assessment should include basements of adjacent buildings, nearby surface water, any public or private drinking water wells which are located within the vicinity of the site, wetlands, sensitive ecologic areas, outdoor or indoor air, sewers, or utility corridors. If any water supplies appear at risk from this contamination, they should be sampled and analyzed for TPH, BTEX and MTBE compounds.

- ☐ Determine the need for a long term treatment and/or monitoring plan which addresses the groundwater contamination.

- ☐ Develop a plan to treat and/or monitor the stockpiled soils. The soils must remain located in an area such that they have a low potential to impact nearby receptors. The soils must also remain properly encapsulated in plastic. The plan should demonstrate that child access to the soils is sufficiently restricted. If the soil is located in an area subject to public activity and where public access is not restricted, the soil pile should be surrounded by fence. The fence should be not less than 3 feet in height and of durable construction.

- ☐ Submit to the SMS a summary report which outlines the work performed, as well as provides conclusions and recommendations. Included should be analytical data, a site map showing the location of any potential sensitive receptors, stockpiled soils and monitoring or sample locations, an area map, detailed well logs (if appropriate) and a groundwater contour map.

- ☐ With the Workplan or Expressway notification, please submit a site location map at an approximate scale of 1:24000 showing the location of the site. The map should also contain a scale, a north arrow, the SMS site number, and a citation of the source map. The purpose of this map is to enable the SMS to enter the site location into a Geographical Information Systems database.

Please have your consultant submit a preliminary work plan and cost estimate or a site investigation expressway notification form within fifteen days of your receipt of this letter so that it may be approved prior to the initiation of onsite work. Enclosed please find a list of consultants who perform this type of work in the area as well as the brochure "*Selecting Your UST Cleanup Contractor*," which will help you in choosing an environmental consultant.

Based on current information, the underground storage tanks at Boudreau Brothers are eligible for participation in the Petroleum Cleanup Fund (PCF). You must provide written proof to the SMS that you hold no other applicable insurance in order to receive reimbursement from the PCF. The owner or permittee must pay for the removal and/or repair of the failed tank(s), and for the initial $10,000.00 of the cleanup. The fund will reimburse the tank owner or permittee for additional eligible cleanup costs of up to $1 million. All expenditures must be pre-approved by the Agency or performed in accordance with the "*Site Investigation Guidance*" expressway program. Please refer to the enclosed guidance document titled, "*Procedures for Reimbursement from the Petroleum Cleanup Fund*" for additional information concerning the PCF.

The Secretary of the Agency of Natural Resources reserves the right to seek cost recovery of fund monies spent at the Boudreau Brothers site if the Secretary concludes that Boudreau Brothers, Inc is in significant violation of the Vermont Underground Storage Tank Regulations or the Underground Storage Tank statute (10 V.S.A., Chapter 59).

We realize that this is a lot to absorb and respond to. We are here to help make this process as effective and uncomplicated as possible. Please review the enclosed documents and call me with any questions you may have. I can be reached at (802) 241-3876.

Sincerely,

Bob Bourdeau for

Chuck Schwer, Supervisor
Sites Management Section

Enclosures (3)

cc: Sheldon Selectboard w/o enclosure
Sheldon Health Officer w/o enclosure
DEC Regional Office w/o enclosure (transmitted electronically) ✓
John Ferraro, Environmental Products & Services w/o enclosure (transmitted electronically) ✓

L12396.WPD

Environmental
PRODUCTS & SERVICES, INC.
2 Flynn Avenue, Burlington, VT 05401 (802) 862-1212, FAX (802) 660-7445, (800) 977-4459

October 9, 1998

Ms. Susan Thayer
Vermont - DEC
Underground Storage Tank Program
103 South Main Street
Waterbury, VT 05671-0404

Facility: Bourdeau Brothers Inc.

Owner: Rene Bourdeau
25 Severance Rd.
Sheldon, VT 05483

Prepared By: John Ferraro
ENVIRONMENTAL PRODUCTS & SERVICES, INC.
2 Flynn Avenue
Burlington, VT 05401

Location: Bourdeau Bros. Feeds
Rt. 105
Sheldon, VT 05483

Contact: Rene Bourdeau
(802) 933-2277

All work was performed on property owned by either Bourdeau Bros., Inc. or Rene Bourdeau.

On 8/27/98 ENVIRONMENTAL PRODUCTS & SERVICES, INC. (EPS) performed the on-site assessment of the removal of (1) 7,000 gallon diesel fuel and (1) 1,000 gallon gasoline underground storage tank. All aspects of the excavation, subsequent backfill, and empty tank carcass disposal were conducted by Bob Cross and John Martell Excavating.

Tank 1 - 7,000 gallon - diesel

This tank was located approximately 5' off the northwest corner of the northernmost warehouse building and 85' south of Rt. 105 (see photos 1 & 2). Tank 1 was the farthest to the north and consequently the closest to Rt. 105 (see photo 2). Excavation of the tank was performed in a general west to east direction(see photo 3) with PID readings taken on soil from around the fill pipe, the sides and ends of the tank, and once the tank was out, from underneath the tank. There were a small amount of visually stained soils located under the tank which appeared to be the soil in contact with the tank (see photo 4). These soils were excavated and temporarily stockpiled on poly. There was some groundwater encountered in the bottom of the excavation although no free product or sheen was noticed (see photo 5). This occurred at a depth of approximately 6' bgs. Soil samples were taken and screened with a PID for petroleum contamination using both the zero headspace and standard methods. Readings from around the fill pipe had a peak of 90 using the standard method and a peak of 120 using the zero headspace method. Readings from all other areas around the tank were below 10, except for zero headspace readings on the stained soils from the bottom of the excavation which had a peak reading of 70.

Pertinent tank information:

- Tank was single wall steel and in good shape
- Excavation size, 27' long x 14' wide x 6' deep
- No visual signs of pitting or holes were noticed (see photos 6 & 7)
- Groundwater was encountered at a depth of 6' bgs
- Tank was purged and cleaned on 8/27/98 (see photo 8)
- Soil around the tank was primarily imported gravel fill, some clay present with increasing depth
- Total of approximately 3-4 yards of contaminated soil was excavated and temporarily stockpiled on poly
- Remaining excavation was backfilled with clean soil and than imported gravel fill
- One 55 gallon drum of fuel oil tank bottoms was shipped for disposal on manifest VT0112844

Ms. Sue Thayer
Vermont - DEC
October 9, 1998
Page 3

Tank 2 - 1,000 gallon - gasoline

This tank was located to the west of the northernmost warehouse building approximately 4' in front of the steps (see photo 9). The excavation of this tank was performed in a south to north direction with PID readings taken on soil from around the fill pipe, sides, ends, and underneath the tank. Soil from around the fill pipe had readings of 110 with the zero headspace method. Contaminant levels from the soil beneath the tank ranged from a low of 20 to a high of 140 using the normal method. The tank itself was in fairly good condition, with no visual signs of failure, although the top of the tank was crushed, probably due to the shallow depth the tank was set at (see photo 10). The soil around this tank consisted of a loamy gravel that appeared to be imported to the site for use as fill. Approximately 18-20 yards of contaminated soil was excavated from underneath this tank as well as from around the fill pipe area and both ends of the tank. The excavated soil was monitored with a PID and loaded into a dump truck for subsequent disposal/stockpiling. The excavation went to a depth of 6' bgs at which point a heavy clay layer was encountered and no contamination found beneath the clay (see photo 11). Again, there was a small amount of groundwater located just below the tank although no sheen or free product was identified (see photo 12 & 13).

Pertinent Tank Information:

- Excavation dimensions, 6' d, 15' l, 6' w
- Excavation size, approx. 540 cu. ft.
- Tank was steel, single walled and in good/fair shape
- No signs of pitting or leaks were evident in the tanks
- Groundwater was encountered at a depth of 6' bgs
- PID readings ranged from a background low of 0 to a peak of 140, avg. reading was 70
- Tank purged and cleaned on 8/27/98 (see photo 14)
- One 55 gallon drum of gas tank bottoms shipped for disposal on manifest NJA2968680
- Excavation backfilled with approximately 20 yards of clean, imported fill material

Conclusion

Due to the fairly large amounts of contaminated soil, approximately 23 yards, a decision was made to look for an appropriate off-site soil treatment location since there was no suitable area on site. I drove with the owner, Mr. Rene Bourdeau approximately three miles west on Rt. 105 to a farm Mr. Bourdeau owns. The site chosen by Mr. Bourdeau for the stockpile met all of the state's criteria outlined in the "Off Site Soil Treatment Request Form" and in fact had been used years ago as a stockpile area for some material generated from a nitrogen spill at Bourdeau Bros. Inc. Middlebury plant per the DEC's instructions (see photo 15). At this point a call was made to the state and I spoke with Ted Unkles who gave his consent and after we got written permission from the Town of Sheldon(see attached), the request form was faxed to the state and signed off by Mr. Unkles (see attached).

It is my opinion that all of the contaminated soil on the Bourdeau Bros. Inc. property has been excavated and stockpiled in a suitable location. I do not feel any additional work on this site is warranted, primarily due to the heavy clay layer at 6' bgs under tank 2 which seemed to effectively block any contamination from migrating beneath it. I would recommend that the soil stockpile, which was put on poly and than covered with poly and tires, be monitored with a PID and a sample be taken and analyzed for TPH in a years time to determine the contaminant levels.

If you have any questions or require additional information, please contact me at (802) 862-1212, Fax (802) 860-7445.

Very truly yours,

ENVIRONMENTAL PRODUCTS & SERVICES, INC.

John Ferraro

John Ferraro, Environmental Health & Safety Coordinator
Vermont Office

JF
7074.841.700

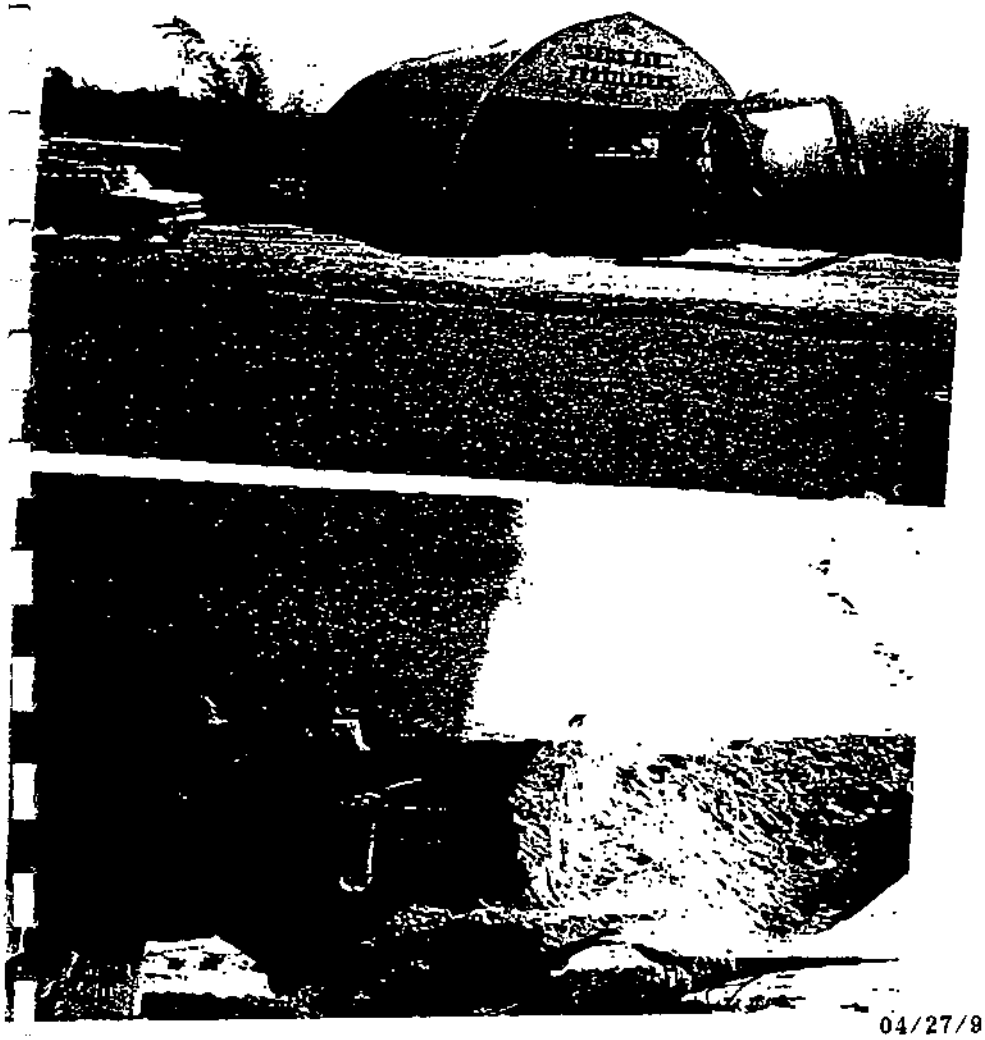
cc: Mr. Rene Bourdeau

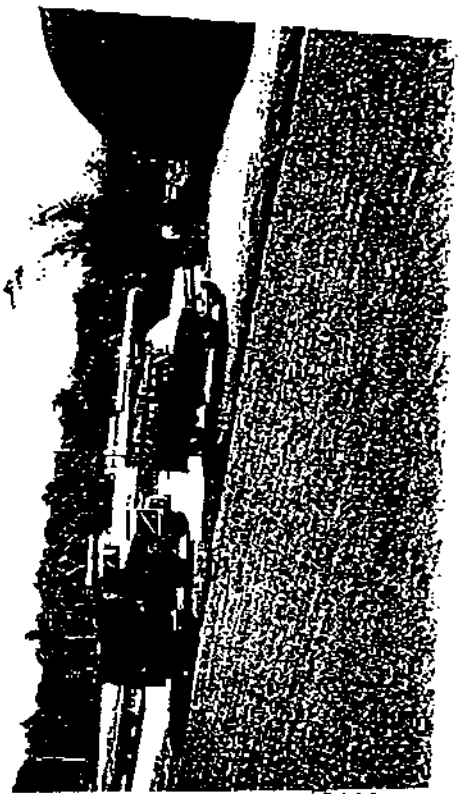
PROPERTY OF
BOURDEAU BROS., INC.
RT. 105
SHELDON, VT

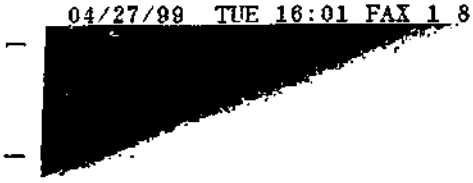
PID READINGS
(ambient temperature: 65 degrees and sunny)

Tank	Location	Type	PID Reading (ppm) Avg	Spike
1	West side, 1' bgs	zero hs	40	120
1	West side, 1' bgs	standard	20	90
1	East side, 4' bgs	zero hs	na	0
1	West side, 4' bgs	zero hs	na	3
1	West side, 6' bgs	zero hs	20	70
2	North side, 1' bgs	zero hs	60	110
2	North side, 2' bgs	zero hs	50	110
2	East side, 6' bgs	standard	70	140
2	East side, 6' bgs	standard	20	80
2	West side, 6' bgs	standard	15	70
2	Middle, 7' bgs	zero hs	2	5

7





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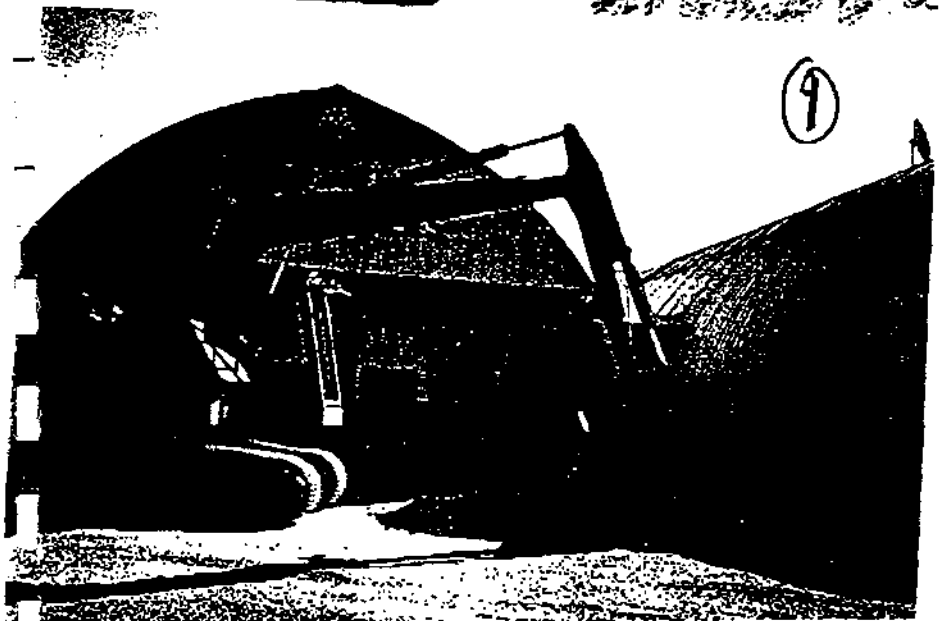
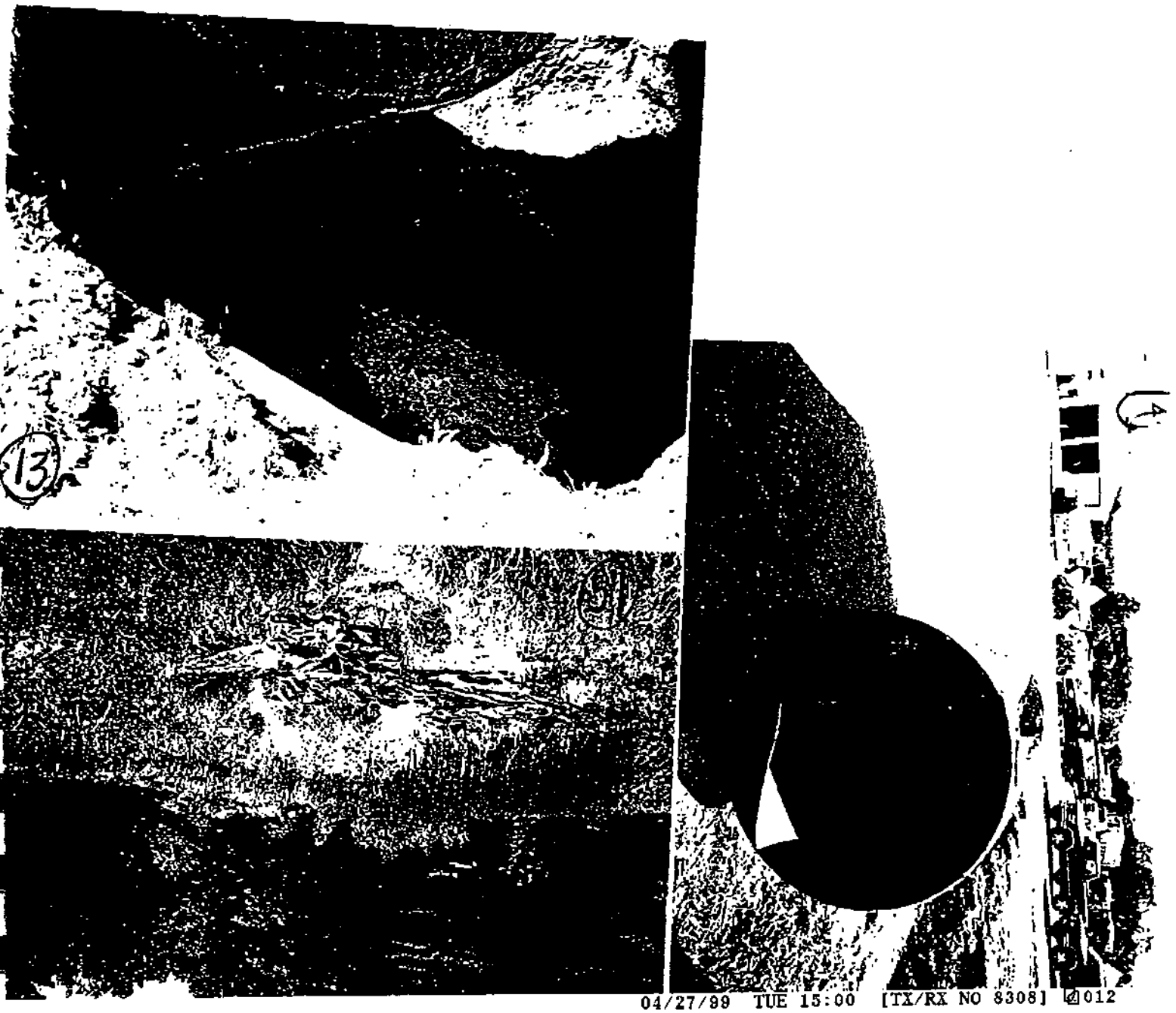
7

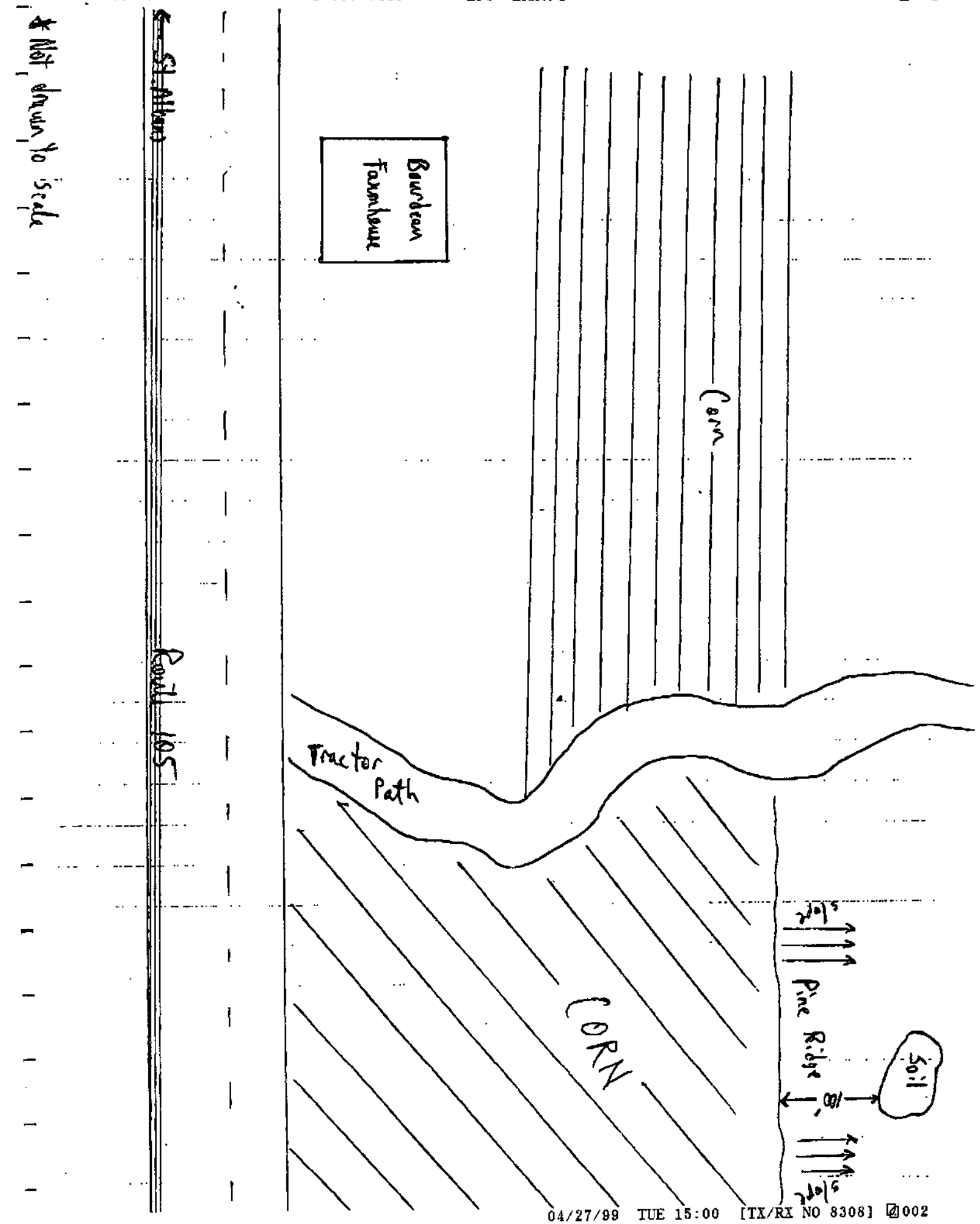


9


10


71


13


* Not drawn to scale
St. Albans
Road 105
Bourdeau Farmhouse
Corn
Tractor Path
CORN
Slope
Pine Ridge
100'
Soil
Slope

APPENDIX C

Test Boring Logs

Environmental Products & Services, Inc.	**Subsurface Log**	Hole No.: B-1/MW-1 Sheet 1 of 1	Date started: 5/7/99 Date Finished: 5/7/99

Client: Bourdreau Brothers
Location: Sheldon Junction, VT

Method of investigation: Vibratory/rotary rig, 5' sampling tube

Project No.: V2133
P. Manager: D. Melander

Drilling Co.: Adams Engineering
Geologist: S. Lemoine

Driller: G. Adams
Helper: None
Drill Rig: Custom built

Weather: 70, fair

Depth (ft.)	Sample No.	Sample Depth (ft.)	Blows per 6"	"N"	Recovery (in.)	Sample Description	Field Analytical Readings	Well Details	Groundwater and Other Observations
	T-1	0-5'			50"	Fill, gravelly sand, medium to coarse, moist, brown (SP)	4.5	CIRB surface Top bent. 1.0' Top sand 1.5' Top screen 4.5'	
5									Top WT 4.5'
	T-2	5-9.5'			20"	Fill, sand, medium, poorly graded, (SP)	2		
10									
	T-3	9.5-14.5'			0"	No recovery but appears to be gray clay, (CL)	NA		
15									
						Set 1.5" PVC at 14.5 feet. Purged dry with peristaltic pump.		Bottom screen 14.5'	
20									
25									
30									
35									

Sample Types:
S=Split Spoon: _____
R= Rock Core: _____
T= Shelby Tube: X
O = _____
N = ASTM D1586

Backfill Well Key
Native Fill
Bentonite

Environmental
Products & Services, Inc.

Subsurface Log

Hole No.: B-2
Sheet 1 of 1

Date started: 5/7/99
Date Finished: 5/7/99

Client: Bourdreau Brothers
Location: Sheldon Junction, VT

Method of investigation: Vibratory/rotary rig, 5' sampling tube

Project No.: V2133
P. Manager: D. Melander

Drilling Co.: Adams Engineering
Geologist: S. Lemoine

Driller: G. Adams
Helper: None
Drill Rig: Custom built

Weather: 70, fair

Depth (ft.)	Sample No.	Sample Depth (ft.)	Blows per 6"	"N"	Recovery (in.)	Sample Description	Field Analytical Readings	Well Details	Groundwater and Other Observations
	T-1	0-5'			60"	New backfill, sand, widely graded, gravel, brown (SM)	3.5	None	
5									Top WT 4.0'
	T-2	5-10'			50"	5-8': fill, SAA	5.5		
						8-10':sand, medium, poorly graded, (SP)	3.5		
10									
15									
20									
25									
30									
35									

Sample Types:
S=Split Spoon: _____
R= Rock Core: _____
T= Shelby Tube: X
O = _____
N = ASTM D1586

Backfill Well Key
Native Fill
Bentonite

Environmental Products & Services, Inc.	**Subsurface Log**	Hole No.: B-3 Sheet 1 of 1	Date started: 5/7/99 Date Finished: 5/7/99

Client: Bourdreau Brothers Location: Sheldon Junction, VT	Method of investigation: Vibratory/rotary rig, 5' sampling tube

Project No.: V2133 P. Manager: D. Melander	Drilling Co.: Adams Engineering Geologist: S. Lemoine	Driller: G. Adams Helper: None Drill Rig: Custom built	Weather: 70, fair

Depth (ft.)	Sample No.	Sample Depth (ft.)	Blows per 6"	"N"	Recovery (in.)	Sample Description	Field Analytical Readings	Well Details	Groundwater and Other Observations
	T-1	0-5'			60"	Fill, silty sand, widely graded, some 1" gravel, brown, moist (SM)	1.6	None	
5									Top WT 4.0'
	T-2	5-6.5'			18"	Fill, SAA, some cobbles, refusal in cobble at 6.5', (SM)	1.4		
10									
15									
20									
25									
30									
35									

Sample Types:
S=Split Spoon: _____ T= Shelby Tube: X
R= Rock Core: _____ O = _____
N = ASTM D1586

Backfill Well Key
Native Fill
Bentonite

Environmental
Products & Services, Inc.

Subsurface Log

Hole No.: B-4 | Sheet 1 of 1

Date started: 5/7/99 | Date Finished: 5/7/99

Client: Bourdreau Brothers
Location: Sheldon Junction, VT

Method of investigation: Vibratory/rotary rig, 5' sampling tube

Project No.: V2133
P. Manager: D. Melander

Drilling Co.: Adams Engineering
Geologist: S. Lemoine

Driller: G. Adams
Helper: None
Drill Rig: Custom built

Weather: 70, fair

Depth (ft.)	Sample No.	Sample Depth (ft.)	Blows per 6"	"N"	Recovery (in.)	Sample Description	Field Analytical Readings	Well Details	Groundwater and Other Observations
	T-1	0-5'			60"	Fill, silty sand, widely graded, some 1" gravel, brown, moist (SM)	8	None	
5									
	T-2	5-10'			40"	Sand, fine, poorly graded, wet, brown, (SP)	3.8		Top WT 5.0'
10									
15									
20									
25									
30									
35									

Sample Types:
S=Split Spoon: _____
R= Rock Core: _____
T= Shelby Tube: X
O = _____
N = ASTM D1586

Backfill Well Key
Native Fill
Bentonite

Environmental
Products & Services, Inc.

Subsurface Log

Hole No.: B-5/MW-2
Sheet 1 of 1

Date started: 5/7/99
Date Finished: 5/7/99

Client: Bourdreau Brothers
Location: Sheldon Junction, VT

Method of investigation: Vibratory/rotary rig, 5' sampling tube

Project No.: V2133
P. Manager: D. Melander

Drilling Co.: Adams Engineering
Geologist: S. Lemoine

Driller: G. Adams
Helper: None
Drill Rig: Custom built

Weather: 70, fair

Depth (ft.)	Sample No.	Sample Depth (ft.)	Blows per 6"	"N"	Recovery (in.)	Sample Description	Field Analytical Readings	Well Details	Groundwater and Other Observations
	T-1	0-4.5'			50"	Fill, sand, medium, poorly graded, fuel odor, (SP)	45	CIRB surface Top bent. 1.0' Top sand 1.3' Top screen 1.8	
5									Top WT 4.5'
	T-2	4.5-10'			40"	Sand, medium to fine, poorly graded, odor, (SP)	23		
10									
						Set 1.5" PVC to 12 feet. Purged dry with peristaltic pump.		Bottom screen 11.8 feet	
15									
20									
25									
30									
35									

Sample Types:
S=Split Spoon: _____
R= Rock Core: _____
T= Shelby Tube: X
O = _____
N = ASTM D1586

Backfill Well Key
Native Fill
Bentonite

Environmental Products & Services, Inc.	**Subsurface Log**	Hole No.: B-6 Sheet 1 of 1	Date started: 5/7/99 Date Finished: 5/7/99

Client: Bourdreau Brothers
Location: Sheldon Junction, VT

Method of investigation: Vibratory/rotary rig, 5' sampling tube

Project No.: V2133
P. Manager: D. Melander

Drilling Co.: Adams Engineering
Geologist: S. Lemoine

Driller: G. Adams
Helper: None
Drill Rig: Custom built

Weather: 70, fair

Depth (ft.)	Sample No.	Sample Depth (ft.)	Blows per 6"	"N"	Recovery (in.)	Sample Description	Field Analytical Readings	Well Details	Groundwater and Other Observations
	T-1	0-5'			60"	Fill, silty sand, widely graded, brown, (SM)	4.5	None	
5									Top WT 4.0'
	T-2	5-10'			60"	Clay, uniform, wet, gray, (CL)	5.1		
10						Botttom B-6 at 10 feet.			
15									
20									
25									
30									
35									

Sample Types:
S=Split Spoon: _____
R= Rock Core: _____
T= Shelby Tube: X
O = _____
N = ASTM D1586

Backfill Well Key
Native Fill
Bentonite

Environmental Products & Services, Inc.	**Subsurface Log**	Hole No.: B-7 Sheet 1 of 1	Date started: 5/7/99 Date Finished: 5/7/99

Client: Bourdreau Brothers
Location: Sheldon Junction, VT

Method of investigation: Vibratory/rotary rig, 5' sampling tube

Project No.: V2133
P. Manager: D. Melander

Drilling Co.: Adams Engineering
Geologist: S. Lemoine

Driller: G. Adams
Helper: None
Drill Rig: Custom built

Weather: 70, fair

Depth (ft.)	Sample No.	Sample Depth (ft.)	Blows per 6"	"N"	Recovery (in.)	Sample Description	Field Analytical Readings	Well Details	Groundwater and Other Observations
	T-1	0-5'			60"	Silt, some sand, brown to dark gray, gasoline odor, (ML)	161	None	
5									Top WT 4.0'
	T-2	5-10'			60"	Silty clay, uniform, gray (CL)	5.8		
10						Bottom B-7 at 10 feet			
15									
20									
25									
30									
35									

Sample Types:
S=Split Spoon: _____
R= Rock Core: _____
T= Shelby Tube: X
O = _____
N = ASTM D1586

Backfill Well Key
Native Fill
Bentonite

Environmental
Products & Services, Inc.

Subsurface Log

Hole No.: B-8
Sheet 1 of 1

Date started: 5/7/99
Date Finished: 5/7/99

Client: Bourdreau Brothers
Location: Sheldon Junction, VT

Method of investigation: Vibratory/rotary rig, 5' sampling tube

Project No.: V2133
P. Manager: D. Melander

Drilling Co.: Adams Engineering
Geologist: S. Lemoine

Driller: G. Adams
Helper: None
Drill Rig: Custom built

Weather: 70, fair

Depth (ft.)	Sample No.	Sample Depth (ft.)	Blows per 6"	"N"	Recovery (in.)	Sample Description	Field Analytical Readings	Well Details	Groundwater and Other Observations
	T-1	0-5'			60"	Fill, silt, some sand, gas odor, (ML)	162	None	
5	T-2	5-10'			60"	Silty clay, uniform, gray (CL)	5.8		Top WT 5.0'
10						Bottom B-8 at 10 feet.			
15									
20									
25									
30									
35									

Sample Types:
S=Split Spoon: _____
R= Rock Core: _____
T= Shelby Tube: X
O = _____
N = ASTM D1586

Backfill Well Key
Native Fill
Bentonite

Environmental
Products & Services, Inc.

Subsurface Log

Hole No.: B-9
Sheet 1 of 1

Date started: 5/7/99
Date Finished: 5/7/99

Client: Bourdreau Brothers
Location: Sheldon Junction, VT

Method of investigation: Vibratory/rotary rig, 5' sampling tube

Project No.: V2133
P. Manager: D. Melander

Drilling Co.: Adams Engineering
Geologist: S. Lemoine

Driller: G. Adams
Helper: None
Drill Rig: Custom built

Weather: 70, fair

Depth (ft.)	Sample No.	Sample Depth (ft.)	Blows per 6"	"N"	Recovery (in.)	Sample Description	Field Analytical Readings	Well Details	Groundwater and Other Observations
	T-1	0-5'			50"	Fill, gravelly sand, widely graded, moist dark gray, moist, refusal in cobble	11	None	
5						Bottom B-9 at 5 feet.			Top WT 4.0'
10									
15									
20									
25									
30									
35									

Sample Types:
S=Split Spoon: _____
R= Rock Core: _____
T= Shelby Tube: X
O = _____
N = ASTM D1586

Backfill Well Key
Native Fill
Bentonite

Environmental
Products & Services, Inc.

Subsurface Log

Hole No.: B-10/MW-3 | Date started: 5/7/99

Sheet 1 of 1 | Date Finished: 5/7/99

Client: Bourdreau Brothers

Location: Sheldon Junction, VT

Method of investigation: Vibratory/rotary rig, 5' sampling tube

Project No.: V2133

P. Manager: D. Melander

Drilling Co.: Adams Engineering

Geologist: S. Lemoine

Driller: G. Adams

Helper: None

Drill Rig: Custom built

Weather: 70, fair

Depth (ft.)	Sample No.	Sample Depth (ft.)	Blows per 6"	"N"	Recovery (in.)	Sample Description	Field Analytical Readings	Well Details	Groundwater and Other Observations
	T-1	0-4.5'			50"	Fill, sand, widely graded, brown (SM)	25	CIRB surface	
								Top bent. 1.0'	
								Top sand 1.5'	
								Top screen 2.0'	
5									
	T-2	5-10'			60"	5-8', silt, uniform, brown (ML)	6.5		Top WT 5.0 feet
						8-10": clay, uniform, gray (CL)	6.5		
10									
						Set 1.5" PVC to 12 feet. Purged dry		Bottom screen	
						with peristaltic pump.		12.0 feet	
15									
20									
25									
30									
35									

Sample Types:

S=Split Spoon: _____ T= Shelby Tube: X

R= Rock Core: _____ O = _____

N = ASTM D1586

Backfill Well Key

Native Fill

Bentonite

APPENDIX D

Groundwater Sampling Logs

Environmental
PRODUCTS & SERVICES, INC.
167 Southwest Cutoff
Worcester, MA 02604
(508) 754-6100
FAX (508) 754-4277
(800) 977-4557

GROUNDWATER SAMPLING REPORT

MONITORING WELL NO. MW-1 DATE 5-7-55

SAMPLE I.D. _____ SHEET 1 OF 1

DIAMETER OF WELL: 1.5" ~~(FT)~~ RADIUS OF WELL (R): _____ (FT)

WATER LEVEL MEASURING DEVICE: slope ind.

DECONTAMINATION PROCEDURES OF DEVICE: Alcanox & H2O

DEPTH TO GW BELOW MEASURING POINT (d): 3.65 (FT)

TOTAL DEPTH OF WELL BELOW MEASURING POINT (D): 12.30 (FT)

LENGTH OF WATER COLUMN (L): (D-d)= 9.65 (FT)

VOLUME OF WATER COLUMN (V): (3.14xRxRxL) _____ (CUBIC FT)

WELL VOLUME: (7.48xV)= 0.88 (GAL)

TYPE OF PURGE PUMP: peristaltic

TYPE OF SAMPLE PUMP: poly bailer

DECONTAMINATION PROCEDURES OF PUMP: N/A

TIME	pH	TEMP. (deg.C)	Sp. COND. (umhos/cm)	VOLUME (GAL)

(PURGE UNTIL pH, TEMPERATURE AND CONDUCTIVITY STABILIZE)

TOTAL VOLUME PURGED: 2.0, dry purged. (GAL)

ANALYTICAL PARAMETERS: 8100 & 602

COMMENTS:

Environmental
PRODUCTS & SERVICES, INC
167 Southwest Cutoff
Worcester, MA 02604
(508) 754-6100
FAX (508) 754-4277
(800) 977-4557

GROUNDWATER SAMPLING REPORT

MONITORING WELL NO. MW-3 DATE 5/7/93

SAMPLE I.D. _____ SHEET 1 OF 1

DIAMETER OF WELL: 1.5" ~~FT~~) RADIUS OF WELL (R): _____ (FT)

WATER LEVEL MEASURING DEVICE: _____

DECONTAMINATION PROCEDURES OF DEVICE: _____

DEPTH TO GW BELOW MEASURING POINT (d): 8.10' (rose to 5.0) (FT)

TOTAL DEPTH OF WELL BELOW MEASURING POINT (D): 11.90' (FT)

LENGTH OF WATER COLUMN (L): (D-d)= 3.8 (FT)

VOLUME OF WATER COLUMN (V): (3.14xRxRxL) _____ (CUBIC FT)

WELL VOLUME: (7.48xV)= 0.34 (GAL)

TYPE OF PURGE PUMP: peristaltic

TYPE OF SAMPLE PUMP: poly bailer

DECONTAMINATION PROCEDURES OF PUMP: N/A

TIME	pH	TEMP. (deg.C)	Sp. COND. (umhos/cm)	VOLUME (GAL)

(PURGE UNTIL pH, TEMPERATURE AND CONDUCTIVITY STABILIZE)

TOTAL VOLUME PURGED: 2.5 (GAL)

ANALYTICAL PARAMETERS: 602 + 8100m

COMMENTS: Sampled shortly after dry purge.
Slow recovery.

Environmental
PRODUCTS & SERVICES, INC
167 Southwest Cutoff
Worcester, MA 02604
(508) 754-6100
FAX (508) 754-4277
(800) 977-4557

GROUNDWATER SAMPLING REPORT

MONITORING WELL NO. mw-2 DATE 5/7/93

SAMPLE I.D. _____ SHEET 1 OF 1

DIAMETER OF WELL: 1.5" ~~(FT)~~ RADIUS OF WELL (R): _____ (FT)

WATER LEVEL MEASURING DEVICE: Slope Indicator

DECONTAMINATION PROCEDURES OF DEVICE: Alconox & H2O

DEPTH TO GW BELOW MEASURING POINT (d): 3.30 (FT)

TOTAL DEPTH OF WELL BELOW MEASURING POINT (D): 12.0 (FT)

LENGTH OF WATER COLUMN (L): (D-d)= 8.70 (FT)

VOLUME OF WATER COLUMN (V): (3.14xRxRxL) _____ (CUBIC FT)

WELL VOLUME: (7.48xV)= 0.80 (GAL)

TYPE OF PURGE PUMP: peristaltic

TYPE OF SAMPLE PUMP: poly bailer

DECONTAMINATION PROCEDURES OF PUMP: N/A

TIME	pH	TEMP. (deg.C)	Sp. COND. (umhos/cm)	VOLUME (GAL)

(PURGE UNTIL pH, TEMPERATURE AND CONDUCTIVITY STABILIZE)

TOTAL VOLUME PURGED: 2.5 (GAL)

ANALYTICAL PARAMETERS: 602 + 8100M

COMMENTS:

APPENDIX E

Laboratory Analytical Reports

Environmental
LABORATORY SERVICES

7280 Caswell Street, Hancock Air Park, North Syracuse, NY 13212
(315) 458-8033, FAX (315) 458-0249, (800) 842-4667

Certified In:
• Connecticut
• Delaware
• Maryland
• Massachusetts

E.P.S. - BOSTON
242 STAFFORD STREET

WORCESTER MA 01603
ATTN: ENVIRONMENTAL COORDINATOR

P.O. # 45984
CLIENT JOB NUMBER: V2133

PROJECT #: 991106
RECEIVED: 05/11/99

TEST PERFORMED	RESULTS	UNITS	DATE PERFORMED	METHOD NUMBER	PERFORMED BY
SAMPLE #: 138386 CLIENT SAMPLE ID: V248 MW-1				**DATE SAMPLED: 05/07/99**	
VOL. AROMATICS - EPA 602 W/XY&MTBE		UG/L	05/13/99	EPA 602	SKW
BENZENE	<0.7				
CHLOROBENZENE	<1.0				
1,4-DICHLOROBENZENE	<1.0				
1,3-DICHLOROBENZENE	<1.0				
1,2-DICHLOROBENZENE	<1.0				
ETHYLBENZENE	<1.0				
TOLUENE	7.1				
XYLENES (TOTAL)	<1.0				
MTBE	<1.0				
SAMPLE #: 138387 CLIENT SAMPLE ID: V248 MW-2				**DATE SAMPLED: 05/07/99**	
VOL. AROMATICS - EPA 602 W/XY&MTBE		UG/L	05/13/99	EPA 602	SKW
BENZENE	<0.7				
CHLOROBENZENE	<1.0				
1,4-DICHLOROBENZENE	<1.0				
1,3-DICHLOROBENZENE	<1.0				
1,2-DICHLOROBENZENE	<1.0				
ETHYLBENZENE	1.8				
TOLUENE	4.1				
XYLENES (TOTAL)	31.0				
MTBE	<1.0				
SAMPLE #: 138388 CLIENT SAMPLE ID: V248 MW-3				**DATE SAMPLED: 05/07/99**	
VOL. AROMATICS - EPA 602 W/XY&MTBE		UG/L	05/13/99	EPA 602	SKW
BENZENE	69.1				
CHLOROBENZENE	<5.0				
1,4-DICHLOROBENZENE	<5.0				
1,3-DICHLOROBENZENE	<5.0				

E.P.S. - BOSTON
242 STAFFORD STREET

WORCESTER MA 01603
ATTN: ENVIRONMENTAL COORDINATOR

P.O. # 45984
CLIENT JOB NUMBER: V2133

PROJECT #: 991106
RECEIVED: 05/11/99

TEST PERFORMED	RESULTS	UNITS	DATE PERFORMED	METHOD NUMBER	PERFORMED BY
SAMPLE #: 138388 CLIENT SAMPLE ID: V248 MW-3				**DATE SAMPLED: 05/07/99**	
VOL. AROMATICS - EPA 602 W/XY&MTBE		UG/L	05/13/99	EPA 602	SKW
1,2-DICHLOROBENZENE	<5.0				
ETHYLBENZENE	154				
TOLUENE	7.5				
XYLENES (TOTAL)	301				
MTBE	48.7				
SAMPLE #: 138389 CLIENT SAMPLE ID: V248 MW-1				**DATE SAMPLED: 05/07/99**	
PETROLEUM HYDROCARBONS - TPH	<130	UG/L	05/21/99	EPA 8100 MOD	SKW
IN-HOUSE REFERENCE MATERIAL USED FOR QUANTITATION: GAS AND #2 FUEL OIL (1:1) A COPY OF THE CHROMATOGRAM IS ATTACHED.					
SAMPLE #: 138390 CLIENT SAMPLE ID: V248 MW-2				**DATE SAMPLED: 05/07/99**	
PETROLEUM HYDROCARBONS - TPH	9070	UG/L	05/24/99	EPA 8100 MOD	SKW
IN-HOUSE REFERENCE MATERIAL USED FOR QUANTITATION: GAS AND #2 FUEL OIL (1:1) A COPY OF THE CHROMATOGRAM IS ATTACHED.					
SAMPLE #: 138391 CLIENT SAMPLE ID: V248 MW-3				**DATE SAMPLED: 05/07/99**	
PETROLEUM HYDROCARBONS - TPH	776	UG/L	05/21/99	EPA 8100 MOD	SKW
IN-HOUSE REFERENCE MATERIAL USED FOR QUANTITATION: GAS AND #2 FUEL OIL (1:1) A COPY OF THE CHROMATOGRAM IS ATTACHED.					

E.P.S. - BOSTON
242 STAFFORD STREET

WORCESTER MA 01603
ATTN: ENVIRONMENTAL COORDINATOR

P.O. # 45984
CLIENT JOB NUMBER: V2133

PROJECT #: 991106
RECEIVED: 05/11/99

TEST PERFORMED	RESULTS	UNITS	DATE PERFORMED	METHOD NUMBER	PERFORMED BY
SAMPLE #: 166898 CLIENT SAMPLE ID: V248 B-5,0-5'				**DATE SAMPLED: 05/07/99**	
SOLIDS, TOTAL	86	PERCENT	05/13/99	EPA 160.3	SK
PETROLEUM HYDROCARBONS - TPH	5180	MG/KG DRY WT.	05/21/99	EPA 8100 MOD	SKW
IN-HOUSE REFERENCE MATERIAL USED FOR QUANTITATION: GAS AND #2 FUEL OIL (1:1) A COPY OF THE CHROMATOGRAM IS ATTACHED.					
VOL. AROMATICS - EPA 8020	*	MG/KG DRY WT.	05/25/99	EPA 8021	SKW
BENZENE	<1.45				
CHLOROBENZENE	<1.45				
ETHYLBENZENE	<1.45				
TOLUENE	<1.45				
XYLENES (TOTAL)	<1.45				
1,4-DICHLOROBENZENE	<1.45				
1,3-DICHLOROBENZENE	<1.45				
1,2-DICHLOROBENZENE	<1.45				
* ELEVATED DETECTION LEVEL DUE TO SAMPLE MATRIX INTERFERENCE.					
SAMPLE #: 166899 CLIENT SAMPLE ID: V248 B-7,0-5'				**DATE SAMPLED: 05/07/99**	
SOLIDS, TOTAL	86	PERCENT	05/13/99	EPA 160.3	SK
PETROLEUM HYDROCARBONS - TPH	605	MG/KG DRY WT.	05/21/99	EPA 8100 MOD	SKW
IN-HOUSE REFERENCE MATERIAL USED FOR QUANTITATION: GAS AND #2 FUEL OIL (1:1) A COPY OF THE CHROMATOGRAM IS ATTACHED.					
VOL. AROMATICS - EPA 8020		MG/KG DRY WT.	05/15/99	EPA 8021	SKW
BENZENE	0.945				
CHLOROBENZENE	<1.16				
ETHYLBENZENE	3.58				
TOLUENE	2.45				

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P.O. # 45984
CLIENT JOB NUMBER: V2133

PROJECT #: 991106
RECEIVED: 05/11/99

TEST PERFORMED	RESULTS	UNITS	DATE PERFORMED	METHOD NUMBER	PERFORMED BY
SAMPLE #: 166899 CLIENT SAMPLE ID: V248 B-7,0-5'				**DATE SAMPLED: 05/07/99**	
VOL. AROMATICS - EPA 8020		MG/KG DRY WT.	05/15/99	EPA 8021	SKW
XYLENES (TOTAL)	61.1				
1,4-DICHLOROBENZENE	<1.16				
1,3-DICHLOROBENZENE	<1.16				
1,2-DICHLOROBENZENE	<1.16				
SAMPLE #: 166900 CLIENT SAMPLE ID: V248 B-8,0-5'				**DATE SAMPLED: 05/07/99**	
SOLIDS, TOTAL	83	PERCENT	05/13/99	EPA 160.3	SK
PETROLEUM HYDROCARBONS - TPH	615	MG/KG DRY WT.	05/21/99	EPA 8100 MOD	SKW
IN-HOUSE REFERENCE MATERIAL USED FOR QUANTITATION: GAS AND #2 FUEL OIL (1:1) A COPY OF THE CHROMATOGRAM IS ATTACHED.					
VOL. AROMATICS - EPA 8020		MG/KG DRY WT.	05/22/99	EPA 8021	SKW
BENZENE	0.600				
CHLOROBENZENE	<0.080				
ETHYLBENZENE	1.16				
TOLUENE	0.857				
XYLENES (TOTAL)	13.4				
1,4-DICHLOROBENZENE	<0.080				
1,3-DICHLOROBENZENE	<0.080				
1,2-DICHLOROBENZENE	<0.080				
SAMPLE #: 166901 CLIENT SAMPLE ID: V248 B-10,0-5'				**DATE SAMPLED: 05/07/99**	
SOLIDS, TOTAL	81	PERCENT	05/13/99	EPA 160.3	SK
PETROLEUM HYDROCARBONS - TPH	19.9	MG/KG DRY WT.	05/18/99	EPA 8100 MOD	SKW

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P.O. # 45984
CLIENT JOB NUMBER: V2133

PROJECT #: 991106
RECEIVED: 05/11/99

TEST PERFORMED	RESULTS	UNITS	DATE PERFORMED	METHOD NUMBER	PERFORMED BY
SAMPLE #: 166901 CLIENT SAMPLE ID: V248 B-10,0-5'				**DATE SAMPLED: 05/07/99**	
PETROLEUM HYDROCARBONS - TPH	19.9	MG/KG DRY WT.	05/18/99	EPA 8100 MOD	SKW
IN-HOUSE REFERENCE MATERIAL USED FOR QUANTITATION: GAS AND #2 FUEL OIL (1:1) A COPY OF THE CHROMATOGRAM IS ATTACHED.					
VOL. AROMATICS - EPA 8020		MG/KG DRY WT.	05/16/99	EPA 8021	SKW
BENZENE	<0.014				
CHLOROBENZENE	<0.080				
ETHYLBENZENE	<0.080				
TOLUENE	<0.080				
XYLENES (TOTAL)	0.149				
1,4-DICHLOROBENZENE	<0.080				
1,3-DICHLOROBENZENE	<0.080				
1,2-DICHLOROBENZENE	<0.080				
SAMPLE #: 166902 CLIENT SAMPLE ID: V248 B-4,0-5'				**DATE SAMPLED: 05/07/99**	
SOLIDS, TOTAL	84	PERCENT	05/13/99	EPA 160.3	SK
PETROLEUM HYDROCARBONS - TPH	63.2	MG/KG DRY WT.	05/21/99	EPA 8100 MOD	SKW
IN-HOUSE REFERENCE MATERIAL USED FOR QUANTITATION: GAS AND #2 FUEL OIL (1:1) A COPY OF THE CHROMATOGRAM IS ATTACHED.					
VOL. AROMATICS - EPA 8020		MG/KG DRY WT.	05/16/99	EPA 8021	SKW
BENZENE	<0.014				
CHLOROBENZENE	<0.080				
ETHYLBENZENE	<0.080				
TOLUENE	<0.080				
XYLENES (TOTAL)	<0.080				
1,4-DICHLOROBENZENE	<0.080				
1,3-DICHLOROBENZENE	<0.080				

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ATTN: ENVIRONMENTAL COORDINATOR

P.O. # 45984
CLIENT JOB NUMBER: V2133

PROJECT #: 991106
RECEIVED: 05/11/99

TEST PERFORMED	RESULTS	UNITS	DATE PERFORMED	METHOD NUMBER	PERFORMED BY
SAMPLE #: 166902 CLIENT SAMPLE ID: V248 B-4,0-5'				DATE SAMPLED: 05/07/99	
VOL. AROMATICS - EPA 8020		MG/KG DRY WT.	05/16/99	EPA 8021	SKW
1,2-DICHLOROBENZENE	<0.080				

Douglas W. Mendrala
Laboratory Director

05/25/99
Date

All tests performed under NYS ELAP Laboratory Certification # 11375 unless otherwise stated.
Laboratory Certification #

Environmental LABORATORY SERVICES

7220 Caswell Street, Hancock Air Park North Syracuse, NY 13212
(315) 458-8033 FAX (315) 458-0249 (800) 843-8265

CHAIN OF CUSTODY RECORD
and Authorization for Analysis

Lab Log. #1248

Name Steve Lewin | Title
Company C.A.S. - Boston | Dept.
Address | Job/PO No. 02133/45584
City, State, Zip

The following services may result in additional charges: Express Service
☐ Telephone Results Telephone No. _____ Advance Agreement Required
☐ Fax Results Fax No. _____ ☐ 1 Week ☐ 48 Hour

To be completed by Sampler. Please remember to record this information on the container label.

ELS Number	*Date	*Time	*Comp.	*Grab	*Matrix	*Sampling Location	Number of Containers	Container Type/Preservative: Plastic/No Preservatives	Plastic/HNO_3	Plastic/H_2SO_4	Plastic/NaOH+Ascorbic Acid	Plastic/NaOH+Zinc Acetate	Glass/No Preservative	Glass/Sodium Thiosulfate	Amber Glass/No Pres.	Amber Glass/H_2SO_4	Other: (specify) VOC	Analyses Required, Remarks, and/or Special Instructions
138386	5/7/99	16:00		X	GW	MW-1	2										X	602 + MTBE
138387	↓	16:30		X	↓	MW-2	2										X	↓
138388		17:00		X		MW-3	2										X	
138389		16:00		X		MW-1	1								X			TPH 8100m
138390		16:30		X		MW-2	1								X			↓
138391	↓	17:00		X	↓	MW-3	1								X			
166898	5/7/99	12:00	X		Soil	B-5, 0-5'	1										P	8020 + TPH 8100m
166899	↓	1:00	X			B-7, 0-5'	1										P	↓
166900		2:00	X			B-8, 0-5'	1										P	
166901		3:00	X			B-10, 0-5'	1										P	
166902	↓	11:00	X		↓	B-4, 0-5	1										P	

	Date	Time		Date	Time
Containers Dispensed by:			Container(s) Received by:		
Relinquished by:	Date 5/10/99	Time 5:30	Received by:		
Relinquished by:	Date	Time	Received by:		
Relinquished by:	Date	Time	Received by:		
Your signature authorizes ELS to analyze the sample(s) as indicated. Relinquished by:	Date	Time	Received at Lab by:	Date 5/11/99	Time 8:15
Sampler Signature:					

White - LABORATORY Canary - ACCOMPANIES RESULTS Pink - CLIENT
Please return completed form and all sample containers to Environmental Laboratory Services. 2217.ELS..202.9310