

FEB 22 1994



February 18, 1994

Mr. Chuck Schwer
Vermont ANR/DEC
Hazardous Materials Management Division
103 South Main Street / West Building
Waterbury, Vermont 05671-0404

RE: Limited Site Assessment Report for Routhier's Garage
Troy, Vermont (VT DEC Site #93-1441)

Dear Mr. Schwer:

Please find enclosed the "Limited Site Assessment Report" for the above referenced site. Please call if you have any questions regarding this report or the site in general.

Sincerely,

A handwritten signature in black ink, appearing to read "Erik C. Sandblom", written over a horizontal line.

Erik C. Sandblom
Engineer

Enclosure

LIMITED SITE ASSESSMENT REPORT

FEBRUARY 11, 1994

Site Location:

**ROUTHIER'S GARAGE
ROUTE 101
TROY, VERMONT 05868
(VT DEC Site #93-1441)**

Prepared For:

**ANN & JEAN ROUTHIER
P.O. BOX 139
TROY, VERMONT 05868**

Prepared By:

***GRIFFIN INTERNATIONAL*
2B Dorset Lane
Williston, Vermont 05495
(802) 879-7708**

FEB 22 1994

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I. INTRODUCTION

The following report details a limited site assessment conducted for Routhier's Garage in Troy, Vermont. This assessment has been conducted by Griffin International, Inc. (Griffin) for Ann and Jean Routhier, owners of Routhier's Garage. The State of Vermont Department of Environmental Conservation (DEC) requested that an investigation be conducted to determine the risk associated with subsurface petroleum contamination detected during the removal of two 2000 gallon gasoline underground storage tanks (USTs) on July 30, 1993. The request was made in their letter to Ann Routhier dated August 23, 1993. The work presented here has been conducted in accordance with the Griffin Work Plan dated October, 1993 and approved by the DEC per their letter dated January 3, 1993. This work includes the screening of petroleum contaminated soils stockpiled at the site, as well as a receptor survey and risk assessment. No supply wells in the area were sampled and submitted for analysis since none were located.

II. SITE BACKGROUND

On July 30, 1993, two 2000 gallon USTs used to contain gasoline at the site were removed from the ground. Griffin International conducted the site assessment required for Category I tank removals. Approximately seven cubic yards of petroleum contaminated soils were removed from the ground as a result of this tank removal. According to the tank pull report submitted by Griffin, all contaminated soils in the vicinity of the UST were removed from the ground and stockpiled on site. The Vermont DEC responded by requesting further investigation of the potential risk that the contamination may pose to nearby sensitive receptors.

The site is located on the southwest corner of the intersection of Route 101 and Pleasant Street, in the central Troy area. Buildings surrounding the site include Agri-Mark, a dairy processing factory, to the southwest, residences and a church to the north and west, a restaurant directly to the north, across Pleasant Street, and a bank and a general store to the northeast. The Missisquoi River lies approximately 1000 feet to the southeast. On the site are located two buildings: Routhier's Garage, which is an auto repair shop, and the residence of Ann and Jean Routhier.

The Town of Troy is situated in a valley of primarily littoral sediments and fluvial sands and gravels, based on a surficial geologic map of Vermont. Excavation in the former tank location during the UST removals revealed dark brown medium to fine sand with some gravel. The groundwater flow is assumed to be to the southwest, toward the Missisquoi River, based on the local topography.

III. STOCKPILED SOILS SCREENING

On Tuesday, January 25, 1994, the approximately seven cubic yards of soils currently stockpiled and encapsulated in a polyethylene liner were screened for volatile organic compounds (VOCs) with a portable H-Nu HW-101 photoionization detector (PID). Five soil samples were collected from the stockpile at three to six inches from the surface of the soil pile. Due to ambient

temperatures ranging between zero and five degrees Fahrenheit at the time of sampling, samples were collected with the use of a hand chisel and placed in re-sealable plastic bags. The samples were returned to the Griffin office, allowed to thaw at room temperature, and then screened approximately four hours after sampling. All soil samples were dark brown, saturated, medium to fine sand with some gravel. The background PID reading at the time of sampling was 0.5 ppm. Approximate sample locations are indicated on the site sketch in Appendix B. The results of the PID screening of the samples are summarized below.

PID Screening Results at Routhier's Garage, Troy, Vermont for January 25, 1994				
Soil Sample	Depth	Time Sampled	Time Screened	PID Response (ppm)
1	0" - 6"	12:20	17:07	2.2
2	3" - 6"	12:30	17:09	1.4
3	3" - 6"	12:40	17:11	1.7
4	3" - 6"	12:50	17:13	2.4
5	3" - 6"	13:00	17:14	1.2

NOTE: ppm = parts per million

The location of the stockpile is also indicated on the site sketch. According to the "Agency Guidelines for Petroleum Contaminated Soil and Carbon Media", issued by the DEC, the location of soils being treated on the same site from which they were generated must be away from sensitive receptors such as homes, water supplies, and surface waters. The current location of the stockpiled soils is directly adjacent to a trailer used for storing rubber tires. This is not a potential receptor. The nearest house is the home of Mr. and Mrs. Routhier and is located approximately 150 feet south of the stockpile. No other receptors appear to be located within a distance to the stockpile to pose any threat. Therefore, Griffin believes that the current location of the soils is appropriate within DEC guidelines.

IV. RECEPTOR SURVEY / RISK ASSESSMENT

A. Screening of Basements with a PID

The basements of four buildings in the general vicinity of Routhier's Garage were screened for VOCs with a PID on the same day as the soil screening. Homes screened include those of Ann & Jean Routhier and Mrs. Camille Routhier. Also screened were a restaurant and the Troy General Store. The locations of the buildings are indicated on the site sketch. All basements were heated during the time of screening so that the temperature inside each basement was at least 70° F warmer than the outside ambient temperature. As the basements were being screened, special attention was paid to possible routes of entry such as pipes leading into the buildings, electrical outlets, and cracks in the foundation walls.

Screening of the Troy General Store for VOCs resulted in a concentration of 0.0 ppm. The foundation is constructed of concrete and cobble stone with a gravel floor. The basement of Mrs. Routhier was of a similar construction, except that the floor was of concrete. VOC concentrations in this basement were also at 0.0 ppm. The home of Ann and Jean Routhier is

constructed on a basement foundation of concrete cinder blocks with a concrete floor. Readings throughout this basement were also 0.0 ppm. The screening of the restaurant basement, constructed of a dirt floor and concrete cobble stone walls, resulted in a response of 0.4 ppm on the PID.

The temperature differential between the basement and the surrounding soils, was relatively large, and all basements contained furnaces, creating ideal conditions for air flow from the soils into the basements. Based on the results of the basement screening, it does not appear that the basements of the buildings surrounding Routhier's Garage and the former UST location are being impacted by petroleum contamination at Routhier's Garage.

B. Supply Well Research Investigation

The Town of Troy is serviced by a public water supply that comes from a well (WSID #5206) located approximately 1800 feet south of Routhier's Garage. It is a gravel well with a primary and secondary well head protection area (WHPA) delineated. The edge of the secondary WHPA for the well is located a minimum of 1000 feet to the south.

According to Vermont DEC Water Supply Division records, two private supply wells were installed in 1978 on the north side of Pleasant Street, west of Routhier's Garage. As the listed owners of the wells, referenced as wells number 45 and 46, were not found and the locations of these wells are not verified according to state records, Griffin visited each house along Pleasant Street in an attempt to determine the current status of the wells and where they are located. Each resident interviewed along Pleasant Street indicated that their water was supplied from the public water system and did not know about any supply wells in the area. One house owner, who claimed to live on Pleasant Street for his entire life did not know of any resident in the area that was not using town water. The pastor of the church, located approximately 800 feet from the Route 101/Pleasant Street intersection, explained that the church and two or three associated buildings had stopped using their own water and had switched to the public system about five years ago. He did not know about the location of the abandoned supply well, nor if the church used more than one supply well before switching to the public system.

Griffin also visited the Troy Town Clerks Office during this investigation and learned from a town official that all houses and buildings along Pleasant Street in Troy are serviced by town water. No information was available concerning private wells in Troy from the clerk's office.

Because the private water wells referenced as numbers 45 and 46 were not located, samples were not collected for laboratory analysis. Based on the information gathered, it does not seem likely that the supply wells listed in the DEC Basic Well Data Sheets are still in use. At least one of the wells is most likely the one formerly used by the church and surrounding buildings and the other one may have either been used by the church also, or else was used by one of the residences that is now on public water.

C. Visual Site Survey

While Griffin was on-site for the soil and basement screening, a visual survey was conducted to identify any other potential receptors to petroleum contamination at Routhier's Garage. The buildings in the vicinity include those screened for VOCs, which were shown to not be impacted by petroleum contamination. Other buildings in the vicinity include Agri-mark, a dairy processing facility, located approximately 350 feet to the west southwest. This facility does not appear to be at risk primarily because of the distance from Routhier's Garage. A building located approximately 150 feet directly to the west appeared to be a large garage, 50 to 60 years old in age. Access to this building was not obtained, however, it seemed to be constructed of slab, making it unlikely to be impacted.

Only two surface waters were identified in the vicinity of Troy. The Coburn Brook flows into the Missisquoi River south of Troy. Its closest point to Routhier's Garage is approximately 2000 feet to the southwest. The Missisquoi River flows south at approximately 1000 feet to the southeast of Routhier's Garage. These surface waters are located at too great a distance from Routhier's Garage to likely be impacted by the level of contamination detected at the time of UST removal.

IV. CONCLUSIONS

Based on the data collected from Routhier's Garage and surrounding areas, the following conclusions can be made.

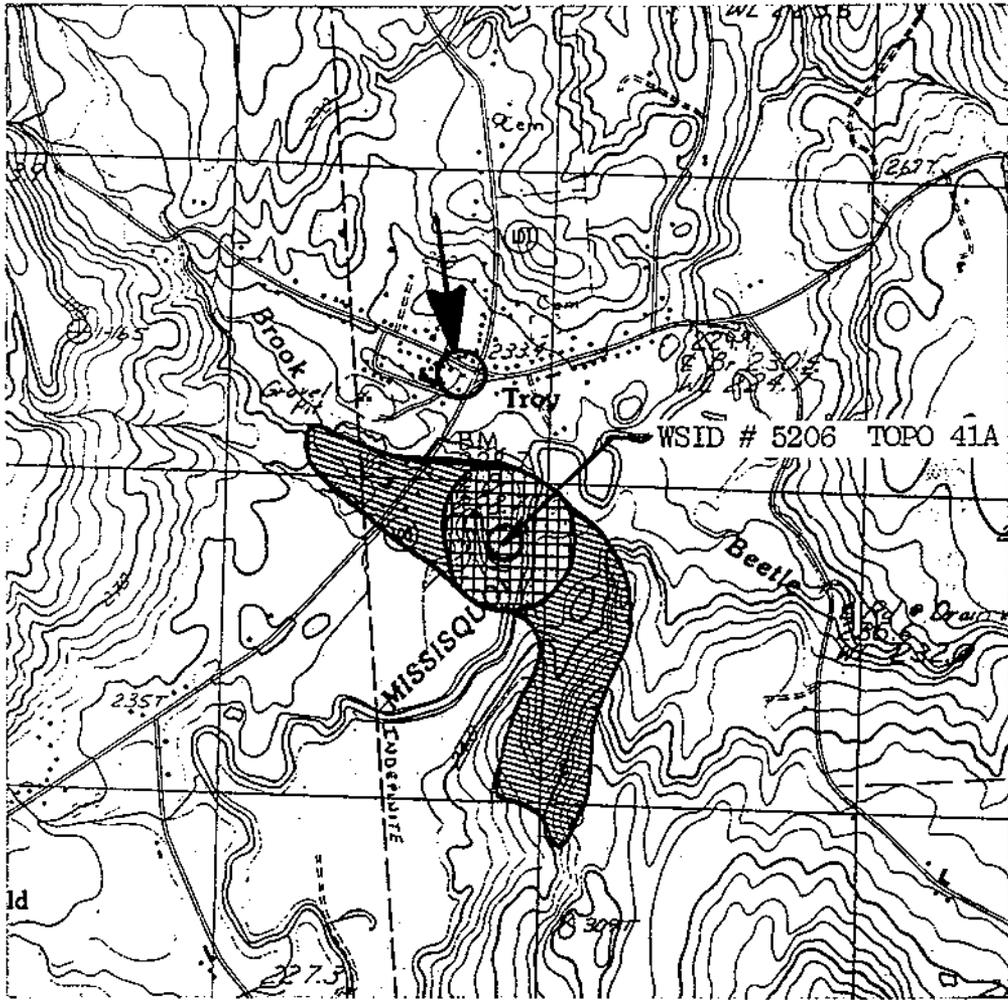
- 1) Approximately seven cubic yards of polyencapsulated petroleum contaminated soils remain stockpiled on-site at Routhier's Garage in Troy, Vermont. The soils are currently being stored in accordance to DEC guidelines for petroleum contaminated soil. Past work conducted at the site indicates that all contaminated soils encountered were excavated and replaced with clean fill.
- 2) Based on research of state and local records, and interviews with local Troy residents and town officials, there do not appear to be any water supply wells located around Routhier's Garage. Private wells that appear on record have most likely been abandoned for the use of the public water supply for Troy.
- 3) No receptors appear to be at risk of significant impact from petroleum contamination at Routhier's Garage.

V. RECOMMENDATIONS

Based on the above conclusions, Griffin recommends the following action concerning petroleum contamination at Routhier's Garage in Troy, Vermont.

- 1) The soils currently stockpiled on-site should be screened for VOCs with a PID in six months. If the screening of the soils results in non-detect readings, then they may be spread on-site. As soon as the soils thaw, Routhier's Garage should replace the polyethylene liner with a new one to ensure a tight seal. This should be done by backhoe.

APPENDIX A
SITE LOCATION MAP



SB # 10934447
 SOURCE USGS NORTH TROY QUADRANGLE



ROUTHIER'S GARAGE

TROY,

VERMONT

SITE LOCATION MAP

DATE 2/10/94

DWG.#1

SCA.

DRN. SB APP. LS

APPENDIX B

SITE SKETCH

CHURCH

AMERICAN LEGION

RESIDENCES

CAMILLE ROUTHIER RESTAURANT

RESTAURANT

ROUTE 101

BANK

TROY GENERAL STORE

PLEASANT STREET

FORMER UST LOCATION

ROUTHIER'S GARAGE

RESIDENCES

GARAGE

STACK PILED SOILS

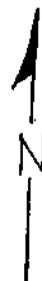
TRAILER

ROUTE 100

AGEIMARK

ANN & JEAN ROUTHIER

MISSISSQUOI RIVER
~1000 feet



LEGEND

⊙ - SOIL SAMPLE LOCATION

ROUTHIER'S GARAGE
TROY, VERMONT

SITE SKETCH

2/10/94

NOT TO SCALE