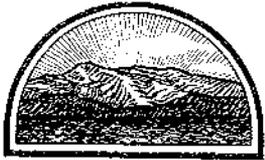


FEB 16 1993



ENVIRONMENTAL  
SERVICES

## New England Industrial Maintenance, Inc.

76 Ethan Allen Drive, So. Burlington, Vermont 05403

February 12, 1993

Ms. Cindy Woods  
Environmental Engineer  
Site Management Section  
Vermont Agency of Natural Resources  
103 South Main Street/West Office  
Waterbury, VT 05671-0404

RE: Subsurface Investigation Report  
Robare's Harbor Store, North Hero, Vermont  
SMS Site No. 91-1173

Dear Ms. Woods:

Enclosed please find one (1) copy of NEIM's report on the subsurface investigation conducted at the above referenced site.

If you have any questions or comments, please do not hesitate to contact me or John Diego. I look forward to hearing from you.

Very truly yours,

New England Industrial Maintenance, Inc.

*Jennifer von Rohr - 877-2423*

Jennifer von Rohr  
Environmental Scientist

cc: Skip Vallee, R.L. Vallee, Inc.

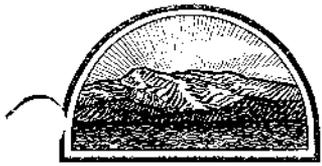
Enclosure

WorkPlan2:Robare.ltr

**NEIM**

802-863-8714

Fax 802-863-1022



ENVIRONMENTAL  
SERVICES

## New England Industrial Maintenance, Inc.

76 Ethan Allen Drive, So. Burlington, Vermont 05403

SITE INVESTIGATION REPORT  
ROBARE'S HARBOR STORE

NORTH HERO, VERMONT

SMS SITE NO. 91-1173

FEBRUARY 12, 1993

New England Industrial Maintenance, Inc.  
76 Ethan Allen Drive  
South Burlington, VT 05403

(802) 863-8714

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## 1.0 EXECUTIVE SUMMARY

This report has been prepared to summarize the activities conducted and the findings generated in association with a subsurface evaluation conducted at Robare's Harbor Store located on Route 2 in North Hero, Vermont. This evaluation stems from the apparent release of petroleum product from piping associated with one (1) or more of five (5) underground storage tanks (USTs) currently or previously in use at this location. Three (3) gasoline USTs currently exist at this site. Two (2) additional gasoline USTs were reportedly removed from this location in 1984. All of the underground tanks associated with this site are or were owned by R.L. Vallee, Inc. of St. Albans, VT.

The objective of this project was to evaluate the subsurface conditions at the site relative to petroleum contamination. In accordance with NEIM's draft Work Plan dated July 27, 1992, and supplemental letter dated September 1, 1992, project activities were designed to address groundwater quality, determine soil type and quality, define the horizontal flow direction of the overburden aquifer and identify potential environmental receptors. These activities and the findings generated as a result are presented throughout this report.

With the exception of drilling, surveying and laboratory services, all project activities associated with the current phase of investigation were conducted by New England Industrial Maintenance, Inc. (NEIM) personnel. All project drilling was conducted by Adams engineering of Underhill, Vermont; the site survey was completed by Cowan Survey of Vergennes, Vermont; and Endyne, Inc. of Williston, Vermont provided laboratory services.

## 2.0 SITE SETTING AND LAYOUT

The subject property, which is depicted on Figure 1, is located on the island of North Hero on Lake Champlain in Vermont. It is a lakeshore property which is divided by U.S. Route 2. The property currently includes a retail, convenience type store which distributes gasoline for automobiles.

Property uses surrounding the site include agricultural, commercial/retail, residential and recreational. The adjacent property to the south is the location of the site owner's residence. Additional residences are located adjacent to this site on the north and east sides. Commercial

properties in the vicinity of this site include a boat dealership and service center to the north, and a seasonal hotel south of the site.

As depicted on the site plan provided as Figure 2, the area north of the existing store previously contained two (2) former gasoline USTs. SMS files indicate these tanks were removed from the site in 1984, however no information was encountered to verify the condition of the excavated tanks or surrounding soils.

Three (3) existing USTs, including one (1) 6,000 gallon tank, one (1) 5,000 gallon tank and one (1) 4,000 gallon tank, are currently located west of the former UST area. These tanks are currently all used for gasoline storage.

Reportedly, the 4,000 and 5,000 gallon tanks were installed at this location in 1984. The installation date of the 6,000 gallon tank is not presently available, however this tank was apparently used for the storage of diesel fuel prior to 1984.

### 3.0 SITE HISTORY

This site has reportedly been used for the retail sale of gasoline for an estimated period of twenty five to thirty years. No information has been encountered to suggest this site has been used for any other commercial activity.

#### 3.1 Previous Site Work

With the exception of activities stemming from the line leak which is the subject of this investigation, no information was encountered to indicate other environmentally related activities have been conducted on or in association with this site. Activities which are related to this project, yet initiated prior to this phase of investigation include efforts to identify the source and the extent of site contamination. These initial activities are summarized as follows.

In December 1991, a review of inventory records revealed a loss of product from one of the gasoline tanks which currently exists at this location. Subsequently, Twin State Environmental Services (TSES), was retained to investigate the situation further.

Since the subject tank and associated lines reportedly yielded acceptable pressure test results in October 1991, and observations by the site owner indicated the product loss was proportional to the amount of product actually pumped, the apparent system leak was thought to be associated with the lines rather than with the tank. Accordingly, the subject lines were isolated and pressure tested which apparently resulted in the identification of a poorly fitted (and thus leaking) valve located at the pump head. The system was further evaluated by exposing all associated piping which revealed two additional fitting leaks.

Following this apparent identification of the source of product loss, TSES evaluated subsurface soils within the area of the leak by conducting a soil gas survey. Sufficient detail is not available to comment on the procedures or technology used for this survey, however, as a result of it's implementation, two (2) rudimentary plumes of petroleum contamination were identified. As reported by TSES in a letter to the SMS dated December 12, 1991, these plumes of contamination were located to a depth of approximately four (4) feet in the areas northwest of the site building and west of the pump island. The approximate locations of both areas of concern are identified on Figure 3.

In an attempt to address the potential for groundwater contamination, TSES apparently returned to the site on or about January 9, 1992 and installed two (2) 2 inch diameter PVC monitoring wells to refusal (slightly more than ten (10) feet). The location of MW-1 and MW-2 are illustrated on Figure 2. In addition to the installation of these monitoring wells, TSES also installed an 18 inch recovery well within the area of the former gasoline USTs which were removed in 1984. It is not clear what the specific intent of installing this recovery well was, however, NEIM does not believe it was ever actually used for recovery purposes. The location of the recovery well is also identified on Figure 2.

In March of 1992, TSES sampled both monitoring wells for volatile organic analysis by EPA method 624. Although apparently no quality assurance/quality control (QA/QC) samples (i.e. trip blank etc.) were incorporated into this sampling event, and furthermore no information is available regarding the method of collection, both wells were found to exhibit Methyl tert-butyl ether (MTBE) contamination. As indicated by the

laboratory report of these samples, which is provided in Appendix A, no other volatile organic compounds were detected by this analysis.

In order to minimize the potential for further impact on the site, the leaking UST system was taken out of service from approximately December 3, 1991 until the tank's piping was replaced in May 1992. Apparently the replacement piping installed at this location was inspected by SMS representatives on May 8, 1992.

In order to replace the underground piping at this location, approximately 30 cubic yards of petroleum contaminated soil was excavated from the site. An internal SMS memo dated May 12, 1992 addresses this soil and indicates that PID readings collected of this soil ranged to a high of 47 parts per million (PPM). This soil was apparently transported to the Scandore Gravel Pit located approximately two (2) miles away from the site, where it was stockpiled and polyencapsulated. This material currently remains at this location.

#### 4.0 SUMMARY OF CURRENT PROJECT ACTIVITIES

In accordance with NEIM's Work Plan (July 27, 1992) and supplemental letter (September 1, 1992) approved for this site by the SMS, project activities included the following tasks:

- The wells existing on site were evaluated for construction details and integrity determinations;
- Monitoring wells were installed at six (6) locations on-site;
- Soils encountered at each monitoring well location were screened for the presence of contamination;
- Groundwater samples and data were collected of all accessible, new and existing monitoring wells;
- A well search was conducted for the identification of adjacent drinking water supplies;
- Samples were collected from two (2) adjacent drinking water supplies for analysis;
- A site survey was conducted; and,
- The existing soil stockpile was evaluated.

The implementation of these activities are summarized in the following sections.

#### 4.1 Existing Well Evaluations

Prior to the initiation of intrusive site activities, NEIM visited the site in August 1992 to conduct a preliminary site survey and to evaluate the existing monitoring wells (MW-1 and MW-2). As a result, both wells were found to be constructed of 2 inch diameter PVC, and both were in acceptable (i.e. usable) condition. The measured depths of MW-1 and MW-2 were found to be 10.3 feet and 10.8 feet respectively.

#### 4.2 Soil Borings/Well Installations

Project drilling, which ultimately included the completion of six (6) soil borings/monitoring wells was conducted during two separate episodes in September and October 1992. As proposed, the drilling for this project was conducted by Adams Engineering, Inc. of Underhill, Vermont.

On September 8, 1992 NEIM and Adams Engineering arrived on site to complete the drilling activities proposed in the site Work Plan. This drilling was conducted with the use of a vibrating core drill rig to a maximum depth of approximately 7.0 feet below ground surface. Wells were completed at four (4) locations identified as MW-3, MW-4, MW-5 and MW-6 on Figure 2.

Since the maximum well depth achieved during the first drilling episode (approximately 7 feet) was not sufficient for the year-round evaluation of groundwater, it was determined to be appropriate to return to the site with a hollow stem auger drill rig to facilitate the installation of deeper wells. Accordingly, a second drilling event was conducted for this project on October 27, 1992. This episode included the completion of three (3) additional monitoring wells to approximate depths of 10 feet below the ground surface. These wells are identified on Figure 2 as MW-3D, MW-5D and MW-7.

Well numbers MW-3D and MW-5D are situated immediately adjacent to the originally installed MW-3 and MW-5 (respectively). Each well set will be used to evaluate seasonal fluctuations in groundwater flow and quality. MW-7, located north of the store and east of the UST area is intended to be a background well. Efforts to install a deep well in

the area adjacent to MW-6 resulted in a dry hole to bedrock (Approximately 10.5 feet). As a result of this finding, MW-6 was grouted to the surface and permanently abandoned.

Throughout both drilling episodes, NEIM was present to screen soils for classification and to identify evidence of petroleum contamination. Soils encountered at all locations were inspected visually and the September drilling activities included the use of a photoionization detector (PID) calibrated to a Isobutylene (a Benzene equivalent). Due to equipment malfunction, PID readings were not collected during the October drilling activities. The results of screening the soils were recorded for later interpretation, as well as used for placing the well screen.

PID readings collected throughout the drilling of monitoring well nos. MW-3, MW-4 and MW-5, and from the well casing of the installed wells are summarized on Table 1. These readings are also provided (where available) along with the corresponding soil classifications in the well log for each monitoring well. These well logs may be found in Appendix B.

Based on observations made during the installation of MW-3 and MW-5, it is evident that petroleum contamination is migrating in the area below the impeding layer, and immediately above the bedrock. Observations which resulted in this conclusion include the presence of a sheen and accompanying gasoline odor on soils which were retrieved from these locations during drilling operations.

As illustrated by the well logs (Appendix B), well numbers MW-3, MW-4, MW-5, MW-6 (now abandoned) and MW-7 are constructed of 1.5 inch diameter solid PVC casing and 0.006 inch slot PVC screen. Well numbers MW-3D and MW-5D are constructed of 2 inch diameter solid PVC casing and 0.010 inch slot PVC screen. The borehole surrounding each well casing was backfilled with clean filter sand to a depth of approximately one (1) foot above the screen, and grouted to a depth of one (1) foot above the top of sand. Finally, each well was secured with a flush mounted well guard.

### 4.3 Groundwater Sampling

As proposed, groundwater sampling was conducted of all accessible monitoring wells for the generation of water level data, PID readings and the analysis of purgeable aromatics by EPA Method 8020. Sampling at each well proceeded using the following procedures and sequence:

1. Once accessed, the well cap was removed and PID readings were collected from the well's headspace and recorded.
2. The water level elevation and depth to the bottom of the well was determined and recorded.
3. The volume of standing water present in the well was determined.
4. The well was hand bailed with the use of a teflon bailer until dry or three (3) well volumes were removed. All purge water removed from these wells was drummed in a 55 gallon drum and eventually removed from the site for proper disposal by NEIM.
5. The well was sampled using a decontaminated teflon bailer.
6. The well was closed and secured.

This sampling event, which was conducted by NEIM on October 28, 1992, included the collection of samples from Monitoring Well nos. MW-1, MW-2, MW-3D, MW-5D and MW-7. In addition, this sampling episode included the collection and analysis of QA/QC samples, including one (1) trip blank and one (1) equipment blank. Note that well nos. MW-3, MW-4 and MW-5, and the recovery well were dry at the time of sampling and therefore were not incorporated into this sampling event.

Of significance to the data generated by this sampling, as well as to the overall status of this site, is the occurrence of a documented petroleum release at this location on October 16, 1992. Reportedly this release, which was the result of overfilling, occurred simultaneously in the area between MW-3/3D and MW-4 (apparently where the

distribution truck was parked during filling operations), and at the pump island. NEIM currently has no information regarding the quantity of spilled material, however, visual inspections of the area on October 21 and October 28, 1992 revealed no remaining evidence of the release.

Water level elevation data generated during the October 28, 1992 sampling event is presented in Table 2. This data has been translated to demonstrate an east to west groundwater flow direction within the vicinity of the site. The groundwater flow direction is depicted on Figure 4.

As summarized in Table 3, the analytical results of the groundwater samples indicate Benzene, Toluene, Ethyl Benzene and Xylenes (BTEX) and MTBE compounds were detected at all sampled locations, including the background well (MW-7). No free product, however was encountered in any well inspected. Note that no contamination was identified in either of the Quality Control samples (TB and EB).

Total BTEX concentrations ranged from a low concentration of 2.7 ug/l in the background well (MW-7) to a high of 1,129 ug/l at the location of MW-1. MTBE results ranged from a concentration of 12.5 ug/l at MW-7 to the highest detected concentration of 681 ug/l at MW-2.

As illustrated by the groundwater contour map Figure 3, MW-1 is located downgradient to crossgradient from the assumed source of contamination. This well is additionally located in the direct path of the UST supply, return and vent lines, which are expected to provide a path of migration for contamination.

MW-2 and MW-3D, which were found to contain similar concentrations of BTEX contamination (291 ug/l and 245 ug/l respectively), are both located hydraulically downgradient from the assumed source of contamination. Due to the presence of the USTs and associated backfilled soils in the area between these wells and the assumed contamination source, it is likely that existing conditions have facilitated the migration of contamination towards MW-2 and MW-3D.

MW-5D, located crossgradient to downgradient from the assumed source is situated adjacent to the pump island. Pump lines travelling from the area of the assumed

contamination source towards the pump are expected to provide an avenue of migration for contamination. Additionally, as discussed in Section 3.1 above, a valve leak was identified near the pump. Contamination detected at this location includes 666 ug/l BTEX and 197 ug/l MTBE.

With the exception of MW-2, MTBE concentrations were relatively consistent in all of the downgradient wells sampled. As noted above, the reported MTBE concentration at MW-2 was the highest of those sampled with a concentration of 681 ug/l.

Based on these analytical results it appears that MTBE concentrations are increasing with distance from the assumed source of contamination. BTEX contamination, however appears to be decreasing with distance. It is therefore believed that the identified MTBE plume is migrating towards Lake Champlain ahead of the distinctly separate BTEX plume of contamination. The extent of both plumes has not to date been determined.

A copy of the laboratory report for these samples is provided in Appendix C.

#### 4.4 Site Survey

A survey of the site and pertinent features was conducted on October 5, 1992 by Cowan Surveying. Specific data incorporated into the site survey includes the site building, Route 2, MW-1 and MW-2, and the monitoring wells installed during the first round of NEIMs drilling (i.e. MW-3, MW-4, MW-5 and MW-6). The additional wells installed during the October drilling episode, were later surveyed by NEIM and incorporated into the survey. The results of this survey are presented in the Site Plan provided as Figure 2.

#### 4.5 Drinking Water Sampling

As requested by the SMS, the originally proposed Work Plan was expanded to include sampling and analysis of drinking water supplies adjacent to the Robare site.

In order to identify drinking water sources which existed in this area NEIM reviewed well records on file at the State of Vermont Department of Water Supply, and conducted a door-to-door survey of surrounding properties. As a result of these tasks two (2)

drinking water supplies were identified in the immediate vicinity of the site, and therefore sampled for analysis. The following drinking water supplies were sampled for analysis:

- The drilled well located on the Robare's Harbor Store Site. This well is reported to be 498 feet deep and is located hydraulically upgradient of the area of contamination, see Figure 2. This well provides drinking water to the Robare's Harbor Store and one (1) residence located to the east which is owned by the store's owner.
  
- The Lake Champlain water source used by the Robare residence located immediately to the south of the Robare's Harbor Store.

Additional surrounding residences and a motel located to the east were approached for sampling purposes, however all were found to be vacant. These facilities are believed to be used on a seasonal basis.

In addition to the drinking water sources sampled, state records indicate five (5) drinking water wells exist within a quarter mile (0.25) radius of the site. These wells, which are depicted on Figure 5 all appear to be situated hydraulically upgradient of the site. The closest of these wells to the Robare's Harbor Store site is located approximately 400 feet to the south east.

Samples were collected on September 10, 1992 from the two sources described for laboratory analysis of purgeable aromatics by USEPA method 602. The drilled well located at the Robare's Harbor Store was additionally sampled a second time on October 28, 1992.

The results of these analyses, which are provided in Appendix C, indicate that no compounds were detected above the method detection limits. Method detection limits afforded by these analyses ranged from 1 ug/l to 5 ug/l based on the specific compound.

#### 4.6 Soil Stockpile Evaluation

As discussed above, approximately 30 cubic yards of petroleum contaminated soil was removed from the Robare's Harbor Store in conjunction with the replacement of the UST piping, and transported to the Scandore Gravel Pit where it is currently stockpiled. At the time of excavation, this soil reportedly exhibited PID readings which ranged to a high of 47 ppm.

In order to evaluate the current status of this soil stockpile, and generate appropriate options for its permanent treatment/disposal, NEIM sampled the stockpile for laboratory analysis on September 28, 1992. One representative composite sample was collected of this material and submitted for analysis of purgeable aromatics by EPA Method 8020.

As indicated by the laboratory report for this stockpile sample (provided in Appendix C), the concentration of total BTEX compounds detected was 380 parts per billion (ppb). No MTBE or other purgeable aromatic compounds were detected by the analysis of this sample.

#### 5.0 INITIAL RISK EVALUATION

Based on the available site information and the analytical results generated by the activities discussed here, it is apparent that subsurface soils and the overburden groundwater underlying this site have been impacted by petroleum releases originating from this site. Although all known releases of petroleum contamination have apparently been eliminated, an undefined quantity of contamination currently remains within the vicinity of the site.

Due to the groundwater flow direction and the proximity of Lake Champlain, it is apparent that the lake is susceptible to receiving contaminated groundwater as a result of contamination originating from this site. No evidence has been generated or encountered however to indicate that the lake currently is or has been influenced by the identified petroleum contamination.

As determined by Vermont Agency of Natural Resources water supply maps, relatively few water supply sources (public and private) exist within the immediate vicinity of this site. Specifically, available records indicate that surrounding water supply sources are limited to:

five (5) drinking water wells within a 0.25 mile radius, the closest of which is approximately 400 feet hydraulically upgradient of this site. In addition, unrecorded drinking water sources including: one (1) Lake source; and one (1) drilled well located on the Robare's Harbor Store Site have been sampled and found through analysis to be free from purgeable aromatic contamination.

Contamination of any of these water supply systems appears unlikely due to their: being located hydraulically upgradient of the contamination; horizontal distance from the contamination; and, in the case of the subject site's drinking water well the vertical distance from the area of contamination.

Due to the facts that: all known underground sources of petroleum contamination have been removed from the site; Lake Champlain, as the most likely receptor of contamination, offers a large dilution factor to any infiltrating contamination; and there are no drinking water sources likely to be affected, it does not appear that the currently unquantified contamination poses an imminent threat to human health or the environment.

## 6.0 CONCLUSIONS

Based on the information generated and presented here the following conclusions have been developed with regard to the Robare's Harbor Store Site:

1. Petroleum contamination, which apparently originated from several UST piping leaks, was released to subsurface areas of the site over a relatively short period of time (approximately October 1991 to December 2, 1991), resulting in an unknown quantity of contamination.
2. All known underground sources of petroleum contamination have been replaced.
3. Wells installed and surveyed revealed the presence of petroleum contamination in subsurface soils and overburden groundwater aquifers downgradient from the former sources of contamination.
4. Groundwater underlying the site tends to flow in an east to west direction towards Lake Champlain.

5. The consistent detection of MTBE in analytical results indicates the identified contamination is likely to be gasoline.
6. Two distinctly separate plumes of groundwater contamination, including BTEX and MTBE compounds, have been identified in the area underlying the site. The horizontal extent of each plume, however, has not been determined.
7. MTBE concentrations appear to be increasing with distance from the location of the assumed source, whereas BTEX concentrations appear to decrease with distance. It is therefore assumed that the MTBE plume is migrating ahead of the BTEX plume.
8. The proximity of the site to Lake Champlain and the direction of groundwater flow makes the lake a likely potential receptor of contamination originating from this site.
9. No evidence has been encountered or generated to indicate that the lake is currently impacted by contamination originating from the site.
10. It does not appear that any private or public water supplies have been impacted as a result of the contamination identified at this site. Furthermore, no identified private or public water supply is believed to be at risk of being impacted by contamination originating from this site.

## 7.0 RECOMMENDATIONS

NEIM believes the following activities must be conducted in order to further evaluate and better define the extent of contamination associated with the Robare's Harbor Store Site:

1. Conduct additional sampling and analysis of all monitoring wells existing on site. Sampling should be done on a quarterly basis.
2. Evaluate what impact, if any the identified contamination has posed on Lake Champlain. This evaluation should include the installation of additional

monitoring wells in the area west of this site between the western property line and Route 2 (as accessible). A maximum of four (4) wells situated in a staggered pattern are recommended for installation in this area.

3. The area west of the site should additionally be visually inspected for evidence of seeps which would introduce contamination to the lake. Any seep identified should be screened with the use of a PID and, if necessary, sampled for laboratory analysis.
4. Consider specific options appropriate for the ultimate treatment/disposal of the stockpiled soils which are associated with this site. NEIM proposes to conduct a comparative cost analysis of the appropriate treatment/disposal options available for these soils. This analysis would be presented to the SMS upon completion and prior to selection. Unless requested otherwise, it is likely that the most cost-effective appropriate alternative would be selected for these soils.

**TABLES**

TABLE 1  
SUMMARY OF PID READINGS  
ROBARE'S HARBOR STORE  
NORTH HERO, VERMONT

<u>DATE</u>	<u>READING LOCATION/DEPTH</u>	<u>READING (PPM)</u>	<u>COMMENTS</u>
9/8/92	MW-1 NA	0.7	Collected inside well casing
9/8/92	MW-2 NA	11.0	Collected inside well casing
9/9/92	MW-2 NA	3.4	Collected inside well casing
9/9/92	MW-3 0-4'	ND	Soil screening during well installation
	4-5.3'	ND	
	5.3-5.8'	161	Gasoline odor
9/9/92	MW-4 0-3.9'	ND	Soil screening during well installation
	3.9-5.0'	92	
	NA*	37	Collected inside well casing
9/9/92	MW-5 0-3.5'	NR	Soil screening during well installation
	3.5-5.5'	15	Soil screening during well installation
	5.5-6.7'	67	Soil screening during well installation
	NA	137	Collected inside well casing
9/9/92	MW-6 NA	ND	Collected inside well casing
10/21/92	MW-1 NA	1.0	Collected inside well casing
10/21/92	MW-2 NA	6.0	Collected inside well casing
10/21/92	MW-3 NA*	15.0	Collected inside well casing
10/21/92	MW-4 NA*	1.0	Collected inside well casing
10/21/92	MW-15 NA	ND	Collected inside well casing
10/21/92	MW-6 NA	40	Collected inside well casing

NOTES:

- All readings collected by NEIM personnel with the use of a photoionization detector (PID) calibrated to a benzene equivalent.
- NA indicates reading depth is not applicable as corresponding reading was collected from inside the existing well casing.
- ND indicates not detected.
- \* indicates well was dry at the time of sampling.
- Monitoring well locations are identified on Figure 2.
- Due to equipment malfunction, PID readings were not collected during the October 27, 1992 drilling activities.

TABLE 2  
SUMMARY OF GROUNDWATER ELEVATION DATA  
ROBARE'S HARBO STORE  
NORTH HERO, VERMONT  
October 28, 1992

<u>Well Identification</u>	<u>Top of Casing Elevation</u>	<u>Measured Depth to Water (ft)</u>	<u>Water Level Elevation (ft)</u>
MW-1	108.58	5.66	102.92
MW-2	107.97	6.42	101.55
MW-3	107.66	Dry	--
MW-3D	107.84	6.50	101.34
MW-4	107.73	Dry	--
MW-5	107.58	6.0	101.58
MW-5D	107.43	5.75	101.68
MW-7	110.31	5.25	105.1
Recovery Well	108.34	4.9	103.44

Notes:

- All elevation data is reported in feet above mean seal level.
- Monitoring well locations are identified on Figure 2.
- All water level elevation data obtained by NEIM on October 28, 1992.

TABLE 3  
SUMMARY OF LABORATORY ANALYSIS  
GROUNDWATER SAMPLING  
ROBARE'S HARBOR STORE  
NORTH HERO, VERMONT

COMPOUND	RESULTS ( $\mu\text{G/L}$ )						
	MW-1	MW-2	MW-3D	MW-5D	MW-7	TB	EB
Benzene	540	242	165	149	2.7	ND	ND
Toluene	61.7	11.6	29.5	84.9	ND	ND	ND
Ethylbenzene	56.6	BDL	24.6	77.9	ND	ND	ND
Xylenes	471	37.3	25.5	354	ND	ND	ND
Total BTEX	1,129	291	245	666	2.7	--	--
MTBE	98.5	681	178	197	12.5	ND	ND

NOTES:

- ND indicates identified compound was not identified above the detection limit.
- BDL indicates identified compound was detected below the detection limit.
- Only compounds detected by one or more analyses are listed above.
- All sampling conducted by NEIM on October 28, 1992.
- All analysis conducted by Endyne, Inc. using EPA Method no. 602.
- Sample numbers correspond to well numbers identified on Figure 2.
- Laboratory reports for these samples are provided in Appendix C.
- TB - Trip blank.
- EB - Equipment blank.

**FIGURES**

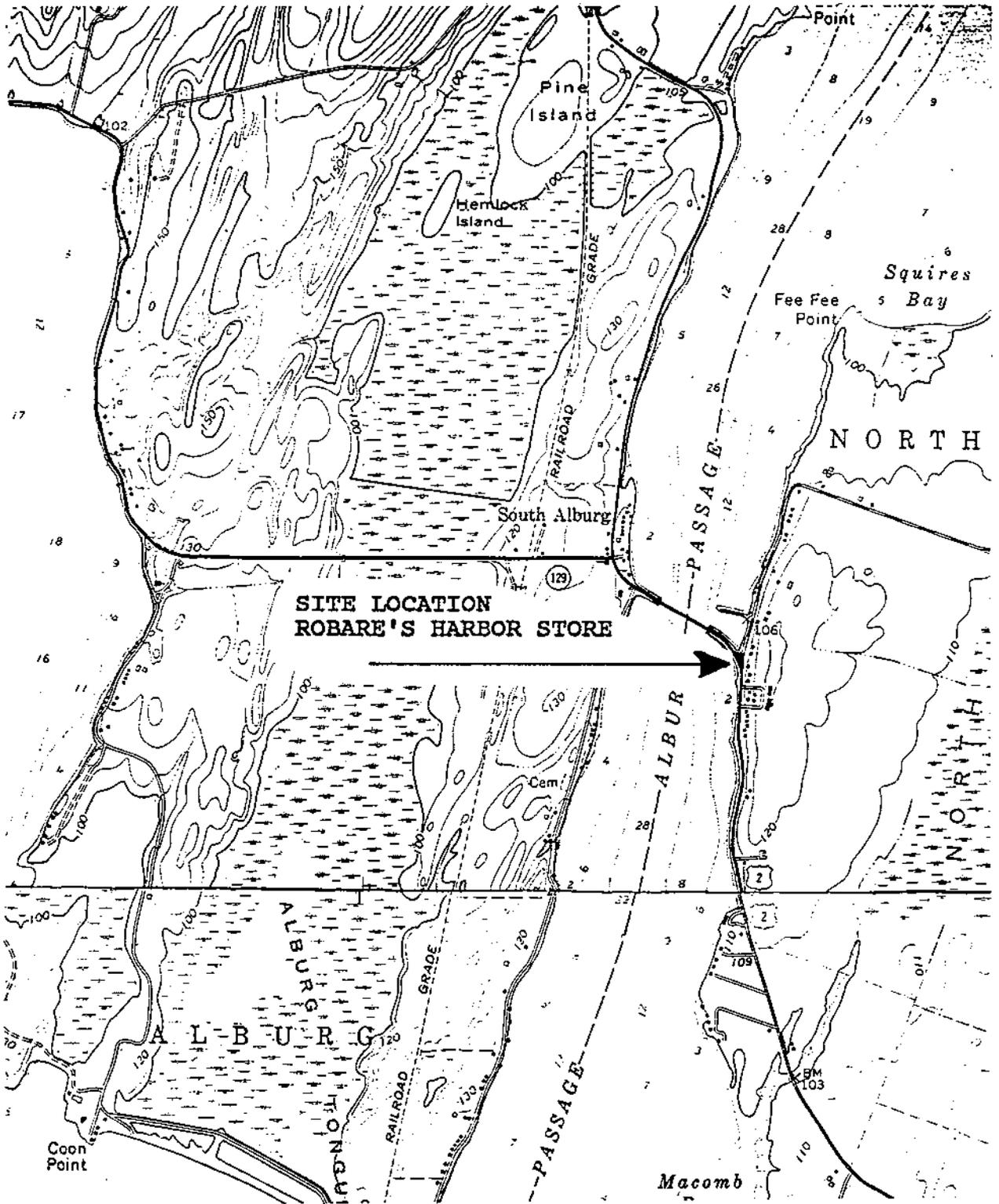
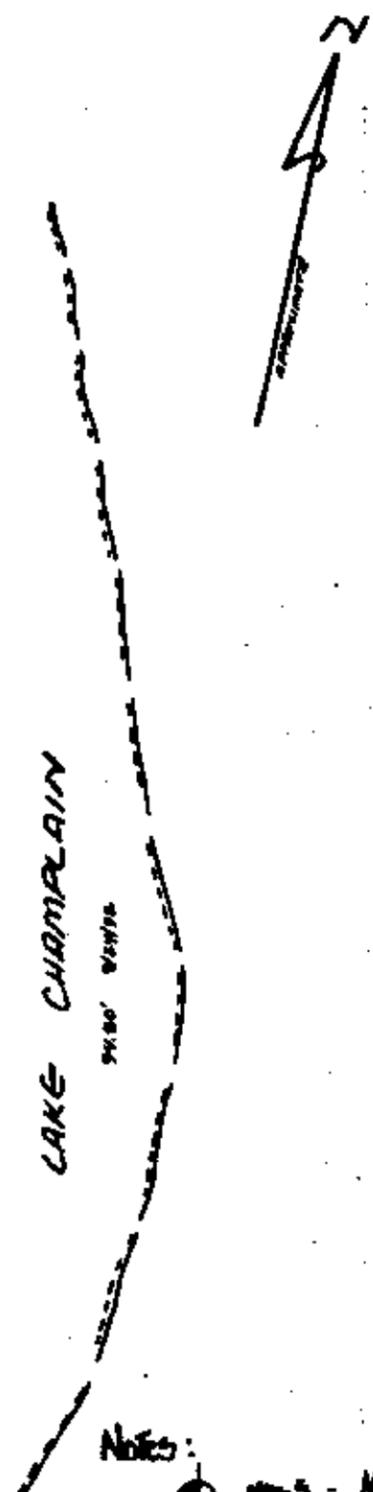


FIGURE 1

SITE LOCATION MAP  
 ROBARE'S HARBOR STORE  
 NORTH HERO, VERMONT

SOURCE: USGS TOPOGRAPHIC QUADRANGLE - ROUSES POINT, NY  
 7.5 MINUTE SERIES



Notes:  
 MW-5 - Monitoring Well  
 MW-6 WAS CLOSED BY NEIM, INC. ON 10-27-98  
 NOTES ADDED BY NEIM, INC.



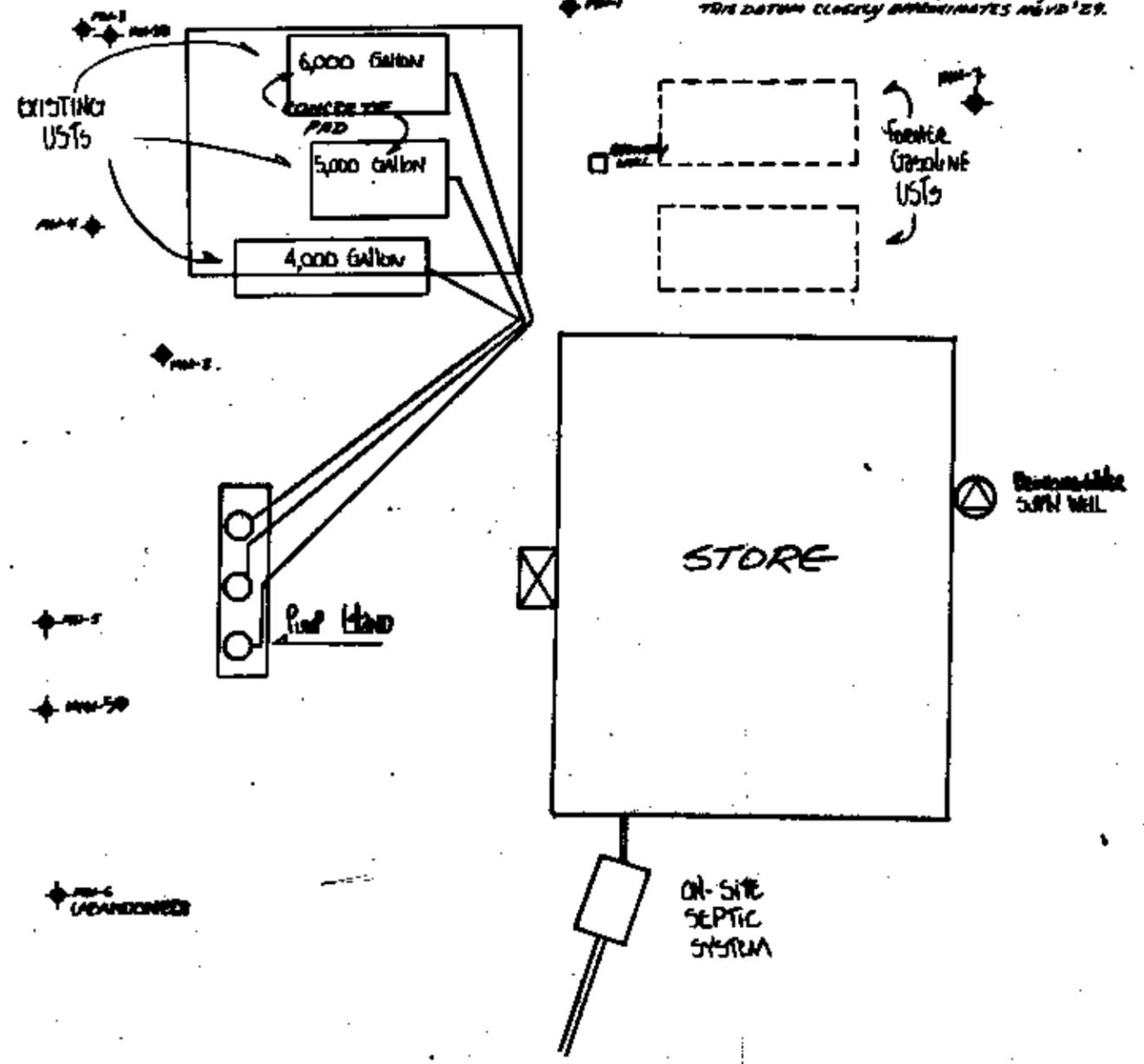
U.S. RTE. 2

TO VILLAGE OF N. HERO

**MONITORING WELLS**

WELL ID	TOP CASING*	GROUND ELEV.*
MW-1	108.68	109.06
MW-2	107.97	108.18
MW-3	107.66	107.89
MW-4	107.75	107.88
MW-5	107.58	107.72
MW-6	107.67	107.87
REC. WELL	108.31	109.00

\* ELEVATIONS BASED ON ASSUMED ELEVATION OF 109.01' AT TOP OF CONCRETE GRADY PILETOP MARKER ON WEST SIDE OF RTE. 2, SOUTHERLY OF SITE. THIS DATUM CLOSELY APPROXIMATES MVD '29.

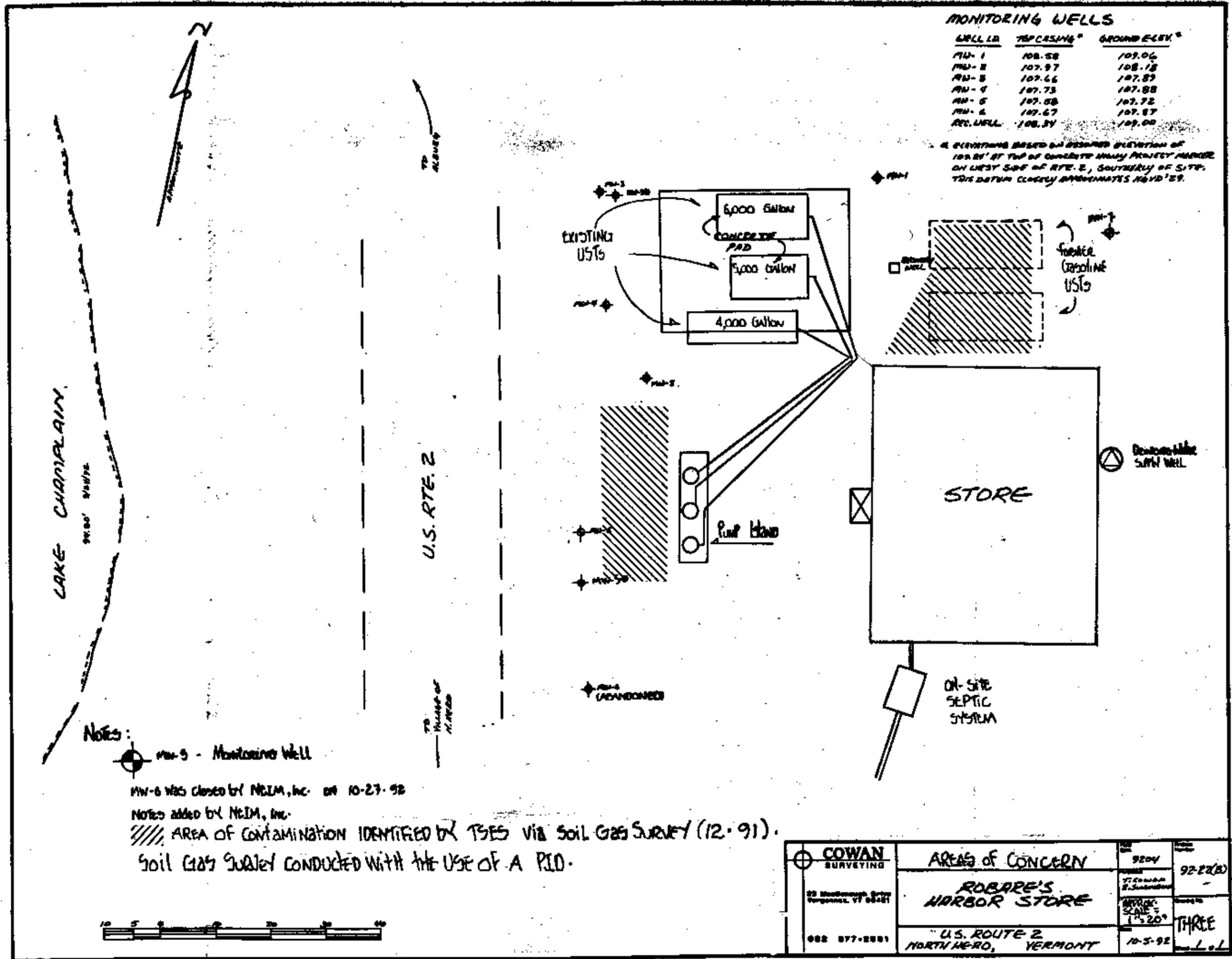


<p><b>COWAN SURVEYING</b>          68 Montgomery St.          Vergennes, VT 05491          802 877-8881</p>	<p><b>SITE PLAN</b></p>	<p>9204</p>	<p>92-2720</p>
	<p><b>ROBARE'S HARBOR STORE</b></p>	<p>1/2" = 20'</p>	<p>TWO</p>
	<p>U.S. ROUTE 2          NORTH HERO, VERMONT</p>	<p>10-5-92</p>	<p>L-1</p>

**MONITORING WELLS**

WELL ID	TOP CASING*	GROUND ELEV.*
MW-1	108.58	109.06
MW-2	107.97	108.18
MW-3	107.66	107.89
MW-4	107.73	107.98
MW-5	107.58	107.72
MW-6	107.67	107.87
REC. WELL	108.34	109.00

\* ELEVATIONS BASED ON DESIGNER ELEVATION OF 100.00' AT TOP OF CONCRETE WALKWAY PROJECT MARKER ON WEST SIDE OF RTE. 2, SOUTHWEST OF SITE. THIS DATUM CLOSELY APPROXIMATES NAVD '83.



Notes:  
 MW-5 - Monitoring Well

MW-6 was closed by NEIM, Inc. on 10-27-98

Notes added by NEIM, Inc.

////// AREA OF CONTAMINATION IDENTIFIED BY TSES VIA SOIL GAS SURVEY (12-91).

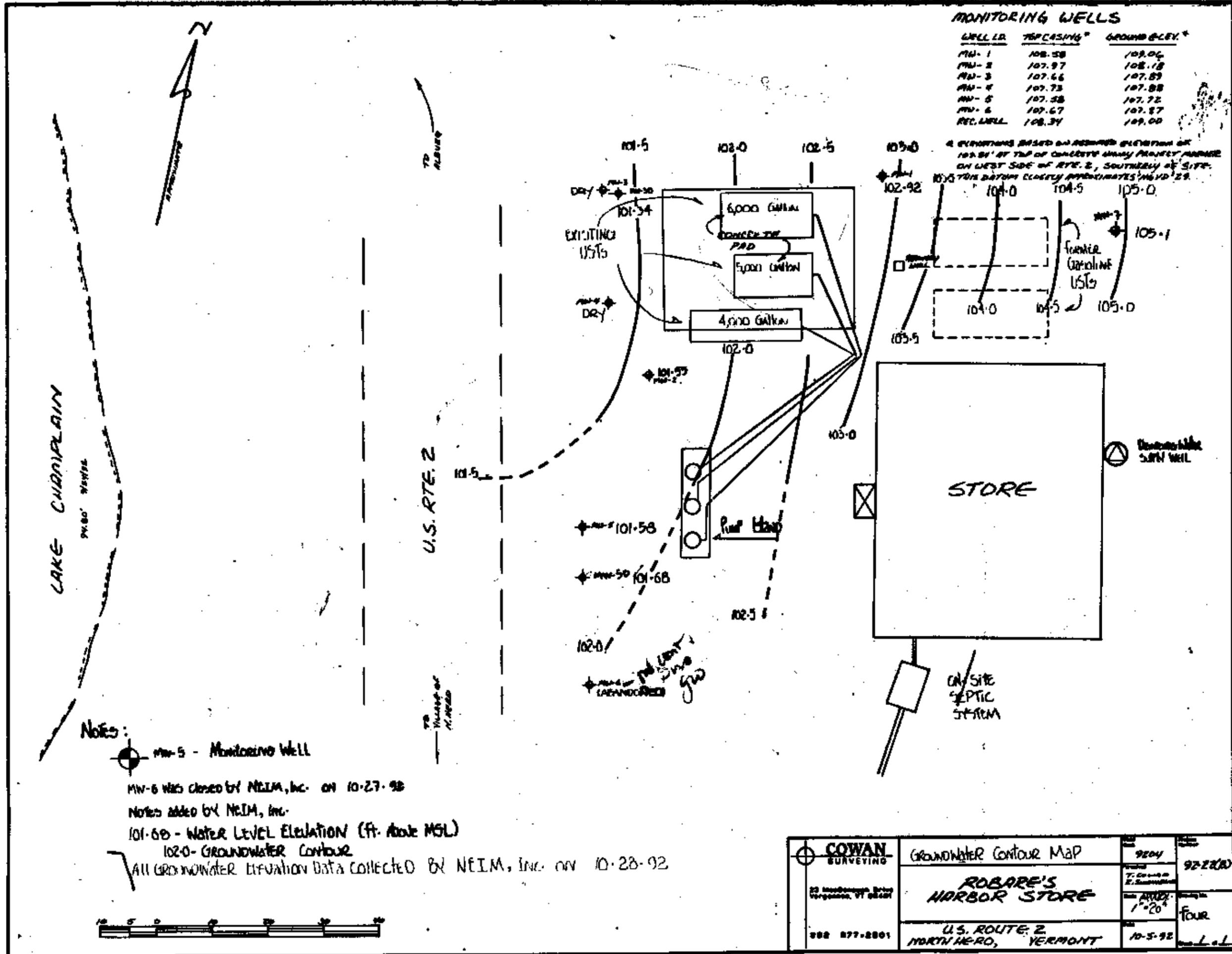
Soil Gas Survey conducted with the use of a PID.

<b>COWAN SURVEYING</b> 22 Montpelier Street Montpelier, VT 05602 802 877-2881	<b>AREAS OF CONCERN</b>	9204 92-22(8)
	<b>ROBARE'S HARBOR STORE</b>	SCALE = 1" = 20' THREE
	U.S. ROUTE 2 NORTH HERO, VERMONT	10-5-92 L.S.L.

**MONITORING WELLS**

WELL ID	TOP CASING*	GROUND ELEV.*
MW-1	108.58	109.06
MW-2	107.97	108.18
MW-3	107.66	107.89
MW-4	107.73	107.88
MW-5	107.58	107.72
MW-6	107.67	107.87
REC. WELL	108.31	109.00

\* ELEVATIONS BASED ON ASSUMED ELEVATION OF 103.81' AT TOP OF CONCRETE WALKWAY PROJECT MARKER ON WEST SIDE OF RTE. 2, SOUTHWEST OF SITE. THIS DATUM CLOSELY APPROXIMATES MEVD '29.



Notes:  
 MW-5 - Monitoring Well  
 MW-6 was closed by NEIM, Inc. on 10-27-98  
 Notes added by NEIM, Inc.  
 101-68 - WATER LEVEL ELEVATION (ft. Above MSL)  
 102-0 - GROUNDWATER Contour  
 All GROUNDWATER ELEVATION DATA COLLECTED BY NEIM, Inc. on 10-28-92

<p><b>COWAN SURVEYING</b>                  23 Woodbury Drive                  Colchester, VT 05431                  888 877-2801</p>	Groundwater Contour Map 9204 92-2800	T. Cowan E. Sweeney
	<b>ROBARE'S HARBOR STORE</b>	1"=20' Four
	U.S. ROUTE 2 NORTH HERO, VERMONT	10-5-92
	L.L.	L.L.



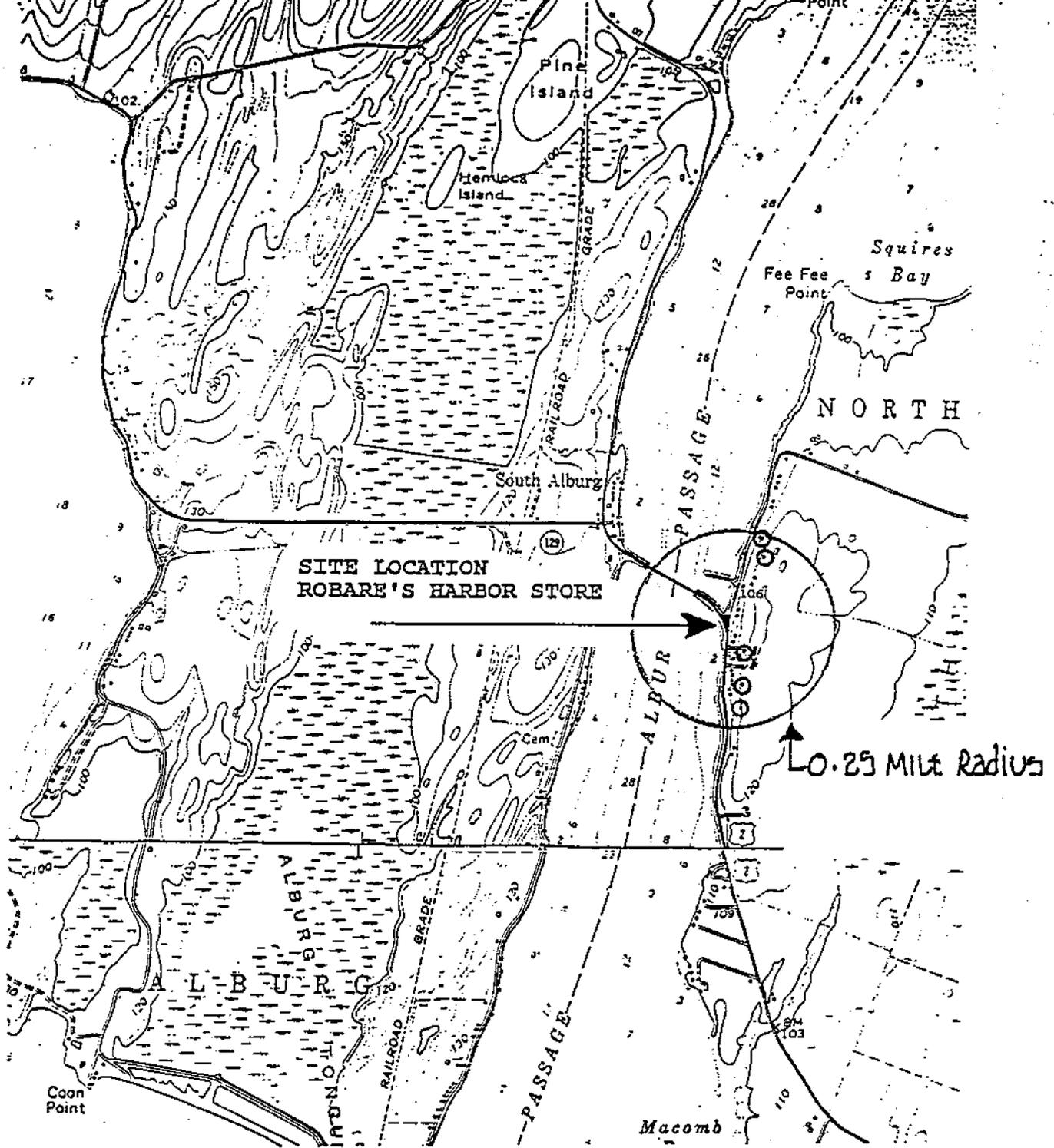


FIGURE 5

DRINKING WATER SUPPLY WELLS  
SURROUNDING ROBARE'S HARBOR STORE

NOTES:

⊙ Indicates approximate location of drinking water supply well.

Wells identified above as existing within a 0.25 mile radius of the Robare's Harbor Store, are based on information obtained from the Vermont Department of Water Supply.

**APPENDIX A**  
**HISTORICAL ANALYTICAL DATA**



AQUARIAN ANALYTICAL INC.

Laboratory Services

P.O. Box 186

Canterbury, N.H. 03224

603-783-9097

Volatile Organic Report

03-11-92, 12:47

Sample 3726

Sample Matrix = Water

Date Sampled = 03-04-92, 14:00

Date Logged In = 03-05-92, 15:23

Date of Analysis = 03-06-92

Sampler = O.FERNALD

Location = ROBARE'S RT. 2

Town = NORTH HERO

MW1

Organic Compound	Result (ppb)	Det. Lim. (ppb)	MCL
Bromodichloromethane	BD	1.0	-
Chlorodibromomethane	BD	1.0	-
Bromoform	BD	1.0	-
Chloroform	BD	1.0	-
Carbon Tetrachloride	BD	1.0	-
Dichloromethane	BD	2.0	5
1,1-dichloroethane	BD	1.0	5
1,2-dichloroethane	BD	2.0	5
1,1,1-trichloroethane	BD	1.0	200
1,1,2-trichloroethane	BD	1.0	5
1,1-dichloroethylene	BD	1.0	7
Trichloroethylene	BD	1.0	5
Tetrachloroethylene	BD	1.0	5
1,2-Dichloroethylene (c)	BD	1.0	70c
1,2-Dichloroethylene (t)	BD	1.0	100t
Chloroethane	BD	1.0	
Vinylchloride	BD	1.0	2
Bromomethane	BD	5.0	
Chloromethane	BD	5.0	
Trichlorofluoromethane	BD	1.0	
Benzene	BD	1.0	5
Toluene	BD	1.0	1000
Ethylbenzene	BD	1.0	700
m&p-Xylene	BD	1.0	-
o-Xylene	BD	1.0	-
Chlorobenzene	BD	1.0	-
1,2-dichlorobenzene	BD	2.0	10000
1,3-dichlorobenzene	BD	2.0	100
1,4-dichlorobenzene	BD	2.0	600
1,2,4-trichlorobenzene	BD	2.0	75
Styrene	BD	1.0	9
Acetone	BD	50.0	5
Tetrahydrofuran	BD	25.0	
Diethylether	BD	15.0	
Methyl t-butyl ether	370.0	2.0	
Methyl isobutyl ketone	BD	25.0	
Methyl ethyl ketone	BD	25.0	
Carbon Disulfide	BD	2.0	
1,1,2-trichloro 1,2,2-trifluoroethane	BD	1.0	

Comments:

Method of Analyses = EPA-624

Certified - N.H., Conn., Mass., Maine, EPA-624/524

BD = Below Detection Limit - The above analyses included compounds not listed on this page. Results are in parts per billion (ppb) unless noted.



AQUARIAN ANALYTICAL INC.

Laboratory Services

P.O. Box 186

Canterbury, N.H. 03224

603-783-9097

Volatile Organic Report

03-11-92, 12:47

Sample 3727

Sample Matrix = Water

Date Sampled = 03-04-92, 14:15

Date Logged In = 03-05-92, 15:23

Date of Analysis = 03-06-92

Sampler = O. FERNALD

Location = ROBARE'S MW-2

Town = NORTH HERO

Organic Compound	Result (ppb)	Det. Lim. (ppb)	MCL
Bromodichloromethane	BD	1.0	
Chlorodibromomethane	BD	1.0	
Bromoform	BD	1.0	-> 100
Chloroform	BD	1.0	Tot. THM
Carbon Tetrachloride	BD	1.0	5
Dichloromethane	BD	2.0	5
1,1-dichloroethane	BD	1.0	
1,2-dichloroethane	BD	2.0	5
1,1,1-trichloroethane	BD	1.0	200
1,1,2-trichloroethane	BD	1.0	5
1,1-dichloroethylene	BD	1.0	7
Trichloroethylene	BD	1.0	5
Tetrachloroethylene	BD	1.0	5
1,2-Dichloroethylene (c)	BD	1.0	70c
1,2-Dichloroethylene (t)	BD	1.0	100t
Chloroethane	BD	1.0	
Vinylchloride	BD	1.0	2
Bromomethane	BD	5.0	
Chloromethane	BD	5.0	
Trichlorofluoromethane	BD	1.0	
Benzene	BD	1.0	5
Toluene	BD	1.0	1000
Ethylbenzene	BD	1.0	700
m&p-Xylene	BD	1.0	- 10000
o-Xylene	BD	1.0	- Tot. (o+m+p)
Chlorobenzene	BD	1.0	100
1,2-dichlorobenzene	BD	2.0	600
1,3-dichlorobenzene	BD	2.0	
1,4-dichlorobenzene	BD	2.0	
1,2,4-trichlorobenzene	BD	2.0	75
Styrene	BD	1.0	5
Acetone	BD	50.0	
Tetrahydrofuran	BD	25.0	
Diethylether	BD	15.0	
Methyl t-butyl ether	3.9	2.0	
Methyl isobutyl ketone	BD	25.0	
Methyl ethyl ketone	BD	25.0	
Carbon Disulfide	BD	2.0	
1,1,2-trichloro 1,2,2-trifluoroethane	BD	1.0	

Comments:

Method of Analyses = EPA-624

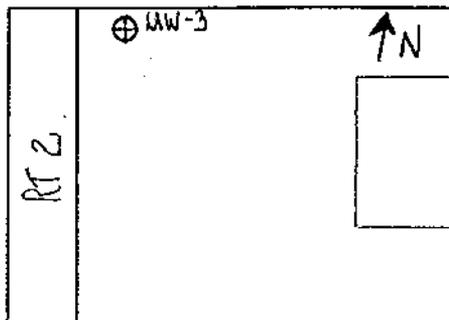
Certified - N.H., Conn., Mass., Maine, EPA-624/524

BD = Below Detection Limit - The above analyses included compounds not listed on this page. Results are in parts per billion (ppb) unless noted.

**APPENDIX B**  
**WELL LOGS**

PROJECT NAME Robare's Harbor Street  
 PROJECT NO. 9206-235  
 DATE DRILLED 9-8-92 DEPTH OF HOLE 5.8'  
 SCREEN DIA. 1.5 INCH LENGTH 2.3' SLOT 0.006"  
 RISER DIA. 1.5 INCH LENGTH 3.2' TYPE PVC  
 DRILLING FIRM ADAMS ENGINEERING DRILLER G.A.  
 METHOD VIBRATING CORE

WELL NO. MW-3

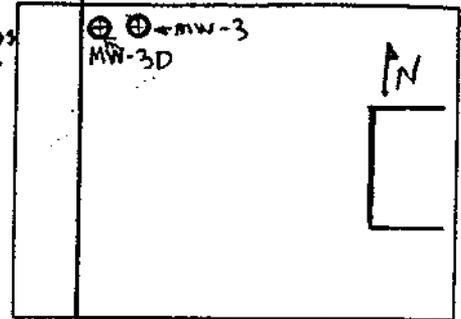


NEIM INC.  
 76 ETHAN ALLEN DRIVE  
 SO. BURLINGTON, VT

DEPTH IN FEET	WELL CONSTRUCTION	NOTES	PLD READINGS (PPM)	SOIL DESCRIPTION
0				
0.3		CAP		Black top over damp brown silt
		SOLID RISER		
		BACKFILL		
		BENTONITE CHIPS		
3.5			ND	
3.9		SAND PACK		Brown silt (damp) over broken shale
		WELL SCREEN		
5.3			161	
5.8				Gray Rock

PROJECT NAME Robards Harbor Store  
 PROJECT NO. 9206-235  
 DATE DRILLED 9-27-92 DEPTH OF HOLE 10.3  
 SCREEN DIA. 1.5 INCH LENGTH 5' SLOT 0.010"  
 RISER DIA. 1.5 INCH LENGTH 4.0' TYPE PVC  
 DRILLING FIRM ADAMS ENGINEERING DRILLER G.A.  
 METHOD HOLLOW STEM AUGER

WELL NO. MW-3D



NEIM INC.  
 76 ETHAN ALLEN DRIVE  
 SO. BURLINGTON, VT

DEPTH IN FEET	WELL CONSTRUCTION	NOTES	PID READINGS (PPM)	SOIL DESCRIPTION
0				
0.3		CAP		SANDY GRAVEL BACKFILL
2.1		SOLID RISER		SOFT BROWN FINE SANDY SILT
		BACKFILL		
		BENTONITE CHIPS		
5.1				
6.0		SAND PACK		DARK BROWN, DENSE, FINE, SANDY-SILT. SATURATED
		WELL SCREEN		
9.5				
10.3				ROCK

PROJECT NAME Robare's Harbor Store

WELL NO. MW-4

PROJECT NO. 9206-235

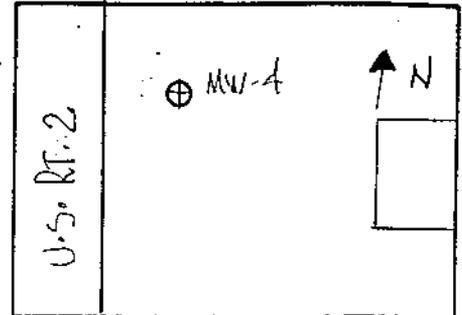
DATE DRILLED 4-9-92 DEPTH OF HOLE 5.0'

SCREEN DIA. 1.5 INCH LENGTH 2.5 SLOT 0.006"

RISER DIA. 1.5 INCH LENGTH 2.2' TYPE PVC

DRILLING FIRM ADAMS ENGINEERING DRILLER G.A.

METHOD Vibrating Core



NEIM INC.  
76 ETHAN ALLEN DRIVE  
SO. BURLINGTON, VT

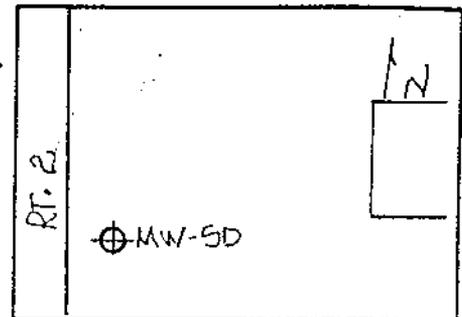
DEPTH IN FEET	WELL CONSTRUCTION	NOTES	PID READINGS (PPM)	SOIL DESCRIPTION
0		CAP	ND	BLACK TOP OVER BROWN SILT
0.3		SOLID RISER		BROWN SILT
1.0		BACKFILL		
2.5		BENTONITE CHIPS		GRAY/BROWN SILT
3.9		SAND PACK		
5.0		WELL SCREEN	92	BROWN SILT OVER SILT AND BROKEN SHALE



PROJECT NAME Robards Harbor Store  
 PROJECT NO. 9206-235  
 DATE DRILLED 10-27-92 DEPTH OF HOLE 10.3  
 SCREEN DIA. 1.5 INCH LENGTH 4.7 SLOT 0.010"  
 RISER DIA. 1.5 INCH LENGTH 5.1 TYPE PVC  
 DRILLING FIRM ADAMS ENGINEERING DRILLER G.A.  
 METHOD HOLLOW STEM AUGER

WELL NO. 5D

NEIM INC.  
 76 ETHAN ALLEN DRIVE  
 SO. BURLINGTON, VT

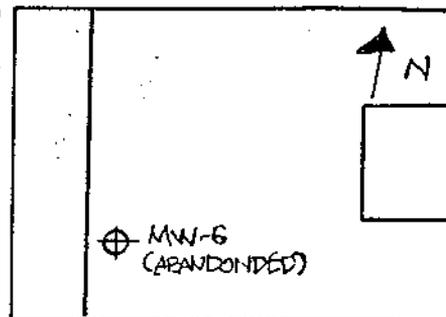


DEPTH IN FEET	WELL CONSTRUCTION	NOTES	PID READINGS (PPM)	SOIL DESCRIPTION
0.3		CAP		ASPHALT OVER SANDY GRAVEL BACKFILL
2.0		SOLID RISER		Soft, Dark Brown FINE SANDY Silt
5.4		BACKFILL		
		BENTONITE CHIPS		
7.0		SAND PACK		PETROLEUM SHEEN EVIDENT ON SOIL
		WELL SCREEN		Dark Brown, TOUGH, DENSE, FINE SANDY Silt. SATURATED.
10.3				Rock

PROJECT NAME Robare's Harbor Street  
 PROJECT NO. 9206-235  
 DATE DRILLED 9-9-92 DEPTH OF HOLE 6.0'  
 SCREEN DIA. 1.5 INCH LENGTH 4.5' SLOT 0.006"  
 RISER DIA. 1.5 INCH LENGTH 1.5' TYPE PVC  
 DRILLING FIRM ADAMS ENGINEERING DRILLER G.A.  
 METHOD VIBRATING CORE

WELL NO. MW-6

NEIM INC.  
 76 ETHAN ALLEN DRIVE  
 SO. BURLINGTON, VT

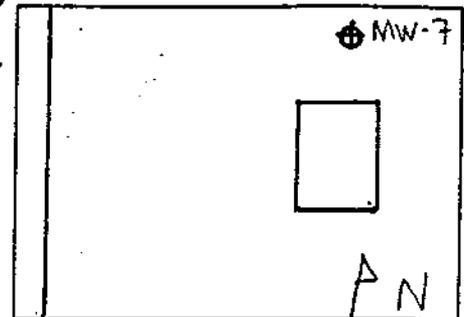


DEPTH IN FEET	WELL CONSTRUCTION	NOTES	PID READINGS (PPM)	SOIL DESCRIPTION
0				
0.3		CAP		Black Top over Brown silt
		SOLID RISER		
		BACKFILL		
		BENTONITE CHIPS		
1.5		SAND PACK		
		WELL SCREEN		
3.9				Brown silt over clay silt and brown schist over rock
6.0				

NOTE: THIS WELL WAS CLOSED & PERMANENTLY ABANDONED BY NEIM  
 ON OCTOBER 27, 1992

PROJECT NAME Robare's Harbor Store  
 PROJECT NO. 9206-235  
 DATE DRILLED 12-27-92 DEPTH OF HOLE 9.7'  
 SCREEN DIA. 1.5 INCH LENGTH 4.6' SLOT 0.006"  
 RISER DIA. 1.5 INCH LENGTH --- TYPE PVC  
 DRILLING FIRM ADAMS ENGINEERING DRILLER G.A.  
 METHOD HOLLOW STEM AUGER

WELL NO. MW-7

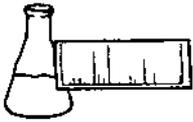


NEIM INC.  
 76 ETHAN ALLEN DRIVE  
 SO. BURLINGTON, VT

DEPTH IN FEET	WELL CONSTRUCTION	NOTES	PID READINGS (PPM)	SOIL DESCRIPTION
0.0		CAP		SANDY GRAVEL Backfill
0.3				
3.0				
4.5		BENTONITE CHIPS		DARK BROWN, TIGHT, DENSE, FINE, SANDY SILT. SATURATED
		SAND PACK		
		WELL SCREEN		
9.3		BOTTOM OF SCREEN		
9.7				

**APPENDIX C**  
**CURRENT ANALYTICAL DATA**





**ENDYNE, INC.**

Laboratory Services

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

LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: NEIM  
PROJECT NAME: Robares Harbor Store  
REPORT DATE: November 11, 1992  
DATE SAMPLED: October 28, 1992  
DATE RECEIVED: October 29, 1992  
ANALYSIS DATE: November 11, 1992

PROJECT CODE: NERS1823  
REF.#: 37,851  
STATION: MW-2  
TIME SAMPLED: 15:10  
SAMPLER: Randy Swainbank

<u>Parameter</u>	<u>Detection Limit (ug/L)<sup>1</sup></u>	<u>Concentration (ug/L)</u>
Benzene	10	242.
Chlorobenzene	20	ND <sup>2</sup>
1,2-Dichlorobenzene	20	ND
1,3-Dichlorobenzene	20	ND
1,4-Dichlorobenzene	20	ND
Ethylbenzene	10	TBQ <sup>3</sup>
Toluene	10	11.6
Xylenes	10	37.3
MTBE	50	681.

NUMBER OF UNIDENTIFIED PEAKS FOUND: 8

NOTES:

- 1 Detection limit raised due to high levels of contaminants. Sample run at 10% dilution.
- 2 None detected
- 3 Trace below quantitation limit

Reviewed by \_\_\_\_\_



**ENDYNE, INC.**

Laboratory Services

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

LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: NEIM  
PROJECT NAME: Robares Harbor Store  
REPORT DATE: November 11, 1992  
DATE SAMPLED: October 28, 1992  
DATE RECEIVED: October 29, 1992  
ANALYSIS DATE: November 11, 1992

PROJECT CODE: NERS1823  
REF.#: 37,850  
STATION: MW-3D  
TIME SAMPLED: 15:05  
SAMPLER: Randy Swainbank

<u>Parameter</u>	<u>Detection Limit (ug/L)<sup>1</sup></u>	<u>Concentration (ug/L)</u>
Benzene	10	165.
Chlorobenzene	20	ND <sup>2</sup>
1,2-Dichlorobenzene	20	ND
1,3-Dichlorobenzene	20	ND
1,4-Dichlorobenzene	20	ND
Ethylbenzene	10	24.6
Toluene	10	29.5
Xylenes	10	25.5
MTBE	50	178.

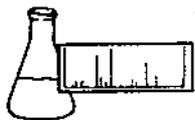
NUMBER OF UNIDENTIFIED PEAKS FOUND: 8

NOTES:

1 Detection limit raised due to high levels of contaminants. Sample run at 10% dilution.

2 None detected

Reviewed by \_\_\_\_\_



**ENDYNE, INC.**

Laboratory Services

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

LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: NEIM  
PROJECT NAME: Robares Harbor Store  
REPORT DATE: November 11, 1992  
DATE SAMPLED: October 28, 1992  
DATE RECEIVED: October 29, 1992  
ANALYSIS DATE: November 11, 1992

PROJECT CODE: NERS1823  
REF.#: 37,852  
STATION: MW-5D  
TIME SAMPLED: 15:15  
SAMPLER: Randy Swainbank

<u>Parameter</u>	<u>Detection Limit (ug/L)<sup>1</sup></u>	<u>Concentration (ug/L)</u>
Benzene	10	149.
Chlorobenzene	20	ND <sup>2</sup>
1,2-Dichlorobenzene	20	ND
1,3-Dichlorobenzene	20	ND
1,4-Dichlorobenzene	20	ND
Ethylbenzene	10	77.9
Toluene	10	84.9
Xylenes	10	354.
MTBE	50	197.

NUMBER OF UNIDENTIFIED PEAKS FOUND: >25

NOTES:

- 1 Detection limit raised due to high levels of contaminants. Sample run at 10% dilution.
- 2 None detected

Reviewed by \_\_\_\_\_



**ENDYNE, INC.**

Laboratory Services

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

LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: NEIM  
PROJECT NAME: Robares Harbor Store  
REPORT DATE: November 11, 1992  
DATE SAMPLED: October 28, 1992  
DATE RECEIVED: October 29, 1992  
ANALYSIS DATE: November 11, 1992

PROJECT CODE: NERS1823  
REF.#: 37,849  
STATION: MW-7  
TIME SAMPLED: 15:00  
SAMPLER: Randy Swainbank

<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
Benzene	1	2.7
Chlorobenzene	2	ND <sup>1</sup>
1,2-Dichlorobenzene	2	ND
1,3-Dichlorobenzene	2	ND
1,4-Dichlorobenzene	2	ND
Ethylbenzene	1	ND
Toluene	1	ND
Xylenes	1	ND
MTBE	5	12.5

NUMBER OF UNIDENTIFIED PEAKS FOUND: 1

NOTES:

1 None detected

Reviewed by \_\_\_\_\_



**ENDYNE, INC.**

Laboratory Services

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

LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: NEIM  
PROJECT NAME: Robares Harbor Store  
REPORT DATE: November 11, 1992  
DATE SAMPLED: October 28, 1992  
DATE RECEIVED: October 29, 1992  
ANALYSIS DATE: November 11, 1992

PROJECT CODE: NERS1823  
REF.#: 37,854  
STATION: Trip Blank  
TIME SAMPLED: 14:45  
SAMPLER: Randy Swainbank

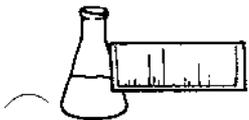
<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
Benzene	1	ND <sup>1</sup>
Chlorobenzene	2	ND
1,2-Dichlorobenzene	2	ND
1,3-Dichlorobenzene	2	ND
1,4-Dichlorobenzene	2	ND
Ethylbenzene	1	ND
Toluene	1	ND
Xylenes	1	ND
MTBE	5	ND

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

NOTES:

1 None detected

Reviewed by \_\_\_\_\_



**ENDYNE, INC.**

Laboratory Services

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

LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: NEIM  
PROJECT NAME: Robares Harbor Store  
REPORT DATE: November 11, 1992  
DATE SAMPLED: October 28, 1992  
DATE RECEIVED: October 29, 1992  
ANALYSIS DATE: November 11, 1992

PROJECT CODE: NERS1823  
REF.#: 37,855  
STATION: Equipment Blank  
TIME SAMPLED: 14:45  
SAMPLER: Randy Swainbank

<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
Benzene	1	ND <sup>1</sup>
Chlorobenzene	2	ND
1,2-Dichlorobenzene	2	ND
1,3-Dichlorobenzene	2	ND
1,4-Dichlorobenzene	2	ND
Ethylbenzene	1	ND
Toluene	1	ND
Xylenes	1	ND
MTBE	5	ND

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

NOTES:

1 None detected

Reviewed by \_\_\_\_\_

Project Name: <b>RODRIGUES HARBOUR STORE</b>	Reporting Address: <b>76 Ethan Allen Dr S. Burlington VT</b>	Billing Address: <b>SAME</b>
Site Location: <b>US 2 NO HERO</b>	Contact Name: <b>John Dingo</b>	Sampler Name: <b>Randy Swinbank</b>
Endyne Project Number: <b>NEIS 1823</b>	Company/Phone #: <b>NEEM 863-8714</b>	Company/Phone #: <b>SAME</b>

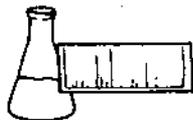
Lab #	Sample Description	Matrix	Date/Time	Container		Field Results/Remarks	Analysis Required	Sample Preservation	Risk
				No.	Type/Size				
37848	MW-1	H <sub>2</sub> O	10-28-92 1450	2	40 mL		8020	4°C	
37849	MW-7	H <sub>2</sub> O	10-28-92 1500	2	40 mL		8020	4°C	
37850	MW-3D	H <sub>2</sub> O	10-28-92 1505	2	40 mL		8020	4°C	
37851	MW-2	H <sub>2</sub> O	1510	2	40 mL		8020	4°C	
37852	MW-5D	H <sub>2</sub> O	1515	2	40 mL		8020	4°C	
37853	Drilled Well	H <sub>2</sub> O	1530	2	40 mL	Collected from store	8020	4°C	
37854	TRIP	H <sub>2</sub> O	1445	2	40 mL	Trip Blank	8020	4°C	
37855	EQUIPMENT	H <sub>2</sub> O	1445	2	40 mL	Equipment Blank	8020	4°C	

Relinquished by: Signature <b>Raf Swinbank</b>	Received by: Signature <b>Christa Kurrie</b>	Date/Time <b>10/29/92 11:20am</b>
Relinquished by: Signature	Received by: Signature	Date/Time

**Requested Analyses**

1	pH	6	TKN	11	Total Solids	16	Metals ICP/AA	21	EPA 624	26	EPA 8270
2	Chloride	7	Total P	12	TSS	17	Fecal and/or Tot.	22	EPA 625 B/N or A	27	EPA 8010
3	Ammonia N	8	Total Diss. P	13	TDS	18	COD	23	EPA 418.1	28	EPA 8020
4	Nitrite N	9	BOD <sub>5</sub>	14	Turbidity	19	BTEX	24	EPA 606 Pesu/PCB	29	EPA 8080
5	Nitrate N	10	Alkalinity	15	Conductivity	20	EPA 601/602	25	EPA 8240	30	EPTOX
31	TCLP (Specify: volatiles, semi-volatiles, metals, pesticides, herbicides)										
32	Other (Specify):										

722 00 - UPS



**ENDYNE, INC.**

Laboratory Services

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

LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: N.E.I.M.  
PROJECT NAME: Robares Store  
REPORT DATE: September 24, 1992  
SAMPLER: Randy Swainbank  
DATE SAMPLED: September 10, 1992  
DATE RECEIVED: September 10, 1992

PROJECT CODE: NEIM1116  
ANALYSIS DATE: September 23, 1992  
STATION: DW-1 (Well)  
REF.#: 35,523  
TIME SAMPLED: 10:15

<u>Parameter</u>	<u>Minimum Detection Limit</u>	<u>Concentration (ug/L)</u>
Benzene	1.	ND <sup>1</sup>
Chlorobenzene	2.	ND
1,2-Dichlorobenzene	2.	ND
1,3-Dichlorobenzene	2.	ND
1,4-Dichlorobenzene	2.	ND
Ethylbenzene	1.	ND
Toluene	1.	ND
Xylenes	1.	ND
MTBE	5.	ND

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

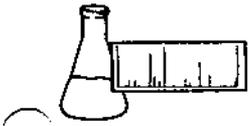
NOTES:

1 None detected

RECEIVED

SEP 30 1992

Reviewed by \_\_\_\_\_



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Laboratory Services

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LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: NEIM  
PROJECT NAME: Robares Harbor Store  
REPORT DATE: November 11, 1992  
DATE SAMPLED: October 28, 1992  
DATE RECEIVED: October 29, 1992  
ANALYSIS DATE: November 11, 1992

PROJECT CODE: NERS1823  
REF.#: 37,853  
STATION: Drilled Well  
TIME SAMPLED: 15:30  
SAMPLER: Randy Swainbank

<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
Benzene	1	ND <sup>1</sup>
Chlorobenzene	2	ND
1,2-Dichlorobenzene	2	ND
1,3-Dichlorobenzene	2	ND
1,4-Dichlorobenzene	2	ND
Ethylbenzene	1	ND
Toluene	1	ND
Xylenes	1	ND
MTBE	5	ND

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

NOTES:

1 None detected

Reviewed by \_\_\_\_\_



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FAX 879-7103

LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: N.E.I.M.  
PROJECT NAME: Robares Store  
REPORT DATE: September 24, 1992  
SAMPLER: Randy Swainbank  
DATE SAMPLED: September 10, 1992  
DATE RECEIVED: September 10, 1992

PROJECT CODE: NEIM1116  
ANALYSIS DATE: September 23, 1992  
STATION: DW-2 (Lake)  
REF.#: 35,524  
TIME SAMPLED: 10:30

<u>Parameter</u>	<u>Minimum Detection Limit</u>	<u>Concentration (ug/L)</u>
Benzene	1.	ND <sup>1</sup>
Chlorobenzene	2.	ND
1,2-Dichlorobenzene	2.	ND
1,3-Dichlorobenzene	2.	ND
1,4-Dichlorobenzene	2.	ND
Ethylbenzene	1.	ND
Toluene	1.	ND
Xylenes	1.	ND
MTBE	5.	ND

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

NOTES:

1 None detected

Reviewed by \_\_\_\_\_

**CHAIN-OF-CUSTODY RECORD**

003743

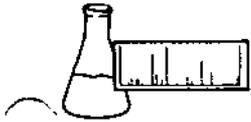
Project Name: <i>KOBARES STORE</i>	Reporting Address: <i>76 Ethan Allen Dr</i>	Billing Address: <i>SAME</i>
Site Location: <i>RT 2 North HERO</i>	<i>S. Burlington VT</i>	
Endyne Project Number:	Contact Name: <i>John DiGo</i>	Sampler Name: <i>Randy Subinbank</i>
	Company/Phone #: <i>NEEM 863-8714</i>	Company/Phone #: <i>SAME</i>

Lab #	Sample Description	Matrix	Date/Time	Container		Field Results/Remarks	Analysis Required	Sample Preservation	Risk
				No.	Type/Size				
	<i>DW-1 (WELL)</i>	<i>H2O</i>	<i>9/10/92</i> <i>1015</i>	<i>2</i>	<i>40 ml</i>		<i>8020</i>	<i>4°C</i>	
	<i>DW-2 (LAKE)</i>	<i>H2O</i>	<i>9/10/92</i> <i>1030</i>	<i>2</i>	<i>40 ml</i>	<i>8020</i>	<del><i>8020</i></del>	<i>4°C</i>	

Relinquished by: Signature <i>Randy Subinbank</i>	Received by: Signature <i>Teresa M. Chambers</i>	Date/Time <i>10 Sept 92</i> <i>2:05</i>
Relinquished by: Signature	Received by: Signature	Date/Time

**Requested Analyses**

1	pH	6	TKN	11	Total Solids	16	Metals ICP/AA	21	EPA 624	26	EPA 8270
2	Chloride	7	Total P	12	TSS	17	Fecal and/or Tot.	22	EPA 625 B/N or A	27	EPA 8010
3	Ammonia N	8	Total Diss. P	13	TDS	18	COD	23	EPA 418.1	28	EPA 8020
4	Nitrite N	9	BOD <sub>5</sub>	14	Turbidity	19	BTEX	24	EPA 606 Pest/PCB	29	EPA 8060
5	Nitrate N	10	Alkalinity	15	Conductivity	20	EPA 601/602	25	EPA 8240	30	EPTOX
31	TCLP (Specify: volatiles, semi-volatiles, metals, pesticides, herbicides)										
32	Other (Specify):										



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(802) 879-4333  
FAX 879-7103

LABORATORY REPORT

EPA METHOD 8020 -- PURGEABLE AROMATICS (SOLIDS)

CLIENT: New England Industrial Maintenance

PROJECT NAME: Robares Harbor Store

REPORT DATE: October 13, 1992

SAMPLER: Randy Swainbank

DATE SAMPLED: September 28, 1992

DATE RECEIVED: September 29, 1992

PROJECT CODE: NEIM1293

ANALYSIS DATE: October 9, 1992

STATION: Robares Stockpile

REF.#: 36,241

TIME SAMPLED: 14:00

<u>Parameter</u>	<u>Concentration (ug/kg)<sup>1</sup></u> <u>dry weight</u>
Benzene	TBQ <sup>2</sup>
Chlorobenzene	ND <sup>3</sup>
1,2-Dichlorobenzene	ND
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	ND
Ethylbenzene	34.3
Toluene	47.8
Xylene	297.
MTBE	ND

NUMBER OF UNIDENTIFIED PEAKS FOUND: >25

NOTES:

- 1 Method 8020 detection limit is 5 ug/kg
- 2 Trace below quantitation limit
- 3 None detected

Reviewed by \_\_\_\_\_

Project Name: <i>ROBARE'S HARKER STORM</i>	Reporting Address: <i>76 CHANDLER DR S. Burlington VT</i>	Billing Address: <i>SAME</i>
Site Location: <i>AT 2 North Hill</i>	Contact Name: <i>JOHN DEEBO</i>	Sampler Name: <i>Randy Swainbank</i>
Endyne Project Number:	Company/Phone #: <i>NEIM 863-8714</i>	Company/Phone #: <i>SAME</i>

Lab #	Sample Description	Matrix	Date/Time	Container		Field Results/Remarks	Analysis Required	Sample Preservation	Rush
				No.	Type/Size				
	<i>ROBARE'S STOCKPIECE</i>	<i>SOIL</i>	<i>9-28-92 1400</i>	<i>1</i>	<i>40 mL</i>		<i>8020</i>	<i>4°C</i>	

Relinquished by: Signature <i>R/Swainbank</i>	Received by: Signature <i>Suzanne Gaudin</i>	Date/Time <i>9/29/92</i>
Relinquished by: Signature	Received by: Signature	Date/Time

**Requested Analyses**

1	pH	6	TKN	11	Total Solids	16	Metals ICP/AA	21	EPA 624	26	EPA 8270
2	Chloride	7	Total P	12	TSS	17	Fecal and/or Tot.	22	EPA 625 B/N or A	27	EPA 8010
3	Ammonia N	8	Total Diss. P	13	TDS	18	COD	23	EPA 418.1	28	EPA 8020
4	Nitrite N	9	BOD <sub>5</sub>	14	Turbidity	19	BTEX	24	EPA 608 Pest/PCB	29	EPA 8080
5	Nitrate N	10	Alkalinity	15	Conductivity	20	EPA 601/602	25	EPA 8240	30	EPTOX
31	TCLP (Specify: volatiles, semi-volatiles, metals, pesticides, herbicides)										
32	Other (Specify):										