

**Report of Hydrogeologic Investigation:**

**Baker Residence and Vicinity**

**West Pawlet, Vermont**

---

**August 1994**

Prepared for:

**Vermont DEC Hazardous Materials Management Division**  
103 South Main Street  
Waterbury, Vermont 05671-0404

Prepared by:

**THE JOHNSON COMPANY, INC.**  
100 State Street  
Montpelier, Vermont 05602  
(802) 229-4600

Aug 23 11 13 AM '94  
RECEIVED  
Hazardous Materials Management Division

THE JOHNSON COMPANY, INC.

*Environmental Sciences and Engineering*

August 22, 1994

Ms. Linda Elliott  
Department of Environmental Conservation  
Hazardous Materials Management Division  
103 South Main Street/West Building  
Waterbury, Vermont 05671-0404

Re: Report of Hydrogeologic Investigation at the Baker property, West Pawlet, Vermont. DEC Site #94-1596; JCO No. 1-2267-6.

Dear Linda:

We have completed our work concerning the referenced project. Our investigation report is presented herein.

If you have any questions, please do not hesitate to call.

Sincerely,

THE JOHNSON COMPANY, INC.

By:



Eric R. Hanson  
Project Hydrologist

cc: Gail Center

Reviewed By: jrb  
i:\projects\1-2267-6\investgn.rpt August 15, 1994 erh

## EXECUTIVE SUMMARY

The Johnson Company has completed a preliminary hydrogeologic investigation at the Baker property and surrounding area located in West Pawlet, Vermont for the Vermont Department of Environmental Conservation's (DEC) Hazardous Materials Management Division (HMMD). Beginning in March 1993, periodic sampling of drinking water supplied by a drilled well completed in the bedrock aquifer on the Baker property revealed detectable concentrations of the volatile organic compound (VOC) methyl tertiary butyl ether (MTBE), a component of unleaded gasoline. During the March 1994 sampling, MTBE was detected above the drinking water standard established by the Vermont Department of Health (VDOH). During subsequent sampling events, MTBE has been detected at concentrations below the drinking water standard.

The Johnson Company performed a preliminary hydrogeologic investigation and water supply sampling to aid in further defining the nature and extent of groundwater contamination in the vicinity of the Baker property. The investigation included a review of files at the HMMD and the DEC Solid Waste Management Division (for the nearby Pawlet Landfill), a site reconnaissance, a fracture trace analysis, and water supply sampling at eleven different locations in West Pawlet. Water supply samples were analyzed using Environmental Protection Agency (EPA) Method 524.2. During the file review, site reconnaissance, and water supply sampling, several potential sources of MTBE contamination were noted which consist primarily of potential one-time releases rather than an on-going source. An area of dumped debris behind the homes which exist to the north of the Baker residence is considered an unlikely source of the MTBE contamination, as is the Pawlet Landfill located approximately 1000 feet to the north of the Baker property. More likely sources include releases from abandoned automobiles in the area (including one reportedly abandoned in a nearby quarry hole) and/or spillage of gasoline as no underground storage tanks containing gasoline, or other potential continuous sources exist in the area.

Of the twelve water supply samples collected on July 28, 1994, MTBE was detected in six samples. The VDOH Laboratory did not analyze five of the samples submitted "...due to problems encountered during the analysis". MTBE was detected at a concentration of 10.7 parts per billion (ppb) in the Baker well. The highest concentration noted during the July 28, 1994 sampling was 16.1 ppb at the Sherman well which is likely downgradient of the Baker well. Regional groundwater flow in the bedrock aquifer is likely generally towards the west. The drinking water maximum contaminant level (MCL) for MTBE is 40 ppb.

Since concentrations of MTBE in the groundwater has exceeded the MCL only once (84 ppb in the Baker well on March 15, 1994), and are currently less than half of the MCL in any of the wells sampled, The Johnson Company proposes no intrusive investigation at the Baker property. However, we recommend that quarterly water supply samples be collected from some of the residential wells in West Pawlet to track the MTBE concentrations through time and to determine if other VOCs common in gasoline are noted. Laboratory analysis of the water supply samples should be conducted using EPA Method 524.2 which is a method specific to drinking water for VOCs.

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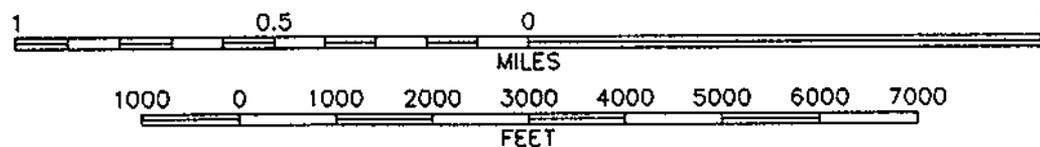
7.0 REFERENCES ..... 10

## 1.0 INTRODUCTION

The Johnson Company was contacted by the Vermont Department of Environmental Conservation's (DEC) Hazardous Materials Management Division (HMMD) on May 19, 1994 to conduct a hydrogeologic investigation of the Baker property (the Site) and surrounding area, located in West Pawlet, Vermont (Figure 1). On March 11, 1994, Ms. Dorothy Baker notified the Mr. James Surwilo of the Department of Environmental Conservation's (DEC) Solid Waste Management Division (SWMD) that her drinking water had developed a "chemical" odor. To follow up on this complaint, drinking water samples were collected from the drilled bedrock well on the Baker property on March 15, 1994 by Mr. Surwilo and on April 22, 1994 by Mr. Tim Cropley of the DEC Hazardous Materials Management Division (HMMD). Analyses of the samples revealed detectable concentrations of volatile organic compounds (VOCs) present in the drinking water. The VOC detected during the sampling events was methyl tertiary butyl ether (MTBE), a gasoline additive.

Drinking water samples were also collected from seven neighboring properties served by drilled bedrock wells on April 17 and 18, 1994 by the Ms. Elizabeth Kurjiak, the Town Health Officer. The site map indicating the sample locations is included as Figure 2. The most commonly noted VOC in the neighboring water users' drinking water is MTBE, although detections of low concentrations of chloroform, bromodichloromethane, and chlorodibromomethane were detected in the West Pawlet School water supply. The noted concentrations are below the maximum contaminant levels (MCLs) for chloroform and bromodichloromethane (100 ppb). No MCL is listed for chlorodibromomethane. Concentrations of MTBE in the drinking water has ranged from non-detectable at the Taylor residence and the West Pawlet School to 84 parts per billion (ppb) at the Baker residence on March 15, 1994. The MCL for MTBE is 40 ppb. The suspected potential sources of the VOC contamination include the Pawlet Landfill and an illegal dump located near the Baker property.

On May 27 and 31, 1994, respectively, The Johnson Company received a copy of the complete HMMD file for the Site, and selected items from the SWMD file on the West Pawlet landfill which is located near the Site. The Johnson Company has subsequently performed a records review of information contained in the files to gain a better understanding of potential sources of contamination and sensitive receptors in the area, and the general hydrogeologic conditions in the area based on USGS topographic maps and geologic maps. Based on the review of existing information, The Johnson Company submitted a workplan to the HMMD discussing a proposed hydrogeologic investigation for the Site dated June 1, 1994. Additional information requested by the HMMD regarding the workplan was submitted on June 20, 1994. The workplan was approved by Ms. Linda Elliott of the HMMD in a letter dated June 21, 1994. Fieldwork was performed by Johnson Company personnel on July 8 and 28, 1994. A detailed description of the execution of the workplan follows.



CONTOUR INTERVAL = 20 FEET



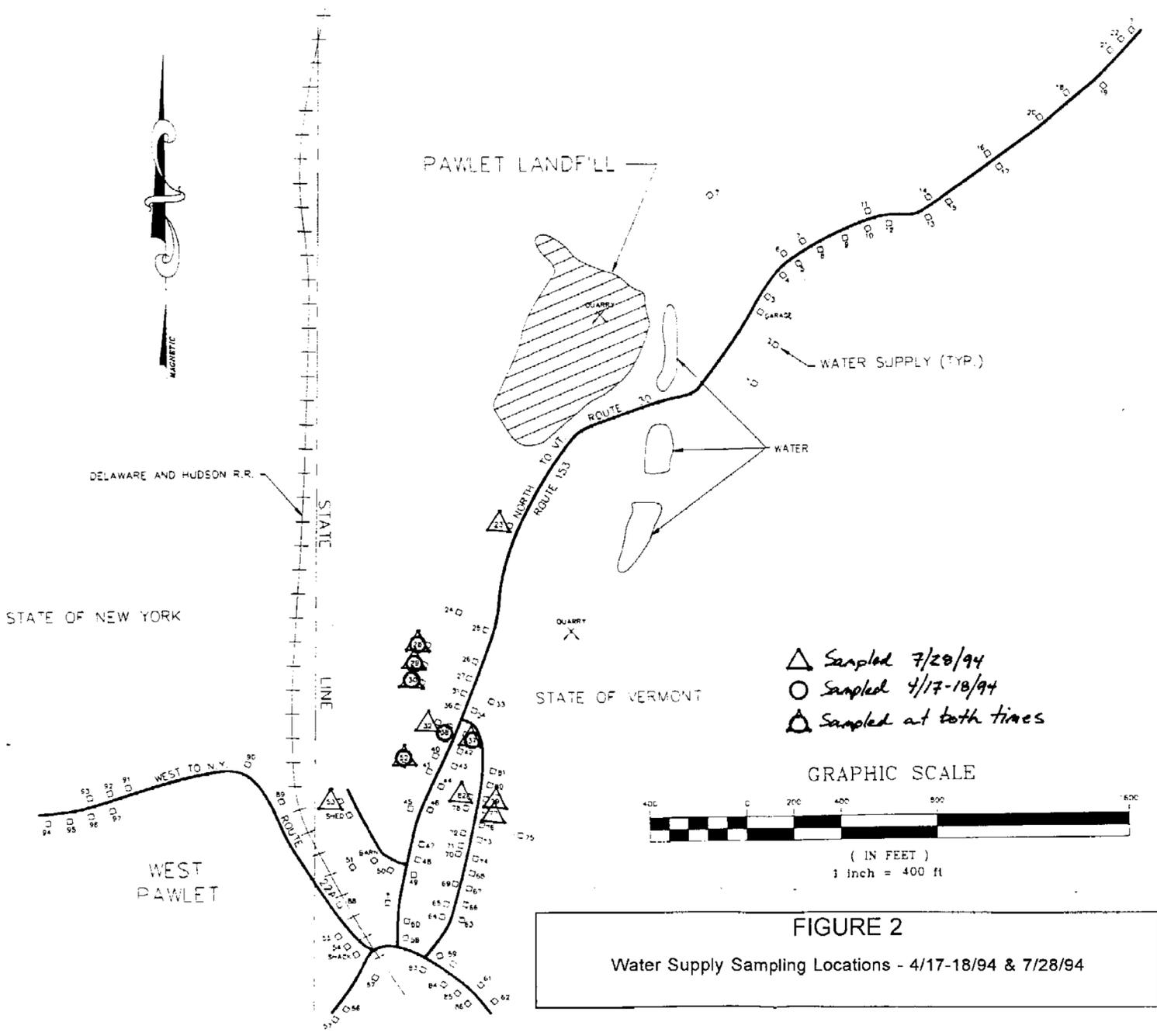
BASE MAP: USGS 7.5 Minute Quadrangle - West Pawlet, NY 1944 and Pawlet, VT 1967

MAP LOCATION

FIGURE 1 : Site Location Map  
 BAKER PROPERTY AND VICINITY  
 WEST PAWLET, VERMONT

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- 23 - Maynard
- 28 - Gordy #1 (Greene 4/94 sample)
- 29 - Gordy #2 (Gifford 4/94 sample)
- 30 - Parks (White 4/94 sample)
- 32 - Baker
- 38 - Taran
- 37 - Perry
- 82 - Palmer
- 79 - King
- 77 - Wagner
- 53 - Sherman
- 52 - West Pawlet School
- 4/94 Taylor Sample Location Unknown



**FIGURE 2**  
Water Supply Sampling Locations - 4/17-18/94 & 7/28/94

## 2.0 FILE REVIEW

The SWMD files were reviewed to determine the results of the water quality sampling from the four bedrock monitoring wells installed at the Pawlet landfill in February 1994. This was performed to determine whether the same or similar VOCs that have been noted in the residential water supply wells are present in the bedrock aquifer beneath the landfill. For VOCs, the samples were analyzed by the DEC Laboratory using Environmental Protection Agency (EPA) Method 8240. For sampling which occurred in February, March, and April 1994, the following VOC contaminants were found in one or more of the monitoring wells: 4-methyl-2-pentanone, toluene, methylene chloride, and acetone. None of the VOCs have been detected above applicable groundwater standards. According to interpretations made by Lincoln Applied Geology of Bristol, Vermont, the regional bedrock flow direction in the bedrock aquifer is towards the west. The Johnson Company agrees with this general model.

## 3.0 SITE RECONNAISSANCE

On July 8, 1994 a site reconnaissance of the Site and neighboring properties was conducted to identify both potential sources of VOC contamination and sensitive receptors in the area such as nearby drinking water supply wells and surface water bodies. Other potential pathways of VOC contamination to the well, such as overland flow which may be entering the well via conduit flow, were also investigated.

### 3.1 SITE DESCRIPTION

The Baker property and the surrounding area is comprised of a residential area containing homes on small lots ranging in size from approximately  $\frac{1}{4}$  to  $\frac{1}{2}$  acre. The three properties to the north of the Baker residence on Town Highway 32, a dead-end road known locally as Chicken Alley, consist of multi-family apartment houses. The remainder of the residences in the area consist of single-family homes, a school, and a church (Figure 2). The West Pawlet Landfill is located approximately 1000 feet north of the Baker property and several slate quarries, currently idle but being reactivated, are located to the east and north of the local residential area.

An underground storage tank (UST), now or formerly used to store kerosene for home heating purposes is located in the backyard of the Parks property, immediately north of the Baker property. An area of debris consisting of metal, wood, plastic, and other miscellaneous dumped waste exists along a steeply sloped bank to the rear of the backyards of the Parks and Gordy properties. The Gordy properties consist of the two apartment houses to the north of the Parks property. No hazardous materials or petroleum products were noted in the debris during our site reconnaissance. However, Ms. Baker supplied a bottle of what was determined to be 202 grams of mercury to Mr. Surwilo during his March water sampling which reportedly was found in the debris.

Ms. Baker reported that she had heard from Mr. Rob Waite, a former slate quarry worker, that eight drums of "Xerox" waste were dumped in the "number four hole" of the quarry just to the north of the Pawlet Landfill approximately eight years ago. A resident of the southern Gordy apartment house, Mr. Roy Ynesta, indicated that he had a gasoline leak in his car in April 1994 after the initial MTBE detection. All cars for the apartment houses are parked on unpaved areas in front of the buildings. Five vehicles, apparently unused, were noted on the Baker property. Two snowmobiles and two lawn mowers are also stored on the property. A 5-gallon plastic gasoline can, uncovered and on its side, was also noted on the property. According to several residents, there has never been a gasoline station in West Pawlet. The Chicken Alley and surrounding residential area appears to be shallow to bedrock as bedrock outcrops were noted throughout this area.

The land to the west of the Chicken Alley residences is undeveloped woodland. An abandoned railroad is located approximately 500 feet west of the Site. A low, wet area separates the residential area from the Pawlet Landfill which drains towards the west. No other nearby surface waters were noted. All of the residences in the area are served by private water supplies and municipal sewer. The sewage treatment plant is located several hundred feet southwest of the Site.

### 3.2 HYDROGEOLOGY

The topography of the area surrounding the Site is gently sloping with several low elevation hills existing primarily to the east of the Site. Based on field observations, topography, and viewing of aerial photographs, it appears that the Site and the surrounding residential area is located on a bedrock controlled ridge with generally thin soil cover. The bedrock in the area is mapped as Pawlet Graywacke and black slate (Shumaker and Thompson, 1967). Nearby surface water includes the Indian River which flows primarily northward but makes an abrupt turn westward at the Village of West Pawlet and travels southwestward for several thousand feet before turning northward again in New York State. Pondered surface water is also present in the local quarry holes; however, some of these are currently being pumped to allow for a resumption in quarrying activities. Regional surface water flow is generally towards the Indian River valley.

#### 3.2.1 Fracture Trace Analysis

A fracture trace analysis was performed to determine potential groundwater flow pathways in the bedrock aquifer and to help in identifying water supply wells which may be susceptible to contamination. Two sets of high altitude black-and-white aerial photographs were viewed to perform the fracture trace analysis: the 1962 and 1974 flights with an approximate scale of 1:20,000. Stereo-pairs of the photographs

were viewed using a stereoscope and lineations in the landscape which are not parallel to the strike of the bedrock structure in the area were noted (essentially north-south according to Shumaker and Thompson, 1967). These lineaments represent fracture traces which may indicate the presence of vertical water bearing bedrock fractures. The most common orientation of the noted fracture traces is northwest-southeast. The results of the fracture trace analysis can be noted on Figure 3.

#### 4.0 WATER SUPPLY SAMPLING

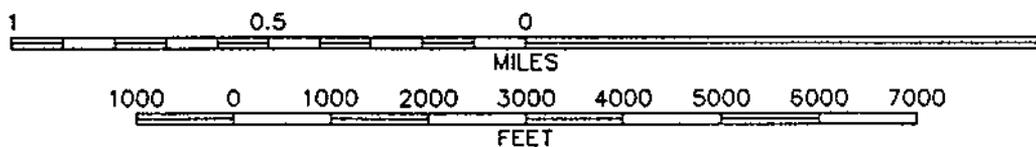
Groundwater samples were collected at eleven water supplies on July 28, 1994. Locations of the residences at which water samples were collected can be noted on Figure 2. Six of the samples were collected at previously sampled locations. The remainder of the sampling points were chosen based on location and/or being able to get permission to sample with the help of Ms. Kurjiak. Mr. Artwell King informed us during the sampling of his drinking water that a car was abandoned in the quarry east of (across the street) the Pawlet Landfill in 1982 and has been there since. Ms. Joyce Perry, whose water supply we sampled and who gave us access to the Pawlet School for sampling, indicated that there are two buried USTs used for heating oil on the school property.

Groundwater samples were collected from plumbing fixtures within the residences being sampled. Water was allowed to run for a minimum of 10 minutes prior to sample collection to ensure a representative sample of water from the wells rather than water which has been sitting within the household plumbing system. Aerators were removed from all faucets, where possible, prior to purging and sampling. Samples were delivered to the Vermont Department of Health (VDOH) Laboratory for analysis for VOCs by EPA Method 524.2. A duplicate sample was collected from the Baker water supply and trip blanks were supplied with each one of the sampling kits provided by the VDOH.

#### 5.0 RESULTS

##### 5.1 FILE REVIEW

Information reviewed in the HMMD and SWMD files indicate that it is unlikely that the Pawlet Landfill is the source of the MTBE contamination. Based upon the VOCs noted to date in the landfill's bedrock monitoring and the likely direction of groundwater flow in the bedrock aquifer, the landfill does not appear to be the source of MTBE contamination.



CONTOUR INTERVAL = 20 FEET



MAP LOCATION

BASE MAP: USGS 7.5 Minute Quadrangle - West Pawlet, NY 1944 and Pawlet, VT 1967

FIGURE 3: Fracture Trace Analysis Map  
BAKER PROPERTY AND VICINITY  
WEST PAWLET, VERMONT

THE JOHNSON COMPANY  
Environmental Sciences and Engineering  
MONTPELIER, VERMONT

## 5.2 SITE RECONNAISSANCE

No definitive sources of contamination were identified during the site reconnaissance. Potential sources include gasoline leak(s) from actively used and/or unused vehicles, accidentally spilled gasoline, the car disposed of in a nearby quarry, or other unknown gasoline releases in the vicinity. There are no indications that the debris dumped behind the Gordy and Parks apartment houses is the source of the MTBE contamination. MTBE is not a constituent of kerosene; therefore, the kerosene UST behind the Parks apartment house is not a potential source of contamination. Due to the declining concentration of MTBE in the Baker water supply, it appears feasible that a one-time release may be responsible for the local MTBE contamination.

## 5.3 WATER SUPPLY SAMPLING

The analytical results of the water supply samples collected on July 28, 1994 are summarized in Table 1. Complete analytical results are included in Appendix A.

Table 1 : Water Supply Sampling Results for 7/28/94 Samples		
Well ID	Sampling Location	MTBE (ppb)
Maynard	Kitchen Sink	†
Gordy #1	Bathroom Sink - second floor	2.8
Gordy #2	Bathtub - first floor	4.2
Parks	Kitchen Sink - first floor	†
Baker	Valve immediately after pressure tank	†
Baker - Duplicate	Valve immediately after pressure tank	10.7
West Pawlet School	Kitchen Sink - second floor	1.3
Sherman	Garden Hose	16.1
Perry	Kitchen Sink	†
Palmer	Kitchen Sink	2.3
King	Kitchen Sink	†
Wagner	Kitchen Sink	<0.5

ppb = parts per billion  
 No other VOCs besides MTBE were noted above detection limits in any of the water samples collected  
 Laboratory detection limit = 0.5 ppb  
 † - samples not analyzed by VDOH Laboratory "...due to problems encountered during the analysis".

The VDOH Laboratory did not analyze five of the samples "...due to problems encountered during the analysis" and supplied replacement vials for re-sampling. One of the samples not analyzed was collected at the Baker residence; however, the duplicate sample collected was analyzed. We placed a phone call to the laboratory and they indicated that there were bubbles in the samples so they were rejected. At the time of sampling, we are certain that there were no bubbles in any of the three 40 milliliter (ml) sample vials filled at each sampling location. We are surprised that bubbles formed in all three sample vials from these five sampling locations. This is the first time The Johnson Company has encountered this situation with any analytical laboratory we have worked with.

## 6.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the results of the site investigation and groundwater sampling, it appears that the groundwater in the bedrock aquifer beneath the Site still contains low to moderate concentrations of MTBE depending on the location of the sampling point. The concentration in the Baker well has dropped from a high of 84 ppb on March 15, 1994 to 10.7 ppb on July 28, 1994. The highest concentration noted during the July 28, 1994 sampling was 16.1 ppb at the Sherman well which is likely downgradient of the Baker well. Although no previous sampling has occurred at the Sherman well, we hypothesize that there was a one-time release of gasoline from an unknown source in the northern part of the Village of West Pawlet. The MTBE slug is decreasing in concentration as it travels through the aquifer via flow through the aquifer, dilution, and hydrodynamic dispersion. Since MTBE is the most soluble of gasoline VOCs, detections of other constituents of gasoline; including benzene, toluene, ethylbenzene, and xylenes (BTEX); may be possible in the future as these constituents make their way through the aquifer. No BTEX contaminants have been noted to date to detection limits as low as 0.5 ppb. The MCL for MTBE is 40 ppb and is currently not being exceeded in any of the water supply wells sampled.

Because MTBE is above laboratory detection limits in several of the water supply wells sampled and because it is possible that BTEX contaminants may be noted in the future, we recommend continued quarterly sampling of some of the water supply wells in the Village of West Pawlet. The locations for the first quarterly monitoring should occur in September 1994 and include the following wells: Baker, Sherman, West Pawlet School, and the four wells for which the water samples were not analyzed (King, Perry, Parks, and Maynard). If possible, an additional sampling location located downgradient of the Sherman residence will also be sampled. The water samples should be analyzed using EPA Method 524.2. We propose that the analytical laboratory be changed from the VDOH Laboratory to Scitest, Inc. of Randolph, Vermont. After receipt of the initial quarterly sampling results, we will determine through the inspection of the results and conversations with HMMD personnel whether to continue to include the King, Perry, Parks, Maynard, and possible additional sampling point.

7.0 REFERENCES

Shumaker, Robert C. and Thompson, James B., Jr.; Bedrock Geology of the Pawlet Quadrangle, Vermont;  
Vermont Geological Survey Bulletin No. 30; Vermont Department of Water Resources, 1967.

**APPENDIX A**  
**Analytical Results**

**APPENDIX A**  
**Analytical Results**



VERMONT DEPARTMENT OF HEALTH LABORATORY  
 195 COLCHESTER AVENUE  
 BURLINGTON, VT 05401  
 863-241-5000

LAB NO: *V95 0053*  
 DATE RECEIVED:

WATER SAMPLE COLLECTION INFORMATION

THE JOHNSON COMPANY, INC  
 100 STATE STREET  
 MONTPELIER, VT 05602

JUL 29 11 26 AM '94

DATE OF COLLECTION <i>7 28 94</i>	TIME OF COLLECTION <i>11:30</i> <del>PAWLOT</del> (M) (PM)	SAMPLE TAKEN IN TOWN OF <i>PAWLOT</i>	SAMPLER <i>ERIK HANSON</i>	DAY PHONE NO. (INCLUDE AREA CODE) <i>802-229-4600</i>
--------------------------------------	--	--	-------------------------------	--

SMITTERS REMARKS  
*Sample ID - GORDY #1*

LABORATORY REMARKS  
 VOC - Public Water Supplies --  
 EPA Method 524.2  
*2 w/ Public*  
*Group*  
*10R*

NOTE: INCOMPLETE INFORMATION ON THIS REQUEST FORM  
 MAY RESULT IN THE EXAMINATION BEING DELAYED OR  
 THE SPECIMEN BEING REJECTED.

K#: 9356108  
 OA  
 O#: 18808 071894 (M)  
 C#: 22735/20589

SECTION BELOW FOR PUBLIC WATER USE ONLY

WATER SYSTEM NAME	SAMPLE LOCATION
-------------------	-----------------

SAMPLER TITLE:  
 OPERATOR     HEALTH DEPT.     HEALTH OFFICER     STATE AGENCY     OTHER

PURPOSE OF SAMPLE:  
 TOTAL COLIFORM SAMPLE  ROUTINE     REPEAT     REPLACEMENT     OTHER

ALL OTHER SAMPLES     COMPLIANCE MONITORING     REPEAT     OTHER

TYPE OF SAMPLE:     SOURCE     DISTRIBUTION     OTHER

FIELD DATA:  
 CHLORINE RESIDUAL: \_\_\_\_\_ mg/l FREE Cl<sub>2</sub>    \_\_\_\_\_ mg/l TOTAL Cl<sub>2</sub>    NOT:  CHLORINATED     MEASURED  
 TEMP: \_\_\_\_\_ ° F OR C (CIRCLE F OR C)

SAMPLE NOT ANALYZED BECAUSE:  
 NO COLLECTION DATE     INSUFFICIENT SAMPLE     BROKEN IN TRANSIT     IMPROPER SAMPLE CONTAINER     FEE REQUIRED FOR ANALYSIS     WE WERE UNABLE TO COMPLETE TESTING OF THIS SAMPLE  
 TOO OLD TO TEST

THE JOHNSON COMPANY, INC  
 100 STATE STREET  
 MONTPELIER, VT 05602

FOR LABORATORY USE ONLY					
PRESERVATIVE:	<input type="checkbox"/> NONE	<input type="checkbox"/> COOL < 4°C	<input checked="" type="checkbox"/> HCl	<input type="checkbox"/> HNO <sub>3</sub>	<input type="checkbox"/> H <sub>2</sub> SO <sub>4</sub>
	<input type="checkbox"/> SODIUM THIOSULFATE	<input type="checkbox"/> HgCl <sub>2</sub>	<input type="checkbox"/> ASCORBIC ACID		

Gordy#1

VERMONT DEPARTMENT OF HEALTH LABORATORY  
195 COLCHESTER AVENUE, P.O. BOX 1125  
BURLINGTON, VT 05402-1125  
(800)660-9997 OR (802)863-7336

ANALYSIS OF WATER FOR VOLATILE ORGANIC COMPOUNDS  
VDH KIT 0A

LABORATORY RESULTS OF ANALYSIS

LABORATORY NUMBER: V95-0053

LABORATORY RESULTS: The laboratory test for volatile organic chemicals by E.P.A. Method 524.2, GC/MS has detected the presence of the following compounds:

COMPOUND(S) FOUND	CONCENTRATION ug/l (ppb)	Precision data ug/l (ppb)
Methyl tert-butyl ether	2.8	± 0.5

All other compounds tested for were not detected. A complete list of all volatile organic chemicals tested is on the attached sheet of this report.

LABORATORY NOTE: Detected is defined as greater than the method quantification limit. Due to the presence of air bubbles in this sample, the concentrations reported may be lower than the actual concentrations present at the time of sampling.

Date Reported: AUG 11 1995

Reviewed by *[Signature]*

Please see other side for collection information.

VERMONT DEPARTMENT OF HEALTH LABORATORY  
195 COLCHESTER AVENUE, BURLINGTON, VT 05402-1125  
(800) 660-9997 or (802) 863-7336

VOLATILE ORGANIC COMPOUNDS TESTED  
IN VEH KIT OA  
Report Supplement

The EPA Method 524.2 (GC/MS) analysis performed on the water samples for volatile organic compounds includes testing for the following compounds. The Method Quantification Limit for all compounds listed is 0.5 ug/l - micrograms/liter (ppb - parts per billion) unless specifically noted.

COMPOUND

Methyl tert-butyl ether  
Benzene  
Bromobenzene  
Bromochloromethane  
Bromodichloromethane  
Bromoform  
Bromomethane  
n-Butylbenzene  
sec-Butylbenzene  
tert-Butylbenzene  
Carbon tetrachloride  
Chlorobenzene  
Chlorodibromomethane  
Chloroethane  
Chloroform  
Chloromethane  
2-Chlorotoluene  
4-Chlorotoluene  
Dibromomethane  
m-Dichlorobenzene  
o-Dichlorobenzene  
p-Dichlorobenzene  
Dichlorodifluoromethane  
1,1-Dichloroethane  
1,2-Dichloroethane  
1,1-Dichloroethene  
trans-1,2-Dichloroethane  
cis-1,2-Dichloroethene  
1,2-Dichloropropane

COMPOUND

2,2-Dichloropropane  
1,3-Dichloropropane  
1,1-Dichloropropene  
cis-1,3-Dichloropropene  
trans-1,3-Dichloropropene  
Ethylbenzene  
Fluorotrichloromethane  
Hexachlorobutadiene  
Isopropylbenzene  
p-Isopropyltoluene  
Methylene chloride  
Naphthalene  
n-Propylbenzene  
Styrene  
1,1,1,2-Tetrachloroethane  
1,1,2,2-Tetrachloroethane  
Tetrachloroethylene  
Toluene  
1,2,3-Trichlorobenzene  
1,2,4-Trichlorobenzene  
1,1,1-Trichloroethane  
1,1,2-Trichloroethane  
Trichloroethylene  
1,2,3-Trichloropropane  
1,2,4-Trimethylbenzene  
1,3,5-Trimethylbenzene  
Vinyl chloride  
m,p-Xylene  
o-Xylene

EPA Method 524.2 (GC/MS)



VERMONT DEPARTMENT OF HEALTH LABORATORY

195 COLCHESTER  
BURLINGTON, VERMONT  
863-7335

V95-0057 V95-0057

LAB NO.: V950057  
DATE RECEIVED:

WATER SAMPLE COLLECTION INFORMATION

JUL 29 11 26 AM '94

THE JOHNSON COMPANY, INC  
100 STATE STREET  
MONTPELIER, VT 05602

DATE OF COLLECTION 7/28/94 MO. DAY YR	TIME OF COLLECTION 11:20 (CIRCLE AM OR PM)	SAMPLE TAKEN IN TOWN OF PAULSBURY	SAMPLER ERIC JOHNSON	DAY PHONE NO. (INCLUDE AREA CODE) 802-334-4600
---	--	--------------------------------------	-------------------------	---

SUBMITTER'S REMARKS  
Sample ID - GORDY #2

LABORATORY REMARKS  
VOC - Public water Supplies -  
EPA Method 524.2  
1 w/ Bubbles  
2 o/c  
trip ok - bubbles

NOTE: INCOMPLETE INFORMATION ON THIS REQUEST FORM  
MAY RESULT IN THE EXAMINATION BEING DELAYED OR  
THE SPECIMEN BEING REJECTED.

R#: 9356103  
DA  
Q#: 18808 071894 (M)  
C#: 22735/20589

SECTION BELOW FOR PUBLIC WATER USE ONLY

WATER SYSTEM NAME	SAMPLE LOCATION
-------------------	-----------------

SAMPLER TITLE:  
 OPERATOR  HEALTH DEPT.  HEALTH OFFICER  STATE AGENCY  OTHER

PURPOSE OF SAMPLE:  
TOTAL COLIFORM SAMPLE  ROUTINE  REPEAT  REPLACEMENT  OTHER

OTHER SAMPLES  COMPLIANCE MONITORING  REPEAT  OTHER

TYPE OF SAMPLE:  SOURCE  DISTRIBUTION  OTHER

FIELD DATA:  
CHLORINE RESIDUAL: \_\_\_\_\_ mg/l FREE Cl<sub>2</sub> \_\_\_\_\_ mg/l TOTAL Cl<sub>2</sub> NOT:  CHLORINATED  MEASURED  
TEMP: \_\_\_\_\_ ° F OR C (CIRCLE F OR C)

SAMPLE NOT ANALYZED BECAUSE:  
 NO COLLECTION DATE  INSUFFICIENT SAMPLE  BROKEN IN TRANSIT  IMPROPER SAMPLE CONTAINER  FEE REQUIRED FOR ANALYSIS  WE WERE UNABLE TO COMPLETE TESTING OF THIS SAMPLE  
 TOO OLD TO TEST

THE JOHNSON COMPANY, INC  
100 STATE STREET  
MONTPELIER, VT 05602

FOR LABORATORY USE ONLY		
PRESERVATIVE:	<input type="checkbox"/> NONE	<input type="checkbox"/> COOL < 4°C
	<input checked="" type="checkbox"/> HCl	<input type="checkbox"/> HNO <sub>3</sub> <input type="checkbox"/> H <sub>2</sub> SO <sub>4</sub>
	<input type="checkbox"/> SODIUM THIOSULFATE	<input type="checkbox"/> HgCl <sub>2</sub> <input type="checkbox"/> ASCORBIC ACID

Gordy#2

VERMONT DEPARTMENT OF HEALTH LABORATORY  
195 COLCHESTER AVENUE, P.O. BOX 1125  
BURLINGTON, VT 05402-1125  
(800)660-9997 OR (802)863-7336

ANALYSIS OF WATER FOR VOLATILE ORGANIC COMPOUNDS  
VDH KIT OA

LABORATORY RESULTS OF ANALYSIS

LABORATORY NUMBER: V95-0057

LABORATORY RESULTS: The laboratory test for volatile organic chemicals by E.P.A. Method 524.2, GC/MS has detected the presence of the following compounds:

COMPOUND(S) FOUND	CONCENTRATION ug/l (ppb)	Precision data ug/l (ppb)
Methyl tert-butyl ether	4.2	± 0.5

All other compounds tested for were not detected. A complete list of all volatile organic chemicals tested is on the attached sheet of this report.

LABORATORY NOTE: Detected is defined as greater than the method quantification limit.

Additional Laboratory Test Information:

Date Reported: AUG 11 1994

Reviewed by J/e

Please see other side for collection information.

VERMONT DEPARTMENT OF HEALTH LABORATORY  
195 COLCHESTER AVENUE, P.O. BOX 1125  
BURLINGTON, VT 05402-1125  
(800)660-9997 OR (802)863-7336

Sherman

ANALYSIS OF WATER FOR VOLATILE ORGANIC COMPOUNDS  
VDH KIT OA

LABORATORY RESULTS OF ANALYSIS

LABORATORY NUMBER: V95-0052

LABORATORY RESULTS: The laboratory test for volatile organic chemicals by E.P.A. Method 524.2, GC/MS has detected the presence of the following compounds:

COMPOUND(S) FOUND	CONCENTRATION ug/l (ppb)	Precision data ug/l (ppb)
Methyl tert-butyl ether	16.1	± 0.5

All other compounds tested for were not detected. A complete list of all volatile organic chemicals tested is on the attached sheet of this report.

LABORATORY NOTE: Detected is defined as greater than the method quantification limit.

Date Reported: AUG 11 1994

Reviewed by JR

Please see other side for collection information.



VERMONT DEPARTMENT OF HEALTH LABORATORY  
195 COLCHESTER AVENUE

LAB NO: V95 7053  
DATE RECEIVED:

WATER: V95-0058 V95-0058 V95-0058  
FOR INFORMATION

JUL 23 11 25 AM '94

THE JOHNSON COMPANY, INC  
100 STATE STREET  
MONTPELIER, VT 05602

DATE OF COLLECTION 7 28 94 MO. DAY YR	TIME OF COLLECTION 9:25 (CIRCLE AM OR PM)	SAMPLE TAKEN IN TOWN OF PAWLET	SAMPLER ERIK HANSON	DAY PHONE NO. (INCLUDE AREA CO.) 802-229-4600
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SMITTERS REMARKS SAMPLE ID - BAKER DUPLICATES	LABORATORY REMARKS VOC - Public Water Supplies - EPA Method 524.2 2 W/ bottles 1 OK W/ OK
--	--

NOTE: INCOMPLETE INFORMATION ON THIS REQUEST FORM  
MAY RESULT IN THE EXAMINATION BEING DELAYED OR  
THE SPECIMEN BEING REJECTED.

K#: 9356102  
QA  
O#: 18808 071894 (M)  
C#: 22735/20589

SECTION BELOW FOR PUBLIC WATER USE ONLY

WATER SYSTEM NAME	SAMPLE LOCATION
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SAMPLER TITLE:  
 OPERATOR     HEALTH DEPT.     HEALTH OFFICER     STATE AGENCY     OTHER

PURPOSE OF SAMPLE:  
 TOTAL COLIFORM SAMPLE     ROUTINE     REPEAT     REPLACEMENT     OTHER

ALL OTHER SAMPLES:  
 COMPLIANCE MONITORING     REPEAT     OTHER

TYPE OF SAMPLE:  
 SOURCE     DISTRIBUTION     OTHER

FIELD DATA:  
 CHLORINE RESIDUAL: \_\_\_\_\_ mg/l FREE Cl<sub>2</sub>    \_\_\_\_\_ mg/l TOTAL Cl<sub>2</sub>    NOT:  CHLORINATED     MEASURED  
 TEMP: \_\_\_\_\_ ° F OR C (CIRCLE F OR C)

SAMPLE NOT ANALYZED BECAUSE:  
 NO COLLECTION DATE     INSUFFICIENT SAMPLE     BROKEN IN TRANSIT     IMPROPER SAMPLE CONTAINER     FEE REQUIRED FOR ANALYSIS     WE WERE UNABLE TO COMPLETE TESTING OF THIS SAMPLE  
 TOO OLD TO TEST

THE JOHNSON COMPANY, INC  
100 STATE STREET  
MONTPELIER, VT 05602

FOR LABORATORY USE ONLY			
PRESERVATIVE:	<input type="checkbox"/> NONE	<input type="checkbox"/> COOL < 4°C	
	<input checked="" type="checkbox"/> HCl	<input type="checkbox"/> HNO <sub>3</sub>	<input type="checkbox"/> H <sub>2</sub> SO <sub>4</sub>
	<input type="checkbox"/> SODIUM THIOSULFATE	<input type="checkbox"/> HgCl <sub>2</sub>	<input type="checkbox"/> ASCORBIC ACID

Baker (duplicate)

VERMONT DEPARTMENT OF HEALTH LABORATORY  
195 COLCHESTER AVENUE, P.O. BOX 1125  
BURLINGTON, VT 05402-1125  
(800) 660-9997 OR (802) 863-7336

ANALYSIS OF WATER FOR VOLATILE ORGANIC COMPOUNDS  
VDH KIT OA

LABORATORY RESULTS OF ANALYSIS

LABORATORY NUMBER: V95-0058

LABORATORY RESULTS: The laboratory test for volatile organic chemicals by E.P.A. Method 524.2, GC/MS has detected the presence of the following compounds:

COMPOUND(S) FOUND	CONCENTRATION ug/l (ppb)	Precision data ug/l (ppb)
Methyl tert-butyl ether	10.7	± 0.5

All other compounds tested for were not detected. A complete list of all volatile organic chemicals tested is on the attached sheet of this report.

LABORATORY NOTE: Detected is defined as greater than the method quantification limit. Due to the presence of air bubbles in this sample, the concentrations reported may be lower than the actual concentrations present at the time of sampling.

Date Reported: AUG 14 1994

Reviewed by MR

Please see other side for collection information.

VERMONT DEPARTMENT OF HEALTH LABORATORY  
195 COLCHESTER AVENUE, BURLINGTON, VT 05402-1125  
(800) 660-9997 or (802) 863-7336

VOLATILE ORGANIC COMPOUNDS TESTED  
IN VDH KIT OA  
Report Supplement

The EPA Method 524.2 (GC/MS) analysis performed on the water samples for volatile organic compounds includes testing for the following compounds. The Method Quantification Limit for all compounds listed is 0.5 ug/l - micrograms/liter (ppb - parts per billion) unless specifically noted.

COMPOUND

Methyl tert-butyl ether  
Benzene  
Bromobenzene  
Bromochloromethane  
Bromodichloromethane  
Bromoform  
Bromomethane  
n-Butylbenzene  
sec-Butylbenzene  
tert-Butylbenzene  
Carbon tetrachloride  
Chlorobenzene  
Chlorodibromomethane  
Chloroethane  
Chloroform  
Chloromethane  
2-Chlorotoluene  
4-Chlorotoluene  
Dibromomethane  
m-Dichlorobenzene  
o-Dichlorobenzene  
p-Dichlorobenzene  
Dichlorodifluoromethane  
1,1-Dichloroethane  
1,2-Dichloroethane  
1,1-Dichloroethene  
trans-1,2-Dichloroethane  
cis-1,2-Dichloroethene  
1,2-Dichloropropane

COMPOUND

2,2-Dichloropropane  
1,3-Dichloropropane  
1,1-Dichloropropene  
cis-1,3-Dichloropropene  
trans-1,3-Dichloropropene  
Ethylbenzene  
Fluorotrichloromethane  
Hexachlorobutadiene  
Isopropylbenzene  
p-Isopropyltoluene  
Methylene chloride  
Naphthalene  
n-Propylbenzene  
Styrene  
1,1,1,2-Tetrachloroethane  
1,1,2,2-Tetrachloroethane  
Tetrachloroethylene  
Toluene  
1,2,3-Trichlorobenzene  
1,2,4-Trichlorobenzene  
1,1,1-Trichloroethane  
1,1,2-Trichloroethane  
Trichloroethylene  
1,2,3-Trichloropropane  
1,2,4-Trimethylbenzene  
1,3,5-Trimethylbenzene  
Vinyl chloride  
m+p-Xylene  
o-Xylene

EPA Method 524.2 (GC/MS)



VERMONT DEPARTMENT OF HEALTH LABORATORY

195 COLCHESTER AVENUE

BURLINGTON

V95-0056

V95-0056

V95-0056

LAB NO: V95 2056

DATE RECEIVED:

WATER SAMPLE COLLECTION INFORMATION

JUL 29 11 28 AM '94

THE JOHNSON COMPANY, INC
00 STATE STREET
MONTPELIER, VT 05602

COLLECTION TIME OF COLLECTION SAMPLE TAKEN IN TOWN OF SAMPLER DAY PHONE NO. (INCLUDE AREA CODE)
7 29 94 10:50 PM PAWLET ERIC HANSON 802-229-4600

ADDITIONAL REMARKS
Sample ID - West Pawlet School

LABORATORY REMARKS/UC - Public Water Supplies --
EPA Method 524.2
2 w/ Bubbles
trip ""
1 OK

NOTE: INCOMPLETE INFORMATION ON THIS REQUEST FORM
MAY RESULT IN THE EXAMINATION BEING DELAYED OR
THE SPECIMEN BEING REJECTED.

K#: 9356109
DA
D#: 18808 071894 (M)
C#: 22735/20589

SECTION BELOW FOR PUBLIC WATER USE ONLY

WATER SYSTEM NAME SAMPLE LOCATION

OPERATOR TITLE: OPERATOR HEALTH DEPT. HEALTH OFFICER STATE AGENCY OTHER

POUSE OF SAMPLE: COLIFORM SAMPLE ROUTINE REPEAT REPLACEMENT OTHER

OTHER SAMPLES COMPLIANCE MONITORING REPEAT OTHER

TYPE OF SAMPLE: SOURCE DISTRIBUTION OTHER

TEST DATA: CHLORINE RESIDUAL: mg/l FREE Cl2 mg/l TOTAL Cl2 NOT: CHLORINATED MEASURED
TEMP: ° F OR C (CIRCLE F OR C)

REASON FOR SAMPLE NOT ANALYZED BECAUSE: NO COLLECTION DATE INSUFFICIENT SAMPLE BROKEN IN TRANSIT IMPROPER SAMPLE CONTAINER FEE REQUIRED FOR ANALYSIS WE WERE UNABLE TO COMPLETE TESTING OF THIS SAMPLE

TOO OLD TO TEST
THE JOHNSON COMPANY, INC
100 STATE STREET
MONTPELIER, VT 05602

FOR LABORATORY USE ONLY
PRESERVATIVE: NONE COOL < 4°C
HCl HNO3 H2SO4
SODIUM THIOSULFATE HgCl2 ASCORBIC ACID

West Pawlet School

VERMONT DEPARTMENT OF HEALTH LABORATORY  
195 COLCHESTER AVENUE, P.O. BOX 1125  
BURLINGTON, VT 05402-1125  
(800)660-9997 OR (802)863-7336

ANALYSIS OF WATER FOR VOLATILE ORGANIC COMPOUNDS  
VDH KIT OA

LABORATORY RESULTS OF ANALYSIS

LABORATORY NUMBER: V95-0056

LABORATORY RESULTS: The laboratory test for volatile organic chemicals by E.P.A. Method 524.2, GC/MS has detected the presence of the following compounds:

COMPOUND(S) FOUND	CONCENTRATION ug/l (ppb)	Precision data ug/l (ppb)
Methyl tert-butyl ether	1.3	± 0.5

All other compounds tested for were not detected. A complete list of all volatile organic chemicals tested is on the attached sheet of this report.

LABORATORY NOTE: Detected is defined as greater than the method quantification limit.

Additional Laboratory Test Information:

Date Reported: AUG 11 1994

Reviewed by ME

Please see other side for collection information.

VERMONT DEPARTMENT OF HEALTH LABORATORY  
195 COLCHESTER AVENUE, BURLINGTON, VT 05402-1125  
(800) 660-9997 or (802) 863-7336

VOLATILE ORGANIC COMPOUNDS TESTED  
IN VDH KIT OA  
Report Supplement

The EPA Method 524.2 (GC/MS) analysis performed on the water samples for volatile organic compounds includes testing for the following compounds. The Method Quantification Limit for all compounds listed is 0.5 ug/l - micrograms/liter (ppb - parts per billion) unless specifically noted.

COMPOUND

Methyl tert-butyl ether  
Benzene  
Bromobenzene  
Bromochloromethane  
Bromodichloromethane  
Bromoform  
Bromomethane  
n-Butylbenzene  
sec-Butylbenzene  
tert-Butylbenzene  
Carbon tetrachloride  
Chlorobenzene  
Chlorodibromomethane  
Chloroethane  
Chloroform  
Chloromethane  
2-Chlorotoluene  
4-Chlorotoluene  
Dibromomethane  
m-Dichlorobenzene  
o-Dichlorobenzene  
p-Dichlorobenzene  
Dichlorodifluoromethane  
1,1-Dichloroethane  
1,2-Dichloroethane  
1,1-Dichloroethene  
trans-1,2-Dichloroethane  
cis-1,2-Dichloroethene  
1,2-Dichloropropane

COMPOUND

2,2-Dichloropropane  
1,3-Dichloropropane  
1,1-Dichloropropene  
cis-1,3-Dichloropropene  
trans-1,3-Dichloropropene  
Ethylbenzene  
Fluorotrichloromethane  
Hexachlorobutadiene  
Isopropylbenzene  
p-Isopropyltoluene  
Methylene chloride  
Naphthalene  
n-Propylbenzene  
Styrene  
1,1,1,2-Tetrachloroethane  
1,1,2,2-Tetrachloroethane  
Tetrachloroethylene  
Toluene  
1,2,3-Trichlorobenzene  
1,2,4-Trichlorobenzene  
1,1,1-Trichloroethane  
1,1,2-Trichloroethane  
Trichloroethylene  
1,2,3-Trichloropropane  
1,2,4-Trimethylbenzene  
1,3,5-Trimethylbenzene  
Vinyl chloride  
m+p-Xylene  
o-Xylene

EPA Method 524.2 (GC/MS)

CEH 307 AUG 1993



VERMONT DEPARTMENT OF HEALTH LABORATORY

195 COLCHESTER  
BURLINGTON, VERMONT  
863-7335 800-660-9997

V95-0052 V95-0052

LAB NO. V950052  
DATE RECEIVED:

WATER SAMPLE COLLECTION INFORMATION

THE JOHNSON COMPANY, INC  
100 STATE STREET  
MONTPELIER, VT 05602

THE JOHNSON CO., INC.  
MONTPELIER, VERMONT

JUL 29 11 25 AM '94

DATE OF COLLECTION 7. 29 94 MO. DAY YR	TIME OF COLLECTION 11:10 (CIRCLE AM OR PM)	SAMPLE TAKEN IN TOWN OF PAWLET	SAMPLER ERIC HANSON	DAY PHONE NO. (INCLUDE AREA CODE) 802-229-4600
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SMITTERS REMARKS  
Sample ID - SPERMAN

LABORATORY REMARKS  
VOC - Public Water Supplies --  
EPA Method 524.2  
1 w/ bottles  
2 OK

NOTE: INCOMPLETE INFORMATION ON THIS REQUEST FORM  
MAY RESULT IN THE EXAMINATION BEING DELAYED OR  
THE SPECIMEN BEING REJECTED.

K#: 9356106  
QA  
O#: 18808 @71894(M)  
C#: 22735/20589

SECTION BELOW FOR PUBLIC WATER USE ONLY

WATER SYSTEM NAME	SAMPLE LOCATION
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SAMPLER TITLE:  
 OPERATOR  HEALTH DEPT.  HEALTH OFFICER  STATE AGENCY  OTHER

PURPOSE OF SAMPLE:  
 INITIAL COLIFORM SAMPLE  ROUTINE  REPEAT  REPLACEMENT  OTHER

OTHER SAMPLES  
 COMPLIANCE MONITORING  REPEAT  OTHER

TYPE OF SAMPLE:  
 SOURCE  DISTRIBUTION  OTHER

FIELD DATA:  
CHLORINE RESIDUAL: \_\_\_\_\_ mg/l FREE Cl<sub>2</sub> \_\_\_\_\_ mg/l TOTAL Cl<sub>2</sub> NOT:  CHLORINATED  MEASURED  
TEMP: \_\_\_\_\_ ° F OR C (CIRCLE F OR C)

SAMPLE NOT ANALYZED BECAUSE:  
 NO COLLECTION DATE  INSUFFICIENT SAMPLE  BROKEN IN TRANSIT  IMPROPER SAMPLE CONTAINER  FEE REQUIRED FOR ANALYSIS  WE WERE UNABLE TO COMPLETE TESTING OF THIS SAMPLE  
 TOO OLD TO TEST

THE JOHNSON COMPANY, INC  
100 STATE STREET  
MONTPELIER, VT 05602

FOR LABORATORY USE ONLY			
PRESERVATIVE:	<input type="checkbox"/> NONE	<input type="checkbox"/> COOL < 4°C	
	<input checked="" type="checkbox"/> HCl	<input type="checkbox"/> HNO <sub>3</sub>	<input type="checkbox"/> H <sub>2</sub> SO <sub>4</sub>
	<input type="checkbox"/> SODIUM THIOSULFATE	<input type="checkbox"/> HgCl <sub>2</sub>	<input type="checkbox"/> ASCORBIC ACID

VERMONT DEPARTMENT OF HEALTH LABORATORY  
195 COLCHESTER AVENUE, P.O. BOX 1125  
BURLINGTON, VT 05402-1125  
(800)660-9997 OR (802)863-7336

Sherman

ANALYSIS OF WATER FOR VOLATILE ORGANIC COMPOUNDS  
VDH KIT OA

LABORATORY RESULTS OF ANALYSIS

LABORATORY NUMBER: V95-0052

LABORATORY RESULTS: The laboratory test for volatile organic chemicals by E.P.A. Method 524.2, GC/MS has detected the presence of the following compounds:

COMPOUND(S) FOUND	CONCENTRATION ug/l (ppb)	Precision data ug/l (ppb)
Methyl tert-butyl ether	16.1	± 0.5

All other compounds tested for were not detected. A complete list of all volatile organic chemicals tested is on the attached sheet of this report.

LABORATORY NOTE: Detected is defined as greater than the method quantification limit.

Date Reported: AUG 11 1994

Reviewed by JR

Please see other side for collection information.

VERMONT DEPARTMENT OF HEALTH LABORATORY  
195 COLCHESTER AVENUE, BURLINGTON, VT 05402-1125  
(800) 660-9997 or (802) 863-7336

VOLATILE ORGANIC COMPOUNDS TESTED  
IN VDH KIT OA  
Report Supplement

The EPA Method 524.2 (GC/MS) analysis performed on the water samples for volatile organic compounds includes testing for the following compounds. The Method Quantification Limit for all compounds listed is 0.5 ug/l - micrograms/liter (ppb - parts per billion) unless specifically noted.

COMPOUND

Methyl tert-butyl ether  
Benzene  
Bromobenzene  
Bromochloromethane  
Bromodichloromethane  
Bromoform  
Bromomethane  
n-Butylbenzene  
sec-Butylbenzene  
tert-Butylbenzene  
Carbon tetrachloride  
Chlorobenzene  
Chlorodibromomethane  
Chloroethane  
Chloroform  
Chloromethane  
2-Chlorotoluene  
4-Chlorotoluene  
Dibromomethane  
m-Dichlorobenzene  
o-Dichlorobenzene  
p-Dichlorobenzene  
Dichlorodifluoromethane  
1,1-Dichloroethane  
1,2-Dichloroethane  
1,1-Dichloroethene  
trans-1,2-Dichloroethane  
cis-1,2-Dichloroethene  
1,2-Dichloropropane

COMPOUND

2,2-Dichloropropane  
1,3-Dichloropropane  
1,1-Dichloropropene  
cis-1,3-Dichloropropene  
trans-1,3-Dichloropropene  
Ethylbenzene  
Fluorotrichloromethane  
Hexachlorobutadiene  
Isopropylbenzene  
p-Isopropyltoluene  
Methylene chloride  
Naphthalene  
n-Propylbenzene  
Styrene  
1,1,1,2-Tetrachloroethane  
1,1,2,2-Tetrachloroethane  
Tetrachloroethylene  
Toluene  
1,2,3-Trichlorobenzene  
1,2,4-Trichlorobenzene  
1,1,1-Trichloroethane  
1,1,2-Trichloroethane  
Trichloroethylene  
1,2,3-Trichloropropane  
1,2,4-Trimethylbenzene  
1,3,5-Trimethylbenzene  
Vinyl chloride  
m+p-Xylene  
o-Xylene

EPA Method 524.2 (GC/MS)



VERMONT DEPARTMENT OF HEALTH LABORATORY

195 COLCHESTER AVENUE

BURLINGTON

863-7

V95-0054

V95-0054

V95-0054

WATER SAMPLE COLLECTION INFORMATION

LAB NO.:

DATE RECEIVED:

JUL 29 11 26 AM '94

THE JOHNSON COMPANY, INC  
100 STATE STREET  
MONTPELIER, VT 05602

DATE OF COLLECTION 7 28 94 MO. DAY YR	TIME OF COLLECTION 10:00 (CIRCLE AM OR PM)	SAMPLE TAKEN IN TOWN OF PALMERT	SAMPLER ERIK HANSON	DAY PHONE NO. (INCLUDE AREA CC) 802-229-4600
---	--	------------------------------------	------------------------	---

SMITTERS REMARKS  
Sample ID - PALMER

LABORATORY REMARKS  
DUC - Public Water Supplies  
EPA Method 524.2  
2 w/bubbles  
cup " "  
10K

NOTE: INCOMPLETE INFORMATION ON THIS REQUEST FORM  
MAY RESULT IN THE EXAMINATION BEING DELAYED OR  
THE SPECIMEN BEING REJECTED.

R#: 9356105  
QA  
O#: 18808 071894 (M)  
C#: 22735/20589

SECTION BELOW FOR PUBLIC WATER USE ONLY

WATER SYSTEM NAME	SAMPLE LOCATION
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SAMPLER TITLE:  
 OPERATOR     HEALTH DEPT.     HEALTH OFFICER     STATE AGENCY     OTHER

PURPOSE OF SAMPLE:  
 TYPICAL COLIFORM SAMPLE     ROUTINE     REPEAT     REPLACEMENT     OTHER

OTHER SAMPLES:  
 COMPLIANCE MONITORING     REPEAT     OTHER

TYPE OF SAMPLE:  
 SOURCE     DISTRIBUTION     OTHER

FIELD DATA:  
 CHLORINE RESIDUAL: \_\_\_\_\_ mg/l FREE Cl<sub>2</sub>    \_\_\_\_\_ mg/l TOTAL Cl<sub>2</sub>    NOT:  CHLORINATED     MEASURED  
 TEMP: \_\_\_\_\_ ° F OR C (CIRCLE F OR C)

SAMPLE NOT ANALYZED BECAUSE:  
 NO COLLECTION DATE     INSUFFICIENT SAMPLE     BROKEN IN TRANSIT     IMPROPER SAMPLE CONTAINER     FEE REQUIRED FOR ANALYSIS     WE WERE UNABLE TO COMPLETE TESTING OF THIS SAMPLE  
 TOO OLD TO TEST

THE JOHNSON COMPANY, INC  
100 STATE STREET  
MONTPELIER, VT 05602

FOR LABORATORY USE ONLY		
PRESERVATIVE:	<input type="checkbox"/> NONE	<input type="checkbox"/> COOL < 4°C
	<input checked="" type="checkbox"/> HCl	<input type="checkbox"/> HNO <sub>3</sub> <input type="checkbox"/> H <sub>2</sub> SO <sub>4</sub>
	<input type="checkbox"/> SODIUM THIOSULFATE	<input type="checkbox"/> HgCl <sub>2</sub> <input type="checkbox"/> ASCORBIC ACID

VERMONT DEPARTMENT OF HEALTH LABORATORY  
195 COLCHESTER AVENUE, P.O. BOX 1125  
BURLINGTON, VT 05402-1125  
(800) 660-9997 OR (802) 863-7336

Palmer

ANALYSIS OF WATER FOR VOLATILE ORGANIC COMPOUNDS  
VDH KIT OA

LABORATORY RESULTS OF ANALYSIS

LABORATORY NUMBER: V95-0054

LABORATORY RESULTS: The laboratory test for volatile organic chemicals by E.P.A. Method 524.2, GC/MS has detected the presence of the following compounds:

COMPOUND(S) FOUND	CONCENTRATION ug/l (ppb)	Precision data ug/l (ppb)
Methyl tert-butyl ether	2.3	± 0.5

All other compounds tested for were not detected. A complete list of all volatile organic chemicals tested is on the attached sheet of this report.

LABORATORY NOTE: Detected is defined as greater than the method quantification limit. Due to the presence of air bubbles in this sample, the concentrations reported may be lower than the actual concentrations present at the time of sampling.

Date Reported: AUG 11 1995

Reviewed by JR

Please see other side for collection information.

VERMONT DEPARTMENT OF HEALTH LABORATORY  
195 COLCHESTER AVENUE, BURLINGTON, VT 05402-1125  
(800) 660-9997 or (802) 863-7336

VOLATILE ORGANIC COMPOUNDS TESTED  
IN VDH KIT OA  
Report Supplement

The EPA Method 524.2 (GC/MS) analysis performed on the water samples for volatile organic compounds includes testing for the following compounds. The Method Quantification Limit for all compounds listed is 0.5 ug/l - micrograms/liter (ppb - parts per billion) unless specifically noted.

COMPOUND

Methyl tert-butyl ether  
Benzene  
Bromobenzene  
Bromochloromethane  
Bromodichloromethane  
Bromoform  
Bromomethane  
n-Butylbenzene  
sec-Butylbenzene  
tert-Butylbenzene  
Carbon tetrachloride  
Chlorobenzene  
Chlorodibromomethane  
Chloroethane  
Chloroform  
Chloromethane  
2-Chlorotoluene  
4-Chlorotoluene  
Dibromomethane  
m-Dichlorobenzene  
o-Dichlorobenzene  
p-Dichlorobenzene  
Dichlorodifluoromethane  
1,1-Dichloroethane  
1,2-Dichloroethane  
1,1-Dichloroethene  
trans-1,2-Dichloroethane  
cis-1,2-Dichloroethene  
1,2-Dichloropropane

COMPOUND

2,2-Dichloropropane  
1,3-Dichloropropane  
1,1-Dichloropropene  
cis-1,3-Dichloropropene  
trans-1,3-Dichloropropene  
Ethylbenzene  
Fluorotrichloromethane  
Hexachlorobutadiene  
Isopropylbenzene  
p-Isopropyltoluene  
Methylene chloride  
Naphthalene  
n-Propylbenzene  
Styrene  
1,1,1,2-Tetrachloroethane  
1,1,2,2-Tetrachloroethane  
Tetrachloroethylene  
Toluene  
1,2,3-Trichlorobenzene  
1,2,4-Trichlorobenzene  
1,1,1-Trichloroethane  
1,1,2-Trichloroethane  
Trichloroethylene  
1,2,3-Trichloropropane  
1,2,4-Trimethylbenzene  
1,3,5-Trimethylbenzene  
Vinyl chloride  
m+p-Xylene  
o-Xylene

EPA Method 524.2 (GC/MS)

CEH 307 AUG 1993



VERMONT DEPARTMENT OF HEALTH LABORATORY  
 195 COLCHESTER AVENUE  
 BURLINGTON, VERMONT 05402-0070  
 863-7335 800-660-9997

V95-0055

LAB NO: V95 0055  
 DATE RECEIVED:

WATER SAMPLE COLLECTION INFORMATION

THE JOHNSON COMPANY, INC  
 100 STATE STREET  
 MONTPELIER, VT 05602

JUL 29 11 26 AM '94

DATE OF COLLECTION 7 28 94 DAY YR	TIME OF COLLECTION 10:20 (CIRCLE AM OR PM)	SAMPLE TAKEN IN TOWN OF PAWLET	SAMPLER ERIC HANSON	DAY PHONE NO. (INCLUDE AREA CODE) 802-229-4600
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LABORATORY REMARKS  
 Sample ID - WAGNER

LABORATORY WORKSHEET - Public Water Supplies --  
 EPA Method 524.2  
 Eric - Burtles

NOTE: INCOMPLETE INFORMATION ON THIS REQUEST FORM  
 MAY RESULT IN THE EXAMINATION BEING DELAYED OR  
 THE SPECIMEN BEING REJECTED.

K#: 9356107  
 DA  
 O#: 18808 071894 (M)  
 C#: 22735/20589

SECTION BELOW FOR PUBLIC WATER USE ONLY

WATER SYSTEM NAME	SAMPLE LOCATION
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SAMPLER TITLE:  
 OPERATOR  HEALTH DEPT.  HEALTH OFFICER  STATE AGENCY  OTHER

PURPOSE OF SAMPLE:  
 1. COLIFORM SAMPLE  ROUTINE  REPEAT  REPLACEMENT  OTHER

2. OTHER SAMPLES  COMPLIANCE MONITORING  REPEAT  OTHER

3. TYPE OF SAMPLE:  SOURCE  DISTRIBUTION  OTHER

FIELD DATA:  
 CHLORINE RESIDUAL: \_\_\_\_\_ mg/l FREE Cl<sub>2</sub> \_\_\_\_\_ mg/l TOTAL Cl<sub>2</sub> NOT:  CHLORINATED  MEASURED  
 TEMP: \_\_\_\_\_ ° F OR C (CIRCLE F OR C)

SAMPLE NOT ANALYZED BECAUSE:  
 NO COLLECTION DATE  INSUFFICIENT SAMPLE  BROKEN IN TRANSIT  IMPROPER SAMPLE CONTAINER  FEE REQUIRED FOR ANALYSIS  WE WERE UNABLE TO COMPLETE TESTING OF THIS SAMPLE

TOO OLD TO TEST

THE JOHNSON COMPANY, INC  
 100 STATE STREET  
 MONTPELIER, VT 05602

FOR LABORATORY USE ONLY		
PRESERVATIVE: <input type="checkbox"/> NONE	<input type="checkbox"/> COOL < 4°C	
<input checked="" type="checkbox"/> HCl	<input type="checkbox"/> HNO <sub>3</sub>	<input type="checkbox"/> H <sub>2</sub> SO <sub>4</sub>
<input type="checkbox"/> SODIUM THIOSULFATE	<input type="checkbox"/> HgCl <sub>2</sub>	<input type="checkbox"/> ASCORBIC ACID

VERMONT DEPARTMENT OF HEALTH LABORATORY  
195 COLCHESTER AVENUE, P.O. BOX 1125  
BURLINGTON, VT 05402-1125  
(800)660-9997 OR (802)863-7336

ANALYSIS OF WATER FOR VOLATILE ORGANIC COMPOUNDS  
VDH KIT OA

LABORATORY RESULTS OF ANALYSIS

LABORATORY NUMBER: V95-0055

LABORATORY RESULTS: The laboratory test for volatile organic chemicals by E.P.A. Method 524.2, GC/MS has not detected the presence of any of the compounds listed on the attached sheet of this report.

LABORATORY NOTE: Detected is defined as greater than the method quantification limit.

Date Reported           AUG 11 1994          

Reviewed by           *JPK*          

Please see other side for collection information.

VERMONT DEPARTMENT OF HEALTH LABORATORY  
195 COLCHESTER AVENUE, BURLINGTON, VT 05402-1125  
(800) 660-9997 or (802) 863-7336

VOLATILE ORGANIC COMPOUNDS TESTED  
IN VDH KIT OA  
Report Supplement

The EPA Method 524.2 (GC/MS) analysis performed on the water samples for volatile organic compounds includes testing for the following compounds. The Method Quantification Limit for all compounds listed is 0.5 ug/l - micrograms/liter (ppb - parts per billion) unless specifically noted.

COMPOUND

Methyl tert-butyl ether  
Benzene  
Bromobenzene  
Bromochloromethane  
Bromodichloromethane  
Bromoform  
Bromomethane  
n-Butylbenzene  
sec-Butylbenzene  
tert-Butylbenzene  
Carbon tetrachloride  
Chlorobenzene  
Chlorodibromomethane  
Chloroethane  
Chloroform  
Chloromethane  
2-Chlorotoluene  
4-Chlorotoluene  
Dibromomethane  
m-Dichlorobenzene  
o-Dichlorobenzene  
p-Dichlorobenzene  
Dichlorodifluoromethane  
1,1-Dichloroethane  
1,2-Dichloroethane  
1,1-Dichloroethene  
trans-1,2-Dichloroethane  
cis-1,2-Dichloroethene  
1,2-Dichloropropane

COMPOUND

2,2-Dichloropropane  
1,3-Dichloropropane  
1,1-Dichloropropene  
cis-1,3-Dichloropropene  
trans-1,3-Dichloropropene  
Ethylbenzene  
Fluorotrichloromethane  
Hexachlorobutadiene  
Isopropylbenzene  
p-Isopropyltoluene  
Methylene chloride  
Naphthalene  
n-Propylbenzene  
Styrene  
1,1,1,2-Tetrachloroethane  
1,1,2,2-Tetrachloroethane  
Tetrachloroethylene  
Toluene  
1,2,3-Trichlorobenzene  
1,2,4-Trichlorobenzene  
1,1,1-Trichloroethane  
1,1,2-Trichloroethane  
Trichloroethylene  
1,2,3-Trichloropropane  
1,2,4-Trimethylbenzene  
1,3,5-Trimethylbenzene  
Vinyl chloride  
m+p-Xylene  
o-Xylene

EPA Method 524.2 (GC/MS)

CEM 307 AUG 1993