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Environmental Consultants and Engineers

29 August 1997

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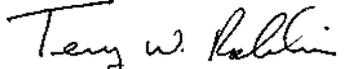
Mr. Bob Haslam
Vermont Department of Environmental Conservation
Sites Management Section
103 South Main Street, West Building
Waterbury, Vermont 05671-0404

Dear Mr. Haslam:

Enclosed is a copy of the Initial Site Investigation Report detailing the receptor assessment conducted at Guay's General Repair Shop located in Newport, Vermont.

Please call me if you have any questions regarding the enclosed information.

Sincerely,


Terry W. Robbins, E.I.T.
Environmental Scientist

Enclosure

cc. Mr. Daniel Guay, Guay's General Repair (w/o enclosure)

Ref: 95073101.DOC

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22 August 1997

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7 Island Dock Road
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Ben Guay
Guay's Repair Shop
HCR 13, Box 146
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118 Main Street
Sturbridge, MA 01566
Phone: (508) 347-5098
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RE: *Initial Site Investigation Report*
Guay's General Repair, Newport, Vermont 951928

In Vermont:
1700 Hegeman Avenue
Colchester, VT 05446
Phone: (802) 655-0011
Fax: (802) 655-6076

Dear Mr. Guay:

In New Hampshire:
63 School Street
P.O. Box 1414
Concord, NH 03302
Phone: (603) 224-8871
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This report summarizes the results of an initial site investigation conducted at Guay's Repair Shop, located at the junction of U.S. Route 100 and Crossroad Road in the town of Newport, Vermont (Attachment A, Figure 1). The site investigation was conducted following the discovery of subsurface petroleum contamination during the removal of one underground storage tank (UST) on 26 October 1995. The goal of this site investigation was to evaluate the potential impact that a small volume of residual subsurface petroleum contamination might have on indoor air quality at the garage and on the on-site drinking-water supply well.

Internet:
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Findings and Recommendations

The findings of the initial site investigation are as follows:

- Petroleum was released in the vicinity of an on-site gasoline UST. Although the UST system was found to be in fair condition upon removal, soils beneath the UST and pump island had elevated photoionization detector (PID) readings.
- The on-site petroleum contamination is most likely from tank and/or vehicle overfills.
- Approximately 60 cubic yards of petroleum contaminated soil were stockpiled on-site during the UST excavation and encapsulated in 6-mil polyethylene plastic. A small volume of contaminated soils, estimated at less than one cubic yard, extended beneath the building and could not be excavated. PID readings at the limits of excavation averaged five ppm.
- Contaminant concentrations in the on-site stockpile have decreased significantly and are now nearly at non-detectable levels. Initial PID readings on stockpiled soils from the former UST excavation, collected 2 November 1995, ranged from 29.4 to 197 parts per million (ppm). PID readings during a site visit on 9 May 1997 ranged from 0.0 to 1.7 ppm.

- Neither of the two identified sensitive receptors appear to have been impacted by gasoline-related contaminants associated with the former UST.
- No gasoline compounds were detected in a water sample collected from the on-site drinking water supply well.
- Indoor air PID readings along the baseboard perimeters of the welding/repair shop, storage area, and office space ranged from 0.0 to 1.4 ppm, with the highest reading located in the welding/repair shop near the floor drain. Given the building use, the readings are not considered to be significantly elevated above background levels.

Based on these findings, MARIN recommends that the on-site soil stockpile be screened again in November 1997. If PID readings have decreased to below one ppm, VT DEC approval for site closure and on-site thin-spreading of soils should be requested.

Site Information

The property, owned by Ben Guay, is operated as a general welding and repair garage. The site is occupied by a residential building and a 3,600 square foot maintenance building which contains a welding repair shop, storage area, and office space.

On 26 October 1995, MARIN supervised the removal of one 2,000-gallon out-of-service gasoline UST, located approximately five feet from the southeast corner of the repair garage. Upon removal, the tank was found to be in fair condition with some rust and surface pitting, but no holes. All associated piping was found to be in fair condition with no evidence of loose or leaking fittings.

Soils in the UST excavation consisted of medium-coarse brown sand and gravel from 0-6 feet below ground surface (bgs) and a tight gray glacial till from 6-10 feet bgs. Discolored soils containing a distinct weathered-gasoline odor were observed beneath the UST and around the former pump island. Ground water was not encountered in the excavation.

PID readings of soil samples collected from the excavation ranged from 0.8 to 368 ppm, and averaged 31 ppm. The highest readings were observed on soils beneath the former UST and pump island.

A building curtain drain was encountered during the excavation. The curtain drain sloped downward from the building front and ended under the pump island in sand-and-gravel fill. A sample collected from fill material around the curtain drain, located approximately two feet from the edge of the building, had a PID reading of 88.3 ppm. North of the tank in the presumed upgradient direction, soil contamination appeared to be confined to the fill material around the curtain drain. All contaminated soils with PID readings above one ppm were removed from the excavation, with the exception of a small volume (estimated at less than one cubic yard) of fill material adjacent to the curtain drain beneath the building.

Because essentially all contaminated soils had been removed, the soil contamination had not reached the water table, and the only contamination remaining was in a small pocket of soils

beneath the building, a full site investigation was not considered warranted. To evaluate whether any receptors had been impacted, however, MARIN conducted PID screening of indoor air within the on-site building and collected a sample from the on-site drinking-water well for laboratory analysis of gasoline compounds.

Indoor Air Quality

Indoor air was screened for the possible presence of volatile organic compounds (VOCs) using a Thermo Environmental Model 580B portable photoionization detector (PID). The PID was calibrated with isobutylene gas to a benzene reference.

No cracks were observed in the floors; however, two floor drains exist in the building. One of the floor drains is located in the center of the welding/repair shop, and the other is located in the center of the storage area. PID readings were obtained along the baseboard perimeter and floor drains of the welding/repair shop, storage area, and office space. PID readings ranged from 0.0-1.4 ppm, with the highest reading located near the floor drain in the welding/repair shop (Attachment A, Figure 2). Given that these measurements were collected in an automotive repair shop, which uses a variety of volatile chemicals, these readings are not considered to be elevated above background levels.

Water-Supply Well Sampling and Analysis

Drinking water for the site is provided by a bedrock supply well, located approximately 65 feet west of the former UST. No gasoline compounds were detected in a sample collected from the well. Ground-water analytical results are summarized below in Table 1; laboratory report forms are included in Attachment B.

The ground-water sample was submitted to Endyne, Inc. of Williston, Vermont, and analyzed for the possible presence of the gasoline constituents benzene, toluene, ethylbenzene, xylenes (BTEX), and methyl-tertiary butyl ether (MTBE) by EPA Method 8020.

**TABLE 1. Ground-Water Analytical Results
November 1995**

Well I.D.	Benzene	Ethyl benzene	Toluene	Xylenes	MTBE
Water-supply well	ND<1	ND<1	ND<1	ND<1	ND<1
VGES*	5	680	2,240	400	40

Results reported as parts per billion (ppb), unless noted otherwise.

ND = Compound not detected above indicated detection limit.

VGES = Vermont Groundwater Enforcement Standard, * Vermont Health Advisory for MTBE.

Soil Stockpile Monitoring

Approximately 60 cubic yards of petroleum contaminated soils from beneath the former UST, former pump island, and around the curtain drain were stockpiled on-site. Initial PID readings, collected 2 November 1995, ranged from 29.4 to 197 ppm. PID readings obtained during a 9 May 1997 site visit ranged from 0.0 to 1.7 ppm (Table 2, Attachment C).

Risk Assessment

MARIN conducted a survey to identify sensitive receptors in the vicinity of Guay's Repair Shop that could potentially be impacted by residual soil contamination. The sensitive receptors identified are a drinking-water supply well located approximately 65 feet west of the former UST in the presumed cross-gradient direction and indoor air quality inside the repair shop.

MARIN assessed the risks that the residual subsurface petroleum contamination poses to the receptors identified above. In general, human exposure to petroleum related contamination is possible through inhalation, ingestion, or direct contact while impacts to environmental receptors are due either to a direct release or contaminant migration through one receptor to another or through a preferential pathway.

The findings of our risk assessment indicate that the residual subsurface petroleum contamination at the site does not appear to pose a significant threat to any nearby sensitive receptors. Observations made during the UST closure and initial site investigation suggest that residual contamination is limited to less than one cubic yard of soils in the immediate vicinity of the curtain drain, beneath the building.

Summary

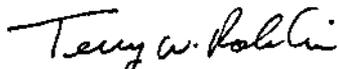
Based on the results of the initial site investigation described above, MARIN concludes the following:

- The probable source of on-site petroleum contamination is most likely tank and/or vehicle overfills. This source was removed from the site in October 1995 when the on-site UST was removed and not replaced.
- Indoor air PID readings in the welding/repair shop, storage area, and office space ranged from 0.0 to 1.4 ppm, with the highest reading located in the welding/repair shop near the floor drain. The low-level PID readings in these areas are most likely due to the daily use of solvents and petroleum products which are inherently associated with this type of business.
- No gasoline compounds were detected in a ground-water sample collected from the on-site water-supply well.
- PID readings in the on-site soil stockpile have decreased significantly and are now near detection limits.

On the basis of these conclusions, MARIN recommends collecting and re-evaluating PID readings on stockpiled soils in November 1997. If PID readings have decreased below one ppm, VT DEC approval for on-site thin-spreading should be requested.

Please call me or Ron Miller, Regional Manager, if you have any questions or concerns regarding this work.

Sincerely,

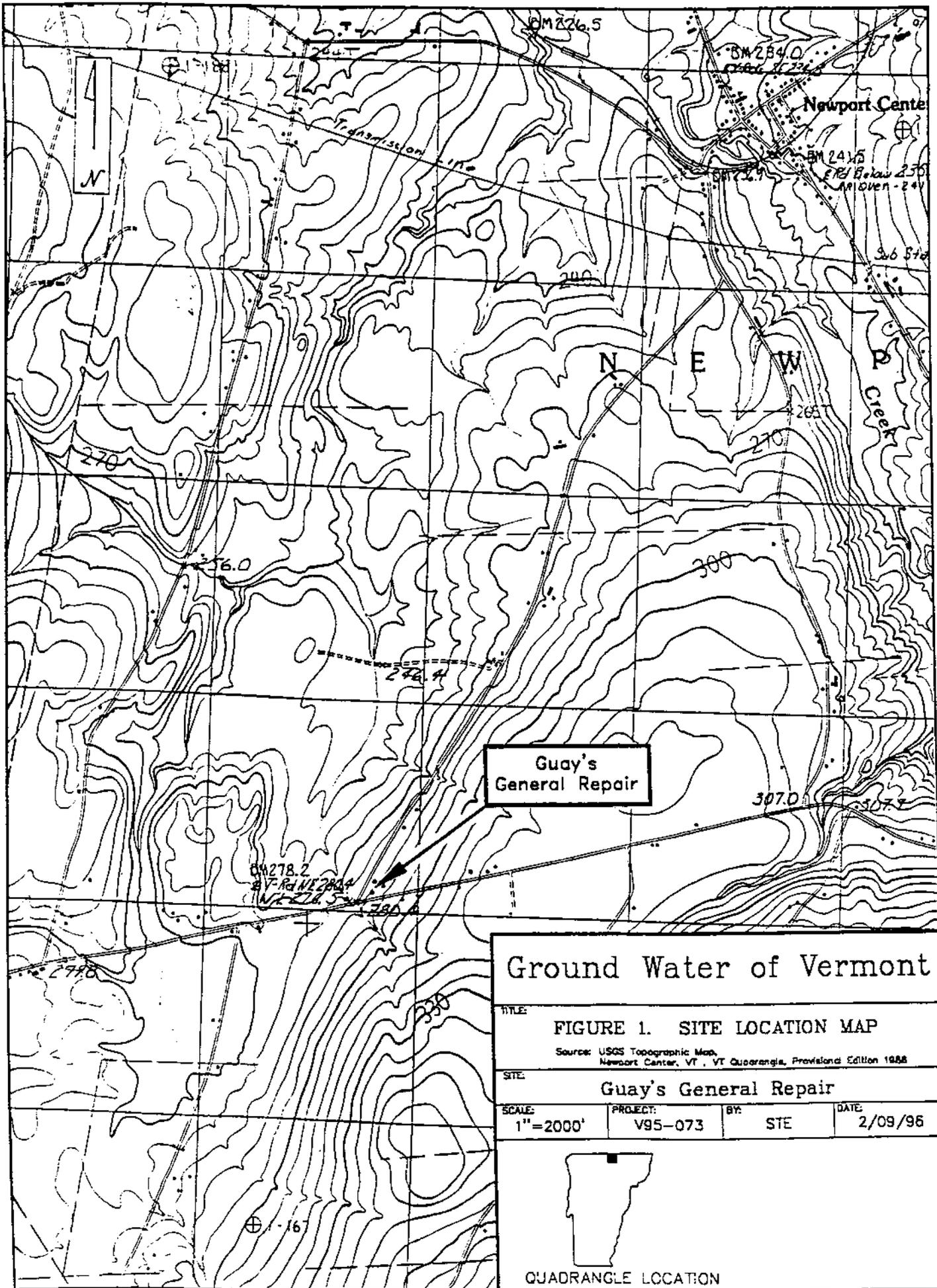


Terry W. Robbins, E.I.T.
Environmental Scientist

enclosures Attachment A - Site Location Map and Indoor PID Readings (Figures 1 and 2)
Attachment B - Laboratory Analytical Results
Attachment C - Stockpiled Soil PID Readings (Table 2)

REF: 95073R01.DOC

ATTACHMENT A



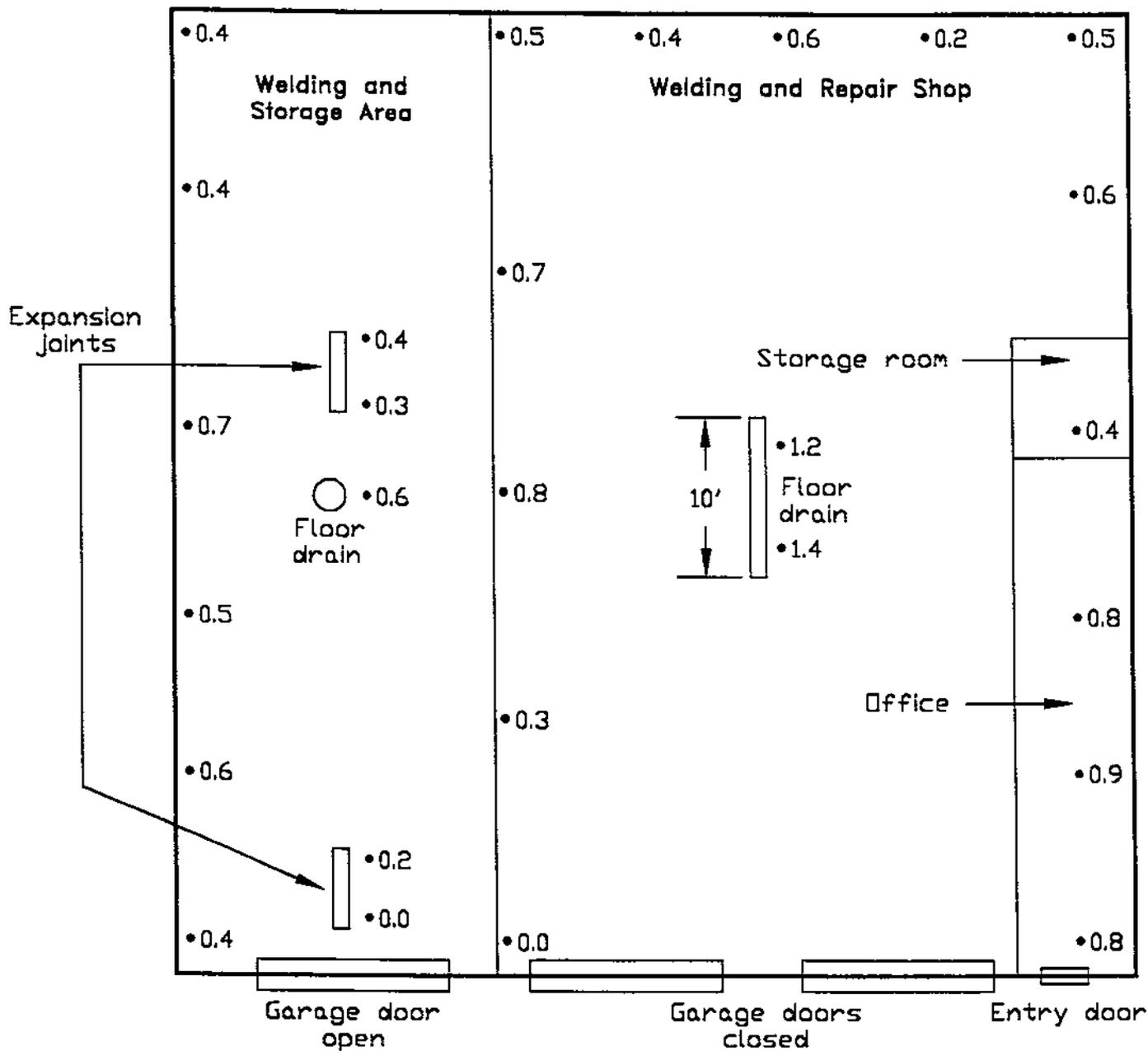
**Guay's
General Repair**

Ground Water of Vermont

TITLE: FIGURE 1. SITE LOCATION MAP <small>Source: USGS Topographic Map, Newport Center, VT, VT Quadrangle, Provisional Edition 1988</small>			
SITE: Guay's General Repair			
SCALE: 1"=2000'	PROJECT: V95-073	BY: STE	DATE: 2/09/96



QUADRANGLE LOCATION



PID readings in parts per million (ppm)



Ground Water of Vermont

1 Mill St., Box C-5
Burlington, VT 05401
(802) 860-6065

**GUAY'S GENERAL REPAIR
NEWPORT, VT**

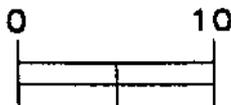
**FIGURE 2.
PID READINGS
INDOOR AIR QUALITY**

DRAWN BY: STE

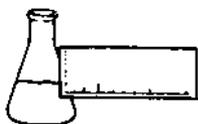
DATE: FEB 1996

APPROVED BY: RM

FILE No.: 95073



ATTACHMENT B



ENDYNE, INC.

Laboratory Services

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

LABORATORY REPORT

EPA METHOD 8020--PURGEABLE AROMATICS

CLIENT: GroundWater of Vermont
PROJECT NAME: Guay's General Repair
REPORT DATE: November 12, 1995
DATE SAMPLED: November 2, 1995
DATE RECEIVED: November 6, 1995
DATE ANALYZED: November 9, 1995

PROJECT CODE: GWVT1913
REF.#: 82,635
STATION: Guay's Supply Well
TIME SAMPLED: 8:50
SAMPLER: Brian Starer

<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
Benzene	1	ND ¹
Chlorobenzene	1	ND
1,2-Dichlorobenzene	1	ND
1,3-Dichlorobenzene	1	ND
1,4-Dichlorobenzene	1	ND
Ethylbenzene	1	ND
Toluene	1	ND
Xylenes	1	ND
MTBE	1	ND

Bromobenzene Surrogate Recovery: 97%

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

NOTES:

1 None detected

ATTACHMENT C

**TABLE 2.
Pid Readings
Stockpiled Soils**

Guay's Repair Shop
Newport, VT

2 November 1995

SAMPLE ID	PID READING
S-1	29.4
S-2	79.2
S-3	134.0
S-4	31.0
S-5	197.0
S-6	36.2
S-7	84.9
S-8	79.2
S-9	30.0
S-10	118.2

9 May 1997

SAMPLE ID	PID READING
S-1	0.0
S-2	0.0
S-3	0.0
S-4	0.0
S-5	0.2
S-6	0.0
S-7	0.2
S-8	0.3
S-9	0.5
S-10	1.1
S-11	0.3
S-12	0.3
S-13	0.3
S-14	1.1
S-15	1.7

PID readings reported as parts per million (ppm).
Soil sample composites collected from approximately 1-2 feet below pile surface.
PID calibrated with isobutylene gas to a benzene reference each day of use.