

**Phase I and II Environmental Site Assessment  
Property at 20 Shunpike Road**

Williston, Vermont

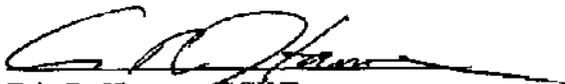
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Prepared by:



Donald M. Maynard, C.G., P.E.  
Project Geologist

Reviewed by:



Eric R. Hanson, CGWP  
Project Scientist

December 19, 1997

THE JOHNSON COMPANY, INC.

*Environmental Sciences and Engineering*

December 19, 1997

John Jaeger  
Munson Earth Moving Corporation  
366 Dorset Street  
South Burlington, Vermont 05401

Re: Phase I and II Environmental Site Assessment of the Property at 20 Shunpike Road Williston,  
Vermont. JCO # 1-1386-2.

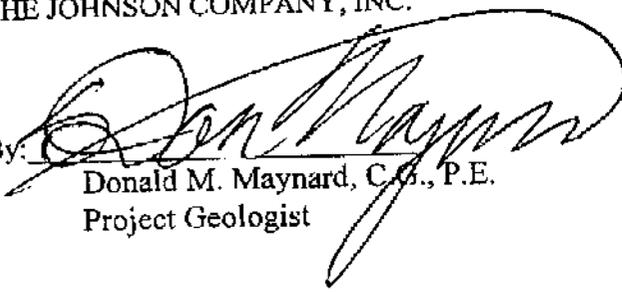
Dear Mr. Jaeger:

The Johnson Company is pleased to present you with this report of our findings of a Phase I and II Environmental Site Assessment (ESA) conducted for the above referenced property. This ESA has been conducted in accordance with the American Society of Testing and Materials' Standard Practice for Environmental Site Assessments, ASTM E 1527-97. If you have any questions or if we can be of further assistance please do not hesitate to call me.

Sincerely,

THE JOHNSON COMPANY, INC.

By:

  
Donald M. Maynard, C.G., P.E.  
Project Geologist

Enclosure

Reviewed By: ERH  
I:\PROJECTS\1-1386-2\ESA12-97.RPT, December 1997 DMM

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## EXECUTIVE SUMMARY

The Johnson Company was retained by Munson Earth Moving Corporation, South Burlington, Vermont to conduct a Phase I and Phase II Environmental Site Assessment (ESA) of the Property at 20 Shunpike Road in Williston, Vermont (the Property). This ESA was performed in accordance with the American Society for Testing and Materials' Standard Practice for Environmental Site Assessments E 1527-97. The Property consists of 4.77 acres of land approximately 300 feet east of the intersection of Shunpike Road and South Brownell Road in Williston, Vermont.

The Property's topography is generally flat, partially due to filling and leveling of a previously existing intermittent stream near the center of the property. The Property has been used as a heavy equipment service and storage facility for approximately 10 years by R. J. Colton, Inc. Prior to 1987, the Property was undeveloped except for a shed near the rear of the property. The Property is currently owned by the Vermont National Bank, and was previously owned by Richard J. Colton.

Soils beneath the Property are generally a mixture of fine sand and silt fill overlying native layers of fine sand and coarse sand. The depth to groundwater in the surficial aquifer is generally 6-9 feet below ground surface. The surficial aquifer groundwater flows toward the south and south-southeast at a gradient of approximately 0.5-1 percent.

On August 27, 1997 the Property was listed on the Vermont Department of Environmental Conservation (DEC) Spills list (Site #HMM297). Ms. Maria Stadlmeyer, of the Vermont DEC reported the presence of many drums improperly stored on-site on August 29, 1997. Construction and demolition debris, used oil containers, paint cans, and anti-freeze containers had also been disposed of on the ground surface at the Property. Some of these drums had recently been tipped over and spilled their contents onto the ground. The contents of the drums were unknown. The drums and most of the debris were removed from the Property in December 1997 by contractors working on behalf of the Vermont National Bank.

Nine soil cores were collected on December 15, 1997. The cores were subjected to visual evaluation, and sub-samples were tested for volatile organic compounds using a photo-ionization detector (PID). The highest observed PID readings were 1.4 and 1.6 parts per million. These readings were taken on soils from 0-1 feet below ground surface. Visual evidence of soil contamination was not observed greater than 1.2 feet below ground surface.

Three temporary monitoring wells were installed on-site on December 15, 1997. Groundwater samples were collected from these wells, and from two existing on-site monitoring wells adjacent to two on-site underground storage tanks (USTs). No quantifiable concentrations of volatile organic compounds were detected during laboratory analysis of the samples except for 3.6 parts per billion methyl-tert-butyl-ether (MTBE) in one well next to a gasoline UST. This chemical is used in unleaded gasoline, and is one of the most mobile of gasoline constituents in the subsurface. The low concentration of the MTBE, the absence of other gasoline constituents such as benzene, and the proximity of the monitoring well to the tank suggest that the MTBE contamination is the result of surface spills rather than a release from the tanks. MTBE was also detected at levels below quantification limits in an up-gradient on-site monitoring well. This may be due to migration from an off-site source, or may be due to contamination during sampling. The Vermont Enforcement Standard for MTBE in groundwater is 40 part per billion. A surface water sample was collected from the outfall of a drainage culvert which extends below the center of the Property. No volatile organic compounds were detected in this sample.

There are three underground storage tanks (USTs) at the Property. The three steel tanks were installed in 1987 and are registered with the State of Vermont. One 6,000 gallon capacity tank is used for diesel fuel, and is suction pump equipped and cathodically protected. The second tank has 2,000 gallons capacity, is used for gasoline, and is also is suction pump equipped and cathodically protected. Two existing monitoring wells are installed next to these USTs. The third UST has 1,000 gallons capacity, and is used for waste oil storage. There was six inches of product in the waste oil UST on December 12, 1997. There are stained soils near the tank port pipe.

There is one building on the Property, and it has a floor drain in a maintenance bay. The floor drain is connected to an oil-water separator, which in turn is connected to a pump station. Fluid from the pump station, including sanitary waste, is pumped to the municipal sewer. The oil-water separator contained 1.5 feet of sludge, and the pump station contained 0.4 feet of sludge on December 12, 1997.

The results of an environmental records search performed between December 4 and December 15, 1997 indicated the Property is not listed on any of the pertinent lists that were checked (with the exception of the UST list and the spills list described above). The environmental records that were checked include: Federal National Priority List (NPL) or Superfund list; the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS), which identifies candidate sites for placement on the NPL; the federal Resource Conservation and Recovery Act (RCRA) Treatment Storage and Disposal (TSD) and Generator list; the federal Emergency Response Notification System (ERNS); the State of Vermont Solid Waste Management Program's Landfill list; the State of Vermont Active Hazardous Sites List (including leaking underground storage tanks (LUSTs)); and the State of Vermont UST list. There are numerous nearby properties which are included on one or more of the lists. Available information, including the groundwater analysis and observed groundwater gradients, indicates that the Property has probably not been adversely impacted by the conditions on the other properties.

The Fire Chief, Mr. Ken Martin was interviewed, and he recalled no reported chemical or petroleum releases at the Property during his 15 year tenure with the Williston Volunteer Fire Department.

A historical review of the Property indicates that it has been developed since approximately 1987. Available information indicates that the property use was primarily undeveloped farm land until that time. From 1987 until December 1997 the property was used for heavy equipment service.

Results of the ESAs performed by The Johnson Company in December 1997 indicate that, with the exception of many localized shallow areas of stained soils, there appear to be only three on-site areas with recognized environmental conditions associated with the Property. One area is the waste oil UST. A second area is the diesel and gasoline USTs. The third area with environmental conditions is the oil-water separator and pump station. During a December 17, 1997 discussion with Mr. Chuck Schwer, Acting Manager of the Vermont Sites Management Section, he opined that it was unlikely that the Property would be listed as a Vermont Hazardous Waste Site. His opinion was based upon our verbal description of the results of this FSA. He mentioned that some clean-up of the stained soils may be required, but without a thorough review of all the information he could not commit himself to a firm decision. This assessment has revealed the recognized environmental conditions discussed above.

## 1.0 INTRODUCTION

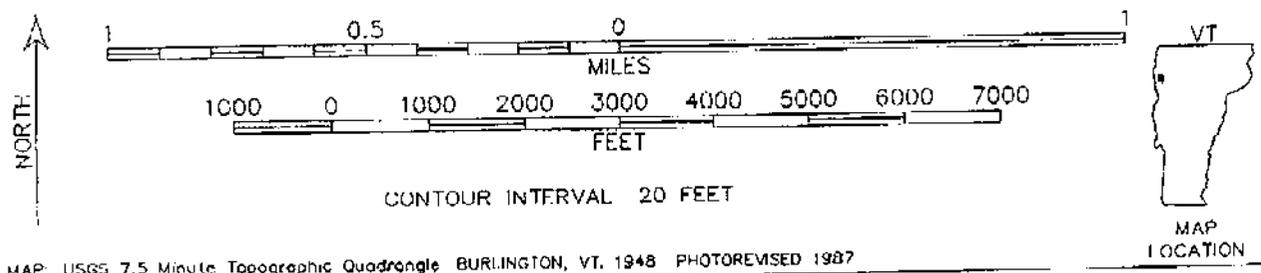
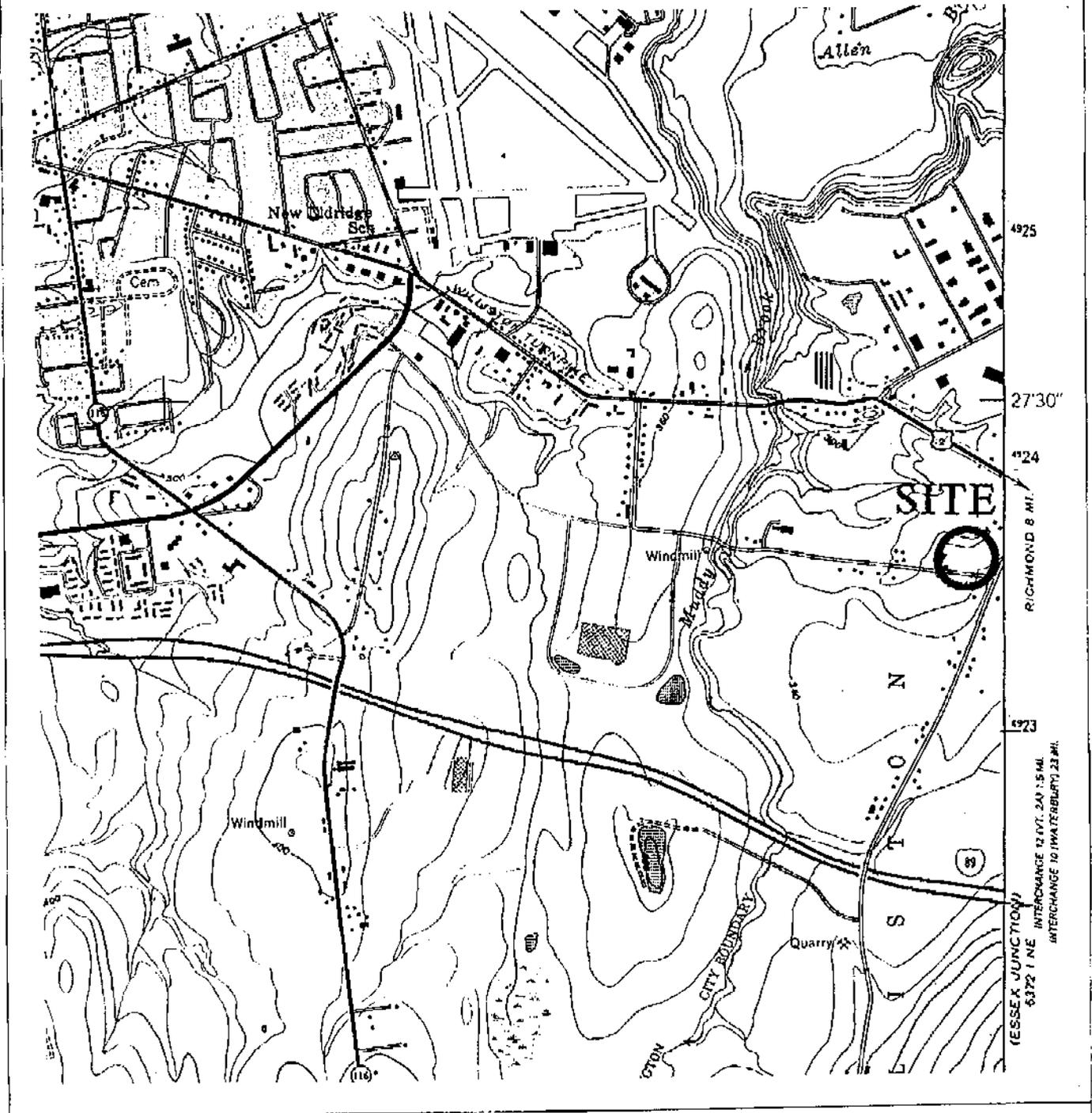
The Johnson Company was retained by Mr. Randy Munson, President of Munson Earth Moving Corporation, South Burlington, Vermont, to conduct a Phase I and II Environmental Site Assessment (ESA) of the property at 20 Shunpike Road in Williston, Vermont. Throughout this document, references to the "Property" shall be for the 4.77 acre parcel considered for purchase by Mr. Munson.

This ESA included the following tasks: a review of available existing information to determine the Property's regulatory status, and if past releases of petroleum products and/or hazardous materials were reported on the Property; contacting additional personnel regarding past uses of the Property; a Property reconnaissance to visually inspect the Property and note any evidence of potential releases of hazardous materials or petroleum products; conducting limited soil sampling and analysis; collection and analysis of surface water and of groundwater samples obtained from monitoring wells; and a written report.

## 2.0 PROPERTY DESCRIPTION

The Property is located in a developed area of Chittenden County Vermont, in the town of Williston. It is generally bounded to the south by Shunpike Road, on the north and northeast by residential areas, and on the west by one residence, a moving and storage company, and a warehouse operated by Resolution. The Property location is shown on Figure 1.

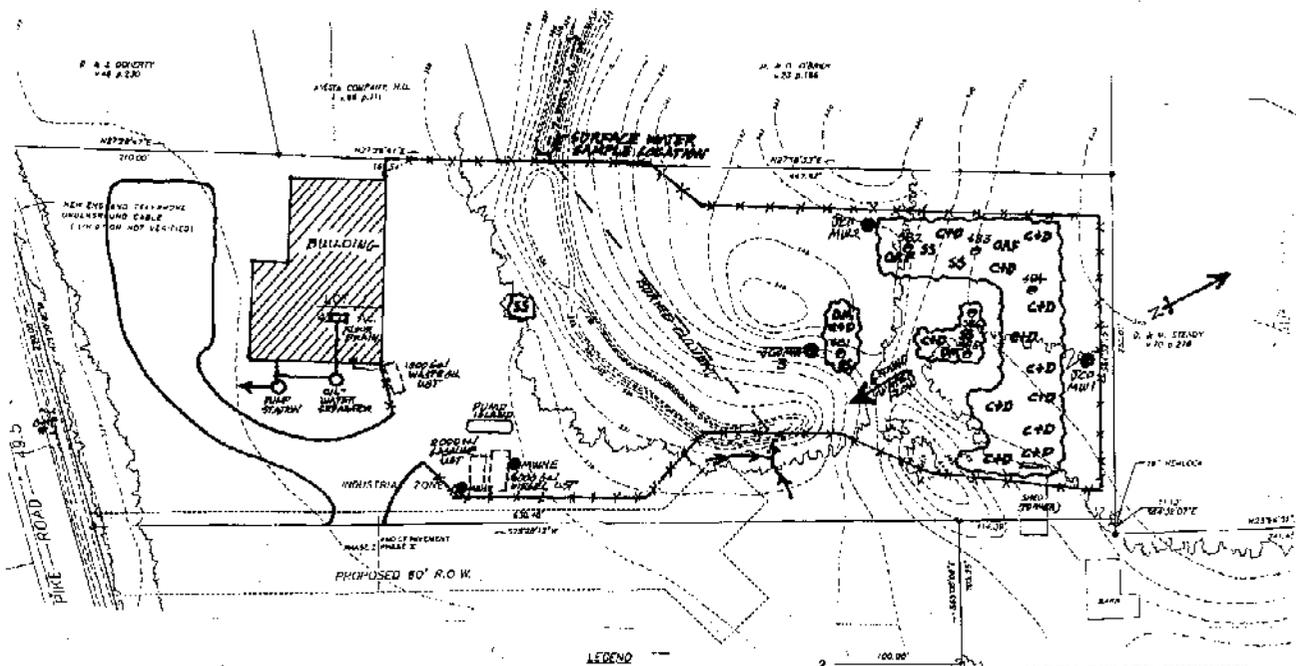
The Property has one permanent building (see Property Plan, Figure 2; and Plate 1 in Appendix B). The building was constructed circa 1987. The building contains an office area, two separate repair garage areas, a parts storage room, and an area used as a spray paint room. This metal fabricated building has a concrete slab foundation, and is heated by natural gas forced hot air. The building is served by municipal water supply and sewer. The building contains one floor drain located in the larger garage area. The floor drain is connected to an oil-water separator, which in turn, is connected to a sewage pump station. The sewage pump station discharges to the Williston municipal sewage collection system.



BASF MAP: USGS 7.5 Minute Topographic Quadrangle BURLINGTON, VT. 1948 PHOTOREMSED 1987

FIGURE 1: SITE LOCATION MAP  
20 SHUNPIKE ROAD  
WILLISTON, VERMONT

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



TRUDELL CONSULTING ENGINEERS, INC.  
 TOPOGRAPHIC CONTOURS BASED ON 1986 LAND SURFACE  
 REVISED 12-17-97 THE JOHNSON COMPANY  
 D.M.M.

**LEGEND**

- IRON PIPE FOUND
- IRON PIPE FOUND
- IRON PIPE TO BE SET
- CONCRETE WORKMENT FOUND
- FENCE
- POWER LINE
- INTERMEDIATE-SCALE
- 50% EROSION

DM FORMER DRAIN LOCATIONS  
 C+D FORMER WASTE DISPOSAL AREAS  
 OAF WASTE OIL AND ANTI-FREEZE CONTAINERS  
 CS STAINED SOILS  
 GRAPHIC SCALE

ALL LOCATIONS  
 ARE APPROXIMATE

- KIRBY ESTATE PROPERTY  
 TOPOGRAPHIC PLAN

X SAVE FIGURE 2  
 SHUNNIXE ROAD  
 WILLISTON, VERMONT  
 1-1386-2

The garage areas and the paint room have compressed air service from an on-site compressor. There is a parts washer located in the larger of the two garage areas. There is an oil dump station in the larger garage area, which is connected to an on-site underground waste oil storage tank. There is a hydraulic lift in the larger garage area as well.

Soils beneath the Property are generally a mixture of 1-2 feet of silt and sand fill overlying native layers of fine and coarse sand. Water supply well logs in the vicinity indicate that there is a thick blue clay layer at depth which overlays limestone bedrock. The depth to groundwater in the surficial aquifer is generally 6-9 feet below ground surface. The surficial aquifer groundwater flows toward the south and south-southeast at a gradient of approximately 0.5-1%.

The topography of the Property is generally flat. Almost the entire Property has been regraded circa 1987. An eight foot deep intermittent stream drainage was filled during development of the parcel. The former stream bed extended from the east toward the west across the center of the Property (see 1986 ground surface contours on Figure 2). The stream has been replaced with a culvert which extends across the center of the Property. The majority of the Property's surface water runoff is directed into the intermittent stream valley and flows westward away from the Property.

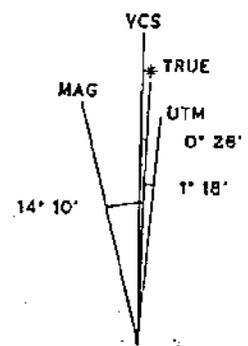
As documented by the two United States Geological Survey (USGS) 7.5 minute quadrangle topographic maps, Essex Junction and Burlington, the on-site intermittent stream is a tributary of Muddy Brook. A second tributary of Muddy Brook is located about 200 feet east of the Property. Other documentation of these streams includes a 1988 aerial photograph. This photograph was taken as part of the Vermont Mapping program, and a portion of it is included as Figure 3.

### **3.0 PROPERTY HISTORY AND OWNERSHIP**

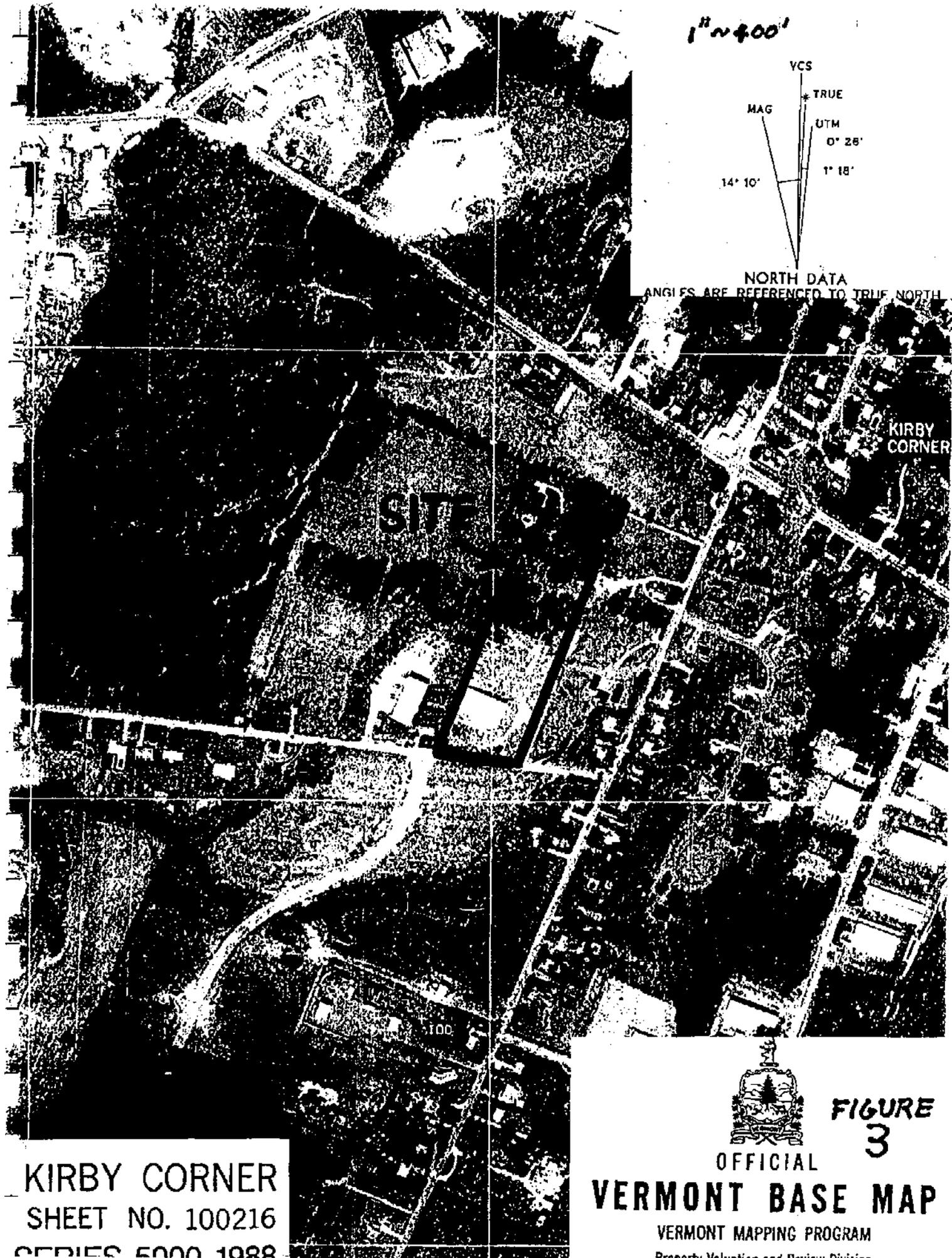
#### **3.1 PROPERTY HISTORY**

USGS maps were reviewed that document physiographic characteristics of the Property in 1906, 1948, and 1987. The 1906 and 1948 maps are included in Appendix B. The Property was occupied by R. J. Colton and used for storage and servicing heavy equipment for 10 years. Prior to 1987 the property was undeveloped. Several potential recognized environmental conditions were identified at the Property. These areas were evaluated during the ESA using data review, interviews, and soil and groundwater testing. Table 1 lists the areas, and provides a summary of information collected to evaluate each area.

1<sup>st</sup> N 400'



NORTH DATA  
ANGLES ARE REFERENCED TO TRUE NORTH



KIRBY CORNER  
SHEET NO. 100216  
SERIES 5000 1988



FIGURE  
3

OFFICIAL  
VERMONT BASE MAP  
VERMONT MAPPING PROGRAM  
Property Valuation and Review Division

**Table 1**  
**Summary of Areas with the Potential for Environmental Conditions**

Area	Testing	Results
Northern portion of property used for above ground disposal of construction and demolition debris, used chemical and petroleum product containers, and more than 40 drums.	Soils sampling and testing with PID at nine locations. Sampling and analysis of groundwater from three temporary monitoring wells. Sampling and testing surface water	No stained soils observed greater than 1.2 fbgs. PID soil headspace readings less than 1.6 ppm. No quantifiable concentrations of VOCs detected in surface water or three temporary monitoring wells
Diesel and gasoline underground storage tanks	Sampling and testing of groundwater collected from two existing monitoring wells.	No petroleum compounds detected in monitoring well samples. Methyl-tert-butyl-ether (MTBE) detected at 3.6 ppb in one sample
Waste oil underground storage tank	No testing	Not applicable
Floor drain and related oil-water separator and pump station	Flow testing to demonstrate flowpath from the floor drain to the municipal sewer.	Floor drain is hydraulically connected to the municipal sewer
Residential fuel oil storage tank located about 200 feet north on the adjoining Steady Property	Groundwater sampling and testing from three temporary monitoring wells	No petroleum related VOCs detected in three temporary monitoring well samples.
Leaking underground storage tank site located about 600 feet northeast at O'Brien's Country Store	Interview with S.B. Collins representative and WMD Site Manager. Groundwater sampling and testing from three temporary monitoring wells	WMD Site Manager states groundwater contamination is limited and decreasing, and that groundwater flow is away from the Property. MTBE detected at concentration below quantification limits in temporary monitoring well closest to O'Brien's Country Store.
Solvent contaminated groundwater from MITEC, and Ailing industrial Park, CERCLIS and Vermont Hazardous Waste Sites located about 1,000 feet east	Interview with WMD Site Manager. Groundwater sampling and testing from three temporary monitoring wells	Site Manager suggests contamination will not impact the Property. No solvent related VOCs detected three temporary monitoring well samples nor in two existing monitoring well samples.
<i>fbgs: feet below ground surface</i> <i>PID: photolization detector</i> <i>ppm: parts per million</i> <i>VOCs: volatile organic compounds</i> <i>ppb: parts per billion</i>		

### 3.2 PROPERTY OWNERSHIP

The present listed owner of the Property is the Vermont National Bank. A history of Property ownership back to 1913 is summarized in Table 2 below.

Table 2 Summary of Property Ownership		
Date of Acquisition	Owner	Land Record
May 20, 1994 (recorded August 26, 1997)	Vermont National Bank, Brattleboro, Vt.	Book 110, pp 361-363
December 23, 1986	Richard J. Colton	Book 78, pp 488-491
April 11, 1985	The Howard Bank, Trustee of Clifton R. Kirby Estate by license of Chittenden District Probate Court	Not found
March 21, 1944	Clifton R. Kirby	Book 23, pp 309-310
September 3, 1913	Laura and Thomas Kirby	Book 17, page 364
References: 1) Town of Williston Tax Records		

There is a survey map of the Property in the Town of Williston records, Map Book 8, page 1. The property is shown as Lot 1 on the survey map. A copy of the survey map is included in Appendix D. There were numerous liens, primarily contractors liens against R. J. Colton, for the property in the Town of Williston records. Due to the number of liens it was not feasible to assess that each had been discharged. It was also unfeasible to search for environmental liens on the property. The property is subject to a Vermont Land Use Permit (EC-4-1083). A copy of this permit is included in Appendix D. Note that the permit number included in the Vermont National Bank deed is incorrect.

There are ten abutting property owners. Their names and addresses are presented in Table 3 below. The map numbers in the table refer to the Town of Williston tax map included in Appendix D. The property itself is listed as Parcel 16-10 on the tax map.

- He was unaware of any burying of petroleum products or chemicals on the Property.
- He was unaware of any fill material brought onto the property from an unknown or contaminated source.
- He was unaware of any environmental liens, lawsuits, or violations, or releases of chemicals except for the August 1997 investigation by the State of Vermont.
- He believed that the solvent parts washer was leased by Colton, and was serviced by an outside vender.
- He described how field trailers would be stored on-site between jobs, and how drums of waste oil generated during jobs would be brought to the Property via the field trailers.
- He stated that many of the drums on-site were present in 1993 when he started working for Colton, and most of the contents were unknown to him.
- He mentioned that Colton used two portable ~75 gallon capacity fuel tanks mounted on pick-up trucks.
- He stated that standard practice was to dispose of paint cans, used sorbent, and other wastes into the dumpster, from which they were then hauled off-site.
- He described how residual asphalt in dump trucks would be shoveled out onto the ground surface at the Property.
- He described how solvent used to clean painting equipment was stored in a 55 gallon drum. He was unsure of the disposition of the spent solvent, but assumed that the drum was left on-site.

An interview was conducted by telephone on December 16, 1997 with Mr. Ken Mortin, Fire Chief for the Williston Volunteer Fire Department. Mr. Mortin has been with the fire department for 15 years. He could not recall any instance of responding to a fire or spill at the facility. He recalled no reports of spills or releases of petroleum or hazardous materials at the Property.

An interview was conducted with Mr. John Jaeger of Munson Earth Moving Corporation on December 12, 1997. Mr. Jaeger was not aware of any prior ESAs; environmental audits; available MSDS's; community right-to-know plans; safety plans; hydrogeological reports; hazardous waste generator reports; geotechnical studies; or pending, past or threatened litigation or administrative proceedings relating to hazardous waste or petroleum products. He was aware of only one environmental permit (the Land Use Permit). He was aware of only three registered (or unregistered) underground storage tanks. He was aware of only one government notice of possible violations (the August, 1997 spill report).

A short interview with Ms. Robin Wheel of the Vermont National Bank was conducted by telephone on December 9, 1997. During the interview Ms. Wheel stated that the drums on-site were removed by the Direction of Vermont National Bank on December 8 or 9, 1997 and that the waste oil

tank was to be pumped out on December 9, 1997. She also stated that Vermont National Bank was not aware of any previous site assessments for the Property. In addition, she stated that R.J. Colton moved out of the Property on December 1, 1997. Three attempts to complete the interview with Ms. Wheel were unsuccessful. She did not return our telephone calls.

An interview was conducted on December 12, 1997 with Ms. Katherine Riegelman, Director of Majestic Property Services, Inc. of Burlington, Vermont. Majestic managed the property for the Vermont National Bank commencing November 20, 1997. Ms. Riegelman would not answer many questions. She did state that, on behalf of Vermont National Bank, approximately 80 drums and construction debris had been removed from the property during December 1997. She stated that most of the drums were frozen. She also stated that the waste oil tank had been pumped as well.

An interview was conducted on December 11, 1997 with Mr. Mike Smith, Site Manager for the State of Vermont Sites Management Section. Mr. Smith is the Site Manager for the MITEC and Alling Industrial Park Hazardous Waste Sites (Vt. Site # 770090 and 770120) located about 1,000 feet east of the Property. Mr. Smith opined that groundwater contaminated with solvent from the MITEC Site would not be likely to affect the Property.

An interview was conducted on December 18, 1997 with Mr. Carl Ruprecht of S. B. Collins. S. B. Collins is the registered owner of the USTs at the O'Brien Country Store Petroleum Site (Vt. Site #961994) located about 600 feet northeast of the property. Mr. Ruprecht stated that there is no free petroleum product in the ground at the O'Brien Site. He furthermore stated that annual groundwater monitoring had been on-going for three years, and that concentrations of dissolved petroleum constituents were stable or declining.

On August 27, 1997 the Property was listed on the Vermont Department of Environmental Conservation (DEC) Spills list (Site #HMM297). On August 29, 1997 Maria Stadlmeyer, of the Vermont DEC responded to an anonymous report of improper storage of hazardous waste at the Property. During this ESA, an interview was conducted on December 8, 1997 with Ms. Stadlmeyer. Ms. Stadlmeyer reported the presence of many 55 gallon drums stored outside at the back end of the property on August 29, 1997. Some of these drums had recently been tipped over and spilled their contents onto

the ground. Construction and demolition debris, used oil containers, used paint cans, and used anti-freeze containers had also been disposed of on the ground surface at the Property. The contents of the drums were unknown. Copies of Ms. Stadlmeyer's spill report, and of a log of our telephone conversation, are included in Appendix A.

An interview was conducted on December 19, 1997 with Mr. Chuck Schwer, Acting Manager for the Vermont WMD Sites Management Section. The results of this ESA were discussed with Mr. Schwer. Based upon our discussion, Mr. Schwer thought it unlikely that the Property would be give Vermont Hazardous Waste Site Status due to the improper storage of drums and materials on-site, and the subsequent release of fluids to the ground surface. Mr. Schwer mentioned that it might be necessary to remove and treat some of the stained soils.

An interview was conducted with Mr. Alan Richard of Green Mountain Power Corporation on December 18, 1997. Mr. Richard stated that the three transformers on the property had been installed in 1971. He also stated that they had not been tested for the presence of polychlorinated biphenyls (PCBs). Furthermore, he stated that Green Mountain Power stopped installing transformers containing PCBs in 1980.

An interview was conducted on December 19, 1997 with Mr. Matt Moran, Sites Manager for the Vermont WMD. Mr. Moran is the Site Manager for the O'Brien Country Store Site (Site #961994). Mr. Moran stated that to the best of his knowledge groundwater flow at the O'Brien Site is towards the northwest (away from the Property). There are three monitoring wells at the O'Brien Site on Williston Road, between the tanks and the Property. Two of the wells did not contain any benzene, toluene, ethylbenzene, or xylene (BTEX) when they were last tested in July, 1996. The third well (MW-1) contained trace levels below quantification limits of benzene (quantification limits were 100 ppb), and total BTEX concentrations of 21,000 ppb. MW-1 is the furthest west of the three wells, near the western boundary of the former USTs. Mr. Moran stated that there was no non-aqueous phase liquid product in the ground at the O'Brien Site. No methyl-tert-butyl-ether (MTBE) was detected in any of the wells during July 1996 (the detection limit in MW-1 was 1,000 ppb).

### 3.4 REGULATORY STATUS

In accordance with ASTM E 1527 Phase I ESA guidelines, the following sections describe those sites that are known within the required search radius.

#### 3.4.1 Hazardous Sites Lists

The Property is not listed as an Active Hazardous Waste Site with the DEC WMD according to the latest available list, dated July 1997 and generated by the WMD. The Property is not on the Environmental Protection Agency's (EPA's) National Priority List or CERCLIS list (i.e., it is not listed as a Superfund Site). Table 4 lists Vermont Hazardous Waste and Petroleum Sites within one mile of the Property. The SMAC designation (Site Management Activity Completed) is the Vermont State equivalent to "closing" the Site, with no further action required.

Four Hazardous Waste or Petroleum Sites are close enough to the Property that the potential for groundwater contamination was addressed. The remainder of the Sites listed in Table 4 are not likely to cause contamination of the Property due to intervening groundwater divides and local groundwater flow directions.

Two Petroleum Sites close to the property include the O'Brien's Country Store Site and the Bove/Fagan Ice Cream Site. The analysis of groundwater collected from monitoring wells on the Property indicate that these two Petroleum Sites are not currently contaminating the Property above Enforcement Standards. Further discussion of the potential impact of these Sites on groundwater quality below the Property is included in Section 4.3. An interview with the Vermont WMD manager for the O'Brien site is included in Section 3.3. He stated that the groundwater flow direction at the O'Brien Site was away from the Property.

**Table 4  
Vermont Hazardous Sites List  
(one mile radius)**

Site Name	Address	Site # and Status
MITEC	15 Commerce St (~1,000 feet east of Property)	770090 - Investigation of trichloroethene plume.
ALLING INDUSTRIAL PARK	Commerce St (~1,000 feet east of Property)	770120 - Investigation of trichloroethene plume.
POLLUTION SOLUTIONS	2 Avenue D (>½ mile north of the Property)	911097 - Preliminary assessment completed.
CHAMPLAIN VALLEY CLEANERS	1 Blair Park Rd. (>½ mile east of the Property)	961974 - Minimal contamination, long term monitoring.
O'BRIEN'S COUNTRY STORE	Williston Rd., and N. Brownell (~600 feet northeast of the Property)	961994 - On-going monitoring of dissolved petroleum plume in groundwater. Additional investigation needed as of December 1996.
S. T. GRISWOLD	35 Industrial Ave (>½ mile north of the Property)	972149 and 911156 - Contaminated soils, no groundwater contamination. Monitoring on-going.
TAFT CORNER SHORT STOP	450 Essex Road (>½ mile east of the Property)	961972 - Petroleum investigation pending.
BOVE/FAGAN ICE CREAM	12 Commerce St. (~1,500 feet east of Property)	941614 - Site investigation complete, contamination in downgradient monitoring well below Enforcement Standards.
KORNER KWIK STOP	765 Route 2	951822 and 880188 - Investigation needed.
ENGINEERING CONSTRUCTION	10 Engineers Drive (<½ mile west of the Property)	890331 - SMAC
ROSSIGNOL SKI	86 Industrial Ave (>½ mile north of the Property)	770091 - SMAC
PIKE INDUSTRIES	Avenue A (<½ mile north of the Property)	911164 - SMAC
JUDGE DEVELOPMENT	Taft Corner, Box 404 (>½ mile east of the Property)	770089 - SMAC
LAND AIR EXPRESS	9 Avenue C (>½ mile north of the Property)	900660 - SMAC
DANS SHELL	Route 2A (>½ mile northeast of the Property)	880233 - SMAC
NEW ENGLAND EQUIPMENT CO	Industrial Ave (<½ mile north of the Property)	931465 - SMAC

*SMAC = Site Management Activity Completed, which essentially means the Site is unlikely to contaminate groundwater at the property*

The potential impact of two chlorinated solvent Hazardous Waste Sites close to the property (Alling Industrial Park and MITEC) was discussed with Mr. Mike Smith, Vermont Site Manager as described in Section 3.3 above. Based upon existing information the Vermont Site Manager for MITEC and Alling Industrial Park does not think that the property will be contaminated by the discharges at these two sites.

**3.4.2 Comprehensive Environmental Response, Compensation and Liability Information System**

The property is not listed on the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) of the EPA, according to a December 4, 1997 search of the Right-To-Know Network database. Two CERCLIS sites within a 0.5 mile radius of the Property, and three more within a one mile radius, were identified during the records search (Table 5).

<b>Table 5            CERCLIS Sites            (half mile and one mile radius)</b>		
Site Name	Address	Site ID and Status
MITEC	15 Commerce Ave	VTD098352545 - Preliminary Assessment and Screening Site Inspection completed
ALLING INDUSTRIAL PARK	Commerce St	VTD982748477 - Preliminary Assessment and Screening Site Inspection completed
JUDGE DEVELOPMENT	Taft Corner, Box 404	VTD108680034 - NFRAP
POLLUTION SOLUTIONS	2 Avenue D	VTD982766537 - NFRAP
ROSSIGNOL SKI	86 Industrial Ave	VTD059018945 - NFRAP
<i>There are no NPL sites listed at this time within a one mile radius of the subject Property.            NFRAP = No Further Remedial Action Planned, which essentially means the Site is "closed" and is unlikely to contaminate groundwater at the property</i>		

As described in Section 3.3 and 3.4.1 above, based upon existing information the Vermont Sites Manager for MITEC and the Alling Industrial Park does not think that the Property will be contaminated by the discharges at these two sites.

### 3.4.3 Federal Resource Conservation and Recovery Act

A search of the Right-To-Know Network database of the Resource Conservation and Recovery Act (RCRA) list of hazardous waste generators and Treatment Storage and Disposal (TSD) facilities in Vermont was performed on December 4, 1997 to determine if this property or nearby properties (within a 1.0 mile radius) are included on the list. A review of Vermont RCRA records effective March 3, 1997 was also performed. The search indicated no RCRA Large Quantity Generators (LQG) facilities within one half mile of the Site. Three RCRA LQG facilities with historical violations were identified between ½ and one mile from the Site; Rossignol Ski, Velan Valve Corporation at 18 Avenue C, and Pollution Solutions of Vermont. One RCRA TSD facility was identified between one-half and one mile from the Property. This facility is the Pollution Solutions of Vermont at 2 Avenue D in Williston. This facility (Handler #VTD982766537) has had 20 violations, including outstanding land ban violations.

Because of the RCRA LQG facility locations are greater than one half mile north of the Property, and because of local groundwater flow directions, it is highly unlikely that contamination from the three facilities has adversely impacted the groundwater below the Property.

R.J. Colton Company is registered on the Vermont Small Quantity Generators list. The facility number is S-04-17-025. No abutting property owners were found to be included on the RCRA Small Quantity Generators list.

### 3.4.4 Underground Storage Tanks

A list of the Vermont WMD database of permitted and registered USTs effective November 14, 1997 was reviewed. A list of the Vermont WMD database of closed USTs effective September 17, 1997 was also reviewed. The WMD has three USTs registered to R.J. Colton on the property. The WMD does not have any record of USTs having been removed from the Property, nor on any adjoining property.

One adjoining parcel has a registered UST; The Steady residence north of the Property (Facility Number 2115). The Steady UST is a 2,000 gallon capacity residential fuel oil tank installed in 1981. Leaking USTs identified within one half mile of the property are included in Section 3.4.1 above. An evaluation of the potential for contamination of the Property by on-site or nearby USTs is included in Sections 3.4.1 and 4.

The R. J. Colton UST file at the Vermont WMD was reviewed. The Facility Number is 1941. Three tanks are registered, a 6,000 gallon diesel tank, a 2,000 gallon gasoline tank, and a 1,000 gallon waste oil tank. The registration expires April 1, 1998. Re-application for registration is required prior to March 1, 1998. A design sketch of the facility included in the WMD records is presented in Appendix D.

The three steel tanks were installed by Wymans of Montpelier, Vermont in 1987. The diesel and gasoline tanks are equipped with suction pumps, float vent valves, and containment manholes, and are cathodically protected. Four monitoring wells are reported to be installed next to these USTs. Vermont regulations require checking the monitoring wells with a bailer for non-aqueous phase liquid every week. The waste oil UST was reportedly retrofitted with cathodic protection in 1990.

#### 3.4.5 Spills

A search of the the Right-To-Know Network database of the federal Emergency Release Notification System (ERNS), performed on December 4, 1997, indicated one reported spill of hazardous materials or petroleum products at the Property on August 27, 1997. The Vermont WMD spill file was reviewed and the report of the WMD response to the release is included in Appendix A. A description of an interview with the WMD responder is included in Section 3.3.

No spills were reported on adjacent properties. Other spills are reported throughout Williston, related to the transportation of goods, industrial activity, and air traffic and automotive accidents.

#### 3.4.6 Landfills

A review of the 1989 Vermont Landfill List (Vermont Solid Waste Management Division) for landfills in South Burlington and Williston was conducted. No listings of landfills within the search radius of one half mile were indicated.

### 3.4.7 Land Use Permit

The Property is subject to Vermont Land Use Permit EC-4-1083. A copy of the permit is included in Appendix D. The permit was issued to Mr. Clifton Kirby on December 12, 1986, and is recorded in Book 15, pages 493-495 of the Town of Williston Land Records. The Property is also subject to a Water Supply and Wastewater Permit (Permit #PB-4-1244). The structure on the property is considered a public building, and has 225 gallons per day water and sewer use allocated to it. In addition, the property is subject to Public Building permit #PB-4-1379-1.

## 4.0 PROPERTY WALK-OVER

The Property walk-over was conducted on December 12 and 15, 1997. Mr. Donald M. Maynard and Mr. Eric R. Hanson conducted the initial visual evaluation of the Property, and collected groundwater and surface water samples on December 12, 1997. Mr. Maynard performed a metal detector survey, conducted photoionization detector bag headspace testing of soils, and collected additional groundwater samples on December 15. The weather during the Property walk-overs was 15-30° F and partly cloudy, with a 0-5 mph breeze. There were 4-6 inches of snow on the ground during the walkovers. The presence of the snow limited our ability to visually inspect the ground surface for stained soils and other indications of environmental conditions. However it was possible to clearly identify the locations from which barrels had been removed several days prior to the walk-over.

### 4.1 VISUAL EVALUATION

The interior of the metal building was clean. The building is one story in the back, where it contains two repair garages, a spray paint room, two parts storage rooms, four offices, and a bathroom. The building is two stories in the front and contains offices, a kitchen, a reception area, and a bathroom. The building is heated by gas fired forced hot air. It also has electrical air conditioning, and ventilation fans. Four air handling units are located outside the front of the building on the southwest corner.

No containers of petroleum products or hazardous materials or wastes were observed in the building. There were some stains on the concrete floors of the garages, consistent with the extended use of the facility for equipment repair. The walls and floor of the former spray paint room were covered with overspray paint. There were no objectionable odors in the facility.

A floor drain in the larger garage (in the northeast corner of the building) contained some black sludge, but had no discernable odor. 1.5 parts per million (ppm) volatile organic vapors were detected in the floor drain using a OVM Model 580 EZ photoionization detector (PID). The PID was calibrated to 259 ppm isobutylene gas each day prior to use. The larger repair garage contained a hydraulic lift. Hydraulic oil was weeping from the lift onto the concrete floor. The larger repair garage also contained a solvent part cleaner. The drum portion of the parts cleaner was empty, and had an solvent odor. A compressor was also present in the larger repair garage. There is an oil dump station (presumably connected to the waste oil UST) located on the east wall of the larger repair garage. No other evidence of recognized environmental conditions was observed within the metal building during the Property walk-over. The building was not examined for the presence of asbestos.

No discernable odors or visual contamination was observed in the intermittent stream surface water at the western edge of the Property. There was no water in the intermittent stream swale on the eastern edge of the Property. This eastern swale was filled with leaves, and had no discernable odors or visual contamination. No storm drain runoff collection manholes were observed on-site. There were many (more than 10) areas of visually stained soils scattered across the Property. The areas of observed soils staining are shown on Figure 2. A pile (~½ cubic yard) of used sorbent material (Speedi-dry) was observed next to the northeast corner of the building. The back portion (northern portion) of the Property contained remnants of construction and demolition debris, rusted 55 gallon drums, used oil, paint, and anti-freeze containers, and asphalt. Given the historic uses of the Property, the soil staining is probably due to releases of motor oil, hydraulic fluid, and/or similar automotive and equipment fluids.

There was a one square foot area of stained soils and stressed vegetation surrounding the four inch waste oil UST pipe. There was a 3 foot by 5 foot area of stained soils surrounding the waste oil UST vent pipe. The location of the waste oil UST near the northeast corner of the building is shown on Figure 2. The vent pipe is less than two feet from the corner of the building. There was 0.6 feet of product in the waste oil tank. The bottom of the tank is 9.2 feet below ground surface (fbgs). The PID headspace reading of the tank and vent pipe were 17.8 and 23.8 ppm respectively.

Two existing monitoring wells were found next to the diesel and gasoline USTs. Their locations are shown on Figure 2. They were arbitrarily named MW-NE and MW-SE. They were not in the locations shown on the plan submitted to the Vermont WMD UST program (included in Appendix D). In spite of a search with a metal detector, the two other UST monitoring wells reported to be on-site were not found.

A dumpster was on-site which contained approximately 40 empty 55 gallon barrels. Most of the barrels were red or orange. No legible labels were observed.

There are three power transformers on-site that are owned by Green Mountain Power Corporation, and may contain polychlorinated biphenyls (PCBs). They are located on GMP Pole #2 at the front (south) end of the property, adjacent to Colton Drive and Shunpike Road (see Figure 2). However, visual inspection of the transformers did not reveal any evidence of leaks.

A four inch diameter capped PVC pipe was observed next to the east wall of the building approximately 11 feet from the northeast corner. The pipe extended 2.5 feet below ground surface and was dry. No PID readings were detected in the pipe. The pipe is probably a clean-out for the building perimeter drain.

A four foot diameter concrete oil-water separator is located about 10 feet from the east wall and 32 feet from the northeast corner of the building (see Figure 2). The bottom of the separator is 6.9 fbg. Visual inspection of the floor drain inside the garage, and the separator, led to the conclusion that they are connected via a four inch diameter pipe running east-west below the building concrete foundation. The separator has a vent pipe near its southern side. There was 1.5 feet of black sludge in the separator. A PID reading of the separator air space was 1 ppm. The separator is covered by a steel manhole cover.

There is a four foot diameter concrete sewage pump station located approximately 15.5 feet from the eastern wall, and 22 feet from the southeast corner of the building. The bottom of the pump station is 8.8 fbg. The pump station contained 0.9 feet of water over 0.4 feet of sludge. The outlet pipe for the pump station is directed southwards, towards the municipal sewer line. Based upon this information, and upon the permits and designs for the Property it was presumed that the pump station is connected to the Williston municipal sewer.

Five gallons of water were poured into the oil-water separator vent pipe. The water was then observed entering the pump station. There was a constant trickle entering the pump station at all times, however the brown and black stained gush of water from the separator was clearly discernable. Based upon this test and the information described above we determined that the floor drain is hydraulically connected to the municipal sewer via the oil-water separator and the sewage pump station (see Figure 2).

A metal detector was used to evaluate the possible presence of buried metal objects on the northern half of the site. A ten foot by ten foot grid north of, and including the former intermittent stream valley was examined with the metal detector. No magnetic anomalies as large as a 55 gallon drum were detected.

#### **4.2 SOIL SAMPLING AND FIELD TESTING**

Brown and black soil staining, but no odors, were noted below the former location of several of the 55 gallon drums stored on-site. The visual extent of the staining could not be determined due to the presence of snow on the ground. The former locations of the drums were clear due to the absence of snow and the imprint of the drum bottom in the ice. Attempts to collect samples by hand auger were unsuccessful due to frozen ground.

On December 15, 1997 soil samples were collected from nine locations using a two inch diameter vibratory corer. At three locations (JCO-MW1, JCO-MW2, and JCO-MW3) continuous samples were collected from 0-10 fbs. At the other six locations (SB1 through SB6) continuous soil samples were collected from 0-5 fbs. The sample locations are shown on Figure 2.

The stratigraphy in the soil samples was generally uniform. The upper foot of soils was composed of frozen fine sand, some silt, little angular gravel (using the Modified Burmeister Classification System). These fill soils were occasionally stained black. The staining did not extend into the underlying native materials, and was normally less than 0.1 foot thick. From ~1-2.5 fbs the soils consisted of native brown damp fine sand. From ~2.5-3 fbs there was a layer of damp fine sand and silt. Between ~3-4 fbs there were alternating layers of fine sand, fine sand and silt, and medium sand. Below ~4 fbs there were alternating layers of medium sand, coarse sand, fine sand, and fine sand and silt. Groundwater was encountered between 7.4-8.7 fbs.

Sub-samples were collected composed of composites collected at one to two foot intervals. The samples were immediately placed in resealable plastic bags and stored next to the heater in a truck. After 5-10 minutes the bags were gently massaged for approximately one minute. Each bag was then carefully opened, and the wand of the PID inserted. The highest stable PID reading was recorded as the bag headspace of that soil sample. Background PID readings of the atmosphere were 0.0-0.6 ppm. The results of the soil bag headspace testing are presented in Table 6.

Sample Location Name	Depth in feet below ground surface and Soil Description	Composite PID Sample Depth in feet below ground surface	Bag headspace PID sustained reading in ppmV
JCO-MW1	0-0.8' Grey damp fine sand, little silt. SHC	0-1	0.0
	0.8-3.0' Brown humid massive fine sand. SHC	1-3	0.0
	3.0-4.0' Grey damp massive fine sand, some medium sand.	3-4	0.0
	5-7.2' 0.2-0.4 foot thick layers of brown damp fine sand, little silt; layers of grey damp silt and fine sand; layers of fine and medium sand; and layers of grey moist silt. SHC.	5-7	0.0
	7.2-8.0' Grey moist medium and coarse sand. SHC	7-9	0.0
	8-9.4' Alternating ~0.1' thick layers of brown wet coarse sand with layers of grey wet fine sand, little silt. SHC	9-9.4	0.0
JCO-MW2	0-1' Brown frozen massive silt, some fine sand, angular gravel. SHC	0-1	0.0
	1-2.2' Brown damp massive fine sand, little silt	1-3	0.0
	2.2-3' Brown moist fine and medium sand, trace gravel. SHC		
	3-4' 0.2' of grey moist silt and fine sand over brown moist medium and coarse sand (fining downwards). SHC	3-4	0.0
	5-6' Brown damp medium and fine sand grading down to coarse sand. SHC	5-7	0.0
	6-6.5' Brown moist massive fine sand. SHC		
	6.5-6.7' Grey moist horizontally laminated silt and fine sand.		
6.7-7' Grey-brown wet massive coarse sand. SHC	7-9	0.0	
7-7.7' Grey saturated massive fine sand, some silt. SHC			
7.7-10' Alternating 0.2-0.3' thick layers of medium and fine sand with layers of coarse sand. SHC	9-10	0.0	

**Table 6**  
**Results of Bag-Headspace Photolization detector Tests of Soils**

Sample Location Name	Depth in feet below ground surface and Soil Description	Composite PID Sample Depth in feet below ground surface	Bag headspace PID sustained reading in ppmV
JCO-MW3	0-1.4' Brown frozen silt and fine sand, little sub-angular coarse gravel	0-1	0.0
	1.4-2.2' Brown moist laminated fine sand and silt. SHC	1-3	0.0
	2.2-5' Grey humid fine sand, some medium sand.	3-4	0.0
	5-6.4' Alternating 0.1-0.4' thick layers of grey damp fine sand, trace silt with layers of brown damp coarse sand. SHC	5-7	0.0
	6.4-7.5' Grey wet laminated medium and fine sand. SHC 7.5-7.7' Brown wet coarse sand.	7-9	0.0
	7.7-9.5' Alternating 0.2-0.3' thick grey wet layers of medium and fine sand with layers of coarse sand. SHC	9-9.5	0.0
SB1	0-1' Grey frozen silt and fine sand and angular gravel. No stains.	0-1	0.0
	1-2.5' Brown humid massive fine sand, trace gravel, burnt wood.	1-2.5	0.0
SB2	0-1.2' Black stained frozen silt and fine sand, little angular gravel.	0-1	0.0
	1.2-2.5' Brown damp fine sand. 2.5-3.0' Grey wet fine sand and silt.	2-3	0.0
	3.0-4.0' Brown damp fine and medium sand. 4-4.5' Grey coarse sand.	3.5-4.5	0.3
SB3	0-0.8' Grey frozen silt and fine sand, some angular gravel. 0.8-1.1' Red and black damp fine sand and silt. 1.1-1.6' Grey damp humid fine sand.	0-1	0.5
	1.6-3.0' Grey damp humid fine sand, little silt.	2-3	0.5
	3-4.7' Grey humid coarse sand.	4-4.7	0.2
SB4	0-1' Grey frozen silt and fine sand, some angular gravel. SHC 1-1.2' Red damp fine sand and silt. SHC	0-1	1.4
	1.2-2.5' Brown moist fine sand. Gradational contact. 2.5-3.5' Brown wet fine sand and silt. SHC	2-3	0.6
	3.5-5' Grey damp coarse sand, grading down to coarse sand and gravel.	4-5	0.8

Sample Location Name	Depth in feet below ground surface and Soil Description	Composite PID Sample Depth in feet below ground surface	Bag headspace PID sustained reading in ppmV
SB5	0-1' Grey frozen silt and fine sand and angular gravel. SHC	0-1	1.6
	1-1.8' Brown humid fine sand, little silt. SHC 1.8-2.4' Orange humid fine sand, little silt. 2.4-3.5' Tan humid fine sand.	1-3	0.5
	3.5-4.2' Grey moist silt, some fine sand. 4.2-5' Grey damp medium sand.	3-5	0.5
	0-1' Grey frozen silt and fine sand, some angular gravel.	0-1	0.3
SB6	1-1.3' Orange-red humid fine sand and silt. 1.3-3.3' Tan damp fine sand.	1-3	0.3
	3.3-3.8' Grey moist fine sand and silt. 3.8-4.3' Grey humid medium and coarse sand.	3-4.3	0.2
	SHC = Sharp Horizontal Contact		

#### 4.3 WATER SAMPLING AND ANALYSIS

Groundwater samples were collected on December 12, 1997 from the two existing monitoring wells located near the diesel and gasoline underground storage tanks (MW-NE and MW-SF as shown on Figure 2). These samples were analyzed using EPA Method 601/602 for volatile organic compounds (VOCs) by Endyne Laboratory of Williston, Vermont. The samples were collected with disposable bailers after purging 3-5 gallons of water from the wells.

Three additional groundwater samples were collected from stainless steel temporary wells installed on December 15, 1997 (JCO-MW1, JCO-MW2, and JCO-MW3 as shown on Figure 2). These samples were analyzed using EPA Method 8260 for volatile organic compounds (VOCs) by Endyne Laboratory. The wells were decontaminated prior to installation by a steam cleaner. The wells were sampled using a peristaltic pump and dedicated tubing. The wells were purged prior to sampling until the water ran clear.

A sample of surface water was collected on December 12, 1997 from the intermittent stream west (down-stream) of the Property. The sample was collected from the outfall of the culvert which runs from east to west under the Property. It was necessary to break the ice in the stream prior to sampling. The sample location is shown on Figure 2. The sample was analyzed using EPA Method 601/602 for volatile organic compounds (VOCs) by Endyne Laboratory.

All water samples were collected in two unpreserved 40 mL VOA vials. The samples were delivered under chain-of-custody procedures to Endyne for analysis. The report of the analyses is included in Appendix C. The depth to groundwater from the top of casing prior to purging was measured at each well. The top of casing elevation relative to an arbitrary datum was measured using an autolevel. A groundwater relative elevation contour map was prepared from these data and is included in Appendix B. North of the former intermittent stream the groundwater flow is primarily towards the south and south-southeast at a gradient of about 0.5%. The groundwater elevation in the existing wells near the USTs was higher than that in the northern portion of the Site. However, the groundwater gradient near the USTs was also towards the south or southeast. If the data are accurate, there must be an east-west groundwater divide near the center of the property. It is likely that groundwater flow directions are influenced by the presence of the former intermittent stream beds in the area.

VOCs were detected in two of the six water samples collected and analyzed. Methyl-tert-butyl-ether (MTBE) is the only VOC detected. MTBE is a component of unleaded gasoline. We are not aware of any other common use of this chemical. MTBE is one of the most mobile components of gasoline in terms of sub-surface dissolved phase transport. The Vermont Enforcement standard for MTBE is 40 ppm per the November 15, 1997 Vermont Groundwater Protection Rule and Strategy.

MTBE was detected below quantification limits in JCO-MW1 (located at the northern end of the Property). Since this well is upgradient of almost all of the Property, it is likely that the MTBE detected is not from releases at the Property. The detection of MTBE in this well is most likely due to contamination during sampling or in the laboratory. The MTBE could be due to gasoline contamination from the O'Brien Country Store, about 600 feet northeast of the Property. However, discussions with the Vermont Site Manager for the O'Brien Site suggest that the groundwater flows northwest from the store, and not towards the Property (see interview in Section 3.3). Another possible source could be the

AGENCY OF NATURAL RESOURCES  
COMPLAINT/SPILL REPORT

COMPLAINT # WMD 97-297  
DATE: 8-29-97  
DISTRICT: 4  
TOWN: WILLISTON  
PROGRAM: RCRA  
PRIORITY: \_\_\_\_\_  
INVESTIGATOR: \_\_\_\_\_  
DATE CLOSED: 8/29/97  
CLOSURE CODE: 2

Date/Time: 8/27/97 9am Person Taking Report: Maria Stadlmayer

LOCATION OF SPILL/INCIDENT:

Facility: R.J. Colton Construction  
Road/Street/Highway: 20 Shumpike Road  
Town/City: Williston

PERSON MAKING REPORT/COMPLAINANT:

Name/Organization: Steve Myers / Labor & Industry (thru Em Mgmt)  
Address: Burlington

Telephone Number: (work): 658-2199 (home): \_\_\_\_\_

Emergency:  Yes  No

Nature of Incident: Storage of haz. waste in

Date/Time of Incident: Ongoing

Type of Contaminant: unk. (pass. paint wastes w/ oil auto freeze) Quantity: unk (many drums)

Responsible Parties (RPs): R.J. Colton

RP's Telephone Number: (work): \_\_\_\_\_ (home): \_\_\_\_\_

OTHER INFORMATION (including directions): Steve Myers received a call from an ex-employee (individual requested to remain anon.) reporting that the R.J. Colton company stored all haz. waste "out back" in trailers. Some drums not in trailers, on ground, leaking & tipped over.

Case Assigned/Referred To: RCRA - Kater Date/Time: 8/29/97

ACTIONS TAKEN: \_\_\_\_\_



**Appendix B**  
**Selected Data from Various Sources**



PLATE 1 - VIEW OF PROPERTY AND BUILDING FROM NORTHERN PROPERTY LINE



PLATE 2 - SOIL BORING SBI LOCATION NEAR CENTER OF PROPERTY



PLATE 3 - SOIL BORING SB2 LOCATION  
(STAKE) NEAR WESTERN PROPERTY LINE



PLATE 4 - SOIL BORING SB3 LOCATION  
(STAKE) NEAR NORTHWEST CORNER



PLATE 5 - SOIL BORING SB5 LOCATION (STAKE AT LEFT OF PHOTO)



PLATE 6 - DIESEL AND GASOLINE TANKS AND MONITORING WELLS



PLATE 7 - SURFACE WATER SAMPLING  
LOCATION ON WESTERN PROPERTY LINE

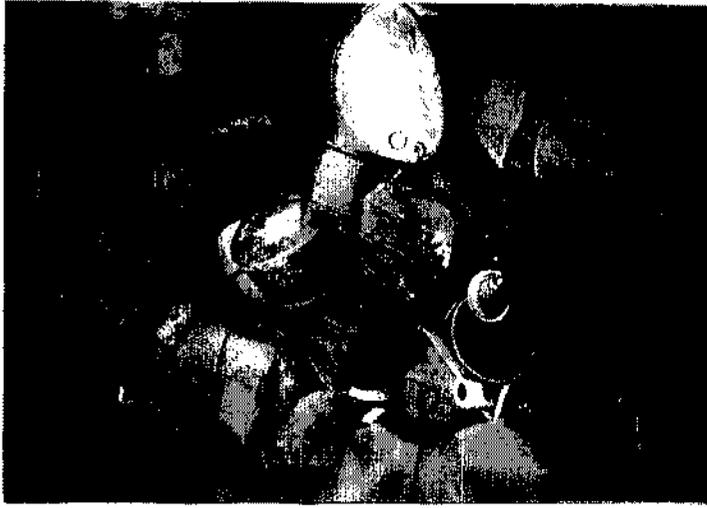


PLATE 8 - DRUMS IN DUMPSTER

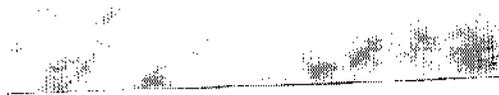
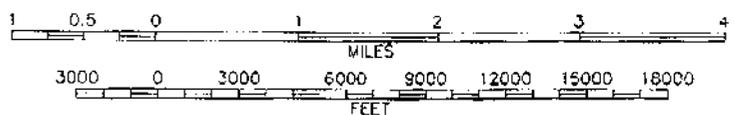
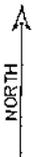
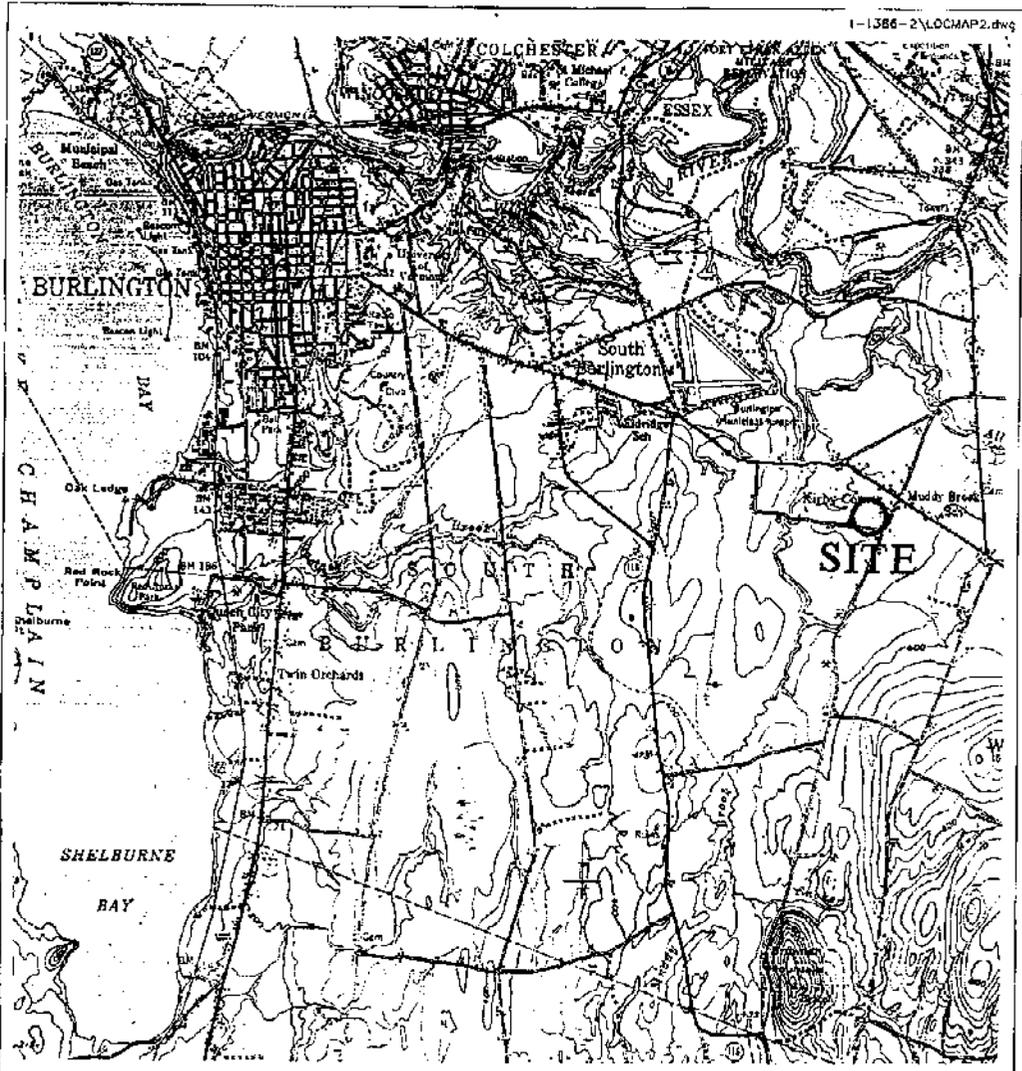


PLATE 9 - OIL-WATER SEPARATOR (FOREGROUND) AND PUMP STATION



PLATE 10 - WASTE OIL UST ACCESS PIPE AND VENT PIPE



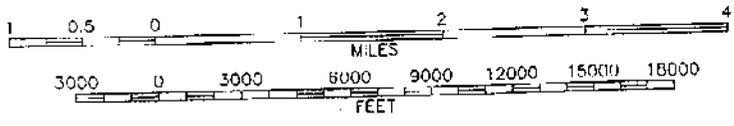
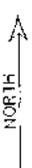
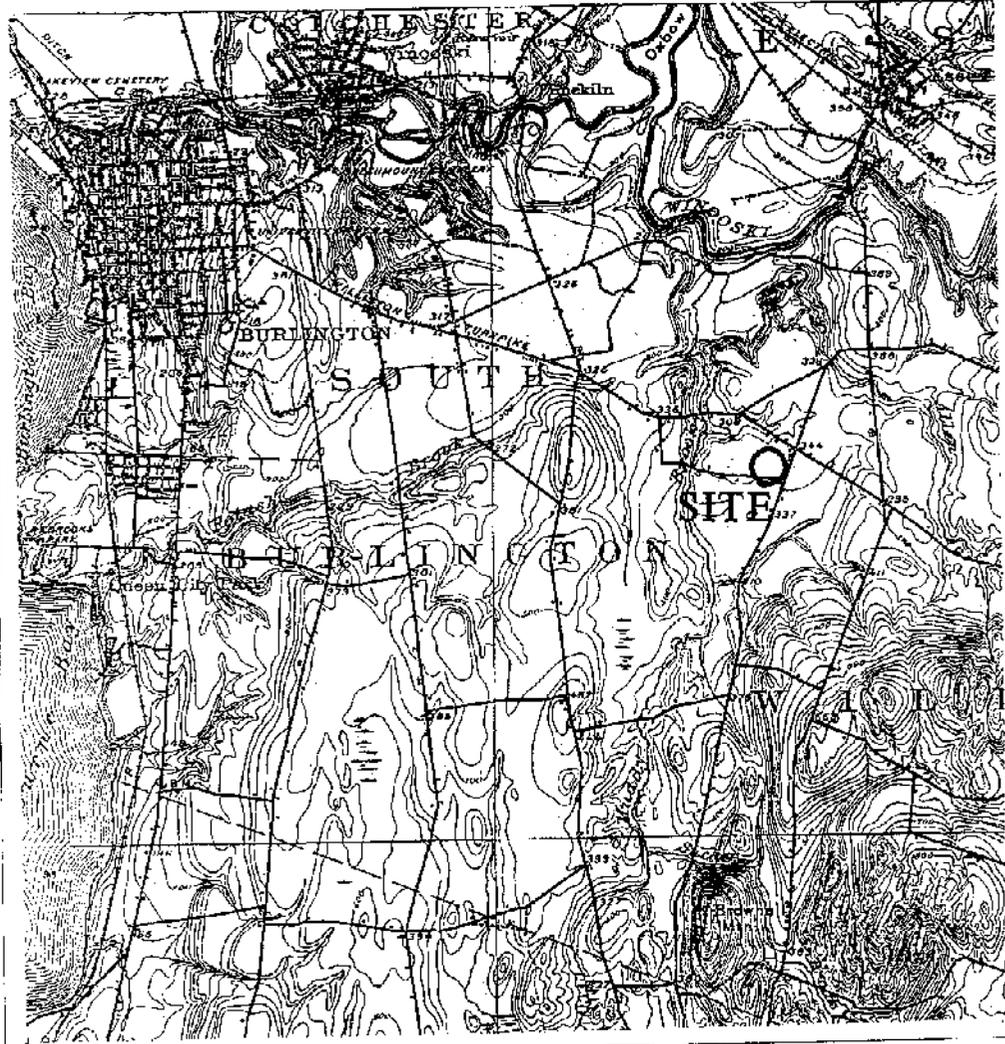
CONTOUR INTERVAL 40 FEET



BASE MAP, USGS 15 Minute Topographic Quadrangle BURLINGTON, VT. 1948

1948 SITE LOCATION MAP  
 20 SHUNPIKE ROAD  
 WILLSTON, VERMONT

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



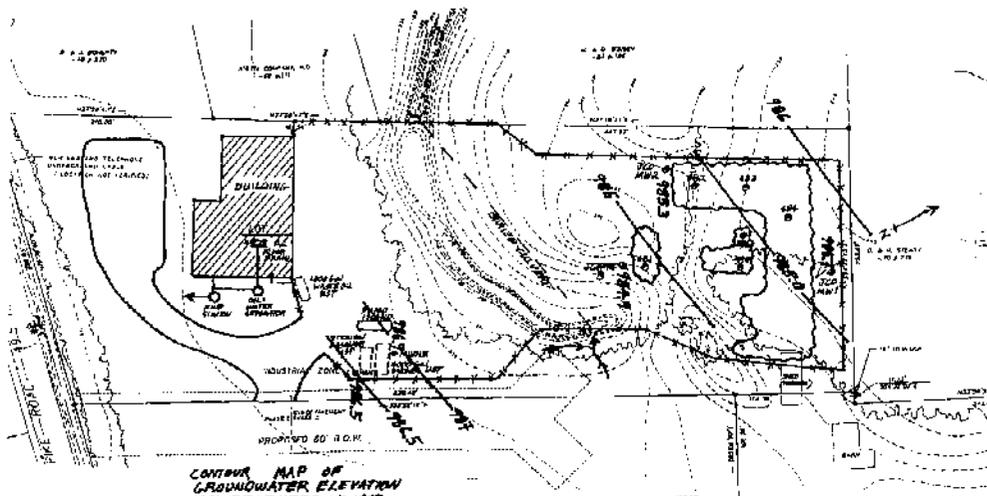
CONTOUR INTERVAL 20 FEET



BASE MAP: USGS 15 Minute Topographic Quadrangle BURLINGTON, VT, EDITION OF APRIL 1905

1905 SITE LOCATION MAP  
 20 SHUNPIKE ROAD  
 WILLISTON, VERMONT

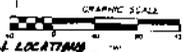
**THE JOHNSON COMPANY, INC.**  
*Environmental Sciences and Engineering*  
 100 STATE STREET | MONTPELIER, VT 05602



**CONTOUR MAP OF  
GROUNDWATER ELEVATION  
ON DECEMBER 16, 1977  
RELATIVE TO AN ASSUMED  
DATUM**

TRUDELL CONSULTING ENGINEERS, INC. IS  
TOPOGRAPHIC CONTOURS BASED ON 1966 LAND SURVEY  
REVISED 12-17-77 THE JOHNSON COMPANY  
OWN

- LEGEND**
- POINT OF MEASUREMENT
  - PERMANENT FEATURE
  - TEMPORARY FEATURE
  - PROPERTY OF ADJACENT OWNER
  - FENCE
  - POWER LINE
  - HIGHWAY
  - RAILROAD



**ALL LOCATIONS  
ARE APPROXIMATE**

**KIRBY ESTATE PROPERTY**

**TOPOGRAPHIC PLAN**

4 546  
SHELBY ROAD  
WILSON, TENNESSEE

Appendix C  
Laboratory Analytical Reports



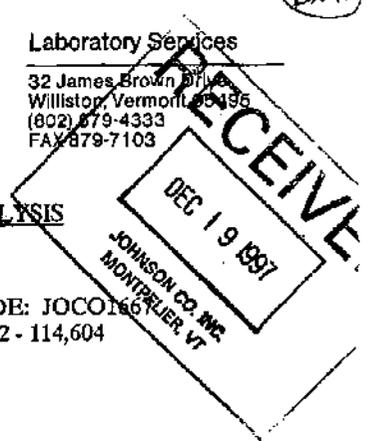
**ENDYNE, INC.**

1-1386-2  
DMA

**Laboratory Services**

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

REPORT OF LABORATORY ANALYSIS



CLIENT: The Johnson Company, Inc.  
PROJECT NAME: 1 - 1386 - 2  
REPORT DATE: December 17, 1997  
DATE SAMPLED: December 12, 1997

PROJECT CODE: JOCO166  
REF. #: 114,602 - 114,604

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

Chain of custody did not indicate sample preservation.

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

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

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

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

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

Reviewed by,

Harry B. Locker, Ph.D.  
Laboratory Director

enclosures



**ENDYNE, INC.**

**Laboratory Services**

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

**LABORATORY REPORT**

**EPA METHOD 601/602 COMPOUNDS BY GC/MS-WATER MATRIX**

CLIENT: The Johnson Company, Inc.  
PROJECT NAME: 1 - 1386 - 2  
REPORT DATE: December 17, 1997  
DATE SAMPLED: December 12, 1997  
DATE RECEIVED: December 12, 1997  
ANALYSIS DATE: December 15, 1997

PROJECT CODE: JOCO1667  
REF.#: 114,602  
STATION: MWNE  
TIME SAMPLED: 11:10  
SAMPLER: Don Maynard

<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Result (ug/L)</u>	<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Result (ug/L)</u>
Bromodichloromethane	1	ND <sup>1</sup>	cis-1,2-Dichloroethene	1	ND
Bromoform	2	ND	trans-1,2-Dichloroethene	1	ND
Bromomethane	2	ND	1,2-Dichloropropane	1	ND
Carbon Tetrachloride	1	ND	cis-1,3-Dichloropropene	1	ND
Chlorobenzene	1	ND	trans-1,3-Dichloropropene	1	ND
Chloroethane	5	ND	Methylene Chloride	5	ND
2-Chloroethylvinyl Ether	5	ND	1,1,2,2-Tetrachloroethane	1	ND
Chloroform	1	ND	Tetrachloroethene	1	ND
Chloromethane	5	ND	1,1,1-Trichloroethane	1	ND
Dibromochloromethane	2	ND	1,1,2-Trichloroethane	2	ND
1,2-Dibromoethane	1	ND	Trichloroethene	1	ND
1,2-Dichlorobenzene	1	ND	Trichlorofluoromethane	2	ND
1,3-Dichlorobenzene	1	ND	Vinyl Chloride	2	ND
1,4-Dichlorobenzene	1	ND	Benzene	1	ND
Dichlorodifluoromethane	5	ND	Ethylbenzene	1	ND
1,1-Dichloroethane	1	ND	Toluene	1	ND
1,2-Dichloroethane	1	ND	Total Xylenes	2	ND
1,1-Dichloroethene	1	ND	MTBE	2	3.5

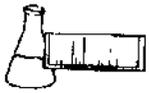
NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

**ANALYTICAL SURROGATE RECOVERY:**

Dibromofluoromethane : 110.0%  
Toluene-d8 : 98.0%  
4-Bromofluorobenzene : 93.0%

**NOTES:**

1 None detected



**ENDYNE, INC.**

**Laboratory Services**

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

**LABORATORY REPORT**

**EPA METHOD 601/602 COMPOUNDS BY GC/MS-WATER MATRIX**

CLIENT: The Johnson Company, Inc.  
PROJECT NAME: 1 - 1386 - 2  
REPORT DATE: December 17, 1997  
DATE SAMPLED: December 12, 1997  
DATE RECEIVED: December 12, 1997  
ANALYSIS DATE: December 15, 1997

PROJECT CODE: JOCO1667  
REF.#: 114,603  
STATION: MWSE  
TIME SAMPLED: 11:40  
SAMPLER: Don Maynard

<u>Parameter</u>	<u>Detection Limit</u> (ug/L)	<u>Result</u> (ug/L)	<u>Parameter</u>	<u>Detection Limit</u> (ug/L)	<u>Result</u> (ug/L)
Bromodichloromethane	1	ND	cis-1,2-Dichloroethene	1	ND
Bromoform	2	ND	trans-1,2-Dichloroethene	1	ND
Bromomethane	2	ND	1,2-Dichloropropane	1	ND
Carbon Tetrachloride	1	ND	cis-1,3-Dichloropropene	1	ND
Chlorobenzene	1	ND	trans-1,3-Dichloropropene	1	ND
Chloroethane	5	ND	Methylene Chloride	5	ND
2-Chloroethylvinyl Ether	5	ND	1,1,2,2-Tetrachloroethane	1	ND
Chloroform	1	ND	Tetrachloroethene	1	ND
Chloromethane	5	ND	1,1,1-Trichloroethane	1	ND
Dibromochloromethane	2	ND	1,1,2-Trichloroethane	2	ND
1,2-Dibromoethane	1	ND	Trichloroethene	1	ND
1,2-Dichlorobenzene	1	ND	Trichlorofluoromethane	2	ND
1,3-Dichlorobenzene	1	ND	Vinyl Chloride	2	ND
1,4-Dichlorobenzene	1	ND	Benzene	1	ND
Dichlorodifluoromethane	5	ND	Ethylbenzene	1	ND
1,1-Dichloroethane	1	ND	Toluene	1	ND
1,2-Dichloroethane	1	ND	Total Xylenes	2	ND
1,1-Dichloroethene	1	ND	MTBE	2	ND

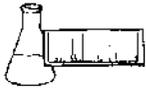
NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

**ANALYTICAL SURROGATE RECOVERY:**

Dibromofluoromethane : 109. %  
Toluene-d8 : 97. %  
4-Bromofluorobenzene : 92. %

**NOTES:**

1 None detected



**ENDYNE, INC.**

**Laboratory Services**

32 James Brown Drive  
Williston, Vermont 05495  
(802) 878-4333  
FAX 879-7103

**LABORATORY REPORT**

**EPA METHOD 601/602 COMPOUNDS BY GC/MS-WATER MATRIX**

CLIENT: The Johnson Company, Inc.  
PROJECT NAME: 1 - 1386 - 2  
REPORT DATE: December 17, 1997  
DATE SAMPLED: December 12, 1997  
DATE RECEIVED: December 12, 1997  
ANALYSIS DATE: December 15, 1997

PROJECT CODE: JOCO1667  
REF #: 114,604  
STATION: Ditch  
TIME SAMPLED: 11:50  
SAMPLER: Don Maynard

Parameter	Detection Limit (ug/L)	Result (ug/L)	Parameter	Detection Limit (ug/L)	Result (ug/L)
Bromodichloromethane	1	ND <sup>1</sup>	cis-1,2-Dichloroethene	1	ND
Bromoform	2	ND	trans-1,2-Dichloroethene	1	ND
Bromomethane	2	ND	1,2-Dichloropropane	1	ND
Carbon Tetrachloride	1	ND	cis-1,3-Dichloropropene	1	ND
Chlorobenzene	1	ND	trans-1,3-Dichloropropene	1	ND
Chloroethane	5	ND	Methylene Chloride	5	ND
2-Chloroethylvinyl Ether	5	ND	1,1,2,2-Tetrachloroethane	1	ND
Chloroform	1	ND	Tetrachloroethene	1	ND
Chloromethane	5	ND	1,1,1-Trichloroethane	1	ND
Dibromochloromethane	2	ND	1,1,2-Trichloroethane	2	ND
1,2-Dibromoethane	1	ND	Trichloroethene	1	ND
1,2-Dichlorobenzene	1	ND	Trichlorofluoromethane	2	ND
1,3-Dichlorobenzene	1	ND	Vinyl Chloride	2	ND
1,4-Dichlorobenzene	1	ND	Benzene	1	ND
Dichlorodifluoromethane	5	ND	Ethylbenzene	1	ND
1,1-Dichloroethane	1	ND	Toluene	1	ND
1,2-Dichloroethane	1	ND	Total Xylenes	2	ND
1,1-Dichloroethene	1	ND	MTBE	2	ND

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

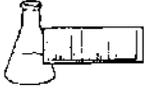
**ANALYTICAL SURROGATE RECOVERY:**

Dibromofluoromethane : 108. %  
Toluene-d8 : 99. %  
4-Bromofluorobenzene : 94. %

**NOTES:**

1 None detected





ENDYNE, INC.

RECEIVED

DEC 19 1997

REPORT OF LABORATORY ANALYSIS  
JOHNSON COMPANY  
WATERBURY, VT

Laboratory Services

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

1-1386-2  
DMM

CLIENT: The Johnson Company, Inc.  
PROJECT NAME: 1 - 1386 - 2  
REPORT DATE: December 17, 1997  
DATE SAMPLED: December 15, 1997

PROJECT CODE: JOCO1684  
REF. #: 114,643 - 114,645

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

Chain of custody did not indicate sample preservation.

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

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

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

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

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

Reviewed by,

Harry B. Locker, Ph.D.  
Laboratory Director

enclosures



**ENDYNE, INC.**

Laboratory Services

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

LABORATORY REPORT

EPA METHOD 8260 WATER MATRIX

CLIENT: The Johnson Company, Inc.  
PROJECT NAME: 1 - 1386 - 2  
REPORT DATE: December 17, 1997  
DATE SAMPLED: December 15, 1997  
DATE RECEIVED: December 15, 1997  
ANALYSIS DATE: December 16, 1997

PROJECT CODE: JOCO1684  
REF.#: 114,643  
STATION: JCOMW1  
TIME SAMPLED: 11:00  
SAMPLER: Don Maynard

<u>Parameter</u>	<u>Detection Limit</u> <u>(ug/L)</u>	<u>Result</u> <u>(ug/L)</u>	<u>Parameter</u>	<u>Detection Limit</u> <u>(ug/L)</u>	<u>Result</u> <u>(ug/L)</u>
Benzene	1	ND <sup>1</sup>	1,3-Dichloropropane	1	ND
Bromobenzene	1	ND	2,2-Dichloropropane	1	ND
Bromochloromethane	2	ND	1,1-Dichloropropene	1	ND
Bromodichloromethane	1	ND	cis-1,3-Dichloropropene	1	ND
Bromoform	1	ND	trans-1,3-Dichloropropene	1	ND
Bromomethane	5	ND	Ethylbenzene	1	ND
n-Butylbenzene	1	ND	Hexachlorobutadiene	5	ND
sec-Butylbenzene	1	ND	Isopropylbenzene	1	ND
tert-Butylbenzene	1	ND	p-Isopropyltoluene	1	ND
Carbon Tetrachloride	1	ND	Methylene Chloride	5	ND
Chlorobenzene	1	ND	Naphthalene	5	ND
Chloroethane	5	ND	n-Propylbenzene	1	ND
Chloroform	1	ND	Styrene	2	ND
Chloromethane	10	ND	1,1,1,2-Tetrachloroethane	2	ND
2&4-Chlorotoluene	2	ND	1,1,2,2-Tetrachloroethane	2	ND
Dibromochloromethane	1	ND	Tetrachloroethene	1	ND
1,2-Dibromo-3-Chloropropane	2	ND	Toluene	1	ND
1,2-Dibromoethane	2	ND	1,2,3-Trichlorobenzene	2	ND
Dibromomethane	2	ND	1,2,4-Trichlorobenzene	2	ND
1,2-Dichlorobenzene	1	ND	1,1,1-Trichloroethane	1	ND
1,3-Dichlorobenzene	1	ND	1,1,2-Trichloroethane	1	ND
1,4-Dichlorobenzene	1	ND	Trichloroethene	1	ND
Dichlorodifluoromethane	10	ND	Trichlorofluoromethane	2	ND
1,1-Dichloroethane	1	ND	1,2,3-Trichloropropane	1	ND
1,2-Dichloroethane	1	ND	1,2,4-Trimethylbenzene	1	ND
1,1-Dichloroethene	1	ND	1,3,5-Trimethylbenzene	1	ND
cis-1,2-Dichloroethene	1	ND	Vinyl Chloride	5	ND
trans-1,2-Dichloroethene	1	ND	Total Xylenes	2	ND
1,2-Dichloropropane	1	ND	MTBE	2	TBQ <sup>2</sup>

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

ANALYTICAL SURROGATE RECOVERY:

Dibromofluoromethane : 107.0%  
Toluene-d8 : 98.0%  
4-Bromofluorobenzene : 93.0%

NOTES:

- 1 None detected
- 2 Trace below quantitation limit



**ENDYNE, INC.**

**Laboratory Services**

32 James Brown Drive  
Williston, Vermont 05495  
(802) 878-4333  
FAX 879-7103

**LABORATORY REPORT**

**EPA METHOD 8260 WATER MATRIX**

CLIENT: The Johnson Company, Inc.  
PROJECT NAME: 1 - 1386 - 2  
REPORT DATE: December 17, 1997  
DATE SAMPLED: December 15, 1997  
DATE RECEIVED: December 15, 1997  
ANALYSIS DATE: December 16, 1997

PROJECT CODE: JOCO1684  
REF.#: 114,644  
STATION: JCOMW2  
TIME SAMPLED: 12:00  
SAMPLER: Don Maynard

Parameter	Detection Limit (ug/L)	Result (ug/L)	Parameter	Detection Limit (ug/L)	Result (ug/L)
Benzene	1	ND	1,3-Dichloropropane	1	ND
Bromobenzene	1	ND	2,2-Dichloropropane	1	ND
Bromochloromethane	2	ND	1,1-Dichloropropene	1	ND
Bromodichloromethane	1	ND	cis-1,3-Dichloropropene	1	ND
Bromoform	1	ND	trans-1,3-Dichloropropene	1	ND
Bromomethane	5	ND	Ethylbenzene	1	ND
n-Butylbenzene	1	ND	Hexachlorobutadiene	5	ND
sec-Butylbenzene	1	ND	Isopropylbenzene	1	ND
tert-Butylbenzene	1	ND	p-Isopropyltoluene	1	ND
Carbon Tetrachloride	1	ND	Methylene Chloride	5	ND
Chlorobenzene	1	ND	Naphthalene	5	ND
Chloroethane	5	ND	n-Propylbenzene	1	ND
Chloroform	1	ND	Styrene	2	ND
Chloromethane	10	ND	1,1,1,2-Tetrachloroethane	2	ND
2&4-Chlorotoluene	2	ND	1,1,2,2-Tetrachloroethane	2	ND
Dibromochloromethane	1	ND	Tetrachloroethene	1	ND
1,2-Dibromo-3-Chloropropane	2	ND	Toluene	1	ND
1,2-Dibromoethane	2	ND	1,2,3-Trichlorobenzene	2	ND
Dibromomethane	2	ND	1,2,4-Trichlorobenzene	2	ND
1,2-Dichlorobenzene	1	ND	1,1,1-Trichloroethane	1	ND
1,3-Dichlorobenzene	1	ND	1,1,2-Trichloroethane	1	ND
1,4-Dichlorobenzene	1	ND	Trichloroethane	1	ND
Dichlorodifluoromethane	10	ND	Trichlorofluoromethane	2	ND
1,1-Dichloroethane	1	ND	1,2,3-Trichloropropane	1	ND
1,2-Dichloroethane	1	ND	1,2,4-Trimethylbenzene	1	ND
1,1-Dichloroethene	1	ND	1,3,5-Trimethylbenzene	1	ND
cis-1,2-Dichloroethene	1	ND	Vinyl Chloride	5	ND
trans-1,2-Dichloroethene	1	ND	Total Xylenes	2	ND
1,2-Dichloropropane	1	ND	MTBE	2	ND

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

**ANALYTICAL SURROGATE RECOVERY:**

Dibromofluoromethane : 109.9%  
Toluene-d8 : 99.9%  
4-Bromofluorobenzene : 95.5%

**NOTES:**

1 None detected



**ENDYNE, INC.**

Laboratory Services

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

**LABORATORY REPORT**

**EPA METHOD 8260 WATER MATRIX**

CLIENT: The Johnson Company, Inc.  
PROJECT NAME: 1-1386-2  
REPORT DATE: December 17, 1997  
DATE SAMPLED: December 15, 1997  
DATE RECEIVED: December 15, 1997  
ANALYSIS DATE: December 16, 1997

PROJECT CODE: JOCO1684  
REF.#: 114,645  
STATION: JCOMW3  
TIME SAMPLED: 13:00  
SAMPLER: Don Maynard

Parameter	Detection Limit (ug/L)	Result (ug/L)	Parameter	Detection Limit (ug/L)	Result (ug/L)
Benzene	1	ND <sup>1</sup>	1,3-Dichloropropane	1	ND
Bromobenzene	1	ND	2,2-Dichloropropane	1	ND
Bromochloromethane	2	ND	1,1-Dichloropropene	1	ND
Bromodichloromethane	1	ND	cis-1,3-Dichloropropene	1	ND
Bromoform	1	ND	trans-1,3-Dichloropropene	1	ND
Bromomethane	5	ND	Ethylbenzene	1	ND
n-Butylbenzene	1	ND	Hexachlorobutadiene	5	ND
sec-Butylbenzene	1	ND	Isopropylbenzene	1	ND
tert-Butylbenzene	1	ND	p-Isopropyltoluene	1	ND
Carbon Tetrachloride	1	ND	Methylene Chloride	5	ND
Chlorobenzene	1	ND	Naphthalene	5	ND
Chloroethane	5	ND	n-Propylbenzene	1	ND
Chloroform	1	ND	Styrene	2	ND
Chloromethane	10	ND	1,1,1,2-Tetrachloroethane	2	ND
2&4-Chlorotoluene	2	ND	1,1,2,2-Tetrachloroethane	2	ND
Dibromochloromethane	1	ND	Tetrachloroethene	1	ND
1,2-Dibromo-3-Chloropropane	2	ND	Toluene	1	ND
1,2-Dibromoethane	2	ND	1,2,3-Trichlorobenzene	2	ND
Dibromomethane	2	ND	1,2,4-Trichlorobenzene	2	ND
1,2-Dichlorobenzene	1	ND	1,1,1-Trichloroethane	1	ND
1,3-Dichlorobenzene	1	ND	1,1,2-Trichloroethane	1	ND
1,4-Dichlorobenzene	1	ND	Trichloroethene	1	ND
Dichlorodifluoromethane	10	ND	Trichlorofluoromethane	2	ND
1,1-Dichloroethane	1	ND	1,2,3-Trichloropropane	1	ND
1,2-Dichloroethane	1	ND	1,2,4-Trimethylbenzene	1	ND
1,1-Dichloroethene	1	ND	1,3,5-Trimethylbenzene	1	ND
cis-1,2-Dichloroethene	1	ND	Vinyl Chloride	5	ND
trans-1,2-Dichloroethene	1	ND	Total Xylenes	2	ND
1,2-Dichloropropane	1	ND	MTBE	2	ND

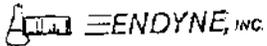
NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

**ANALYTICAL SURROGATE RECOVERY:**

Dibromofluoromethane : 110.0%  
Toluene-d8 : 101.0%  
4-Bromofluorobenzene : 96.0%

**NOTES:**

1 None detected



32 James Brown Drive  
Wells, Vermont 05455  
(802) 875-4333

CHAIN-OF-CUSTODY RECORD

25069

Project Name: 1-1386-2	Reporting Address: JOHNSON CO. 100 State St. Suite 600 Montpelier, VT 05602	Billing Address: JOHNSON CO. 100 State St. Montpelier, VT 05602
Site Location: 20 SHAWPIKE WILLISTON	Company: JOHNSON CO. Contact Name/Phone #: Don Maynard	Sampler Name: Don Maynard Phone #: 229-4100 229-5976 FAX
Endyne Project Number: JOC01684		

Lab #	Sample Location	Matrix	G R A B	C O M P	Date/Time	Sample Containers		Field Results/Remarks	Analysis Required	Sample Preservation	Rush
						No.	Type/Size				
114643	JCO MW1	H2O			12-15-97 11:00	2	VOAS	Field Book DMM#19	0260	ICE	V12-B
114644	JCO MW2				↓ 12:00	↓	↓	↓	↓	↓	↓
114645	JCO MW3				↓ 1:30	↓	↓	↓	↓	↓	↓

Relinquished by: Signature <i>[Signature]</i>	Received by: Signature <i>Jason Woodard</i>	Date/Time 12/15/97 1:20 P.M.
Relinquished by: Signature	Received by: Signature	Date/Time

New York State Project: Yes  No

Requested Analyses

1	pH	6	TKM	11	Total Solids	16	Metals (Specify)	21	EPA 824	26	EPA 8270 B/N or Acid
2	Chloride	7	Total P	12	TSS	17	Coliforms (Specify)	22	EPA 625 B/N or A	27	EPA 8010/8020
3	Ammonia N	8	Total Diss. P	13	TDS	18	COD	23	EPA 418.1	28	EPA 8060 Pcs/PCB
4	Nitrite N	9	BOD <sub>5</sub>	14	Turbidity	19	BTEX	24	EPA 608 Pcs/PCB		
5	Nitrate N	10	Alkalinity	15	Conductivity	20	EPA 601/607	25	EPA 8240		EPA 8260
29	TCDF (Specify: volatiles, semi-volatiles, metals, pesticides, herbicides)										
30	Other (Specify):										

**Appendix D**  
**Property Ownership, Maps and Permit Data**

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## State of Vermont

## Subdivisions Permit

LAWS/REGULATIONS INVOLVED

CASE NO. EC-4-1003 Chapter 3, Subdivisions  
 APPLICANT Clifton R. Kirby, Trust Estate Chapter 7, Sewage Disposal  
 ADDRESS Howard Bank, Trustee Chapter 8, Water Supply  
 111 Main Street  
 Burlington, VT 05401

This project, consisting of three lot subdivisions: Lot #1 (4.77 acres) for a new public building with municipal water and sewer services; Lot #2 (2.89 acres) subject to Deferral of Permit #D-4-1019 and not approved for development; and Lot #3 (2.85 acres) with two existing single family residences with municipal water and on-site sewage disposal located on South Brownell and Shunpike Roads in the Town of Williston, Vermont, is hereby approved under the requirements of the regulations named above, subject to the following conditions.

GENERAL

- (1) The subdivision must be completed as shown on the plans "Kirby Estate Property Lane to be Conveyed From Howard Bank, Trustee for Clifton Kirby Estate to Robert Provost and Rich Colton" dated 11/17/86 prepared by Trudell Consulting Engineers, Inc., and which have been stamped APPROVED by the Division of Protection. No changes shall be made to the approved plan without prior written approval from the Agency of Environmental Conservation.
- (2) The conditions of this Permit shall run with the land and will be binding upon and enforceable against the permittee and all assigns and successors in interest. The permittee shall be responsible for recording this permit and the NOTICE OF PERMIT RECORDING in the Williston Land Records within thirty (30) days of receipt of this permit and prior to the conveyance of any lot subject to the jurisdiction of this permit.
- (3) This Permit specifically approves the subdivision of Lot #1 for a future public building with municipal water and sewer services and Lot #3 with two existing single family residences with municipal water and on-site sewage disposal. Lot #2 is subdivided subject to Deferral of Permit #D-4-1019 and is not approved for development. Prior to construction on the municipal sewer or water services or any site work and building construction on Lot #1, written approval must be granted by the Division of Protection and local officials.

WATER SUPPLY

- (4) Lot #1 is approved for connection to a municipal type water system approved by the Department of Health.

SEWAGE DISPOSAL

- (5) Lot #1 is approved for connection to a municipal sewage collection system.
- (6) Lot #3 is approved for the two existing sewage disposal systems for the two houses. No buildings, roads, water lines, or other construction that might interfere with the installation or operation of the sewage disposal field is permitted on or near the continuous area. All isolation distances as set forth in Chapter 7, of the Environmental Protection Rules. If at any time this system fails to function properly and/or creates a health hazard, the Division of Protection is to be immediately notified. Connection to the municipal sewer system may be provided at that time.

Subdivisions Permit  
SEC-4-1083  
Page 2

Dated in the Village of Essex Junction, Vermont, this 15th day of  
December, 1986.

FOR THE DIVISION OF PROTECTION

Mary K. Clark  
Mary K. Clark  
Assistant Regional Engineer

CC: Donald Rabisky  
Williston Planning Commission  
Village of Essex Junction  
Department of Labor & Industry  
Trudell Consulting Engineers, Inc.  
R. J. Colton, Inc.

William W. Town Clerk's Office  
Recorded for Record  
December 19 A. D. 1986  
at 9 O'clock 15 minutes  
and recorded in Book 15 Page 144-415  
Attest: W. W. Town Town Clerk

STATE OF VERMONT  
AGENCY OF ENVIRONMENTAL CONSERVATION  
DIVISION OF PROTECTION  
18 V.S.A. §1218-1220

TO: Municipal/City Clerk, RL: LAND USE PERMIT # LC-4-1083  
Town of Williston DEFERRAL OF PERMIT # \_\_\_\_\_

NOTICE OF PERMIT RECORDING

As Municipal Clerk for the Town/City of Williston Vermont, you are hereby notified that this Notice of Permit Recording and (Land Use Permit) (~~DEFERRAL OF PERMIT~~) # LC-4-1083 are to be recorded in the Municipal Land Records under the authority of 27 V.S.A. §603-605. The grantor(s) shall be Clifton R. Kirby, Trust Estate, whose lands are identified in Book(s) 62, Page(s) 247-248 and the grantee shall be the State of Vermont, Agency of Environmental Conservation. The grantor(s) and the grantee shall be listed in the index in the Claimant's Book and in the general index for deeds.

The grantee's interest is limited to the lands of the grantor(s) identified in the Book(s) and Page(s) specified above (and the proposed improvements) as delineated in (Land Use Permit) (~~DEFERRAL OF PERMIT~~) # LC-4-1083 issued under the authority of 18 V.S.A. §1218-1220 and the Environmental Protection Rules.

I swear that, to the best of my information and belief, the statements made above are true.

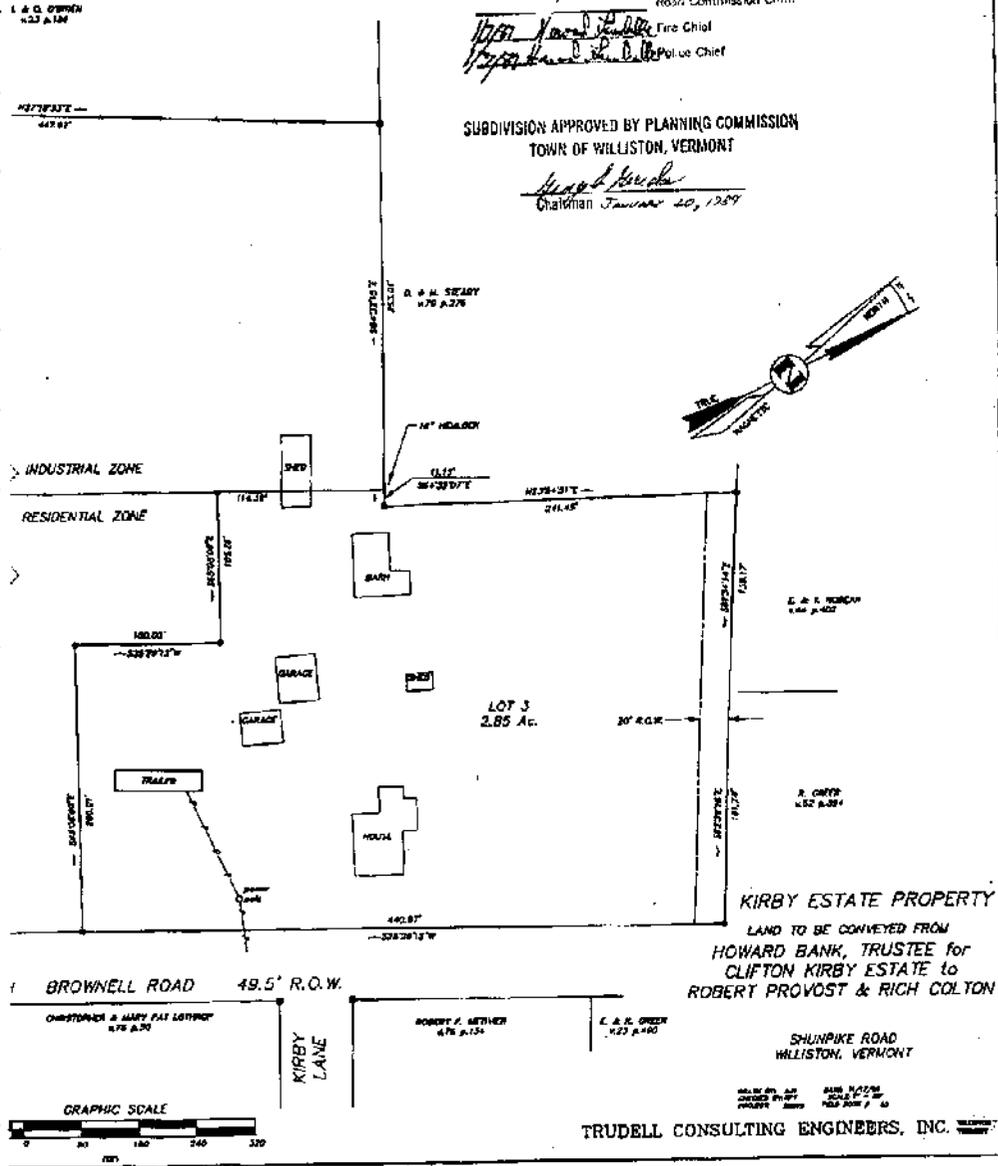
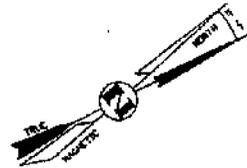
Dated at Essex Junction, Vermont, this 16th day of December, 19 86.

Harold P. Charbonneau (by)  
District Administrator

Williston, VT Town Clerk's Office  
Received for Record  
December 19 A.D. 19 86  
at 8 o'clock 15 minutes A.M.  
and the said day is 15 Pages 1493  
Signed Leah A. H. [Signature] Town Clerk

date 12/22/78 signature [Signature] Department Water Commission Chm.  
12/20/78 [Signature] [Signature] 12/20/78 [Signature] 12/20/78 [Signature]  
12/20/78 [Signature] 12/20/78 [Signature]  
12/20/78 [Signature] 12/20/78 [Signature]

SUBDIVISION APPROVED BY PLANNING COMMISSION  
 TOWN OF WILLISTON, VERMONT  
[Signature]  
 Chairman January 20, 1979

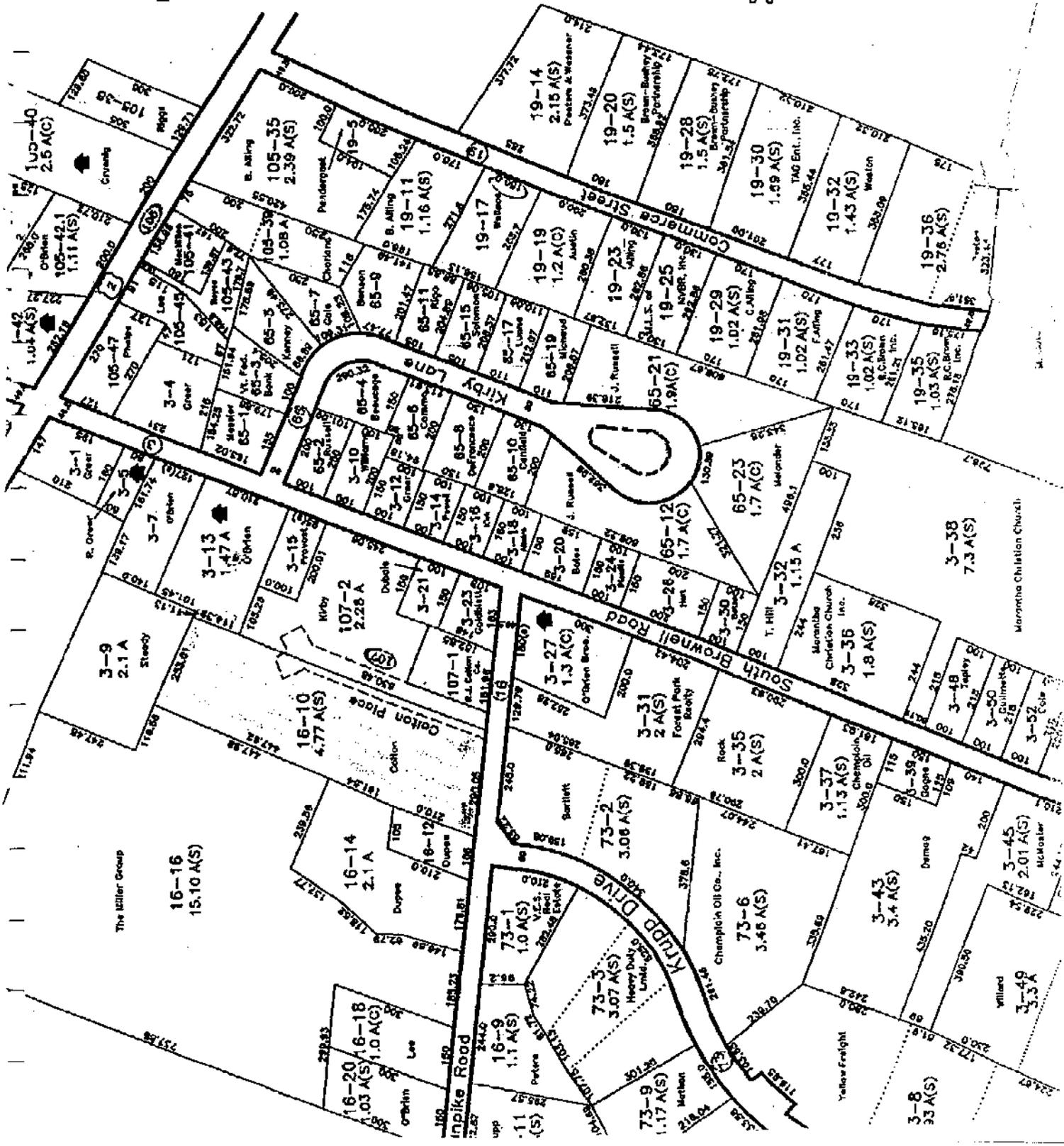


Williston, Vt. Town Clerk's Office  
 Received by Record  
January 21 A.D. 1981  
 of 8 Copies 05 Pages 1  
 and recorded in Book 8 Page 1  
 Attest: [Signature] Town Clerk



# TOWN OF WILLISTON, VT TAX MAP, 1997

Map



INDICATED  
18'

OFFICE SERVICE BUILDING

5 AUSTRIAN PINE

1- 1,000 gal.  
(Steel, Asphalt  
Coated)

341

340

339

4" C.I.

WASTEWATER PUMP  
STATION

4 CRABAPPLE

GROUNDWATER  
MONITORING WELLS

PUMPING IS

1- 2,000

1- 6,000

FILL TUBE

H.P.  
338 + B

LIGHTED SIGN

338

339

340

40'

338

2 CRABAPPLE

PROPERTY LINE

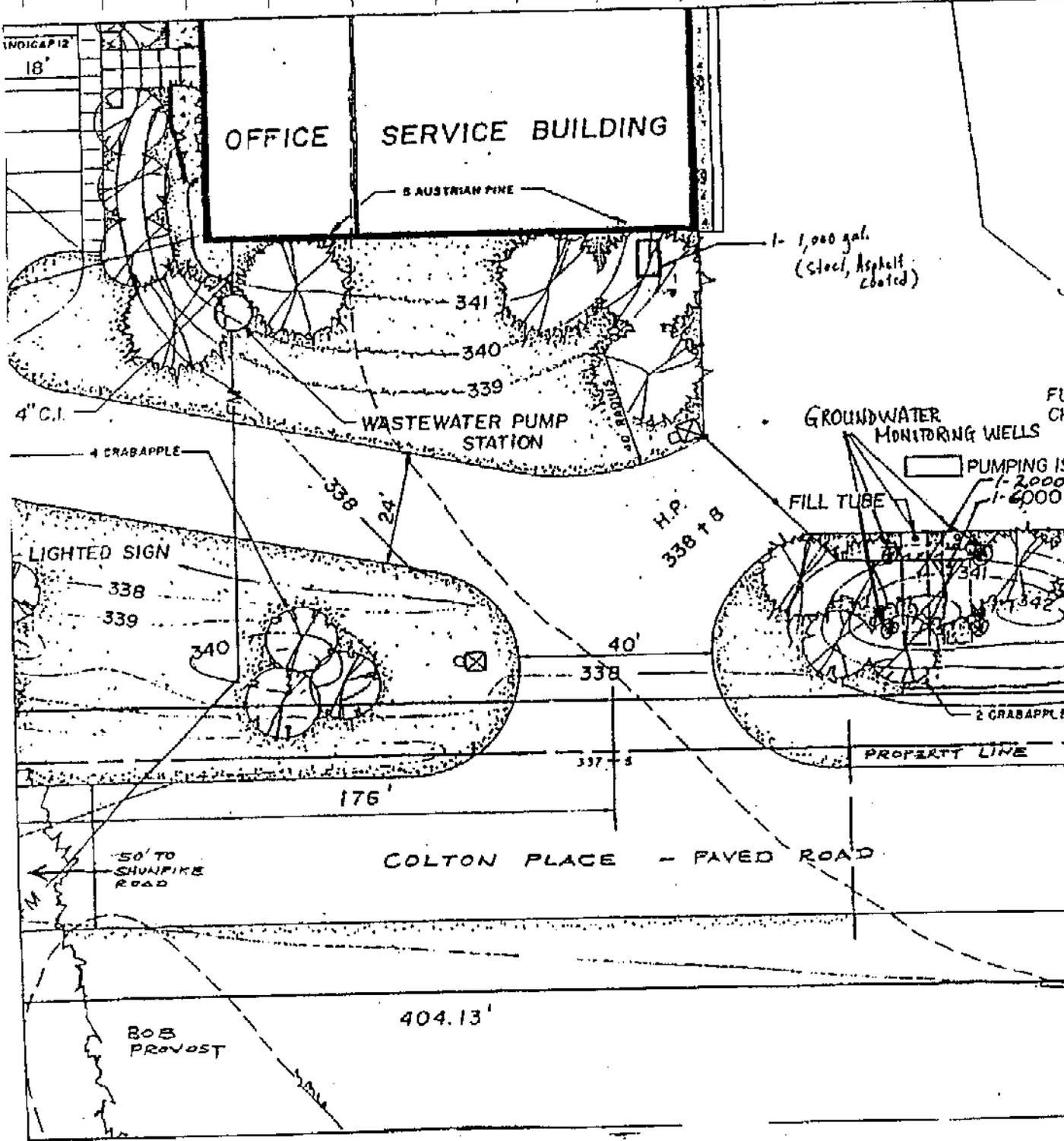
176'

50' TO  
SHUNPIKE  
ROAD

COLTON PLACE - PAVED ROAD

BOB  
PROVOST

404.13'



**Appendix E**  
**Credentials of Environmental Professionals**

# **DONALD M. MAYNARD, C.G., P.E.**

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## **EDUCATION**

- M.S., Glacial Geology, Rensselaer Polytechnic Institute, 1988
- B.S., Geology, Minors: German and Management, Rensselaer Polytechnic Institute, 1981

## **LICENSES**

- Licensed Professional Engineer - Vermont
- Certified Geologist No. 267 in the State of Maine

## **WORK EXPERIENCE**

### **THE JOHNSON COMPANY, INC. - Montpelier, Vermont 1987 - Present Project Scientist**

Project scientist (geology) for a variety of geological, geotechnical, hydrological, and hydrogeological projects and remedial designs. Experience includes complex stratigraphic analysis, data collection, construction inspection and computer modeling to evaluate groundwater and contaminant transport. Projects include:

- Pease Air Force Base, Portsmouth, New Hampshire - performed stratigraphic evaluation of complex estuarine and proximal glacial deposits for the purpose of designing a remedial action. The soils and bedrock are contaminated with trichloroethane, a dense chlorinated solvent. The proposed remedial technology includes in-situ flushing with a permanganate solution to enhance degradation of the solvent. Continuous soil cores were collected from 30 locations for use in the stratigraphic interpretation.
- Dairy Farm, Central Vermont - distillation residues from an industrial dry cleaning facility were apparently placed in a gravel pit at a local farm in the 1970's. Performed a detailed investigation of the area to determine the nature and extent of the resulting perchloroethene contamination in the subsurface. Investigation techniques included: ground penetrating radar, seismic refraction, continuous coring at over 30 locations, installation and monitoring of over 20 nests of groundwater piezometers, and collection of over 300 soil samples for analysis by gas chromatograph. The extent of the distillation residue, soil contamination, and groundwater contamination were delineated. The potential effects on receptors were evaluated. The site is currently under long term monitoring.
- Pine Street Barge Canal Superfund Site, Burlington, Vermont - performed hydrogeological evaluation utilizing data from over 500 core logs and over 100 monitoring wells. Responsible for the collection and description of over 130 sediment core samples from the barge canal
- Performed and managed hydrogeologic investigations of two existing unlined landfills and a proposed lined landfill
- Performed hydrogeological investigations, on-site remediation design, and/or remedial system installation at over twenty petroleum and hazardous waste sites, including five CERCLIS or NPL sites. Several of the sites required interpretation of contaminant fate and transport in the bedrock aquifer. Performed site assessments at closure of over 20 underground storage tanks

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**WORK EXPERIENCE**

**continued**

- Performed a geologic and hydrogeologic review of the data and proposed design for the Vermont/Maine/Texas low level radioactive waste repository
- Designed two earth dams impounding over 1,500,000 cubic feet of water, each. Prepared bid documents, conducted bid process, controlled payments to contractor, and inspected dam construction
- Designed and constructed vibratory core sampler for sediment sampling in Mohawk River, NY in the vicinity of the Knowles Atomic Power Laboratory. Collected over 100 cores.
- Performed computer modeling of subsurface contaminant transport and groundwater flow for landfill design, indirect discharge permits, and hazardous waste sites.
- Testified at Environmental Board hearings and at Chittenden Superior Court regarding impact of on-site septic systems on water supplies
- Performed hydrogeological assessments resulting in four indirect discharge permits including three designed for greater than 4,000 gpd each
- Collected and analyzed data to predict the chemical assimilative capacity of four watersheds for indirect discharge permits
- Evaluated the potential environmental effects of a direct discharge to the Winooski River from a proposed cogeneration power plant. Designed the field study, and collected and interpreted data. Modeled dispersion and dilution of the plume for a variety of river flow and temperature conditions. A direct discharge permit was granted based on the results of the study
- Performed the technical design for the creation of the Vermont Sites Prioritization System. This System is a computer operated ranking system for comparing the relative hazards of Vermont Hazardous Waste Sites
- Located and evaluated over 200 test pits, 200 wells, 100 percolation tests and 120 point hydraulic conductivity tests
- Collected and evaluated over 2500 sediment, soil, and rock samples, including split spoon samples, thin-walled cores, vibratory core samples, diamond core samples, and sidewall core samples
- Collected and evaluated water quality samples, stream flow data with current meter and dye, seismic refraction data, pump test data, large scale hydraulic conductivity trench test data, field and laboratory soils compaction data, and soils sieve and hydrometer data
- Competent in the following computer languages and software: BASIC, FORTRAN, SAS, DOS, Haestad Methods POND2, USGS DAMBREAK, SCS TR20, SCS TR55, SURFER, GRAPHIC, USGS SUTRA, USGS MODFLOW, USGS MODPATH, USGS MOC, MODFCAD, EPA QUAL2E, EPA GARDS, EPA GEO-EAS, PARADOX, Word Perfect, LOTUS 123, and QUATRO

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# **DONALD M. MAYNARD, C.G., P.E.**

Page 3

## **MILLER ENGINEERING AND TESTING - Waterbury, Vermont** 1986 - 1987 Quality Control Inspector

- Performed laboratory analysis and field testing for concrete and soils on construction projects. Acted as owners' and engineers' quality control representative during construction

## **PLACID OIL - Dallas, Texas** 1985 - 1986 Production Geologist

- Prepared recommendations for workovers of existing wells, new well proposals, and acquisition of geophysical data. Responsible for two offshore Gulf of Mexico fields. Manipulated computer programs to model three phase oil and gas reservoirs. Interpreted and correlated available data in order to create maps for reservoir evaluation and as input to computer models

## **GULF EXPLORATION AND PRODUCTION COMPANY, JOINT INTEREST SECTION - New Orleans, Louisiana** 1983 - 1985 Project Geologist

- Provided recommendations of lease acquisition and sale, new well proposals, and work-overs. Responsible for five Gulf of Mexico fields. Collected cores and electrical log data from offshore oil wells. Created computer mapping programs combining geophysical and well data. Interpreted and correlated electric logs, geophysical data, pump test and drill stem test data, injection data, and production data. Created maps and cross sections by hand and computer

## **SHORT COURSES**

- EPA Seminar on Slow Purge Sampling, 1996
- Certified Hazardous Waste General Site Worker (OSHA 29CFR1910.120), 1996
- EPA Seminar on site characterization, 1989
- Borehole Geophysics - Tulane University, 1984
- Well Completion and Stimulation for Geologists - Gulf Oil, 1984
- Organic geochemistry applied to petroleum exploration - Gulf Oil, 1984
- Structural and depositional styles of the gulf coast Tertiary continental margins - Gulf Oil, 1984

## **MEMBERSHIPS**

- Vermont Geological Society
- American Society of Testing and Materials
- American Association of Petroleum Geologists

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**PUBLICATIONS**

Maynard, Donald M., Liptak, Alan R., and Hanson, Eric R., "Variation in the Connecticut River Stage and its Relationship to Contaminant Migration in an Underlying Bedrock Aquifer" presented at the 1995 ES-AAPG and NYSGA Joint Annual Meeting, Schenectady, NY.

Maynard, D.M. (1994), "Geology of the Pine Street Barge Canal Superfund Site, Burlington, Vermont" PRP Fate and Transport Technical Committee.

Maynard, D.M. (1994), "An Inexpensive Design for a Vibratory Core Sampler" Vermont Geological Society Annual Meeting.

Maynard, D.M. (1991), "Deglaciation Sequences in a small south facing valley in Calais, VT." Vermont Geological Society Annual Meeting.

Maynard, D.M. (1988), "Surficial Geology and Glacial History of the Little Falls Quadrangle, Central Mohawk Valley, New York" Master's Thesis, unpublished.

# ERIC R. HANSON, B.S., C.G.W.P.

## EDUCATION

- Graduate Credit, Ohio State University, 1987
- B.S., Hydrology, University of New Hampshire, 1980

## LICENSES

- Certified Site Technician B (Certification # 339), State of Vermont, 1990
- Certified Ground Water Professional (Certificate #521)  
National Groundwater Association, 1995

## WORK EXPERIENCE

**THE JOHNSON COMPANY, INC. - Montpelier, Vermont**  
1987 - Present Project Hydrologist, Deputy Health and Safety Officer

Project Hydrologist performing technical and permitting work with public water supplies and land application of waste. Water supply projects involve working with businesses and municipalities to develop, test, and permit public water supplies in compliance with state and federal regulations. Waste disposal projects involve work with clients who represent dairy manufacturing facilities, wastewater treatment plants, and septage collection, treatment and disposal facilities to develop waste disposal programs in compliance with regulations and permit conditions. Projects include:

- Chilik Region, Kazakstan - dairy modernization project to evaluate and prepare plans for water supply and land application wastewater disposal alternatives consistent with applicable local environmental regulations. Assisted in preparation of business plan to leading institutions for project funding
- Permitting of wastewater disposal systems - work with clients and state regulators to develop potential sites for soil and land-based wastewater disposal systems. Duties include performing in-field soils investigations, developing disposal options, insuring compliance with applicable regulations, and assistance through the permit processes
- Water supply development - work with clients to develop groundwater supply sources through tasks including source location, fracture trace analysis, geophysical analyses, aquifer testing and analyses, water quality sampling, computer modeling, report preparation, negotiations with regulatory personnel and permit acquisitions. Projects range from water supplies for residential developments, businesses, and municipalities to spring source development for bottled water projects
- Hazardous site investigations - investigate subject properties to determine nature, degree, and extent of soil, groundwater, and surface water contamination. Tasks include investigation of site history through research and interviews, hydrogeologic mapping/modeling, soil sampling, groundwater sampling, surface water sampling, analyses of sampling results, identification of sensitive receptors, delineation of contaminant source areas, and development of recommendations to address site conditions
- Expert Witness - appears as an expert witness in hydrogeological issues involving faulty well construction, water supply contamination and environmental impact of waste disposal practices
- Deputy Health and Safety Officer, implementing and overseeing The Johnson Company's employees' Health and Safety Program

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**WORK EXPERIENCE**

continued

**STATE OF VERMONT AGENCY OF ENVIRONMENTAL CONSERVATION -  
Waterbury, Vermont 1986 - 1987 Hydrogeologist**

- Managed technical assistance program to aid towns in developing and protecting new groundwater supplies through site investigations and meetings with town officials
- Reviewed consultants' reports on hazardous waste site investigations
- Conducted reviews of permit applications addressing potential impacts on groundwater
- Responded to inquiries from consultants and the public

**WAGNER, HEINDEL, & NOYES - Burlington, Vermont  
1983 - 1986 Hydrogeologist**

- Performed hydrogeologic studies including, well site studies, aquifer testing and analysis, stormwater management studies, contamination studies, stream gaging, and testing and analysis of soil characteristics

**NEW RESOURCE GROUP, INC. - Milford, New Hampshire  
1982 - 1983 Water Conservation Demonstrator**

- Conducted educational demonstrations regarding water and energy conservation. Researched and analyzed data concerning regional and local water supply for inclusions in educational demonstrations

**INSTITUTE OF NATURAL AND ENVIRONMENTAL RESOURCES, U.S. FOREST SERVICE -  
Durham, New Hampshire  
1980 Forester Aide**

- Collected and tabulated data for research from in-field data collection and laboratory analyses to determine timber stand vitality in northern New England. Involved in-field data collection and laboratory analysis

**PUBLICATIONS**

Maynard, Donald M., Liptak, Alan R., and Hanson, Eric R., "Variation in the Connecticut River Stage and its Relationship to Contaminant Migration in an Underlying Bedrock Aquifer" presented at the 1995 ES-AAPG and NYSGA Joint Annual Meeting, Schenectady, NY.

**ERIC R. HANSON, B.S., C.G.W.P.**

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**SHORT COURSES**

- Remote Sensing Applications to Hydrogeology, 1986
- Aquifer Analysis (with graduate credit at University of Ohio), 1987
  - Concepts of Hydrogeology, 1988
- Certified Hazardous General Site Worker (OSHA 29CFR1910.120), 1990
- Probability, Statistics and Geostatistics for Environmental Professionals, 1993
  - Fundamentals of Groundwater Geochemistry, 1996
  - Application of Groundwater Geochemistry, 1996

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