

THE JOHNSON COMPANY, INC.

Environmental Sciences and Engineering

September 29, 1999

Ms. Lynda Provencher
Sites Management Section
Vermont Department of Environmental Conservation
103 South Main St/West Building
Waterbury, Vermont 05671-0404

SEP 30 10 00 AM '99
WASTE MANAGEMENT
DIVISION

Re: Summary of Site Investigation and Sampling at Pinsky Depot, Barre, Vermont.
Site # 99-2631 - JCO # 1-1674-1(042)

Dear Ms. Provencher:

Enclosed is our summary of the Pinsky Depot investigation, performed last month (August 1999) for the Pinsky Railroad Company.

Please don't hesitate to call me if you have questions concerning our report. Thank you.

Sincerely,

THE JOHNSON COMPANY, INC.

By:



James R. Bowes, CPG
Senior Scientist
e-mail: jbowes@jcomail.com
www.johnsonco.com

enclosure

cc: M.P. Silver, Pinsky Railroad
Marcia Davis, Barre Granite Museum

1-1674-1\invrepor.rpt

THE JOHNSON COMPANY, INC.

Environmental Sciences and Engineering

SEP 30 10 00 AM '99
WASTE MANAGEMENT
DIVISION

September 29, 1999

Ms. Lynda Provencher
Sites Management Section
Vermont Department of Environmental Conservation
103 South Main St/West Building
Waterbury, Vermont 05671-0404

Re: Summary of Site Investigation and Sampling at Pinsky Depot, Barre, Vermont.
Site # 99-2631 - JCO # 1-1674-1(042)

Dear Ms. Provencher:

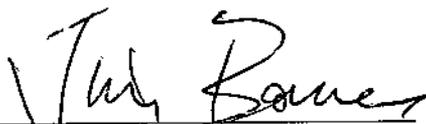
Enclosed is our summary of the Pinsky Depot investigation, performed last month (August 1999) for the Pinsky Railroad Company.

Please don't hesitate to call me if you have questions concerning our report. Thank you.

Sincerely,

THE JOHNSON COMPANY, INC.

By:



James R. Bowes, CPG

Senior Scientist

e-mail: jbowes@jcomail.com

www.johnsonco.com

enclosure

cc: M.P. Silver, Pinsky Railroad
Marcia Davis, Barre Granite Museum

1-1674-1\invrepor.rpt

*Civil, Environmental Engineering Hydrogeology Water Supply & Wastewater Disposal Hazardous Waste Remediation Hydrology Contamination Fate Analysis
Soil & Water Science Geology & Geophysics Rivers and Dams Solid Waste Permitting*

100 State Street Montpelier, VT 05602 ■ (802) 229-4600 Fax: (802) 229-5876

TABLE OF CONTENTS

EXECUTIVE SUMMARY	iii
1.0 INTRODUCTION	1
2.0 BACKGROUND	3
2.1 PROPERTY OWNERSHIP	4
2.2 GEOLOGY	4
3.0 REMEDIAL SITE INVESTIGATION METHODS	4
3.1 SOIL BORINGS AND MONITORING WELLS	4
3.1.1 <u>Soil Field Screening and Sampling</u>	5
3.1.2 <u>Soil Analyses</u>	5
3.1.3 <u>Monitoring Well Installation and Construction</u>	7
3.2 WATER QUALITY SAMPLING	8
3.3 SITE SURVEY	9
4.0 RESULTS	9
4.1 SOIL DATA	9
4.1.1 <u>Field Screen Results</u>	9
4.1.2 <u>Soil Analytical Results</u>	9
4.2 GROUNDWATER HYDRAULICS	11
4.3 WATER QUALITY	13
4.4 PRELIMINARY SOURCE ASSESSMENT	16
4.5 PRELIMINARY RECEPTOR SURVEY	17
5.0 CONCLUSIONS AND RECOMMENDATIONS	19
6.0 REFERENCES	20

LIST OF FIGURES

Figure 1	Site Location Map	2
Figure 2	Site Sketch Map	6
Figure 3	Groundwater Contour Map-August 24, 1999	12
Figure 4	Contaminant Concentration Map-August 24, 1999	15
Figure 5	Aerial Photo	18

LIST OF TABLES

Table 1	Summary Table - Monitoring Wells	8
Table 2	Summary of Soil Field Screening	10
Table 3	Summary of Water Level Readings	11
Table 4	Summary of Detected Compounds in Groundwater	14

LIST OF APPENDICES

Appendix A	Vermont Department of Environmental Conservation Correspondence
Appendix B	Well Logs
Appendix C	Soil Analytical Reports
Appendix D	Groundwater Analytical Reports
Appendix E	Vermont Department of Environmental Conservation Lists of Active and Closed Hazardous Waste Sites within 1 Mile radius

EXECUTIVE SUMMARY

An investigation performed in August 1999 by The Johnson Company on behalf of Pinsly Railroad Company (Westfield, Massachusetts) consisted of installing soil borings and monitoring wells in the vicinity of the Pinsly Depot building located at 56-62 Depot Square, Barre, Vermont. The wells were installed to delineate the extent of groundwater impacts from chlorinated volatile organic compounds identified by The Johnson Company during a May 1999 environmental site assessment on the Pinsly Depot. Based upon this investigation, The Johnson Company has determined the following:

1. The August 1999 investigation confirms the presence of chlorinated compounds in the sump water beneath the Pinsly Depot. Based on the results of the water analyses from the network of five installed monitoring wells (MW-101, 102, 103, and 105 outside; MW-104 hand-installed in the basement of the building), groundwater impacts are pervasive, i.e, the compounds tetrachloroethene (PCE), trichloroethene (TCE), cis-1,2-dichloroethene (cDCE) and vinyl chloride were reported present in groundwater. No other compounds analyzed by EPA Method 8260B were reported present in the groundwater, nor were any of the compounds present in the Trip Blank that accompanied each group of samples. Of the five locations sampled, confirmatory splits were collected and four were sent to Eastern Analytical Laboratories, Concord, NH. All detectable concentrations reported by The Johnson Company Laboratory were confirmed by the outside laboratory. Detectable concentrations of PCE in all the wells ranged in concentration from 2.8 to 610 ug/L. Of the five locations, four were reported with PCE concentrations in excess of the Vermont Groundwater Protection Rule Enforcement Standard (VGES) for PCE of 5 ug/L. TCE, was reported in three of the five locations (MW-101 at 110 ug/L; MW-102 at 14 ug/L; and MW-104 at 5 ug/L), with the VGES of 5 ug/L for TCE exceeded at all three locations. The compound cDCE was reported at three locations (110 ug/L in MW-101, 14 ug/L in MW-102, and 5 ug/L in MW-105). The VGES of 70 ug/L for cDCE was exceeded at one location (110 ug/L at MW-101). Vinyl chloride was detected by the JCO Lab at one location (7.6 ug/L at MW-101) in excess of its VGES of 2 ug/L.
2. A limited soil impact on the Site is indicated by the soil analytical data reported from a sample collected at MW-105. Of the four outside locations tested (no sample was collected inside the building) only the samples from MW-105 contained detectable PCE in soils (reported as 30, 67 and 84 ug/Kg respectively, at an interval and split sample beginning 8 - 10 feet bgs, and 10 - 12 feet bgs). No other compounds beside PCE were reported present in the soil sampled at MW-105, and no other locations sampled (from the same approximate depth increment) were reported with detectable VOCs in soils.
3. The groundwater flow direction is westward, from Depot Square toward the Stevens Branch River, as indicated from measurements collected August 24, 1999. The relative groundwater elevations display a very low (flat) hydraulic gradient (0.001 feet/foot).

Stratigraphic logging of soil texture and composition combined with potentiometric (hydraulic head, or elevation) data illustrates a coarser layer of sediment exists in the vicinity of MW-105. The presence of PCE in soils sampled from this location may be attributable to a preferential flow channel existing in this location. The water elevation in this well did not equilibrate to within the same range of fluctuation as the other outside wells, and as such, this location was not used in construction of the groundwater contour (potentiometric) map.

4. Based on the pervasive nature of dissolved phase PCE contamination occurring in every location tested on Site, an off-site source is suspected. Although detectable PCE was indicated in soils at MW-105, the magnitude of detection (reported as 30-85 micrograms per kilogram by laboratory analyses) does not provide sufficient source concentrations for the groundwater impacts indicated at MW-101. Further delineation of the plume (and its likely source) should be performed by installing additional test locations further to the east, and further north of the Pinsky Depot. A series of test locations that incorporates vertical and horizontal testing (profiling) should be oriented in a transect that originates just to the east of the Pinsky Depot, and proceeds north-northwest along the parking lot between Pinsky Depot and the former Howe Cleaners. This transect should be augmented by a second that originates at an area to the east of the former dry cleaner (between the former dry cleaner and Aubuchon) and proceeds southwest across Pinsky Railroad property and onto adjacent property (Rouleau Granite) located to the west of Pinsky Depot.
5. This additional phase of source delineation would involve a more detailed sampling pattern requiring additional sampling and analyses, with water samples collected both horizontally, and vertically. The additional investigation would also need to be performed at locations off the Pinsky Railroad property, so property access arrangements would be necessary. Because of the direction of groundwater flow patterns, the pervasive nature of PCE impacts indicated on Pinsky Railroad property, and the history of non-use of PCE on the Pinsky Depot, the additional investigation should not be undertaken by Pinsky Railroad Company, but by company(s) whom have had active involvement in the former dry cleaning operations

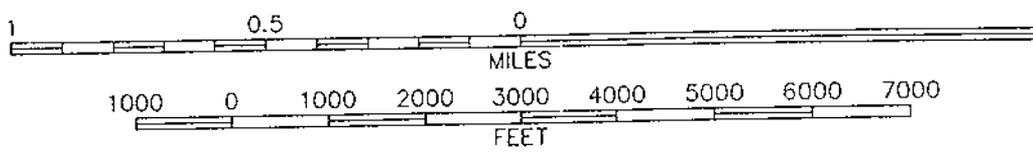
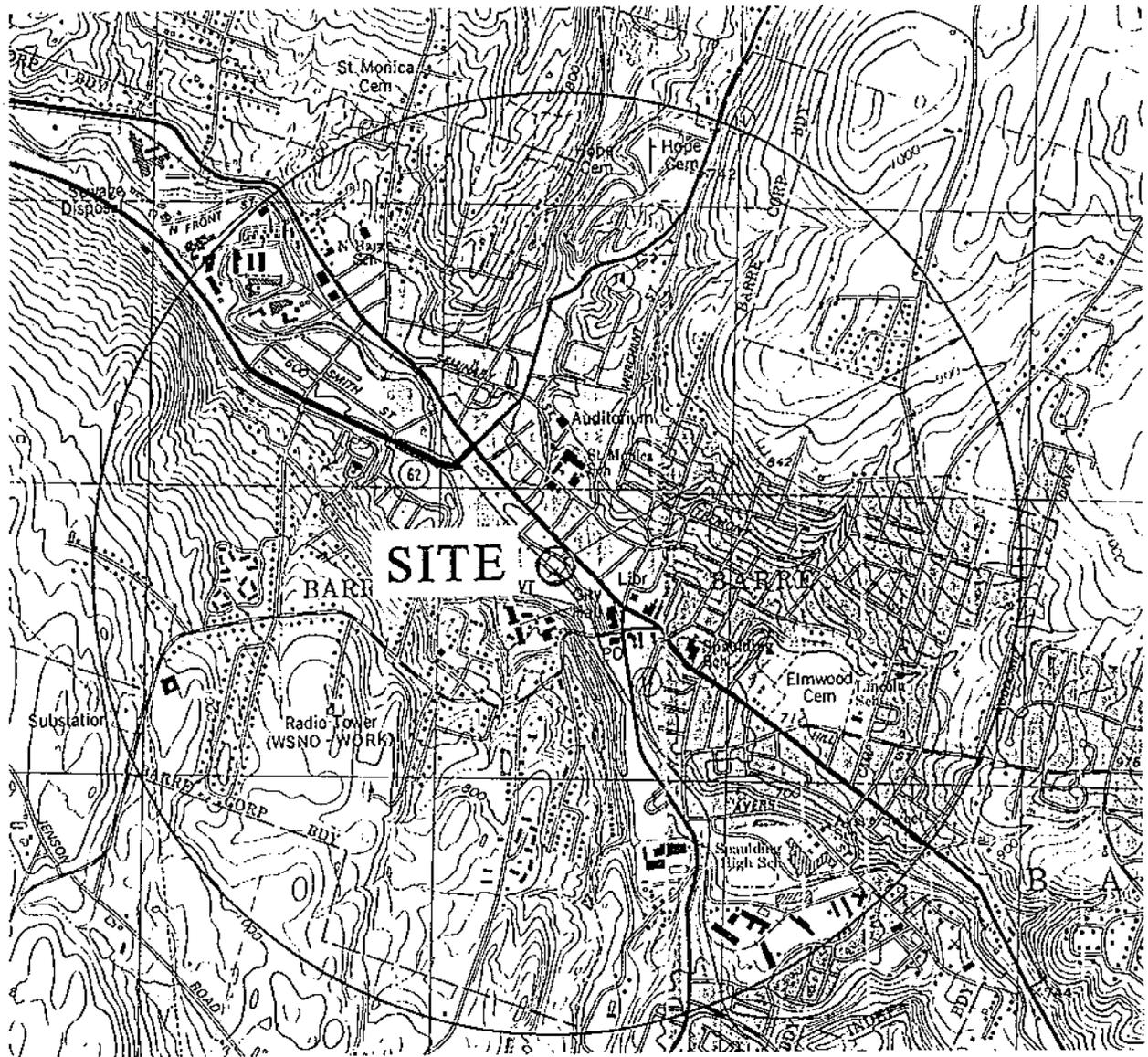
1.0 INTRODUCTION

The Johnson Company, Inc. (Montpelier, Vermont) completed a subsurface site investigation August 16th - 24th, 1999 for Pinsky Railroad Company (Westfield, Massachusetts). This investigation was performed on the Pinsky Depot (56-62 Depot Square) in Barre, Vermont (the Site). The Site is located in the central business district of Barre, approximate latitude 44° 11' 50" north, and longitude 72° 30' 45" east (Figure 1).

This investigation was done at the request of the Vermont Department of Environmental Conservation (VTDEC) Sites Management Section pursuant to a letter dated June 29, 1999 (Appendix A). A work plan dated July 22, 1999 was submitted to VTDEC for review and approval. The VTDEC approved of the work on August 5, 1999.

This investigation commenced August 16th and included the following investigation tasks:

- Installing soil borings and groundwater monitoring wells, both inside and outside the building (on Pinsky Railroad property), to ascertain the nature and extent of contamination previously indicated by the May 1999 ESA;
- Field screening soils with a photoionization detector (PID) and collection of soil samples within each boring (except inside the building) to ascertain if groundwater impact(s) were related to soil contamination on Site;
- Surveying each monitoring well for horizontal location and relative top of casing elevations (except the inside well), and gauging each well for depth to water in order to construct a groundwater potentiometric (hydraulic head, or elevation) map to estimate groundwater flow directions;
- Collecting groundwater samples from each of the monitoring wells to ascertain the magnitude of VOC impacts in groundwater; and;
- Analyzing soil and groundwater for presence of volatile organic compounds (VOCs) using Environmental Protection Agency (EPA) Method 8260B.



CONTOUR INTERVAL 20 FEET



BASE MAP: USGS 7.5 Minute Topographic Quadrangle BARRE EAST, VT. 1981 & BARRE WEST, 1978, BOTH PHOTOREVISED 1988

FIGURE 1: SITE LOCATION MAP
 PINSLEY DEPOT
 BARRE, VERMONT

THE JOHNSON COMPANY, INC.
Environmental Sciences and Engineering
 100 STATE STREET MONTPELIER, VT 05602

2.0 BACKGROUND

The VTDEC requested this investigation following receipt of notification from Pinsly Railroad Company (Pinsly) of the presence of elevated levels of the chlorinated volatile organic compounds tetrachloroethene (PCE), trichloroethene (TCE), and cis-1,2 dichloroethene (DCE) at the Site. These compounds were discovered during an environmental site assessment (ESA) performed by The Johnson Company in May 1999.

The May 1999 ESA was performed by The Johnson Company (JCO), for the Barre Granite Center and Heritage Museum, in anticipation of purchasing the property at 56-62 Depot Square for use as a historic museum. JCO recommended collection of a groundwater sample from the Pinsly property due to the fact that the adjacent property at 9 Depot Square (located approximately 50 feet north-northeast of the Pinsly Depot) had been used as a dry cleaning business for an unspecified period of time beginning in the 1940's. The location of the Pinsly Depot was presumed to be down gradient with respect to the inferred groundwater flow direction from the former dry cleaner. Due to the likelihood of groundwater impacts associated with dry cleaning operations in general, JCO determined that Pinsly Depot may be at risk of impact from contaminated groundwater migrating onto the property.

The sump in the basement of the Pinsly Depot was observed to contain standing water on May 6, 1999; therefore, JCO determined it would provide an adequate sample location from which to obtain a preliminary test of the groundwater quality.

The sample was collected May 17, 1999 using a sample bailer and sent to Eastern Analytical Inc., in Concord, New Hampshire for analyses of volatile organic compounds (VOC) by EPA Method 8260B. The laboratory analytical report was received June 1, 1999 and reported the presence of PCE, TCE, and cis-DCE at concentrations of 200, 27, and 28 micrograms per liter ($\mu\text{g/L}$), respectively. PCE is common to the dry cleaning industry; whereas, the presence of TCE and cisDCE may be attributable to transformation of PCE by biotic or abiotic processes. The presence of cisDCE in the absence of the other DCE isomers is particularly suggestive of reductive dechlorination, which is a transformation process.

In a letter dated June 7, 1999 the Pinsky Railroad Company, as current owner, discharged their obligation to notify the VTDEC. The VTDEC requested a copy of the Phase I ESA, and in a letter dated June 29, 1999, VTDEC subsequently requested the investigation.

2.1 PROPERTY OWNERSHIP

The Site is owned by Pinsky Railroad Company, and consists of an approximate 0.8 +/- acre parcel of land with a 2,560 square foot (ft²) commercial building (Pinsky Depot). The building is presently occupied by three tenants: Granite Bank's Drive-up window; Edward Jones financial services; and Associates in Orthodontics, which is a dentist's office.

2.2 GEOLOGY

The Site is located in the Vermont Piedmont physiographic province, in an area that was covered by high-level lakes during the most recent glacial melting event (Stewart and MaClintock, 1969). Soils in the vicinity are characterized by alluvial deposits over lake bed deposits of silt, silty clay and clay (Stewart and MaClintock, 1969).

Bedrock in the vicinity of the Site has been mapped as the Barton River member of the Waits River formation (Doll, 1970). These rocks likely consist of phyllite and limestone, locally metamorphosed by granitic intrusions. Several faults have been mapped in the vicinity and the rocks are likely fractured.

3.0 REMEDIAL SITE INVESTIGATION METHODS

3.1 SOIL BORINGS AND MONITORING WELLS

Five soil borings and groundwater monitoring wells (MW-101, 102, 103, 104 and 105) were installed on August 17th and 18th, 1999. Four of the wells were installed using The Johnson Company's Ingersoll-Rand A300 drilling rig with EnviroCore® sampler, while one well (MW-104) was installed using a hand held soil auger inside the Pinsky Depot (in the basement). Soil cores were collected at continuous intervals from the ground surface to depth, logged and field screened for presence of VOCs using a Thermo Environmental Model 580 B Organic Vapor

Meter photoionization detector (PID). The PID was calibrated the same day of its use to 100 part per million (ppm) isobutylene span gas. A total of four soil samples (one from each outside soil boring) were collected for laboratory analysis. The work plan specified that samples would be selected based upon the soil interval that registered the highest readings on the PID. Due to the low readings registered on the PID and poor soil recovery in the upper interval samples, all soil samples were collected from between 8-14 feet below ground surface (bgs). The test locations are shown on Figure 2.

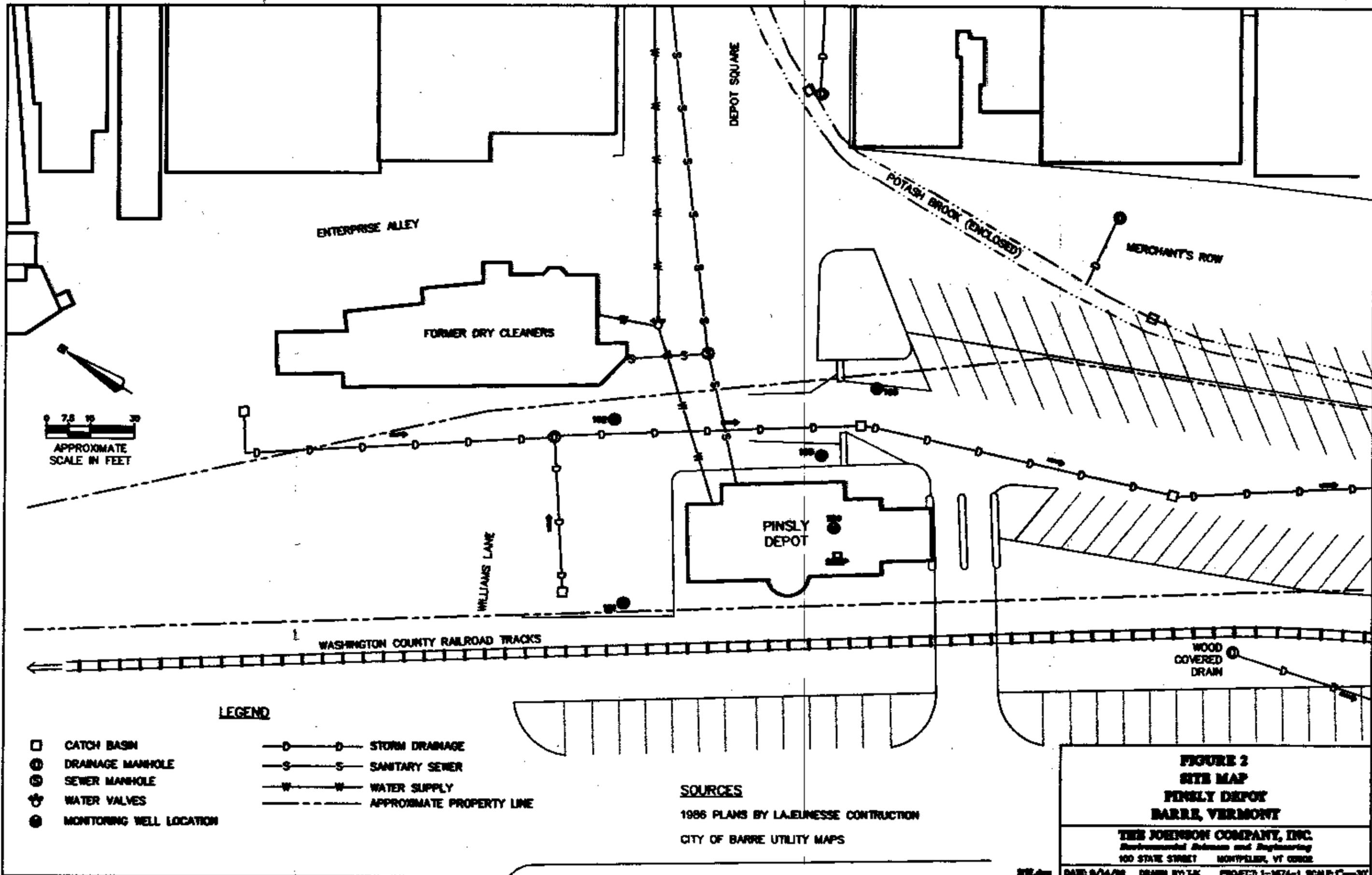
3.1.1 Soil Field Screening and Sampling

Soil samples were collected at continuous intervals initially in five foot sample cores (MW-101) then subsequently in two-foot intervals due to poor sample recovery in the longer increment. Upon extraction from each boring, the cores were first field screened for presence of volatile organic compounds (VOCs) in the tip of the soil core using the PID. The PID was calibrated on Site with an isobutylene standard. Field screening was done in two stages: 1) immediately upon withdrawal from the core barrel, and 2) subsequently, by inserting the tip of the PID into the heated-headspace area of the core sample after setting in direct sunlight for at least 15 minutes.

The stratigraphy was logged by noting the soils within the clear butyrate liners. Once the sample interval for laboratory analyses was selected, the butyrate liner was cut open, and a sub-core of soil was extracted at the selected interval and containerized. Following field screening and sampling, the liners were cut open and soils inspected for texture and composition.

3.1.2 Soil Analyses

The analytical methods proposed (for soil samples) in the work scope were for detecting presence of VOCs in soil via EPA Method 8260B. The soil samples selected from each monitoring well boring were from intervals ranging from 8 - 14 feet bgs. The soil was placed into two-125 mL glass jars, labeled and packaged for same-day delivery to The Johnson Company GC Laboratory (JCO Lab) under chain of custody for analyses by modified EPA



8260B. The modification is due to the use of Solid Phase Microextraction (SPME), which results in lower detection limits than typical Method 8260B analyses. Split samples were stored at the JCO Lab for subsequent overnight delivery to Eastern Analytical Laboratories in Concord, New Hampshire (Eastern) for confirmation analyses by EPA 8260B.

3.1.3 Monitoring Well Installation and Construction

Monitoring wells MW-101 through MW-104 were installed August 17th, 1999. MW-105 was installed August 18th. Total well depths varied from 22 feet below ground surface (bgs) to nine feet bgs (Appendix B). Each well was installed in the soil borings (inside the annular space of the BX drill casing) after advancing an additional 5-10 feet beyond the depth where the soil cores were observed with water-saturated soils.

All wells are constructed of one inch diameter PVC and finished with five-foot slotted (0.010") sections except for MW-105, which was finished with a 10 foot- long screen). Due to the coarse sandy nature of the Site soils, the saturated interval collapsed around the screened section as the BX drill casing was extracted from the ground. Filter sand was added from the top of the collapsed interval to where bentonite pellets were added as the well seal (generally within one to 1 ½ feet below ground surface to effectively seal the well). Each exterior well is finished inside a flush-mounted road box, which was cemented in place.

All wells were developed by pumping at slow rates (95 - 135 mL/min) via peristaltic pump for a period generally between 15 minutes to 2 hours. A summary of the well construction details is listed in Table 1. Complete well construction logs are provided in Appendix B.

TABLE 1
SUMMARY TABLE - MONITORING WELLS
PINSLY DEPOT, BARRE, VT

Location	Depth (fbgs) ¹	Top of Screen (fbgs)	Bottom of Screen (fbgs)	Stick Up (fbgs)
MW-101	22	17	22	-0.3
MW-102	16	11	16	-0.3
MW-103	9.4	5.4	9.4	-0.1
MW-104 ²	2.7	0.0	2.7	0.6
MW-105	15	5	15	-0.3

Notes:
1. fbgs = feet below ground surface
2. MW-104 installed by hand auger in floor of Pinsly Depot basement

3.2 WATER QUALITY SAMPLING

In accord with the approved work plan, the monitoring wells were allowed to stabilize for a week prior to sampling. The monitoring wells were sampled on August 24th using dedicated polyethylene sample tubing connected to a peristaltic pump. Prior to sampling the groundwater, depth to water readings were collected (referenced to the top of casing of each well) by using a Fisher water marker, capable of measuring down to 0.01 feet. The sample was collected after each well was purged of approximately three volumes of water measured in each well. All purge water (both from well development, and sampling) has been contained within a US Department of Transportation approved drum for temporary storage pending review of applicable disposal options.

Split samples for outside lab confirmation were collected from each location. Both sets of samples from the groundwater monitoring wells were delivered the same day to the JCO Lab in Montpelier for analyses. The split samples were subsequently delivered via overnight courier to Eastern Analytical Laboratories in Concord, New Hampshire following receipt of the preliminary water quality data from the JCO Lab.

3.3 SITE SURVEY

The new wells were tied into an already existing Site sketch map for the Pinsly Depot by taping off from known site features depicted on the sketch map (Figure 2). Top of Casing elevations were surveyed using an auto-level and survey rod, and were referenced to an assumed bench mark elevation of 100.00 feet, which is the concrete sill of the northeast corner of the Pinsly Depot.

4.0 RESULTS

4.1 SOIL DATA

4.1.1 Field Screen Results

2 lists the field screening results for soils collected from the exterior soil borings. As indicated on the following, the readings obtained by the PID ranged from 0.0 to 0.9 part per million (ppm) above background concentrations. The highest field screen readings were observed at MW-102 where two intervals were registered at 0.9 ppm over background.

Due to a combination of low field screen readings (no soil sample registered over 0.9 ppm), and the lack of sufficient sample volume in the upper-interval soil cores, all samples were collected from the same general depth interval, (ranging from 8 - 14 feet bgs). Two intervals were tested at MW-105 due to the presence of a very coarse sand/gravel unit encountered at this location. One interval was collected above (8-10 feet bgs), and the other below (10-12 feet bgs).

4.1.2 Soil Analytical Results

The preliminary lab reports were received from the JCO Lab on August 17th. The analytical reports indicate that, with the exception of boring MW-105, none of the soil compounds analyzed for VOCs by modified EPA 8260B were reported above the analytical detection limit of 12 micrograms per Kilogram ($\mu\text{g}/\text{Kg}$). The only location sampled with detectable soil VOCs was MW-105 (Figure 2). The compound PCE was reported in both samples collected from MW-105 at 67 (8-10') and 84 ppb (10-12'), respectively.

TABLE 2
SUMMARY OF SOIL FIELD SCREENING
AUGUST 16, 17, 1999
PINSLY DEPOT, BARRE, VT

SOIL BORING	APPROXIMATE DEPTH (FEET)	SOIL BAG HEADSPACE READING (PPM)	BACKGROUND READING (PPM)
MW-101	0 - 4	0.2	0.2
	4 - 9	0.2	
	9 - 14	0.5*	
MW-102	2 - 4	1.1	0.0 - 0.2
	4 - 8	0.0	
	8 - 10	0.8	
	10 - 12	0.5*	
	12 - 14	1.1	
	14 - 16	0.2	
MW-103	2 - 4	0.0	0.0
	4 - 6	0.0	
	6 - 8	0.2	
	8 - 10	0.2*	
	10 - 12	0.2	
	12 - 14	0.0	
MW-104	No Samples	No Samples	No Samples
MW-105	2 - 4	0.8	0.0
	4 - 6	0.5	
	6 - 8	0.5	
	8 - 10	0.5*	
	10 - 12	0.2*	
	12 - 14	No Sample	

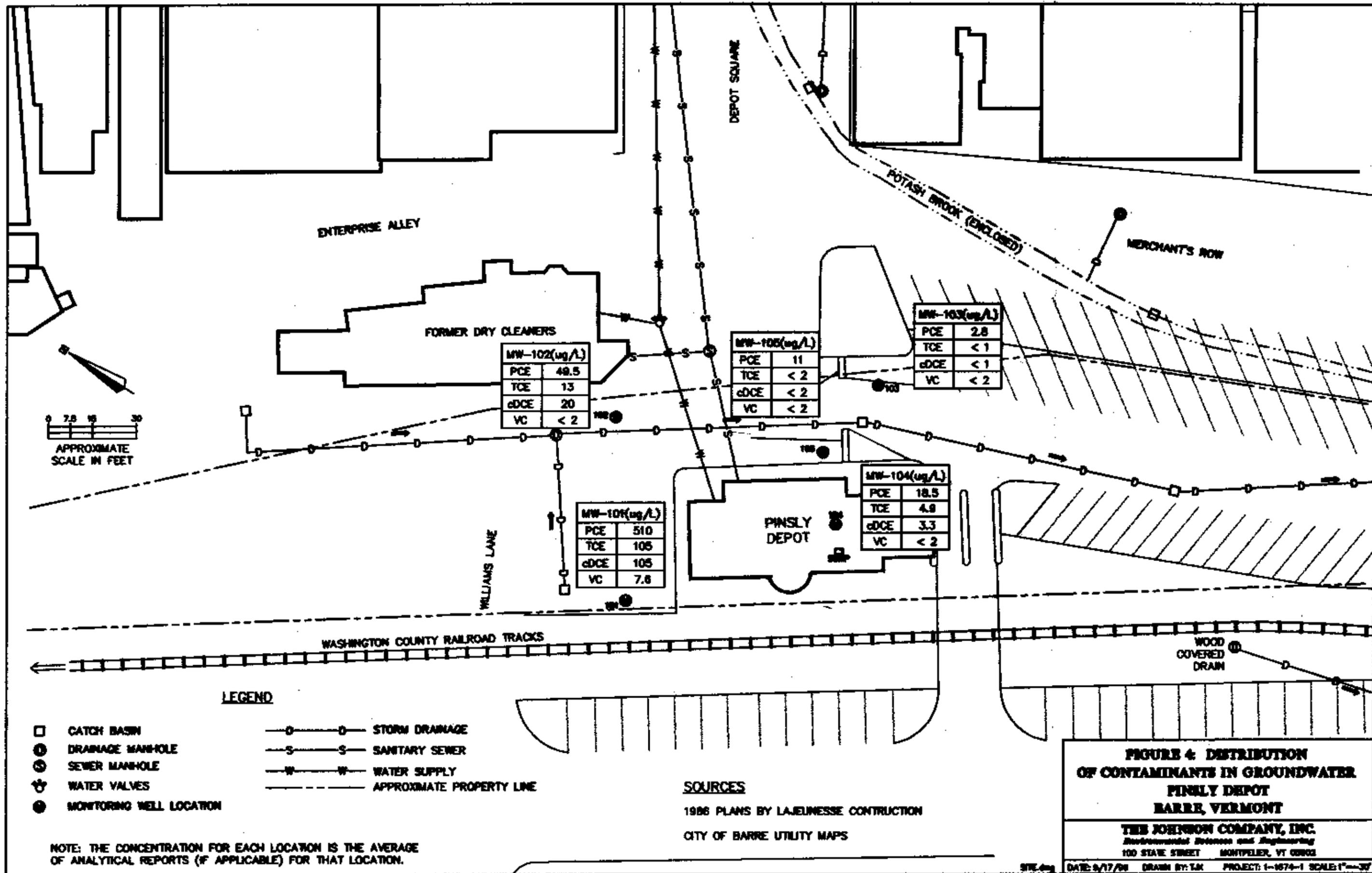
Values w. **BOLD "*"** are soil core intervals selected for laboratory analyses for VOCs by EPA Method 8260B

Sample splits from MW-101, MW-103, and MW-105 (8-10') were sent to Eastern Analytical (Eastern) via overnight courier on August 18th. The confirmation reports received from Eastern's analyses of the split samples (received August 26 and September 1, 1999) were consistent with JCO Lab reports. Eastern did not report the presence of any of the Method 8260B compounds above the limits of the analyses in either MW-101 or MW-103, but reported PCE in MW-105 at 8-10' at 30 ug/Kg.

4.2 GROUNDWATER HYDRAULICS

The depth to groundwater measurements were used to calculate the groundwater elevation at each of the four monitoring wells located on the exterior grounds (Figure 3). The depths and calculated groundwater elevations for the August 16th and 17th investigation, and the August 24th monitoring are summarized in 3. The measurements show the water elevation fluctuated within 0.01' in MW-101,102,and 103, but decreased by 0.04' in MW-105.

TABLE 3 SUMMARY OF WATER LEVEL READINGS AUGUST 16-17, 24, 1999 PINSLY DEPOT, BARRE, VT			
LOCATION	1999 DATE	DEPTH TO GROUNDWATER (FEET BTOC ¹)	RELATIVE GROUNDWATER ELEVATION (FEET)
MW-101	August 16	7.88	90.46
	August 17	7.85	90.49
	August 24	7.87	90.47
MW-102	August 16	7.94	90.59
	August 17	7.98	90.55
	August 24	7.95	90.58
MW-103	August 16	8.01	90.60
	August 17	8.02	90.59
	August 24	8.00	90.61
MW-104 ²	August 16	N.M. ³	N.A. ⁴
	August 17	N.M.	
	August 24	1.96	
MW-105	August 17	8.00	90.57
	August 24	8.04	90.53
1	BTOC - Below Top of Casing		
2	The water elevation for MW-104 measured was not used in generation of the groundwater contour map for this investigation since a Top of Casing (TOC) elevation could not be established at this location.		
3	N.M.-Not Measured		
4	N.A.-Not Applicable		



NOTE: THE CONCENTRATION FOR EACH LOCATION IS THE AVERAGE OF ANALYTICAL REPORTS (IF APPLICABLE) FOR THAT LOCATION.

The potentiometric map was generated from the August 24th set of measurements. Figure 3 depicts the groundwater surface as measured this date (a westward flow direction, with a hydraulic gradient, or slope of 0.001 feet/foot). The groundwater hydraulics in this area are characterized by a very low (flat) gradient, with only 0.14 feet of elevation difference between the upgradient and most downgradient well locations (Figure 3). With the exception at MW-105, all elevations showed fluctuations within 0.01' between the initial measuring date, and the sampling date. The water elevation in MW-105 decreased by 0.04' between August 17th and the sampling date of August 24th. Based upon the coarse gravel unit that this well is screened within, it appears this well is located within a different subsurface regime, and may be indicative of a preferential flow channel. Based upon the fact that the elevation in MW-105 did not appear to respond within the same range of fluctuation as the other three wells, the measurement from this well was not used in the potentiometric map in Figure 3.

4.3 WATER QUALITY

The water samples were delivered on the same day of sampling (August 24th) for analyses at the JCO Lab. The split samples collected for outside laboratory confirmation were maintained under chain of custody at the JCO Lab until preliminary results were received. Preliminary results were reported by the JCO lab on August 25th, and the split samples for MW-101, 102, 104 and 105 were shipped via overnight courier under chain of custody for confirmatory analyses at Eastern Analytical.

The water analyses reported the presence of detect concentrations of PCE in all locations tested. TCE, and cisDCE were detected in three of the five locations, and vinyl chloride was reported in one location (MW-101).

A summary of the detected compounds reported in groundwater by both labs is presented in 4. The JCO Lab result is posted in the left hand column (beneath the well identification) and the Eastern result is in the right hand column. Copies of the complete water quality reports from both labs are included as Appendix E of this report.

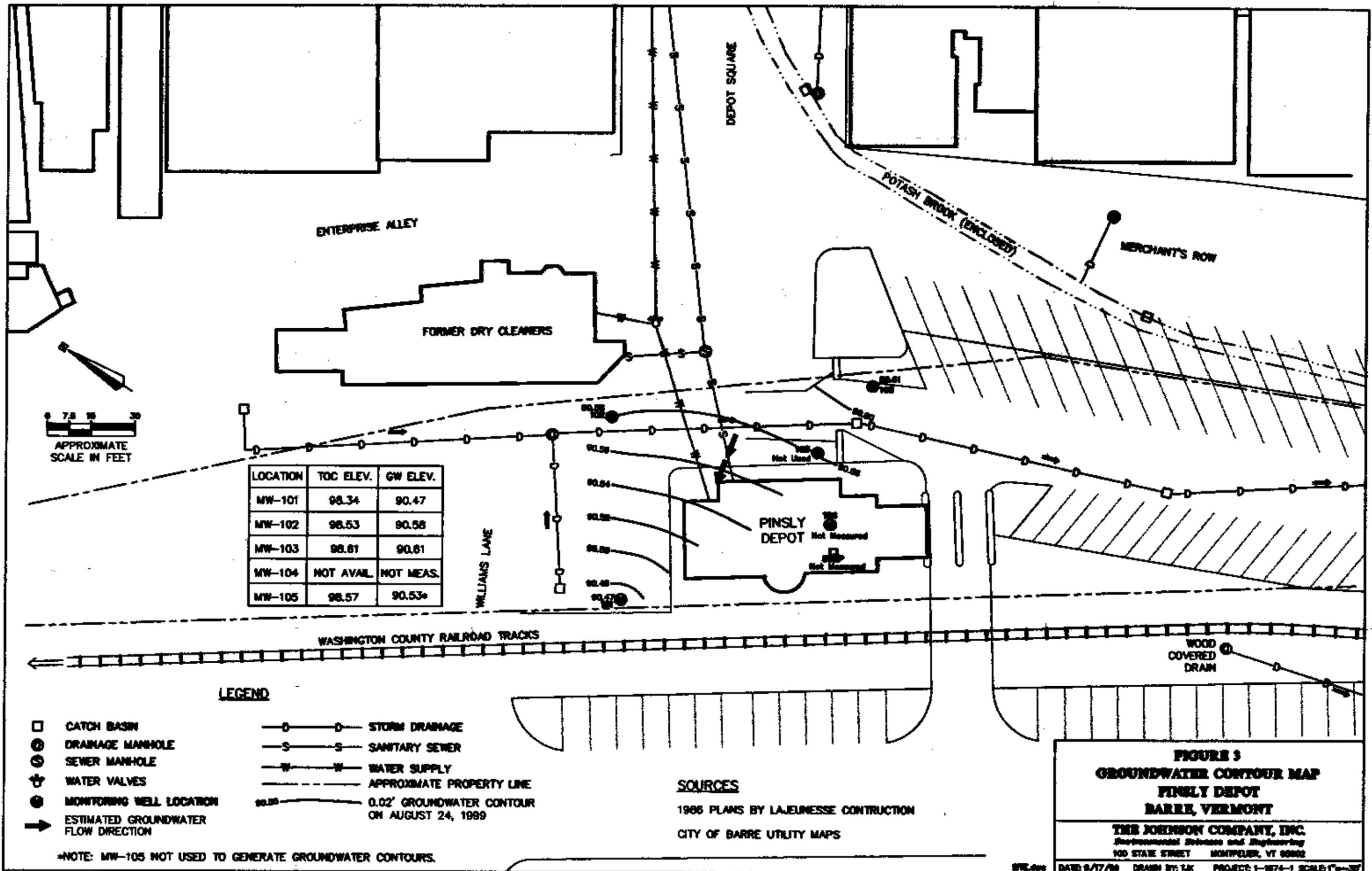
TABLE 4
SUMMARY OF DETECTED COMPOUNDS IN GROUNDWATER
SAMPLE DATE: AUGUST 24, 1999
PINSLY DEPOT, BARRE, VT

All Concentrations Reported in Micrograms per Liter (µg/L)

Compound	Sample ID									VGES ¹
	MW-101		MW-102		MW-103	MW-104		MW-105		
Vinyl Chloride	7.6 ²	<20 ^{3,4}	U2 ⁴	<2 ³	U2	U2	<2 ³	U2 ⁵	<2 ³	2
cis-1,2-Dichloroethene	110	100	21	19	U1	2.6	4	U1	<2	70
Trichloroethene (TCE)	100	110	14	12	U1	4.8	5	U1	<2	5
Tetrachloroethene (PCE)	410	610	53	46	2.8	20	17	13	9	5

1. VGES-Vermont Groundwater Protection Rule Enforcement. Shaded values indicate concentration exceeds the VGES for that listed compound.
2. Analyses for VOCs by modified EPA Method 8260B at JCO Laboratory;
3. Values in this column are split sample results analyzed at Eastern Analytical Laboratories by EPA Method 8260B.
4. U2, <2 - The compound was not detected at or above the reporting value.
5. Concentrations for MW105 (JCO analyses) are listed as the average concentration reported for the sample and Duplicate (MW110).

The results of the August 24th sampling and analyses as reported by JCO Lab and from Eastern show that of the five locations, the VGES for all the above-listed compounds is exceeded at MW-101, located just northwest of the Pinsky Depot building (Figure 4). The VGES of 5 µg/L for PCE reported in groundwater in all the wells was exceeded at all but one location (MW-103). The VGES of 5 µg/L for TCE was met or exceeded in all three wells reported with detectable TCE concentration (MW-101 at 110 µg/L; MW-102 at 14 µg/L; and MW-104 at 5 µg/L).



LOCATION	TOC ELEV.	GW ELEV.
MW-101	98.34	90.47
MW-102	98.53	90.58
MW-103	98.61	90.61
MW-104	NOT AVAIL.	NOT MEAS.
MW-105	98.57	90.53*

LEGEND

- CATCH BASIN
- ⊕ DRAINAGE MANHOLE
- ⊙ SEWER MANHOLE
- ⊕ WATER VALVES
- MONITORING WELL LOCATION
- ➔ ESTIMATED GROUNDWATER FLOW DIRECTION
- STORM DRAINAGE
- S—S— SANITARY SEWER
- W—W— WATER SUPPLY
- - - - - APPROXIMATE PROPERTY LINE
- 90.50 ——— 0.02' GROUNDWATER CONTOUR ON AUGUST 24, 1999

SOURCES

1986 PLANS BY LAJEUNESSE CONSTRUCTION
CITY OF BARRE UTILITY MAPS

**FIGURE 3
GROUNDWATER CONTOUR MAP
PINSKY DEPOT
BARRE, VERMONT**

THE JOHNSON COMPANY, INC.
Environmental Science and Engineering
100 STATE STREET MONTEPELIER, VT 05602

*NOTE: MW-105 NOT USED TO GENERATE GROUNDWATER CONTOURS.

4.4 PRELIMINARY SOURCE ASSESSMENT

Since the history of the Pinsly Depot has not included its use as a dry cleaner operation (JCO, 1999), it is unlikely that the source of PCE on Site is from the building. The orientation of the network of wells installed as part of this investigation show that solvent contamination decreases in an eastward direction from MW-101. The site map in Figure 4 shows the estimated distribution of PCE contamination on the Site. Based upon the estimated groundwater flow direction, and contaminant distribution, the likely source area for the Site contamination is east of the Pinsly property, in the general vicinity of where utility lines for municipal sewer, and water are located on Depot Square.

Based upon review of the May 1999 ESA by JCO, there are several active and closed hazardous waste sites within a mile of the Pinsly Depot. The list of active and closed sites registered with the VTDEC is included as Appendix E, which lists those sites that were determined to be within a one mile radius of the Site. Upon review of the locations, only the adjacent property at 9 Depot Square (referred in the VTDEC listing of inactive sites as Howe Cleaners), has the history of past use as a dry cleaner. Upon review of the available file for Howe Cleaners (VTDEC Site #92-1341) it was "listed" following the removal of a 6,000 gallon fuel oil underground storage tank (UST), and the site was managed as a petroleum site, not chlorinated solvents. The Howe Cleaners was removed from the active sites list in 1998 (VTDEC, 1998).

JCO reviewed a list maintained by VTDEC with regard to any spill incidents in Barre involving PCE being reported to VTDEC. Upon review of the list (dated August 1, 1999) there are four records of spills involving PCE, having occurred between 1977 and 1992. Two of the records were listed having occurred at Safety-Kleen on Second Street (approximately 4,000 feet northwest). A third was reported as "dumping dry cleaning materials" on Maple Street (> one mile south). There is one record of a perchloroethylene spill occurring in November 1977 (VTDEC Complaint # 083) that was serious enough to warrant the Barre City Fire Department to respond. The incident was described as a "pipe leak at dry cleaners" with an "ID Code of 0900". No additional information such as the

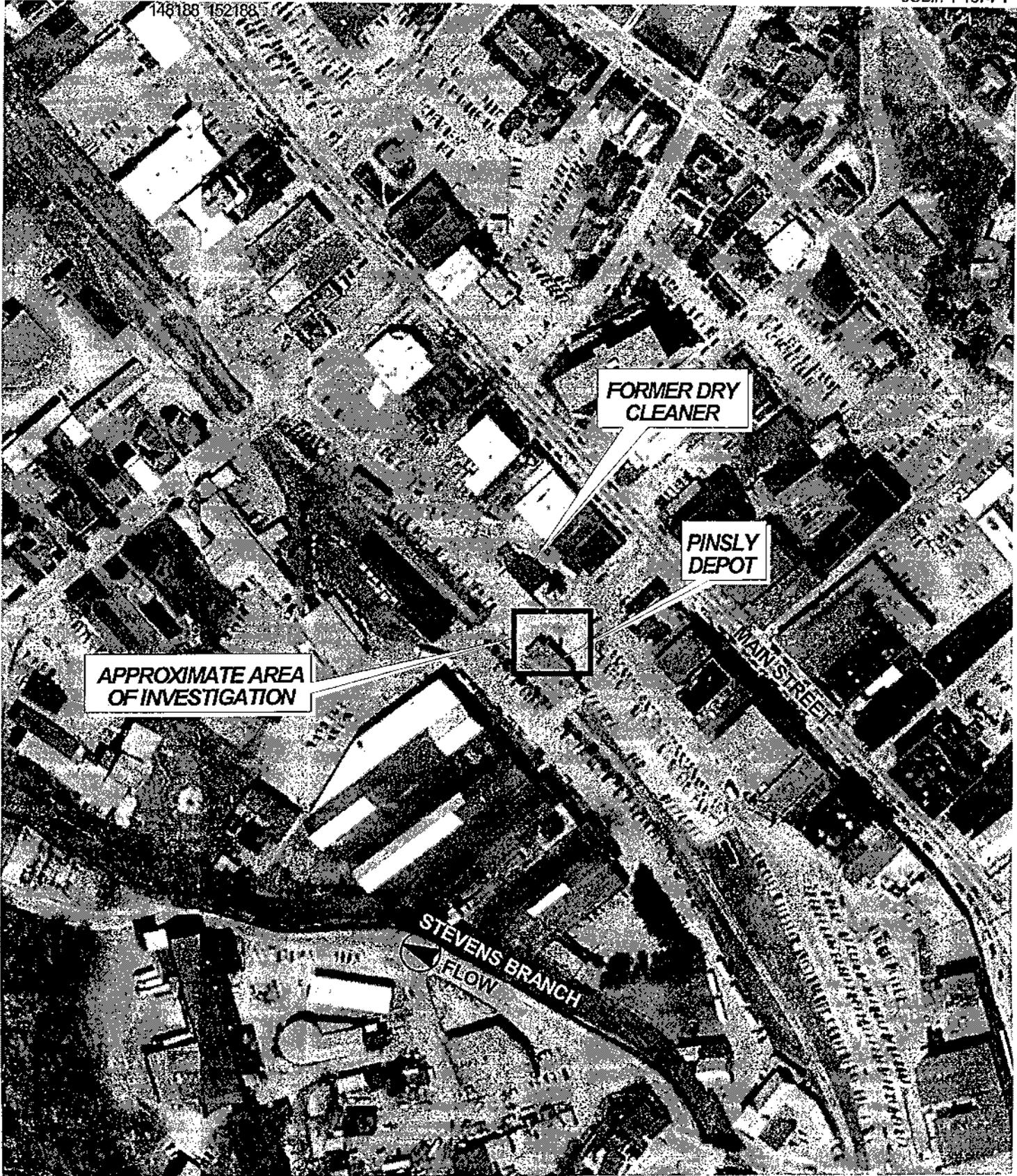
address or location of the spill was listed. In a telephone conversation with the Barre City fire department, The Johnson Company asked if any fire department records were available that may furnish more information on this spill. Pursuant to their policy, the Barre City fire department does not maintain their files after seven years, so no further information is available regarding the November 1977 spill (Bowes, 1999).

4.5 PRELIMINARY RECEPTOR SURVEY

During this investigation, the surrounding properties were observed for presence of residences, and/or basements associated with them. The Pinsly Depot is in the central business district in downtown Barre City, and any residences in this area appear limited to upper floor level apartments. The locations of the Site with respect to surrounding area is shown in Figure 5. The surrounding properties consist of the following in an upgradient direction (with reference to groundwater flow): Depot Square, and its intersection with North Main Street. Depot Square is flanked by two businesses: Chuck's Great Lunch (restaurant and bar), and Aubuchon Hardware. All of these properties are located in the immediate upgradient direction with respect to Pinsly Depot. To the west, in a downgradient direction, the Pinsly Depot is bound by the railroad tracks, and approximately 150 feet further west is a storage shed and parking lot belonging to Rouleau Granite Company. Beyond the storage shed and parking lot, is the former Gas Company property which is presently abandoned, and commonly referred to as Barre Coal Tar (VTDEC Active Site #77-0206).

Of the adjacent properties that were briefly observed, it appears only the Pinsly Depot itself and the adjacent former Howe Cleaners building (9 Depot Square) have basements that are within a distance surmised to be at risk from the groundwater impacts. The former dry cleaner was not inspected during this investigation, so no information regarding elevated field screen readings may be made at this time. The Pinsly Depot basement was inspected using a PID, and no elevated readings were registered at any of the locations tested in the basement, which included measurements directly above the Sump, and within the borehole headspace area of MW-104 (Figure 3, 4).

148188 152188



200 0 200 400 Feet



N



FIGURE 5: AERIAL PHOTOS
 PINSLY DEPOT - SITE #99-2631
 BARRE, VERMONT

Source: Vermont Mapping Program
 #148188 1979 and #152188 1979.

THE JOHNSON COMPANY, INC.
 MONTPELIER, VERMONT

All water supply and wastewater disposal in this area is being conveyed by the City of Barre's municipal works. A review of the VTDEC Water Supply Division information indicates no public water supply wells or well head protection areas within 1,000 feet of the Site, although two listed production wells (Rouleau Granite Company, and Pepin Granite Company) are located within this distance. The closest surface water determined to be at risk from the indicated contamination is the Steven's Branch River, located approximately 400 feet west. The entire vicinity of the Pinsky Depot, with the exception of a small section of lawn to the west, is either paved over with asphalt, or covered by concrete roadway.

5.0 CONCLUSIONS AND RECOMMENDATIONS

An investigation performed by The Johnson Company on behalf of Pinsky Railroad Company consisted of installing soil borings and monitoring wells in the vicinity of the Pinsky Depot building located at 56-62 Depot Square. The wells were installed to delineate extent(s) of soil and groundwater impacts from chlorinated compounds at the Pinsky Depot. Based upon this investigation, The Johnson Company offers the following:

- The August 1999 investigation confirms the presence of chlorinated compounds in the sump water beneath the Pinsky Depot. Based on the results of the water analyses from the network of monitoring wells installed, groundwater impacts are pervasive, i.e, the compound PCE was reported present in groundwater sampled at each location. Of the five locations sampled, all were reported with detectable concentrations of PCE, ranging in concentration from 2.8 to 610 ug/L. Of the five locations, four were reported with PCE concentrations in excess of the VGES for PCE of 5 ug/L. In addition to PCE, its breakdown products TCE, cisDCE, and vinyl chloride (MW-101) were reported present in lesser distribution.
- A limited soil impact is indicated, as determined by the soil analytical data received. Of the four outside locations tested (no sample was collected inside the building) only one (MW-105) was reported by the laboratory analyses with detectable PCE in soils. PCE was reported at concentrations from 67 - 84 ppb at an interval beginning 8 - 10 feet bgs, and 10 - 12 feet bgs respectively. No other locations sampled (from the same approximate depth increment) were reported with detectable VOCs in soils.
- The groundwater flow direction, as indicated from measurements collected August 24, 1999 is westward, from Depot Square toward the Stevens Branch river. The relative groundwater elevations referenced to an assumed bench mark elevation of

100.00 feet display a very low (flat) hydraulic gradient (0.001 feet/foot). Stratigraphic logging and data generated during construction of the groundwater potentiometric map indicates a coarser layer of sediment exists in the vicinity of MW-105, suggesting a different groundwater flow regime. The presence of PCE only in soils sampled from this location may be attributable to a preferential flow channel existing in this location.

- Based on the pervasive nature of dissolved phase PCE contamination occurring in every location tested, an off-site source is suspected. As with any surroundings that entail a municipal central business district, there are a multitude of possible sources. However, given the immediate surroundings, only one property has documentation of its past use as a dry cleaners (9 Depot Square). Further delineation of the plume (and its likely source) should be performed by installing additional test locations further to the north, and east of the Pinsky Depot. A series of test locations that incorporates testing and analysis in both a vertical and horizontal dimension (profiling) should be oriented along a transect that originates just to the east of the Pinsky Depot, and proceeds north-northwest along the parking lot between Pinsky Depot and the former Howe Cleaners. This transect should be augmented by a second that originates at an area to the east of the former dry cleaner (between the former dry cleaner and Aubuchon) and proceeds west/southwest across Pinsky Depot property and onto adjacent property located west of Pinsky Depot (Rouleau Granite).
- Because this phase of source delineation would involve a more detailed sampling pattern requiring additional sampling and analyses, and also would need to be performed from locations off the Pinsky property, this investigation should be undertaken by company(s) whom have had involvement in the past dry cleaning operations.

6.0 REFERENCES

VTDEC, 1997, Letter dated January 28, 1997 from VTDEC to Hamm-Burns, RE: Site Management Activity Completed (SMAC), Howe Dry Cleaners, Barre, Vermont (Site #92-1341).

The Johnson Co, 1999, Report titled "Phase 1 Environmental Site Assessment and Follow Up Water Quality Sample, Pinsky Railroad Depot, 52-64 Depot Square, Barre, Vermont", dated June 2, 1999

Appendix A
VTDEC Correspondence



State of Vermont

1-1674-1
JRB

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

AGENCY OF NATURAL RESOURCES
Department of Environmental Conservation

Waste Management Division
103 South Main Street / West Bldg.
Waterbury, VT 05671-0404
(802)241-3888
FAX (802)241-3296
email: lyndap@dec.anr.state.vt.us

August 5, 1999

Jim Bose
The Johnson Co.
100 State Street
Montpelier, VT 05602

RE: Pinsky Depot in Barre (Site #99-2631)

Dear Mr. Bose:

The Sites Management Section (SMS) has reviewed Johnson Company's *Draft Work Plan for Site Investigation* dated July 22, 1999 for the above referenced site. The SMS approves of all work outlined.

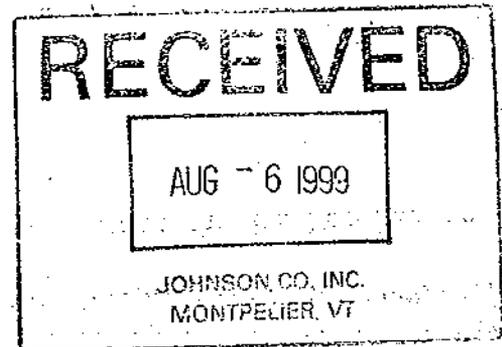
Please keep the SMS updated as to the status of work being conducted at the site. Feel free to call if you have any questions.

Sincerely,

Lynda Provencher, Haz. Mat. Spec.
Sites Management Section

c: J. Nicholas Filler, Pinsky Railroad Co.
M.P. Silver, Pinsky Railroad Co.
Marcia Davis, Barre Granite Center and Heritage Museum

[lp/sites/992631/8599ltr.wpd](http://sites/992631/8599ltr.wpd)





State of Vermont

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

RECEIVED

JUN 30 1999

JOHNSON CO. INC.
MONTPELIER, VT.

3-0219-2
JRB

AGENCY OF NATURAL RESOURCES
Department of Environmental Conservation
Waste Management Division
103 South Main Street / West Bldg.
Waterbury, VT 05671-0404
(802)241-3888
FAX (802)241-3296
email: lyndap@dec.anr.state.vt.us

June 29, 1999

Marcia Davis
Barre Granite Center and Heritage Museum
P.O. Box 282
Barre, VT 05641

RE: Contamination found in sump at the Depot Building in Barre (Site #99-2631)

Dear Ms. Davis:

The Sites Management Section (SMS) has reviewed the *Phase I Environmental Site Assessment and Follow Up Water Quality Sample* report dated June 1999 by the Johnson Company. As indicated in the report, a water sample taken from the basement sump contained levels of tetrachloroethene (PCE), trichloroethene (TCE) and cis-1,2-dichloroethene (DCE) which were in excess of the Vermont Groundwater Enforcement Standards (VTGWES).

Based on the information presented in the report, the SMS is requesting that you have your consultant perform the following:

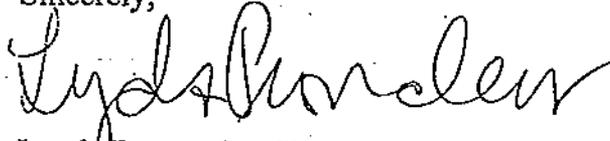
- Further define the degree and extent of groundwater and soil contamination at the site. This may be accomplished by installing a sufficient number of groundwater monitoring wells in locations which will determine if contamination is migrating from offsite sources. Samples should be analyzed by EPA Method 8260.
- Prepare a summary report including a description of site activities, analytical results, conclusions and recommendations for future work.

Please have your consultant submit a work plan within fifteen days of your receipt of this letter so that it may be approved prior to the initiation of onsite work.

The SMS is aware that contamination detected in the sump sample may be due to an offsite source. The SMS will investigate other potentially responsible parties depending on the results of the above investigation.

If you have any questions, please feel free to contact me by either phone at (802)241-3883 or email at lyndap@dec.anr.state.vt.us.

Sincerely,



Lynda Provencher, Haz. Mat. Spec.
Sites Management Section

c:Jim Bowes, Johnson Company
J. Nicholas Filler, Pinsky Railroad Company

lp/sites/992631/62999ltr.wpd

Appendix B
Well Logs

The Johnson Company, Inc.
 Environmental Sciences and Engineering
 100 State Street
 Montpelier, Vermont 05602

DRILLING LOG
WELL # MW-101

Project: Pinsky Depot
 Location: Barre, VT
 Job # 1-1674-1
 Logged By: JRB
 Date Drilled: 8/16/99
 Driller: DMM
 Drill Method: EnviroCore

Casing Type: PVC
 Casing Diameter: 1.0 in.
 Casing Length: 17.0 ft.
 Screen Type: PVC
 Screen Diameter: 1.0 in.
 Screen Length: 5.0 ft.
 Slot Size: .010

Total Pipe: 22.0 ft.
 Stick Up: -0.3 ft.
 Total Hole Depth: 24.0 ft.
 Well Guard Length: 0.0 ft.
 Initial Water Level: 8.9 ft.
 Surface Elevation: -
 T.O.C. Elevation: 98.34

■ = Sampled Interval

Sheet 1 of 1

Depth (feet)	Well Construction	Notes	Geology	PID Reading	Description
5					
4					
3					
2					
1					
0				none	0-0.5: Boulder Blast - no sample
1	Cement				
2	Bentonite			0.0	0.5-4': (0.75' recov); Dk gray/black fill w. brick frags
3					
4					
5	Sand Pack			0.2	4-9': (0.8' recov); Dark brown very fine silty sand; moist at bottom
6					
7					
8		▽			
9					
10				0.0	9-14': (0.8' recov); Upper intvl. is moist very fine sand; Dry coarse sand at bottom; Lab Sample
11					
12					
13					
14					
15					
16				0.0	14-19': (1.7' recov); water saturated coarse brown sand
17	Native Collapse				
18					
19					
20					
21	Screen			0.0	19-24': (no recov)
22					
23					
24					
25					
26					
27					
28					
29					
30					
31					
32					
33					
34					
35					
36					
37					
38					
39					
40					

The Johnson Company, Inc.
 Environmental Sciences and Engineering
 100 State Street
 Montpelier, Vermont 05602

DRILLING LOG
 WELL # MW-102

Project: Pinsky
 Location: Barre, VT
 Job # 1-1674-1
 Logged By: JRB
 Date Drilled: 8/16/99
 Driller: DMM
 Drill Method: EnviroCore

Casing Type: PVC
 Casing Diameter: 1.0 in.
 Casing Length: 11.0 ft.
 Screen Type: PVC
 Screen Diameter: 1.0 in.
 Screen Length: 5.0 ft.
 Slot Size: .010

Total Pipe: 16.0 ft.
 Stick Up: -0.3 ft.
 Total Hole Depth: 16.0 ft.
 Well Guard Length: 0.0 ft.
 Initial Water Level: 8.2 ft.
 Surface Elevation: -
 T.O.C. Elevation: 98.53

■ = Sampled Interval

Sheet 1 of 1

Depth (feet)	Well Construction	Notes	Geology	PID Reading	Description
5					
4					
3					
2					
1					
0					
1	Cement				0-2': Boulder blast thru concrete - no sample
2	Bentonite				2-4': (1.1'recov): Granite chips and rubble
3				0.0	
4	Sand Pack				
5					
6					
7					
8					8-10' (<0.25' recov): Moist brown medium-coarse sand; Note-- no samples from 4-6 due to rock in sampler; Offset 2' north
9				0.0	
10					
11	Collapse			0.0	10-12' (0.3'recov): Water saturated very fine greenish gray sand; Lab Sample
12					
13				0.0	12-14' (0.5'recov): very fine greenish gray sand (saturated)
14					
15	Screen			0.0	14-16' (<0.25'recov): coarse sand
16					
17					

The Johnson Company, Inc.
 Environmental Sciences and Engineering
 100 State Street
 Montpelier, Vermont 05602

DRILLING LOG
WELL # MW-103

Project: Pinsky Depot
 Location: Barre, VT
 Job # 1-1674-1
 Logged By: JRB
 Date Drilled: 8/16/99
 Driller: DMM
 Drill Method: EnviroCore

Casing Type: PVC
 Casing Diameter: 1.0 in.
 Casing Length: 4.4 ft.
 Screen Type: PVC
 Screen Diameter: 1.0 in.
 Screen Length: 5.0 ft.
 Slot Size: .010

Total Pipe: 9.4 ft.
 Stick Up: -0.1 ft.
 Total Hole Depth: 14.0 ft.
 Well Guard Length: 0.0 ft.
 Initial Water Level: 8.7 ft.
 Surface Elevation: -
 T.O.C. Elevation: 98.61

█ = Sampled Interval

Sheet 1 of 1

Depth (feet)	Well Construction	Notes	Geology	PID Reading	Description
5					
4					
3					
2					
1					
0					
1		Cement			
1		Bentonite			
2					
2				0.0	2-4'(0.9'recov): coarse sandy fill; Note: boulder blast to 2' through concrete street surface; no sample
3					
4					
4				0.0	4-6'(1.5'recov): brown very fine sand
5		Sand Pack			
6					
6				0.0	6-8'(1.25'recov): dark brown very fine silty sand (moist)
7		Screen			
7					
8					
8				0.0	8-10'(0.8'recov): coarse sand and gravel; Lab Sample
9					
9					
10					
10				0.0	10-12'(<0.25'recov): water saturated coarse sand and gravel
11					
11					
12					
12				0.0	12-14' (.25'recov): brown gravelly sand
13					
13					
14					
14					
15					
15					
16					
16					
17					

The Johnson Company, Inc.
 Environmental Sciences and Engineering
 100 State Street
 Montpelier, Vermont 05602

DRILLING LOG
WELL # MW-104

Project: Pinsky Depot
 Location: Barre, VT
 Job # 1-1674-1
 Logged By: JRB
 Date Drilled: 8/16/99
 Driller: JRB
 Drill Method: Hand auger

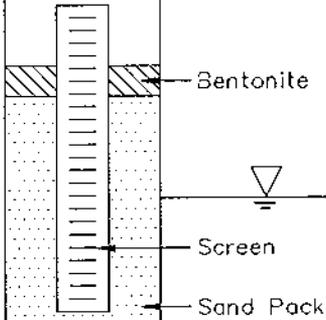
Casing Type: PVC
 Casing Diameter:
 Casing Length:
 Screen Type: PVC
 Screen Diameter: 1.0 in.
 Screen Length: 3.0 ft.
 Slot Size: .010

Total Pipe: 3.0 ft.
 Stick Up: 0.6 ft.
 Total Hole Depth: 2.7 ft.
 Well Guard Length: 0.0 ft.
 Initial Water Level: 1.3 ft.
 Surface Elevation: -
 T.O.C. Elevation: -

█ = Sampled Interval

Sheet 1 of 1

Depth (feet)	Well Construction	Notes	Geology	PID Reading	Description
5					
4.5					
4					
3.5					
3					
2.5					
2					
1.5					
1					
0.5					
0					
-0.5					
-1					
-1.5					
-2					
-2.5					
-3					
-3.5					
-4					
-4.5					
-5					
-5.5					
-6					



0.0

0-2.7': Hand auger cuttings indicate coarse brown sand; PID reading taken in borehole

The Johnson Company, Inc.
 Environmental Sciences and Engineering
 100 State Street
 Montpelier, Vermont 05602

DRILLING LOG
WELL # MW-105

Project: Pinsky Depot
 Location: Barre, VT
 Job # 1-1674-1
 Logged By: JRB
 Date Drilled: 8/17/99
 Driller: DMM
 Drill Method: EnviroCore

Casing Type: PVC
 Casing Diameter: 1.0 in.
 Casing Length: 5.0 ft.
 Screen Type: PVC
 Screen Diameter: 1.0 in.
 Screen Length: 10.0 ft.
 Slot Size: 0.010

Total Pipe: 15.0 ft.
 Stick Up: -0.3 ft.
 Total Hole Depth: 15.0 ft.
 Well Guard Length: 0.0 ft.
 Initial Water Level: 8.0 ft.
 Surface Elevation: -
 T.O.C. Elevation: 98.57

█ = Sampled Interval

Sheet 1 of 1

Depth (feet)	Well Construction	Notes	Geology	PID Reading	Description
5					
4					
3					
2					
1					
0					
1	Cement				
2	Bentonite				
3				0.2	2-4'(0.6'recov): Dark brown fill (gravelly). Note--boulder blast to 2' through asphalt and concrete
4				0.0	4-6'(0.9'recov): Moist dark brown sand in upper intvl., lower intvl. is dark gray compacted fine-med. sand
5	Sand Pack			0.0	6-8'(1.1'recov): moist fine-med sand to 7.9', coarse sand below
6					
7					
8					
9				0.0	8-10'(0.65'recov): water sat'd very gray green sand w. compacted very fine silty sand at bottom; Lab Sample
10					
11				0.0	10-12'(<0.25'recov): this interval charactzd by abundant rock frags w. very fine silty clayey matrix; Lab Sample; Appears as channel bottom deposit(?). Note: No recovery from either 12-14, or 14-16; Coarse gravelly sand in tip
12	Collapse				
13	Screen				
14					
15					
16					
17					

Appendix C
Soil Analytical Reports

Pinsly Depot
8/17/99

Project 1-1674-1

Compound	Sample MW101		Sample MW102		Sample MW103	
	Result (ug/Kg) (wet weight)	Qualifier	Result (ug/Kg) (wet weight)	Qualifier	Result (ug/Kg) (wet weight)	Qualifier
Vinyl chloride	12	U	12	U	12	U
1,1-Dichloroethene	12	U	12	U	12	U
trans-1,2-Dichloroethene	12	U	12	U	12	U
1,1-Dichloroethane	12	U	12	U	12	U
cis-1,2-Dichloroethene	12	U	12	U	12	U
1,1,1-Trichloroethane	12	U	12	U	12	U
Benzene	12	U	12	U	12	U
Fluorobenzene	12	U	12	U	12	U
Trichloroethene	12	U	12	U	12	U
Toluene	12	U	12	U	12	U
Tetrachloroethene	12	U	12	U	12	U
Ethylbenzene	12	U	12	U	12	U
p,m-Xylene	12	U	12	U	12	U
O-Xylene	12	U	12	U	12	U
4-Bromofluorobenzene (Surrogate Recovery in %)	100		91		100	

Qualifiers: U Compound not detected at or above the reported value.

Pinsly Depot
8/17/99

Project 1-1674-1

Compound	Sample		Sample	
	MW105 8-10	Qualifier	MW105 10-12	Qualifier
	Result (ug/Kg) (wet weight)		Result (ug/Kg) (wet weight)	
Vinyl chloride	12	U	12	U
1,1-Dichloroethene	12	U	12	U
trans-1,2-Dichloroethene	12	U	12	U
1,1-Dichloroethane	12	U	12	U
cis-1,2-Dichloroethene	12	U	12	U
1,1,1-Trichloroethane	12	U	12	U
Benzene	12	U	12	U
Fluorobenzene	12	U	12	U
Trichloroethene	12	U	12	U
Toluene	12	U	12	U
Tetrachloroethene	67	C	84	C
Ethylbenzene	12	U	12	U
p,m-Xylene	12	U	12	U
O-Xylene	12	U	12	U
4-Bromofluorobenzene (Surrogate Recovery in %)	97		95	

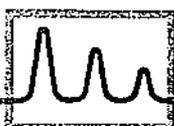
Qualifiers: U Compound not detected at or above the reported value.
C Compound confirmed by mass spectrometry.

CHAIN OF CUSTODY RECORD

No 2229

Client/Project Name <i>Pinsky Dept</i>			Project Location <i>Perce VT</i>			ANALYSES											
Project No. <i>674-1</i>			Field Logbook No. <i>588 4</i>									VAC'S 6/25/99					
Sampler: (Signature)			Chain of Custody Tape No.														
Sample No./ Identification	Date	Time	Lab Sample Number	Type of Sample	REMARKS												
<i>MW 01</i>	<i>6/18</i>	<i>1118</i>		<i>SOIL - COMP</i>													
<i>MW 02</i>	<i>↓</i>	<i>1315</i>		<i>L</i>													
<i>MW 03</i>	<i>↓</i>	<i>1620</i>															
Relinquished by: (Signature) <i>MAR BOWEN</i>				Date <i>6/18/99</i>	Time <i>8:00 P.</i>	Received by: (Signature) <i>JC LAB</i>				Date <i>8/10/99</i>	Time						
Relinquished by: (Signature)				Date	Time	Received by: (Signature)				Date	Time						
Relinquished by: (Signature)				Date	Time	Received for Laboratory: (Signature)				Date	Time						
Sample Disposal Method:				Disposed of by: (Signature)				Date	Time								
SAMPLE COLLECTOR 5 State Street Montpelier, VT 05602 (802) 229-4600 Fax: (802) 229-5876 THE JOHNSON COMPANY, INC. Environmental Sciences and Engineering				ANALYTICAL LABORATORY 													

1-1674-1



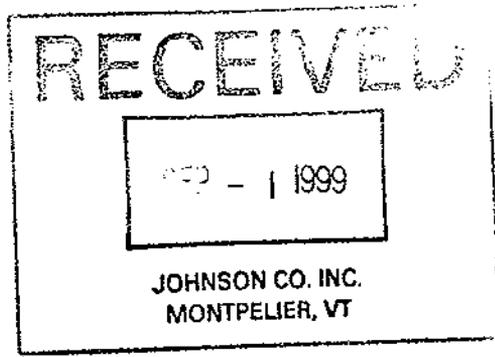
eastern analytical

professional laboratory services

Jim Bowes
The Johnson Company
100 State St.
Montpelier, VT 05602

Subject: Laboratory Report

Eastern Analytical, Inc. ID: 18134 TJC
Client Identification: Barre 1-1674-1
Date Received: 8/19/99



Dear Mr. Bowes :

Enclosed please find the laboratory report for the above identified project. All analyses were subjected to rigorous quality control measures to assure data accuracy. Unless otherwise stated, all holding times, preservation techniques, container types, and sample conditions adhered to EPA Protocol.

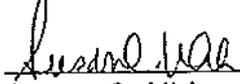
The following standard abbreviations and conventions apply to all EAI reports:

- Solid samples are reported on a dry weight basis, unless otherwise noted
- < = "less than" followed by the reporting limit
- TNR = Testing Not Requested
- ND = None Detected, no established detection limit
- RL = Reporting Limits

If you have any questions regarding the results contained within, please feel free to directly contact me, the department supervisor, or the analytical chemist who performed the testing in question. Unless otherwise requested, we will dispose of the sample(s) 30 days from the sample receipt date.

We appreciate this opportunity to be of service and look forward to your continued patronage.

Sincerely,


Susan C. Uhler, Lab Director

8/30/99
Date



Client: The Johnson Company

Client Designation: Barre 1-1674-1

Sample condition upon receipt and while in Eastern Analytical, Inc. custody.

The following chart and narrative describes noted sample irregularities for the project.
Chain of Custody for these samples is attached.

Sample ID	Date Rec'd	Date Samp'd	Sample Matrix	% Dry Weight	Preservation	Condition	Temperature
MW101-9-14	8/19/99	8/16/99	soil	82.5	Acceptable	Satisfactory	NA

Abbreviations: Acc. = Acceptable AtEPAP = Adhered to EPA Protocol NA = Not Applicable

Narrative: The samples were properly preserved and the pH measured when applicable unless otherwise noted.



LABORATORY REPORT

Eastern Analytical, Inc. ID#: 18134

Client: The Johnson Company

Client Designation: Barre 1-1674-1

Sample ID: MW101-9-14

Analytical Type: Sample
Matrix: soil
Date Sampled: 8/16/99
Date Received: 8/19/99
Units: µg/kg
Date of Analysis: 8/27/99
Analyst: JDS
Method: 8260B
Dilution Factor: 1

Dichlorodifluoromethane	< 100
Chloromethane	< 100
Vinyl chloride	< 20
Bromomethane	< 100
Chloroethane	< 100
Trichlorofluoromethane	< 100
Diethyl ether	< 10
Acetone	< 500
1,1-Dichloroethene	< 10
Methylene chloride	< 50
Carbon disulfide	< 50
Methyl-t-butyl ether(MTBE)	< 50
trans-1,2-Dichloroethene	< 10
1,1-Dichloroethane	< 10
2,2-Dichloropropane	< 10
cis-1,2-Dichloroethene	< 10
2-Butanone(MEK)	< 100
Bromochloromethane	< 10
Tetrahydrofuran(THF)	< 100
Chloroform	< 10
1,1,1-Trichloroethane	< 10
Carbon tetrachloride	< 10
1,1-Dichloropropene	< 10
Benzene	< 10
1,2-Dichloroethane	< 10
Trichloroethene	< 10
1,2-Dichloropropane	< 10
Dibromomethane	< 10
Bromodichloromethane	< 10
4-Methyl-2-pentanone(MIBK)	< 100
cis-1,3-Dichloropropene	< 10
Toluene	< 10
trans-1,3-Dichloropropene	< 10
1,1,2-Trichloroethane	< 10
2-Hexanone	< 100
Tetrachloroethene	< 10
1,3-Dichloropropane	< 10
Dibromochloromethane	< 10
1,2-Dibromoethane	< 10
Chlorobenzene	< 10
1,1,1,2-Tetrachloroethane	< 10



LABORATORY REPORT

Eastern Analytical, Inc. ID#: 18134

Client: The Johnson Company

Client Designation: Barre 1-1674-1

Sample ID: MW101-9-14

Analytical Type: Sample

Matrix: soil

Date Sampled: 8/16/99

Date Received: 8/19/99

Units: µg/kg

Date of Analysis: 8/27/99

Analyst: JDS

Method: 8260B

Dilution Factor: 1

1,1,1,2-Tetrachloroethane	< 10
Ethylbenzene	< 10
mp-Xylene	< 10
o-Xylene	< 10
Styrene	< 10
Bromoform	< 10
iso-Propylbenzene	< 10
Bromobenzene	< 10
1,1,2,2-Tetrachloroethane	< 10
1,2,3-Trichloropropane	< 10
n-Propylbenzene	< 10
2-Chlorotoluene	< 10
4-Chlorotoluene	< 10
1,3,5-Trimethylbenzene	< 10
tert-Butylbenzene	< 10
1,2,4-Trimethylbenzene	< 10
sec-Butylbenzene	< 10
1,3-Dichlorobenzene	< 10
p-isopropyltoluene	< 10
1,4-Dichlorobenzene	< 10
1,2-Dichlorobenzene	< 10
n-Butylbenzene	< 10
1,2-Dibromo-3-chloropropane	< 10
1,2,4-Trichlorobenzene	< 10
Hexachlorobutadiene	< 10
Naphthalene	< 10
1,2,3-Trichlorobenzene	< 10

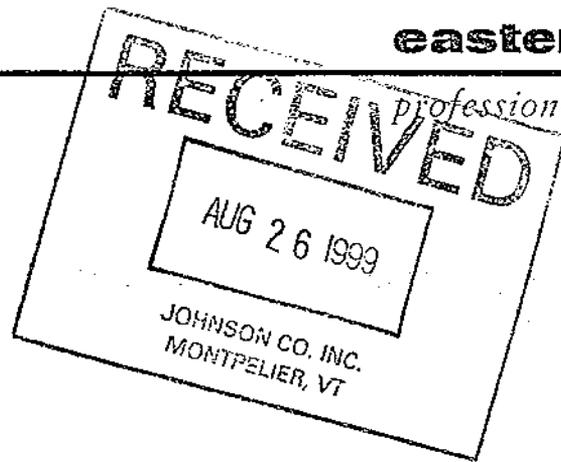
F-1674-1

JRB



eastern analytical

professional laboratory services



Jim Bowes
The Johnson Company
100 State St.
Montpelier, VT 05602

Subject: Laboratory Report

Eastern Analytical, Inc. ID: 18054 TJC
Client Identification: Barre 1-1674-1
Date Received: 8/19/99

Dear Mr. Bowes :

Enclosed please find the laboratory report for the above identified project. All analyses were subjected to rigorous quality control measures to assure data accuracy. Unless otherwise stated, all holding times, preservation techniques, container types, and sample conditions adhered to EPA Protocol.

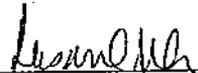
The following standard abbreviations and conventions apply throughout all Eastern Analytical, Inc. reports:

- < = "less than" followed by the reporting limit
- TNR = Testing Not Requested
- ND = None Detected, no established detection limit
- RL = Reporting Limits

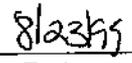
If you have any questions regarding the results contained within, please feel free to directly contact me, the department supervisor, or the analytical chemist who performed the testing in question. Unless otherwise requested, we will dispose of the sample(s) 30 days from the sample receipt date.

We appreciate this opportunity to be of service and look forward to your continued patronage.

Sincerely,



Susan C. Uhler, Lab Director



Date



Client: The Johnson Company

Client Designation: Barre 1-1674-1

Sample condition upon receipt and while in Eastern Analytical, Inc. custody.

The following chart and narrative describes noted sample irregularities for the project. Chain of Custody for these samples is attached.

Sample ID	Date Rec'd	Date Samp'd	Sample Matrix	% Dry Weight	Preservation	Condition	Temperature
MW103-8-10	8/19/99	8/16/99	soil	92.1	Acceptable	Satisfactory	NA
MW105-8-10	8/19/99	8/17/99	soil	86.3	Acceptable	Satisfactory	NA

Abbreviations: Acc. = Acceptable

AtEPAP = Adhered to EPA Protocol

NA = Not Applicable

Narrative: The samples were properly preserved and the pH measured when applicable unless otherwise noted.



LABORATORY REPORT

Eastern Analytical, Inc. ID#: 18054

Client: The Johnson Company

Client Designation: Barre 1-1674-1

Sample ID:	MW103-8-10	MW105-8-1 0
Analytical Type:	Sample	Sample
Matrix:	soil	soil
Date Sampled:	8/16/99	8/17/99
Date Received:	8/19/99	8/19/99
Units:	µg/kg	µg/kg
Date of Analysis:	8/20/99	8/20/99
Analyst:	JDS	JDS
Method:	8260B	8260B
Dilution Factor:	1	1
Dichlorodifluoromethane	< 100	< 100
Chloromethane	< 100	< 100
Vinyl chloride	< 20	< 20
Bromomethane	< 100	< 100
Chloroethane	< 100	< 100
Trichlorofluoromethane	< 100	< 100
Diethyl ether	< 10	< 10
Acetone	< 500	< 500
1,1-Dichloroethene	< 10	< 10
Methylene chloride	< 50	< 50
Carbon disulfide	< 50	< 50
Methyl-t-butyl ether(MTBE)	< 50	< 50
trans-1,2-Dichloroethene	< 10	< 10
1,1-Dichloroethane	< 10	< 10
2,2-Dichloropropane	< 10	< 10
cis-1,2-Dichloroethene	< 10	< 10
2-Butanone(MEK)	< 100	< 100
Bromochloromethane	< 10	< 10
Tetrahydrofuran(THF)	< 100	< 100
Chloroform	< 10	< 10
1,1,1-Trichloroethane	< 10	< 10
Carbon tetrachloride	< 10	< 10
1,1-Dichloropropene	< 10	< 10
Benzene	< 10	< 10
1,2-Dichloroethane	< 10	< 10
Trichloroethene	< 10	< 10
1,2-Dichloropropane	< 10	< 10
Dibromomethane	< 10	< 10
Bromodichloromethane	< 10	< 10
4-Methyl-2-pentanone(MIBK)	< 100	< 100
cis-1,3-Dichloropropene	< 10	< 10
Toluene	< 10	< 10
trans-1,3-Dichloropropene	< 10	< 10
1,1,2-Trichloroethane	< 10	< 10
2-Hexanone	< 100	< 100
Tetrachloroethene	< 10	30
1,3-Dichloropropane	< 10	< 10
Dibromochloromethane	< 10	< 10
1,2-Dibromoethane	< 10	< 10
Chlorobenzene	< 10	< 10
1,1,1,2-Tetrachloroethane	< 10	< 10



LABORATORY REPORT

Eastern Analytical, Inc. ID#: 18054

Client: The Johnson Company

Client Designation: Barre 1-1674-1

Sample ID:	MW103-8-10	MW105-8-10
Analytical Type:	Sample	Sample
Matrix:	soil	soil
Date Sampled:	8/16/99	8/17/99
Date Received:	8/19/99	8/19/99
Units:	µg/kg	µg/kg
Date of Analysis:	8/20/99	8/20/99
Analyst:	JDS	JDS
Method:	8260B	8260B
Dilution Factor:	1	1
1,1,1,2-Tetrachloroethane	< 10	< 10
Ethylbenzene	< 10	< 10
mp-Xylene	< 10	< 10
o-Xylene	< 10	< 10
Styrene	< 10	< 10
Bromoform	< 10	< 10
iso-Propylbenzene	< 10	< 10
Bromobenzene	< 10	< 10
1,1,2,2-Tetrachloroethane	< 10	< 10
1,2,3-Trichloropropane	< 10	< 10
n-Propylbenzene	< 10	< 10
2-Chlorotoluene	< 10	< 10
4-Chlorotoluene	< 10	< 10
1,3,5-Trimethylbenzene	< 10	< 10
tert-Butylbenzene	< 10	< 10
1,2,4-Trimethylbenzene	< 10	< 10
sec-Butylbenzene	< 10	< 10
1,3-Dichlorobenzene	< 10	< 10
p-isopropyltoluene	< 10	< 10
1,4-Dichlorobenzene	< 10	< 10
1,2-Dichlorobenzene	< 10	< 10
n-Butylbenzene	< 10	< 10
1,2-Dibromo-3-chloropropane	< 10	< 10
1,2,4-Trichlorobenzene	< 10	< 10
Hexachlorobutadiene	< 10	< 10
Naphthalene	< 10	< 10
1,2,3-Trichlorobenzene	< 10	< 10

Appendix D
Groundwater Analytical Reports

Pinsky Depot
8/25/99

Project 1-1674-1

Compound	Sample		MW102		MW103		MW104		MW105		MW110		Trip Blank	
	MW101													
	Result (ug/L)	Qualifier												
Vinyl chloride	7.6	C	2.0	U										
1,1-Dichloroethene	1.0	U												
trans-1,2-Dichloroethene	1.0	U												
1,1-Dichloroethane	1.0	U												
cis-1,2-Dichloroethene	110	C	21	U	1.0	U	2.6	U	1.0	U	1.0	U	1.0	U
1,1,1-Trichloroethane	1.0	U												
Benzene	1.0	U												
Fluorobenzene	1.0	U												
Trichloroethene	100	C	14	U	1.0	U	4.8	U	1.0	U	1.0	U	1.0	U
Toluene	1.0	U												
Tetrachloroethene	410	C	53	U	2.8	U	20	U	13	U	13	U	1.0	U
Ethylbenzene	1.0	U												
p,m-Xylene	1.0	U												
O-Xylene	1.0	U												
4-Bromofluorobenzene (Surrogate Recovery in %)	101		107		100		101		100		100		101	

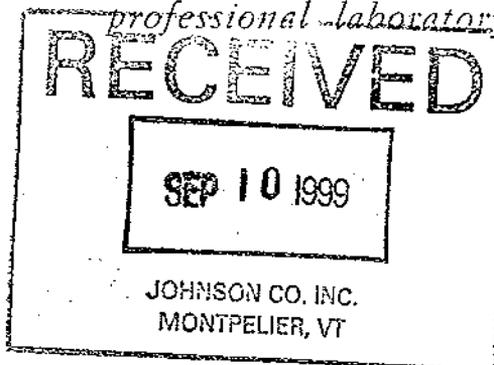
Qualifiers: U Compound not detected at or above the reported value.
C Compound confirmed by mass spectrometry.

1-1674-1



eastern analytical

professional laboratory services



Jim Bowes
The Johnson Company
100 State St.
Montpelier, VT 05602

Subject: Laboratory Report

Eastern Analytical, Inc. ID: 18143 TJC
Client Identification: Pinsky Depot 1-1674-1
Date Received: 8/27/99

Dear Mr. Bowes :

Enclosed please find the laboratory report for the above identified project. All analyses were subjected to rigorous quality control measures to assure data accuracy. Unless otherwise stated, all holding times, preservation techniques, container types, and sample conditions adhered to EPA Protocol.

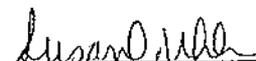
The following standard abbreviations and conventions apply to all EAI reports:

- Solid samples are reported on a dry weight basis, unless otherwise noted
- < = "less than" followed by the reporting limit
- TNR = Testing Not Requested
- ND = None Detected, no established detection limit
- RL = Reporting Limits

If you have any questions regarding the results contained within, please feel free to directly contact me, the department supervisor, or the analytical chemist who performed the testing in question. Unless otherwise requested, we will dispose of the sample(s) 30 days from the sample receipt date.

We appreciate this opportunity to be of service and look forward to your continued patronage.

Sincerely,



Susan C. Uhler, Lab Director

9/8/99

Date



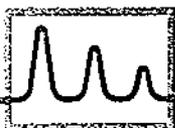
LABORATORY REPORT

Eastern Analytical, Inc. ID#: 18143

Client: The Johnson Company

Client Designation: Pinsky Depot 1-1674-1

Sample ID:	MW101	MW102	MW104	MW105	TRIP BLANK
Analytical Type:	Sample	Sample	Sample	Sample	Sample
Matrix:	aqueous	aqueous	aqueous	aqueous	aqueous
Date Sampled:	8/25/99	8/25/99	8/25/99	8/25/99	8/25/99
Date Received:	8/27/99	8/27/99	8/27/99	8/27/99	8/27/99
Units:	µg/l	µg/l	µg/l	µg/l	µg/l
Date of Analysis:	9/3/99	9/1/99	9/1/99	9/1/99	9/1/99
Analyst:	VG	VG	VG	JDS	VG
Method:	8260B	8260B	8260B	8260B	8260B
Dilution Factor:	10	1	1	1	1
Dichlorodifluoromethane	< 50	< 5	< 5	< 5	< 5
Chloromethane	< 20	< 2	< 2	< 2	< 2
Vinyl chloride	< 20	< 2	< 2	< 2	< 2
Bromomethane	< 20	< 2	< 2	< 2	< 2
Chloroethane	< 50	< 5	< 5	< 5	< 5
Trichlorofluoromethane	< 50	< 5	< 5	< 5	< 5
Diethyl ether	< 50	< 5	< 5	< 5	< 5
Acetone	< 100	< 10	< 10	< 10	< 10
1,1-Dichloroethene	< 10	< 1	< 1	< 1	< 1
Methylene chloride	< 50	< 5	< 5	< 5	< 5
Carbon disulfide	< 20	< 5	< 5	< 5	< 5
Methyl-t-butyl ether(MTBE)	< 10	< 10	< 10	< 10	< 10
trans-1,2-Dichloroethene	< 10	< 2	< 2	< 2	< 2
1,1-Dichloroethane	< 10	< 2	< 2	< 2	< 2
2,2-Dichloropropane	< 10	< 2	< 2	< 2	< 2
cis-1,2-Dichloroethene	100	19	4	< 2	< 2
2-Butanone(MEK)	< 100	< 10	< 10	< 10	< 10
Bromochloromethane	< 10	< 2	< 2	< 2	< 2
Tetrahydrofuran(THF)	< 100	< 10	< 10	< 10	< 10
Chloroform	< 10	< 2	< 2	< 2	< 2
1,1,1-Trichloroethane	< 10	< 2	< 2	< 2	< 2
Carbon tetrachloride	< 10	< 2	< 2	< 2	< 2
1,1-Dichloropropene	< 10	< 2	< 2	< 2	< 2
Benzene	< 10	< 1	< 1	< 1	< 1
1,2-Dichloroethane	< 10	< 2	< 2	< 2	< 2
Trichloroethene	110	12	5	< 2	< 2
1,2-Dichloropropane	< 10	< 2	< 2	< 2	< 2
Dibromomethane	< 10	< 2	< 2	< 2	< 2
Bromodichloromethane	< 10	< 2	< 2	< 2	< 2
4-Methyl-2-pentanone(MIBK)	< 100	< 10	< 10	< 10	< 10
cis-1,3-Dichloropropene	< 10	< 2	< 2	< 2	< 2
Toluene	< 10	< 1	< 1	< 1	< 1
trans-1,3-Dichloropropene	< 10	< 2	< 2	< 2	< 2
1,1,2-Trichloroethane	< 10	< 2	< 2	< 2	< 2
2-Hexanone	< 100	< 10	< 10	< 10	< 10
Tetrachloroethene	610	46	17	9	< 2
1,3-Dichloropropane	< 10	< 2	< 2	< 2	< 2
Dibromochloromethane	< 10	< 2	< 2	< 2	< 2
1,2-Dibromoethane	< 20	< 2	< 2	< 2	< 2
Chlorobenzene	< 10	< 2	< 2	< 2	< 2
1,1,1,2-Tetrachloroethane	< 10	< 2	< 2	< 2	< 2



LABORATORY REPORT

Eastern Analytical, Inc. ID#: 18143

Client: The Johnson Company

Client Designation: Pinsky Depot 1-1674-1

Sample ID:	MW101	MW102	MW104	MW105	TRIP BLANK
Analytical Type:	Sample	Sample	Sample	Sample	Sample
Matrix:	aqueous	aqueous	aqueous	aqueous	aqueous
Date Sampled:	8/25/99	8/25/99	8/25/99	8/25/99	8/25/99
Date Received:	8/27/99	8/27/99	8/27/99	8/27/99	8/27/99
Units:	µg/l	µg/l	µg/l	µg/l	µg/l
Date of Analysis:	9/3/99	9/1/99	9/1/99	9/1/99	9/1/99
Analyst:	VG	VG	VG	JDS	VG
Method:	8260B	8260B	8260B	8260B	8260B
Dilution Factor:	10	1	1	1	1
1,1,1,2-Tetrachloroethane	< 10	< 2	< 2	< 2	< 2
Ethylbenzene	< 10	< 1	< 1	< 1	< 1
mp-Xylene	< 10	< 1	< 1	< 1	< 1
o-Xylene	< 10	< 1	< 1	< 1	< 1
Styrene	< 10	< 1	< 1	< 1	< 1
Bromoform	< 20	< 2	< 2	< 2	< 2
iso-Propylbenzene	< 10	< 1	< 1	< 1	< 1
Bromobenzene	< 10	< 2	< 2	< 2	< 2
1,1,2,2-Tetrachloroethane	< 10	< 2	< 2	< 2	< 2
1,2,3-Trichloropropane	< 10	< 1	< 1	< 1	< 1
n-Propylbenzene	< 10	< 2	< 2	< 2	< 2
2-Chlorotoluene	< 10	< 2	< 2	< 2	< 2
4-Chlorotoluene	< 10	< 1	< 1	< 1	< 1
1,3,5-Trimethylbenzene	< 10	< 1	< 1	< 1	< 1
tert-Butylbenzene	< 10	< 1	< 1	< 1	< 1
1,2,4-Trimethylbenzene	< 10	< 1	< 1	< 1	< 1
sec-Butylbenzene	< 10	< 1	< 1	< 1	< 1
1,3-Dichlorobenzene	< 10	< 1	< 1	< 1	< 1
p-isopropyltoluene	< 10	< 1	< 1	< 1	< 1
1,4-Dichlorobenzene	< 10	< 1	< 1	< 1	< 1
1,2-Dichlorobenzene	< 10	< 1	< 1	< 1	< 1
n-Butylbenzene	< 10	< 1	< 1	< 1	< 1
1,2-Dibromo-3-chloropropane	< 20	< 2	< 2	< 2	< 2
1,2,4-Trichlorobenzene	< 10	< 1	< 1	< 1	< 1
Hexachlorobutadiene	< 10	< 1	< 1	< 1	< 1
Naphthalene	< 50	< 5	< 5	< 5	< 5
1,2,3-Trichlorobenzene	< 10	< 1	< 1	< 1	< 1

Appendix E
VTDEC List of Closed and Active Hazardous Waste Sites

Table E-1
State of Vermont Active Hazardous Waste Sites (Barre, VT) within a one mile radius of the Site

Site Number	Site Name and Address	Site Status
770095	Safety Kleen 23 West 2nd St	RCRA Corrective Action Completed, monitoring in progress
770206	Barre Coal Tar Williams Lane	Undergoing remediation. RA/RI done. Legislative funding needed to install improved remedial system.
870030	VT Morgan 524 N. Main St	Remediation complete. Monitoring on-going.
900626	McGoffs Sunoco 320 Washington Street	Expanded SVS in Operation, new levels of contamination left to be treated.
911064	Atlantic 377 N. Main St	SVS removed. Site being monitored
911065	Rossi Trucking S. Vine St	Tank pull showed contamination
911078	Bellavance South Vine St	Contamination from UST. Investigation required, but not yet completed.
911125	Marcell Avenue	Periodic monitoring, source removed.
931437	Washington Apartments 14 Washington Street	Ongoing manual product recovery. Semi-annual groundwater and soil vapor monitoring. Next round Spring 1999.
931468	87 Boynton Street	Further investigation of GW needed.
941682	RJ Citgo 460 N. Main St	Annual GW monitoring and inspection of Stevens Branch, next round Spring '99
951841	Dave's Mini Mart (was Calmont Bev. Co.)	Additional investigation of UST release approved. Report Due 4/1/98
982415	Cumberland Farms #4010 20 South Main Street	Underground storage tank removed. Contamination found. Investigation needed.

TABLE E-2
State of Vermont Closed Hazardous Waste Sites (Barre, VT) within a one mile radius of the Site

Site Number	Site Name and Address	Site Status
870024	Barre Coal Tar Williams Lane	Site being managed under file #770206
870089	VT Transit	Site closed
890435	Stones Garage Washington Street	Site closed
890475	Barre City Garage	Site closed
900501	Barre Cumberland Farms 360 North Main Street	Monitoring complete - site closed.
900659	Goodyear Tire Main Street	Site closed
911134	Dessureau Machines 53 Granite Street	Sampling indicates no GW above Gbs Migrating offsite
911143	St. Monica School 79 Summer Street	Soil spread on Site
921331	N E T - Barre 4 Elm Street	Site investigation complete - Site closed
921341	Howe Cleaners Depot Square	Soils disposed of off site - site closed
931399	Ladds Motor Transfer School Street	Soil removed, no groundwater impact
931448	Barre Cumberland Farms 132 South Main Street	300 cubic yards treated, groundwater contamination attenuated
931510	Former Goodyear Store 292 N. Main Street	Limited soil contamination by #6. Soil Removed
941588	C D W Properties 20 Summer Street	Site investigation of UST gasoline release completed.
941668	Washington Street Gulf 169 Washington Street	3 soil borings completed. Ltd soil contamination
941723	Calder and Richardson 11 Mill Street	Site investigation complete. Site closed
951753	Wagner - Turner Supply 70 South Main Street	Investigation complete. No GW impact.
962006	J J Newbury 145 North Main Street	Residual soil contamination may be encountered

TABLE E-2**State of Vermont Closed Hazardous Waste Sites (Barre, VT) within a one mile radius of the Site**

Site Number	Site Name and Address	Site Status
972298	Brook Street School Brook Street	Groundwater monitoring complete.
982454	Granite Importers 16 South Vine Street	Investigation complete - Site closed.