



Handwritten: 10-30-97

October 30, 1997

Mr. Timothy Cropley
Vermont ANR/DEC
Waste Management Division
103 South Main St. /West Building
Waterbury, VT 05671-0404

RE: Investigation of Subsurface Petroleum Contamination at Tenney Brook Market
Rutland, Vermont (VTDEC Site #97-2163)

Dear Mr. Cropley:

Enclosed please find the summary report for the site investigation conducted at the
Tenney Brook Market.

Please contact me if you have any questions or comments.

Sincerely,

A handwritten signature in cursive script that reads "Christine Ward".

Christine Ward
Hydrogeologist

Enclosure

c.: Mr. Frank Trombetta, w/o enc.
GI#3974985

**INITIAL INVESTIGATION OF
SUSPECTED SUBSURFACE PETROLEUM
CONTAMINATION REPORT**

**TENNEY BROOK MARKET
ROUTE 7
RUTLAND, VERMONT**

(VTDEC SITE #97-2163)
GI #3974985

October 1997

Prepared for

Mr. Frank Trombetta
Midway Oil Company
P.O. Box 8
217 N. Main Street
Rutland, VT 05701

Prepared by



P.O. Box 943
Williston, Vermont 05495
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Nov 3 10 50 AM '97

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I. INTRODUCTION

This report summarizes the initial investigation of subsurface petroleum contamination at Tenney Brook Market on Main Street in Rutland, Vermont. This work was requested by Mr. Chuck Schwer of the Vermont Department of Environmental Conservation (VTDEC) in a letter to Mr. Frank Trombetta of Midway Oil Corporation dated May 12, 1997. This work was performed in accordance with the May 30, 1997, *Work Plan and Cost Estimate for an Initial Site Investigation of Suspected Subsurface Petroleum Contamination* for the site prepared by Griffin.

II. SITE BACKGROUND

A. Site History

Subsurface petroleum contamination was detected in the vicinity of the fuel dispenser island during soil field screening at a routine UST system piping replacement on April 8, 9, and 10, 1997. The piping was reportably in good condition, with no indication of releases from it. Soil samples collected during the piping replacement were screened for volatile organic compounds (VOCs) using an HNuTM systems photo ionizing detector (PID). The VOC readings ranged from 0 to 200 parts per million (ppm).

As a result of the petroleum contamination detected in the subsurface, the VTDEC requested that additional work be conducted at the site in order to determine the extent and degree of petroleum contamination to the soil.

B. Site Description

Tenney Brook Market is located on North Main Street (Route 7) in Rutland, Vermont (see Site Location Map, Appendix A). The Tenney Brook Market consists of a Mobil gasoline station and a Dunkin Donuts shop. The surrounding property use is primarily commercial.

The area is serviced by municipal water and sewer systems. The nearest surface waters are Tenney Brook which is approximately 1,000 feet to the south, and East Creek which is approximately 0.75 mile west of the site.

There are seven existing on-site monitoring wells at the Tenney Brook Market: MW-1, MW-2, MW-3, MW-4, MW-6, MW-7, and MW-8. The well locations are shown on the Site Map in Appendix A. These wells were installed for UST monitoring purposes.

C. Site Geology

Soils in the vicinity of the piping consisted of medium to fine gravel with coarse to fine sand and some silt and clay from grade to the extent of excavation at approximately three feet below grade. According to the Surficial Geologic Map of Vermont (Doll, 1970), the site is underlain by glacial terminal moraine. Bedrock below the site is mapped as Dunham dolomite consisting of buff-weathered siliceous dolomite (Doll, 1961).

III. INVESTIGATIVE PROCEDURES

To further define the degree and extent of subsurface petroleum contamination, the following investigative tasks were undertaken: groundwater elevation measurements; site survey; soil vapor survey in existing monitoring wells; and a sensitive receptor survey.

A. Groundwater Elevation Measurements

The seven on-site monitoring wells were measured for depth to water on August 28, 1997. Water was not detected in any of the monitoring wells on this date. The top of casing elevations were determined relative to MW-1, which was arbitrarily set at 100 feet. There was an obstruction in MW-4 that did not allow passage of the Keck™ interface probe to gauge depth to water or total well depth. The table in Appendix B lists the total depth and relative elevation of each of the monitoring wells.

B. Soil Vapor Survey

The head space within the riser pipe of each of the on-site monitoring wells was screened for the presence of VOCs with a PID.

Monitoring Well	VOCs (ppm)
MW-1	0.0
MW-2	0.2
MW-3	0.0
MW-4	5.6
MW-6	0.0
MW-7	0.0
MW-8	0.0

No significant VOC readings were measured in the air space of the monitoring wells.

C. Sensitive Receptor Survey

A receptor risk assessment was conducted to identify known and potential receptors of the contamination detected at the Tenney Brook Market. A visual survey was conducted at the time of the UST piping replacement inspection, as well as during this site inspection. Based on these observations, a determination of the potential risk to identified receptors was made.

The entire area is served by municipal water. No public or private water supply wells were observed in the vicinity of the Tenney Brook Market. Regional groundwater flow direction is estimated to be toward the southwest. The nearest surface waters are Tenney Brook which is approximately 1,000 feet to the south, and East Creek which is approximately 0.75 mile west of the site. Based on the depth to the water table and the low to non-detect VOC readings from the subsurface soil, the potential impact to the river is considered minimal.

The area surrounding the dispenser island is paved, thus the potential impact due to vapors to the Tenney Brook Market building is considered minimal.

IV. CONCLUSIONS

Based on the results of this investigation, Griffin presents the following conclusions:

- 1) Petroleum contamination in the soil near the fuel dispenser island was identified during a routine UST system piping replacement in April 1997. The piping was reported to be in good condition at the time of replacement.
- 2) There is an extensive network of shallow monitoring wells surrounding the dispenser island, which were installed for leak detection.
- 3) Groundwater was not measured in any of the monitoring wells on August 28, 1997. Based on the measured depth of monitoring wells MW-1 and MW-6, the water table across the site was deeper than 16 feet below grade on this sampling date.
- 4) Since the water table was below the bottom of the monitoring wells on August 28, 1997, soil vapor readings were utilized to characterize subsurface soil vapor levels. There were no significant soil vapor VOC readings as measured in the air space of the monitoring wells on this sampling date. Therefore, it is not likely that there is major petroleum contamination in the soil surrounding the dispenser island.
- 5) There appears to be no significant potential risks to identified sensitive receptors.

V. RECOMMENDATIONS

Based on the results of this site investigation, Griffin recommends that the Tenney Brook Market in Rutland, Vermont site be considered for closure and be removed from the VTDEC Active Hazardous Waste Sites List. This recommendation is offered based upon achievement of the following closure criteria, as per the VTDEC Site Management Activity Completed (SMAC) Checklist:

- 1) The source(s), nature, and extent of the petroleum contamination at the site has been adequately defined.

Petroleum contamination was identified in the soils in the vicinity of the fuel dispenser island during a routine UST system piping replacement in April 1997 at the Tenney Brook Market.

A soil vapor survey of the air space in the network of monitoring wells surrounding the dispenser island on August 28, 1997, indicated no significant readings of VOCs from the subsurface soils.

- 2) Source(s) has been removed, remediated, or adequately contained.

The UST system piping was replaced in April 1997.

No significant VOCs were measured from the soil surrounding the dispenser island during the soil vapor survey on August 28, 1997.

Residual petroleum contamination in the soils surrounding the dispenser island is contained by asphalt paving.

- 3) Levels of contaminants in soil and groundwater shall be stable, falling, or non-detectable.

No significant VOCs were measured from the soil surrounding the dispenser island during the soil vapor survey on August 28, 1997.

- 4) Groundwater enforcement standards are met on entire property.

Groundwater was not measured in the site monitoring wells on August 28, 1997. The deepest site monitoring well is 16.58 feet below the top of casing.

- 5) Soil guideline levels are met. If not, engineering or institutional controls are in place.

A soil vapor survey of the air space in the site monitoring wells indicated no significant VOC readings from the subsurface soils surrounding the dispenser island.

- 6) No unacceptable threat to human health or the environment exists on site.

No significant VOCs were measured from the subsurface soils in the monitoring wells during the soil vapor survey on August 28, 1997.

The area is paved with asphalt, thus containing any residual vapors.

- 7) Site meets RCRA requirements.

Available records indicate that the Tenney Brook Market is not in violation of the Resource Conservation and Recovery Act (RCRA) as defined in 40 CFR 264.

- 8) Site meets CERCLA requirements.

Available records indicate that Tenney Brook Market is not in violation of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) as defined in 40 CFR 300.

REFERENCES

USGS 7.5 Minute Topographic Map, Rutland quadrangle, Vermont, dated 1961 and photorevised 1988.

Doll, Charles G., ed., 1961, *Centennial Geologic Map of Vermont*, Vermont Geological Survey.

Doll, Charles G., ed., 1970, *Surficial Geologic Map of Vermont*, Vermont Geological Survey.

Griffin International, April 16, 1997, *letter from Rob Higgins to Sue Thayer (VTDEC) regarding Tenneybrook Market Piping Replacement Inspection.*

APPENDIX A

**Site Location Map
Site Map**



**SITE LOCATION MAP - TENNEY BROOK MARKET
RUTLAND, VERMONT**

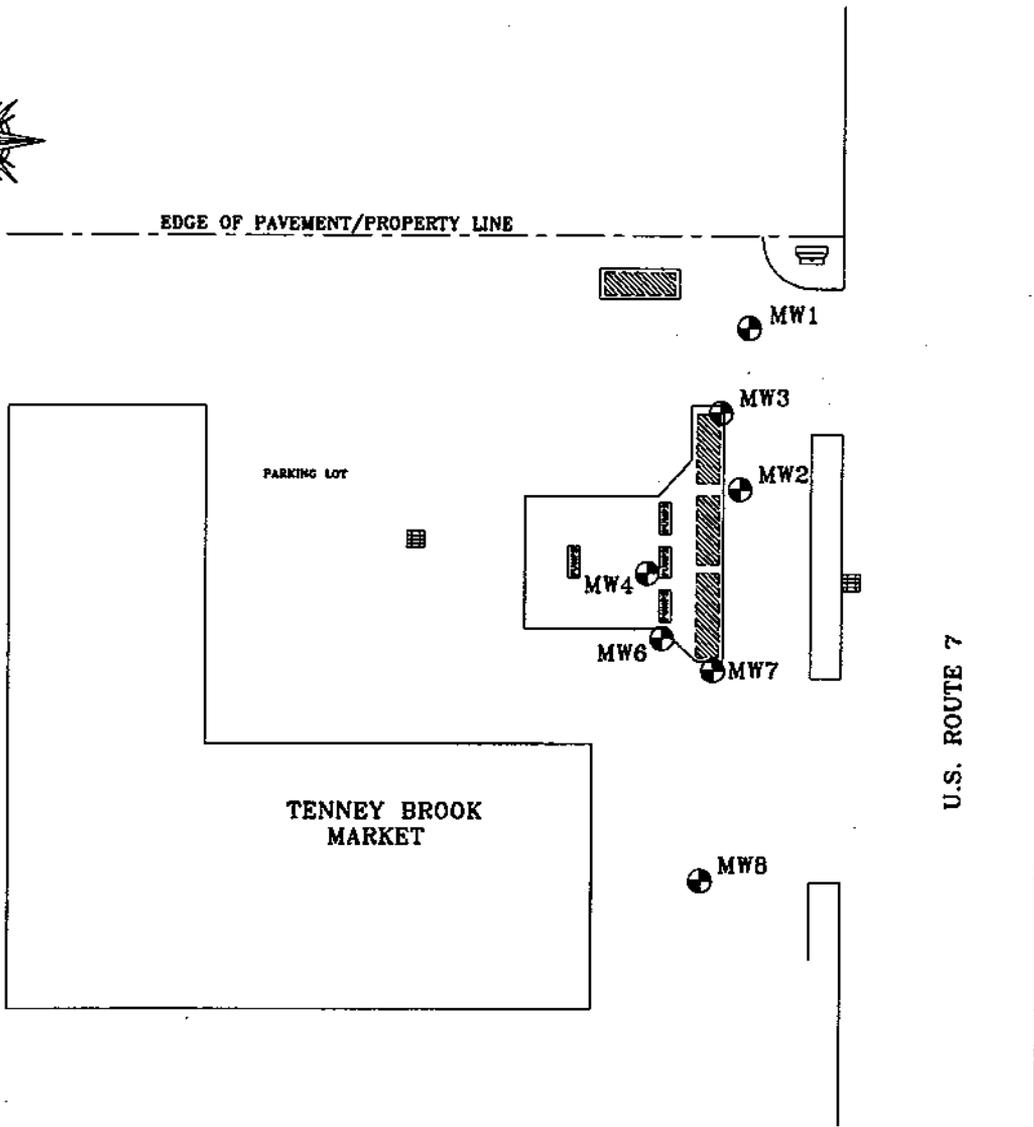
Source Map: USGS 7.5 Minute Topographic Map, Rutland quadrangle, Vermont,
dated 1961 and photorevised 1988.

Scale: 1:24,000





EDGE OF PAVEMENT/PROPERTY LINE



LEGEND

-  MW2 MONITORING WELL
-  UNDERGROUND STORAGE TANK
-  STORM DRAIN

JOB #: 3974985



TENNEY BROOK MARKET

RUTLAND, VERMONT

SITE MAP

DATE: 9/9/97

DWG.#:2

SCALE: 1"=50'

DRN.:SB

APP.:CW

APPENDIX B

Liquid Level Monitoring Data

LIQUID LEVEL MONITORING DATA

TENNEY BROOK MARKET RUTLAND, VERMONT

8/28/97

Well I.D.	Well Depth btoc	Top of Casing Elevation	Depth To Product btoc	Depth To Water btoc	Product Thickness	Specific Gravity Of Product	Water Equivalent	Corrected Depth To Water	Corrected Water Table Elevation
MW-1	15.27	100.00	-	dry	-	-	-	-	<84.73
MW-2	8.57	100.01	-	dry	-	-	-	-	<91.44
MW-3	11.48	100.29	-	dry	-	-	-	-	<88.81
MW-4		99.86	-	obstruction at 2.08'		-	-	-	
MW-6	16.58	100.32	-	dry	-	-	-	-	<83.74
MW-7	14.25	99.96	-	dry	-	-	-	-	<85.71
MW-8	6.55	98.66	-	dry	-	-	-	-	<92.11

All Values Reported in Feet

btoc - Below Top of Casing

Elevations determined relative to top of casing of MW-1, which was arbitrarily set at 100'