

**SUMMARY REPORT FOR  
ENGINEERING SERVICES  
NYNEX FACILITY SITE  
7 SECOND STREET  
NEWPORT, VERMONT**

**PREPARED FOR:**  
NYNEX  
Boston, Massachusetts

**PREPARED BY:**  
GZA GeoEnvironmental, Inc.  
Manchester, New Hampshire

January 1995  
File No. 21349

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JUN 16 1995

#1577

June 16, 1995  
File No. 21349 C



Mr. Richard Spiese  
Sites Management Section  
Department of Environmental Conservation  
103 South Main Street/West Office  
Waterbury, Vermont 05671-0404

380 Harvey Road  
Manchester  
New Hampshire 03103  
603-623-3600  
FAX 603-624-9463

Re: NYNEX Facility  
Newport, Vermont

Dear Mr. Spiese:

GZA GeoEnvironmental, Inc. (GZA) was retained by NYNEX to conduct environmental services at their Newport, Vermont facility, pursuant to a request by the Vermont Department of Environmental Conservation. GZA completed our report summarizing the services in January 1995. A copy of our report entitled "Summary Report for Engineering Services, NYNEX Facility Site, 7 Second Street, Newport, Vermont," dated January 4, 1995 is enclosed for your review. Due to our error, this report was not transmitted to you upon its completion. Please contact us if you have any questions concerning this report, or if you require additional information.

Very truly yours,

GZA GEOENVIRONMENTAL, INC.

A Subsidiary of GZA  
GeoEnvironmental  
Technologies, Inc.

Martha J. Israel, P.E.  
Senior Project Manager

MJI/tmd

Enclosure

cc: Mike LaRow, NYNEX

January 4, 1995  
File No. 21349 C



Mr. Michael G. LaRow  
NYNEX  
125 High Street, Room 1006  
Boston, Massachusetts 02110

Re: Summary Report for Engineering Services  
NYNEX Facility Site  
7 Second Street  
Newport, Vermont

380 Harvey Road  
Manchester  
New Hampshire 03103  
603-623-3600  
FAX 603-624-9463

Dear Mr. LaRow:

GZA GeoEnvironmental, Inc. (GZA) is pleased to provide NYNEX with this Summary Report for Engineering Services performed at the above-referenced NYNEX facility (site) in Newport, Vermont. GZA submitted the work scope to the State of Vermont Department of Environmental Conservation (VTDEC) on November 4, 1994, and received VTDEC approval on November 15, 1994. The objective of this work scope was to evaluate the potential presence and distribution of soil and/or groundwater contamination beneath the site which may have been associated with two underground storage tanks (USTs) that were previously removed from the site, to identify potential receptors of identified contamination, and to recommend potential remedial actions for the site, should contamination be identified.

The contents of this report are subject to the Limitations included in Appendix A. A copy of the VTDEC approval letter is included in Appendix B. A site locus plan and site plan/exploration location plan are included as Figures 1 and 2, respectively.

A Subsidiary of GZA  
GeoEnvironmental  
Technologies, Inc.

## **BACKGROUND INFORMATION**

### **SITE LOCATION**

The NYNEX site is located at 7 Second Street within the urban/central portion of Newport, Vermont. The site is designated at the City of Newport Tax Assessor's Office on Map No. 100 as Lot No. 2. This portion of the city of Newport is zoned as "Urban-Residential" or "UR." The site property consists of 10,701 square feet of land (about 1/4 acre), which is occupied by a one-story, 2,940-square-foot, brick-faced, concrete commercial building which houses a telephone switching station.

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TANK CLOSURE



Based on GZA's review of previous studies completed by Stearns and Wheeler (S&W) of Bedford, New Hampshire in January 1994 and December 1993<sup>1,2</sup>, two 1,000-gallon USTs were removed from the site by Clean Harbors of Hooksett, New Hampshire on December 3 and 4, 1993. These USTs included a 1,000-gallon diesel fuel UST (referred to as Tank #1) and a 1,000-gallon fuel oil UST (referred to as Tank #2). Tank #1 was observed to be rusted, but in good condition, with no evidence of holes in the sides of the tank. Tank #2 was rusted, but in fair condition, with no evidence of holes in the sidewalls. S&W noticed that a slight petroleum odor emanated from soils in both excavations; however, no soil staining was evident within the excavations.

S&W reported that they collected two soil samples from each excavation for jar headspace screening and analytical laboratory testing in accordance with United States Environmental Protection Agency (EPA) Methods 8100 (modified) [total petroleum hydrocarbons (TPH)] and 8020 [volatile organic compounds (VOCs)]. The following table summarized their results:

UST #	SAMPLE LOCATION	SCREENING RESULTS (ppm)	TPH (ppm)	VOCs (ppm)
1	East End	37	Not detected	Not detected
	West End	29	Not detected	Not detected
2	East End	38	Not detected	Not detected
	West End	26	220 (weathered fuel oil)	Not detected

Based on S&W's observations and the analytical results, they concluded that "a historical release of petroleum product may have occurred at the site," and this release "appears to be minor and contained to an area near the HVAC (Heating, Ventilation, and Cooling) equipment pad."

<sup>1</sup> "UST Closure Report, New England Telephone Facility (4817-06), 7 Second Street, Newport, Vermont" prepared by S&W of Bedford, New Hampshire for NYNEX (January 12, 1994).

<sup>2</sup> "Underground Storage Tank Program Tank Pull Form," prepared by S&W on behalf of NYNEX for the VTDEC (December 22, 1993).



In response to their review of the S&W reports, the VTDEC issued a letter on March 14, 1994 to New England Telephone (NYNEX) indicating that additional studies should be completed at the site to define the extent of contamination. A copy of VTDEC's letter is included in Appendix B.

### SOIL AND BEDROCK INFORMATION

The United States Department of Agriculture (USDA) - Soil Conservation Service (Orleans County Office) was contacted for information pertaining to soil and bedrock geology in the site area. Although an official overburden soil map was not yet completed for the site area, it is likely that the soils in the site area would be classified as "urban soils." "Urban soils" is a general classification for urban area soils which have been reworked by past construction activities. Based on GZA's review of existing topographical maps of the site area<sup>3</sup> and site observations, the site is located on a peninsula of land which juts out from the western shore of Lake Mephremagog, and is surrounded by water on three of four sides. According to a surficial geology map for the site area<sup>4</sup>, the overburden soils in the site area consist of either glaciolactustrine lake bottom sediments (mostly silt, clay, and silty clay) or glaciofluvial kame gravel deposits (kame moraine, kame complex with morainic topography).

Based on GZA's review of a bedrock geology map of the site<sup>5</sup>, the site area is underlain by Ayers Cliff Limestone, a siliceous crystalline limestone with thin beds of slate and phyllite north of the Lamoille River.

### TOPOGRAPHY AND DRAINAGE

Based on GZA's site observations and a review of the aforementioned topographic map of the site area, topography is generally flat at the site, with a slight slope downward to the east and northeast. Topography slopes more steeply to the northeast of the site toward Lake Mephremagog. Surface water generated during rainstorms would be expected to flow into numerous storm drains located in the paved streets adjacent to the site. These storm drains likely discharge to Lake Mephremagog to the north, south, or east of the site.

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<sup>3</sup> "Newport, Vermont, Provisional Edition 1986," U.S. Geological Survey Map.

<sup>4</sup> "Surficial Geology Map of Vermont," Charles G. Doll, State Geologist, 1970.

<sup>5</sup> "Centennial Geologic Map of Vermont," Charles G. Doll, State Geologist, 1961.

## SUBSURFACE CONDITIONS AND SAMPLING PROGRAM



### SUBSURFACE EXPLORATIONS

Three test borings with monitoring wells (GZ-1, GZ-2, and GZ-3) were completed at the site on November 7 and 8, 1994 to assess soil conditions and to establish groundwater sampling stations. Test boring/monitoring well locations are shown on Figure 2. Copies of the test boring/monitoring well logs are include in Appendix C.

Test borings were drilled by Great Works Test Boring, Inc. of Somersworth, New Hampshire using a truck-mounted drill rig using hollow stem auger techniques without the use of water or drilling fluid. Test borings were advanced with 4-1/4-inch inside diameter augers. Standard Penetration Tests (SPTs) were performed at continuous intervals to a depth of 10 feet to collect soil samples, then using 5-foot intervals to the bottom of each boring between 40 and 42 feet, respectively. Test borings GZ-1 and GZ-2 were located within the former tank areas. A 5-foot soil sampling interval was utilized from ground surface to the bottom of boring at 42 feet in test boring GZ-3. Test boring GZ-3 was located in the northeastern portion of the site, in an assumed hydrologically downgradient location with respect to the tank excavation areas. In general, the SPT consists of driving a 2-inch split spoon sampler at least 18 inches using a 140-pound hammer dropping 30 inches. The number of blows required to drive the sampler from 6 to 18 inches is the SPT N-value, which is an indicator of soil density. Soil borings were observed and logged by GZA. Auger refusal, which is indicative of bedrock or boulders, was not encountered within the three test borings conducted at the site.

A groundwater monitoring well was installed within each test boring. Monitoring wells were constructed of 2-inch Schedule 40 PVC well screen connected to Schedule 40 PVC riser without the use of cement or glue. The annulus between the borehole wall and well screen was backfilled with clean filter sand. An approximate 2-foot bentonite seal was placed above the filter sand to limit potential for water to travel vertically down through the borehole. The well was backfilled with formation material to the ground surface, and a road box was installed in a concrete seal at the ground surface.

### SUBSURFACE CONDITIONS

#### Soil Conditions

In general, the soils encountered in the test borings consisted of gravelly sand from ground surface to depths between 6 and 8 feet, underlain by fine sand with silt layers to a depth between 30 and 33 feet. Two-foot layers of clayey silt were identified within borings GZ-1 and GZ-3 at depths of about 16 and 17 feet. This clay layer was not found



within boring GZ-2. Clay and silt with fine sand layers was found within all three borings to the bottom of borings at 40 to 42 feet. Soil conditions are further delineated on the test boring logs contained within Appendix C.

The descriptions of the natural soils encountered within test borings GZ-1 through GZ-3 are generally consistent with the glaciolacustrine lake bottom sediments (silts and clays) overlain by glaciofluvial kame gravel deposits (sands and gravelly sands) identified by the USDA Soil Conservation Service regarding native soils in the site vicinity.

#### Groundwater Conditions

Groundwater was encountered within soil samples in all three test borings at depths between 30 feet (in GZ-2) and 35 feet (in GZ-1 and GZ-3) below ground surface. However, the groundwater table was found within the very low permeability clay and silt strata within borings GZ-1 and GZ-3. As such, the installed monitoring wells within GZ-1 and GZ-3 did not yield groundwater, even after a 24-hour stabilization period following well completion for GZ-1. As boring GZ-2 encountered groundwater within the more permeable gravelly, silty sand, groundwater flowed into this well after completion. Groundwater was measured at a depth of 29.8 feet below top of PVC well pipe (about 0.2 feet below ground surface) after a 3-hour stabilization period.

GZA conducted a relative elevation survey of the three newly installed monitoring wells following installation of these wells. This elevation survey was conducted using standard level and rod surveying techniques, and is referenced to an arbitrary benchmark elevation (BM-100) of 100.0 feet assigned to the concrete pad located adjacent to the northwest corner of the site building. Based on soil moisture content within soil samples from borings GZ-1 and GZ-3, and the stabilized groundwater depth obtained on December 8, 1994 from well GZ-2, the approximate groundwater elevations were established for each well location. The elevations for reference points for each well, approximate groundwater depths, and approximate groundwater elevations are summarized in Table 1. Based on this information, GZA believes that groundwater flow is generally northeasterly and easterly across the site.

In general, this groundwater flow direction is generally consistent with that anticipated from ground surface topography, which also slopes toward the northeast. Stabilized groundwater levels would be required to confirm the direction of groundwater flow. In addition, it must be recognized that groundwater levels vary due to changes in season and variations in rainfall.

## POTENTIAL RECEPTOR SURVEY



GZA contacted Newport City Offices to obtain information pertaining to potential receptors for possible groundwater contamination which might emanate from the Site. Based on information provided by the Newport Assessor's Office, and information contained within Building Department and Health Department files, no potential receptors are located within a 1-mile radius of the site in the anticipated direction of groundwater flow. Specifically, the depth to groundwater in the site area is at a minimum of 30 to 35 feet below ground surface. This is significantly lower than the anticipated floor slab depths below ground surface for the site building and other nearby buildings. Furthermore, the Newport Public Works Department was contacted, and indicated that no private or public water supply wells are known to exist within a 1-mile radius of the site. The closest town water supply well is located just over 1 mile to the west-southwest of the site, in an anticipated sidegradient direction with respect to groundwater flow.

Surface water (Lake Mephremagog) is between 1,500 to 2,000 feet to the north, east, and south of the Site. This lake is used predominantly for recreation, and is not used as a water supply for the City.

## ANALYTICAL PROGRAM

GZA screened soil samples collected from each test boring using a Thermo Environmental Instruments, Inc. Model 580 B photoionization detector (PID), which is referenced to an isobutylene-in-air standard, with a detection limit of 1 part per million (ppm). Prior to screening, each sample was heated to room temperature before inserting the PID probe through an aluminum foil jar liner. The PID was operated for 30 seconds to draw a sample from each container, and the highest PID reading was recorded on the boring log. Results of soil screening indicated that only two soil samples (GZ-2, S-3 and GZ-2, S-4) exceeded the PID detection limit of 1 ppm (3.6 and 1.3 ppm, respectively).

GZA submitted two soil samples (GZ-1, S-5A and GZ-3, S-8) and one groundwater sample to GZA's Environmental Chemistry Laboratory (ECL) of Newton Upper Falls, Massachusetts for VOC analyses in accordance with EPA Method 8020 (plus MtBE). Also, soil sample GZ-2, S-3 was submitted to GZA's ECL for TPHs in accordance with EPA Method 8100. Soil samples which were submitted for analysis were collected within separate glass containers with Teflon-lined lids which were stored in an ice-filled cooler, separate from the PID screening samples. Soil sample GZ-1, S-5A and GZ-2, S-3 were selected, as these samples depth coincided with the bottom depths for the removed Tank #1, and sample GZ-2, S-3 had the highest PID screening level. Soil sample GZ-3, S-8 was selected, as this sample was collected from a depth anticipated to be near the top of the groundwater table. Boring GZ-3 is hydrologically downgradient of the tank areas.



Results of soil analyses indicated that VOCs were not detected in either sample GZ-1, S-5A or GZ-3, S-8, nor were TPHs detected within sample GZ-2, S-3. Results of the groundwater sample obtained from well GZ-2 indicated that no VOCs were detected within that sample. Copies of the analytical laboratory reports are included in Appendix D.

## DISCUSSION

VOCs and TPHs were not detected within soil samples obtained from borings GZ-1 and GZ-2 from Tank #1 and Tank #2 excavation areas, and VOCs were not detected in the groundwater sample from well GZ-2. Also, VOC contamination was not detected in the soil sample (GZ-3, S-8) collected from a depth anticipated to coincide with the top of the groundwater table in a boring located hydrologically downgradient of the tank excavation areas. Based on this information, there does not appear to be soil or groundwater contamination in the vicinity of the tank excavation areas, or in a location (GZ-3) hydrologically downgradient of these tank areas.

Previous results of soil analyses by S&W that indicated the presence of residual PHC contamination within soil samples obtained from the tank excavations. The available data obtained as part of the current study suggests that if such soil contamination is present within the tank excavation areas, it is isolated to small areas and limited in extent. Also, if isolated soil contamination is present within the tank excavations, it has not impacted groundwater in the vicinity of GZ-2 (at Tank #2) or groundwater-saturated soils in GZ-3 (hydrologically downgradient of Tank #1 and Tank #2). The presence of isolated soil contamination was not confirmed during GZA's field activities and analytical program.

## CONCLUSIONS

Based on the available data obtained in samples collected in explorations performed by GZA as part of this study, no soil or groundwater VOC or TPH contamination was identified at the site. As such, it is GZA's opinion that further investigatory or remedial actions are not required at the site to fulfill VTDEC UST closure and Site Investigation requirements.

We trust this report meets your needs regarding Engineering Services for NYNEX's Newport, Vermont facility. Please call us should you have any questions.



Very truly yours,

GZA REMEDIATION, INC.

A handwritten signature in cursive script, appearing to read 'Armand A. Juneau Jr.'.

Armand A. Juneau Jr.  
Geologist/Assistant Project Manager

A handwritten signature in cursive script, appearing to read 'Martha J. Israel'.

Martha J. Israel, P.E.  
Senior Project Manager

A handwritten signature in cursive script, appearing to read 'W. Fred Lenz'.

W. Fred Lenz, P.E.  
Associate Principal

AAJ/MJI/WFL:dmc

Attachments: Table  
Figures  
Appendices

cc: Mr. Richard Spiese, Acting Supervisor, Sites Management Section; VTDEC  
Mr. Michael G. LaRow, Project Manager; NYNEX

**TABLE**

**TABLE 1**  
**GROUNDWATER ELEVATIONS**

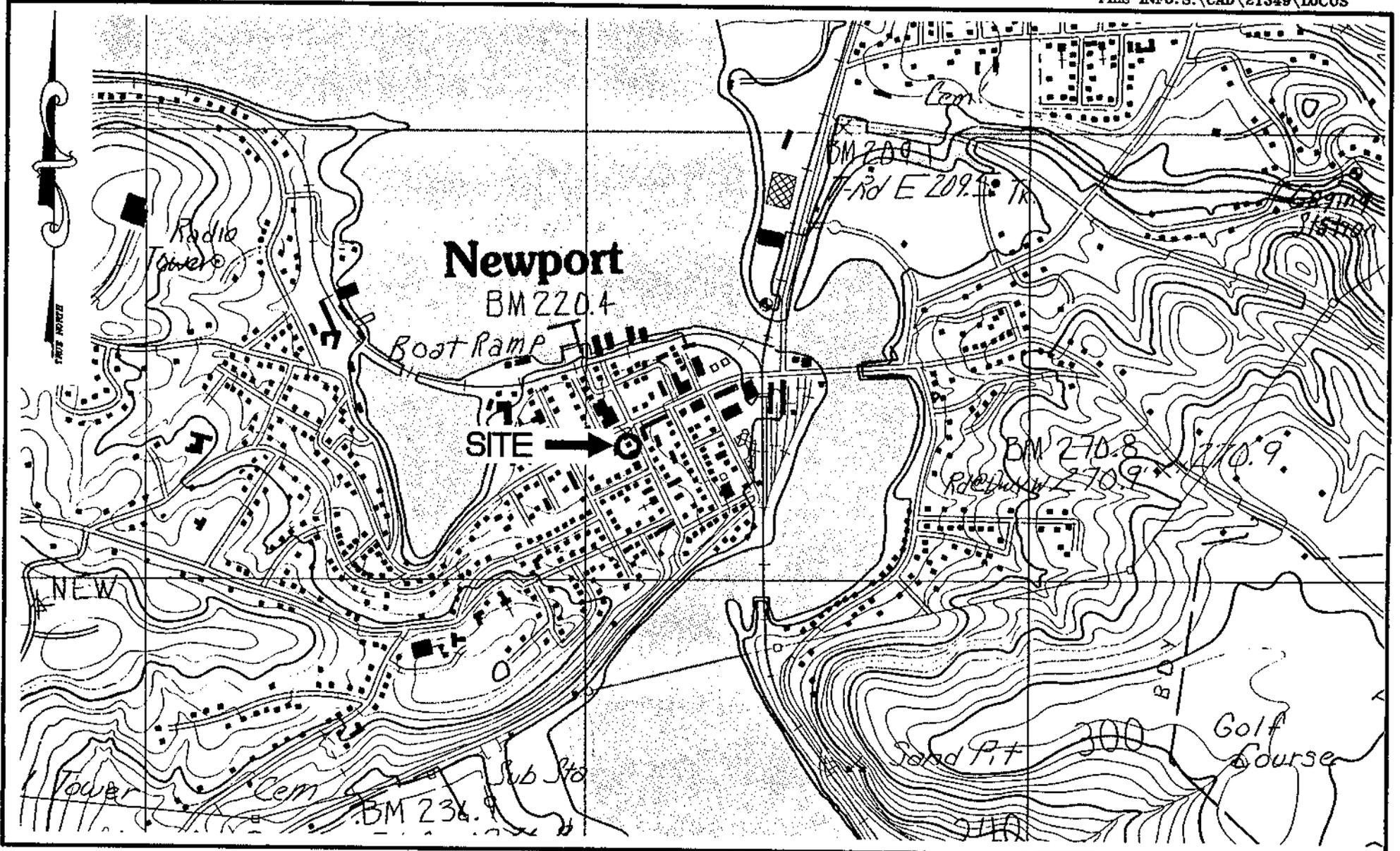
NYNEX Site  
7 School Street  
Newport, Vermont

BORING NUMBER	REFERENCE ELEVATION (feet)	SURVEY REFERENCE	GROUNDWATER DEPTH (feet)	GROUNDWATER ELEVATION (feet)
GZ-1	99.5	PVC	>33	<67.5
GZ-2	99.4	PVC	29.8	69.6
GZ-3	98.1	PVC	>32	<66.1

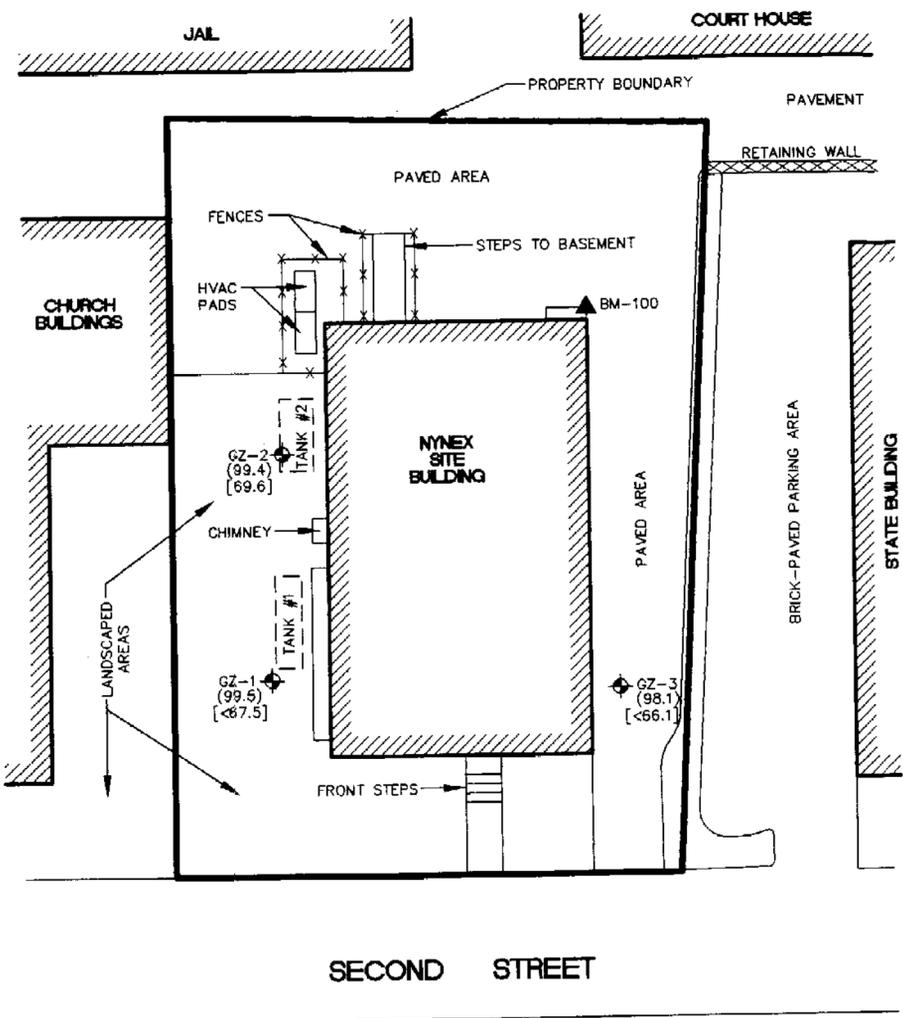
NOTES:

1. Relative elevations were determined in the field during a relative elevation survey conducted by GZA GeoEnvironmental, Inc. on December 8, 1994 using standard level and rod techniques, referenced to an arbitrary benchmark elevation of 100.0 feet assigned to concrete pad located adjacent to the northwest corner of the site building. Reference elevations for each well is the top of PVC well pipe for all locations.
2. Groundwater depths were measured in well GZ-2 on December 8, 1994 following a 20-hour stabilization period prior to collecting a groundwater sample from this well. Due to the extremely low permeability of saturated soils, groundwater did not flow into wells GZ-1 and GZ-3 after 24-hour and 4-hour stabilization periods, respectively. Therefore, groundwater depths were based on observed soil moisture content for soil samples collected from these borings.

**FIGURES**



PROJECT No.: 21349 FIGURE No.: 1	<b>ENVIRONMENTAL SERVICES</b>  NYNEX NEWPORT, VERMONT  <b>LOCUS PLAN</b>	DES'D BY : A.A.J. CHK'D BY : A.A.J. APP'D BY : M.D.B. DRAWN BY : D.K.T.	1000'      0'      GRAPHIC SCALE      1000'      2000'
	SCALE : 1"=1000' DATE : JAN, 1995	 <b>GZA</b> <b>GeoEnvironmental, Inc.</b> Engineers and Scientists 380 HARVEY ROAD MANCHESTER, NEW HAMPSHIRE 03103 (603) 623-3600	



**NOTES:**

- 1) SITE PLAN WAS DRAWN FROM PROPERTY AND BUILDING DIMENSIONS OBTAINED FROM THE NEWPORT TAX ASSESSOR'S OFFICE, SUPPLEMENTED BY FIELD OBSERVATIONS AND TAPED MEASUREMENTS. SCALE OF 1"=20' IS APPROXIMATE.
- 2) LOCATIONS OF SITE FEATURES WERE DETERMINED BY FIELD OBSERVATIONS AND ARE CONSIDERED APPROXIMATE ONLY.
- 3) REFERENCE POINT AND GROUNDWATER ELEVATIONS WERE DETERMINED IN THE FIELD DURING A RELATIVE ELEVATION SURVEY COMPLETED BY GZA UTILIZING STANDARD LEVEL AND ROD SURVEY TECHNIQUES. A RELATIVE BENCHMARK (BM-100) WAS ASSIGNED TO A CONCRETE PAD ADJACENT TO THE NORTHWEST CORNER OF THE SITE BUILDING WITH AN ASSUMED ELEVATION OF 100.0.

**LEGEND:**

- ◆ GZ-3 (98.1) TEST BORING/MONITORING WELL LOCATION AND NUMBER
- ◆ (98.1) REFERENCE POINT ELEVATION
- [ <66.1 ] GROUNDWATER ELEVATION (12/8/94)

<p><b>GZA</b> GeoEnvironmental, Inc. 380 HARVEY ROAD MANCHESTER, NEW HAMPSHIRE 03103</p>	
DESIGNED BY: A.A.J.	APPROVED BY: J.M.B.
CHECKED BY: A.A.J.	DRAWN BY: D.K.T.
SCALE: 1"=20'	
DATE: JAN. 1995	
<p><b>ENVIRONMENTAL SERVICES</b> NYNEX NEWPORT, VERMONT</p>	
<p><b>SITE PLAN w/ RELATIVE GROUNDWATER ELEVATIONS</b></p>	
PROJECT No.:	21349
FIGURE No.:	2

**APPENDIX A**  
**LIMITATIONS**

## GEOHYDROLOGICAL LIMITATIONS

1. The conclusions and recommendations submitted in this report are based in part upon the data obtained from a limited number of soil samples from widely spaced subsurface explorations. The nature and extent of variations between these explorations may not become evident until further investigation. If variations or other latent conditions then appear evident, it will be necessary to reevaluate the recommendations of this report.
2. The generalized soil profile described in the text is intended to convey trends in subsurface conditions. The boundaries between strata are approximate and idealized and have been developed by interpretations of widely spaced explorations and samples; actual soil transitions are probably more gradual. For specific information, refer to the boring logs.
3. Water level readings have been made in the test pits, borings and/or observation wells at times and under conditions stated on the exploration logs. These data have been reviewed and interpretations have been made in the text of this report. However, it must be noted that fluctuations in the level of the groundwater may occur due to variations in rainfall and other factors different from those prevailing at the time measurements were made.
4. Except as noted within the text of the report, no quantitative laboratory testing was performed as part of the site assessment. Where such analyses have been conducted by an outside laboratory, GZA GeoEnvironmental, Inc. (GZA) has relied upon the data provided, and has not conducted an independent evaluation of the reliability of these data.
5. The conclusions and recommendations contained in this report are based in part upon various types of chemical data and are contingent upon their validity. These data have been reviewed and interpretations made in the report. As indicated within the report, some of these data are preliminary "screening" level data, and should be confirmed with quantitative analyses if more specific information is necessary. Moreover, it should be noted that variations in the types and concentrations of contaminants and variations in their flow paths may occur due to seasonal water table fluctuations, past disposal practices, the passage of time, and other factors. Should additional chemical data become available in the future, these data should be reviewed by GZA, and the conclusions and recommendations presented therein modified accordingly.

6. Chemical analyses have been performed for specific parameters during the course of this study, as detailed in the text. It must be noted that additional constituents not searched for during the current study may be present in soil and groundwater at the site.
7. It is recommended that this firm be retained to provide further engineering services during design, implementation, and/or construction of any remedial measures, if necessary. This is to observe compliance with the concepts and recommendations contained herein and to allow design changes in the event that subsurface conditions differ from those anticipated.

**APPENDIX B**

**VTDEC CORRESPONDENCE**

taken should be analyzed for BTEX and MTBE compounds.

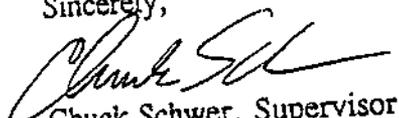
3. Perform an assessment of the site to determine the potential for sensitive receptors to be impacted by the contamination. This should include basements of adjacent buildings, nearby surface water, and any public or private drinking water wells which are located within the vicinity of the site. If any water supplies appear at risk from this contamination, they should be sampled and analyzed using EPA 8020.

4. Determine the need for a long term treatment and/or monitoring plan which addresses the contamination present at the site. The need for such a plan should be based on the results of the above investigations.

5. Submit to the SMS a summary report which outlines the work performed as well as providing conclusions and recommendations. Included should be detailed well logs, analytical data, site map, area map, and a groundwater contour map.

Please have your consultant submit a preliminary work plan within fifteen days of your receipt of this letter so that it may be approved prior to the initiation of onsite work. If you have any questions, please feel free to call.

Sincerely,

  
Chuck Schwer, Supervisor  
Sites Management Section

cc: Christopher O. Nichols, Jr., PE, Stearns and Wheeler  
Newport Selectboard  
DEC Regional Office

jasonf/wp/941577



# State of Vermont

Department of Fish and Wildlife  
Department of Forests, Parks and Recreation  
Department of Environmental Conservation  
State Geologist  
Natural Resources Conservation Council  
RELAY SERVICE FOR THE HEARING IMPAIRED  
1-800-253-0191 TDD>Voice  
1-800-253-0195 Voice>TDD

AGENCY OF NATURAL RESOURCES  
Department of Environmental Conservation  
Hazardous Materials Management Division  
103 South Main Street/West Office  
Waterbury, Vermont 05671-0404  
(802) 241-3888  
FAX (802) 241-3296

November 15, 1994

Mike LaRow  
NYNEX  
125 High St.  
Boston, MA 02110

RE: Petroleum contamination at NYNEX, Newport VT (Site #94-1577)

Dear Mr. LaRow:

The Sites Management Section (SMS) has reviewed the Preliminary Work Plan submitted to us by GZA Remediation, regarding the NYNEX site in Newport. The Work Plan appears to satisfy all of the requirements outlined in the SMS letter dated March 14, 1994. The SMS approves of the scope of this plan, and encourages you to undertake this work before the winter weather arrives.

Please keep us informed as to the progress of this work. Feel free to call me if you have any questions.

Sincerely,

A handwritten signature in cursive script that reads "Richard Spiese".

Richard Spiese, Acting Supervisor  
Sites Management Section

cc: W. Fred Lenz, Martha Israel  
GZA Remediation

mr/sites/1577ok

**APPENDIX C**  
**TEST BORING/MONITORING WELL LOGS**



**GZA**  
**GeoEnvironmental, Inc.**  
*Engineers and Scientists*

NYNEX

Newport, Vermont

Boring No.: GZ-1

Page: 1 of 2

File No.: 21349

Check: AAJ

Contractor: Great Works Test Boring Inc.

Foreman: Don Bolstridge

Logged by: Armand A. Juneau

Date Start/Finish: 12/7/94 12/7/94

Boring Location: See Site Plan

GS Elev.: Datum:

Auger/  
Casing Sampler

Type: H.S.A. SS

O.D. / I.D.: 4-1/4" 2" O.D.

Hammer Wt.: 140 lb

Hammer Fall: 30"

Other:

**GROUNDWATER READINGS**

Date	Time	Depth	Casing	Stab

Depth	Casing Blows	Sample Information					Sample Description & Classification	Stratum Desc.	Rmks.	Equipment Installed		
		No.	Pen/ Rec. (In.)	Depth (Ft.)	Blows (/6")	Field Test Data (ppm)						
5'		S-1	24/17	0-2	2-3	0.8	Loose, brown, fine to medium SAND, little Silt, Dry.	GRAVELLY SILTY SAND	1, 2	CURB BOX	CONCRETE	
					3-2		Loose, brown, fine to medium SAND, little Gravel, little Silt, Dry.			FILTER SAND		
		S-2	24/12	2-4	2-3	0.8				3'		
					4-3					2" PVC RISER		
10'		S-3	24/10	4-6	1-3	0.8	Loose, brown, fine SAND, little Gravel, little Silt, Dry.	6'			FORMATION MATERIAL	
					3-4		Medium dense, brown, fine SAND, little Silt, Stratified. Dry.					
		S-4	24/20	6-8	5-5	0.5						
					5-4		S-5A: Medium dense, brown, fine SAND, some Silt with thin layers of SAND and Silt, Stratified. Dry. S-5B: Change to loose, brown, fine to medium SAND, little Silt at 8.8 feet. Dry.					
15'		S-5A	24/16	8-8.8	5-4	0.8		17'				
		S-5B		8.8-10	6-4	0.5						SAND WITH SILT LAYERS
		S-6	24/14	10-12	4-5	0.5	Loose, brown, fine to medium SAND, little Silt, with thin Silt layers. Dry.					
					4-4							
20'		S-7	24/15	15-17	10-18	0.5	Dense, brown, fine to medium SAND, little Silt, with thin Silt layers. Dry.	19'			CLAYEY SILT	
					17-16							
25'		S-8	24/17	20-22	8-13	0.5	Medium dense, brown, fine SAND, little Silt, with thin Silt layers. Dry.	21'			BENTONITE SEAL	
					13-13							
												23'
		S-9	24/6	25-27	16-21	0.5	Dense, brown, fine to medium SAND, little Silt, with thin Silt layers. Dry.					24.5'
				13-16						2" PVC SCREEN		

**REMARKS**

- Field test data refers to photoionization detector (PID) readings which were measured using a Thermo Electron Instruments (TEI) Model 580B organic vapor meter, calibrated to an isobutylene-in-air standard, with a detection limit of 1 part per million (ppm). Results are expressed in ppm.
- A 6-inch layer of topsoil was encountered at ground surface.



**GZA**  
**GeoEnvironmental, Inc.**  
*Engineers and Scientists*

NYNEX

Newport, Vermont

Boring No.: GZ-1

Page: 2 of 2

File No.: 21349

Check: AAJ

Contractor: Great Works Test Boring Inc.

Foreman: Don Bolstridge

Logged by: Armand A. Juneau

Date Start/Finish: 12/7/94 12/7/94

Boring Location: See Site Plan

GS Elev.: Datum:

Auger/  
Casing Sampler

Type: H.S.A. SS

O.D. / I.D.: 4-1/4" 2" O.D.

Hammer Wt.: 140 lb

Hammer Fall: 30"

Other:

**GROUNDWATER READINGS**

Date	Time	Depth	Casing	Stab

Depth	Casing Blows	Sample Information				Field Test Data (ppm)	Sample Description & Classification	Stratum Desc.	Rmks.	Equipment Installed
		No.	Pen/ Rec. (In.)	Depth (Ft.)	Blows (/6")					
35'		S-10	24/6	30-32	6-11	0.5	Very stiff, olive, CLAY & SILT, dessicated. Moist.	CLAY & SILT	33'	2" PVC SCREEN FILTER SAND
					-14-16					
40'		S-11	24/18	35-37	3-3	0.5	Medium stiff, gray Silty CLAY to CLAY, trace fine, Gravel, with 1/4-inch SAND and SILT Layers. Wet.	CLAY WITH SAND LAYERS	39.5'	
					-6-7					
45'		S-12	24/20	40-42	6-7	0.5	Stiff, gray, CLAY, with 1/2- to 2-inch layers of fine to coarse SAND. Wet.		42'	
					-7-8					
50'							Bottom of boring at 42 feet.			
55'										

R  
E  
M  
A  
R  
K  
S

- No refusal encountered. Bottom of boring at 42 feet.
- Monitoring well (2-inch PVC) installed to a depth of 39.5 feet, with a flush-mounted curb box at ground surface.

Stratification lines represent approximate boundaries between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

Boring No.: GZ-1



**GZA**  
GeoEnvironmental, Inc.  
Engineers and Scientists

NYNEX

Newport, Vermont

Boring No.: GZ-2

Page: 1 of 2

File No.: 21349

Check: AAJ

Contractor: Great Works Test Boring Inc.

Foreman: Don Bolstridge

Logged by: Armand A. Juneau

Date Start/Finish: 12/7/94 12/8/94

Boring Location: See Site Plan

GS Elev.: Datum:

Auger/  
Casing Sampler

Type: H.S.A. SS

O.D. / I.D.: 4-1/4" 2" O.D.

Hammer Wt.: 140 lb

Hammer Fall: 30"

Other:

**GROUNDWATER READINGS**

Date	Time	Depth	Casing	Stab
12/8/94	1200	29.8'	PVC	3 hrs.

Depth	Casing Blows	Sample Information					Sample Description & Classification	Stratum Desc.	Rmks.	Equipment Installed	
		No.	Pen/ Rec. (In.)	Depth (Ft.)	Blows (/6")	Field Test Data (ppm)					
5'		S-1	24/14	0-2	3-3	0.0	Loose, dark brown, fine SAND, some Silt, Roots, Organics. Moist.	SAND AND GRAVELLY SAND	1, 2	CURB BOX CONCRETE 2' FILTER SAND	
					3-2						
		S-2	24/16	2-4	6-3	0.0	Loose, brown, fine to medium SAND, little Silt. Dry.				
					3-3						
		S-3	24/12	4-6	2-1	3.6	Very loose, brown, similar to S-2. Dry.				
10'					1-4			8'	2" PVC RISER		
		S-4	24/6	6-8	5-7	1.3	Medium dense, dark brown fine to coarse SAND, little Gravel, little Silt. Dry.				
					9-9						
		S-5	24/0	8-10	10-10	1.0	Medium dense, no sample recovered.				
					11-11						
15'							SAND WITH SILT LAYERS	FORMATION MATERIAL			
		S-6	24/14	15-17	5-5	0.8				Medium dense, brown, fine SAND, little Silt, with layers of fine SAND and Silt. Dry.	
					17-14						
20'											
		S-7	24/12	20-22	5-8	0.8				Medium dense, similar to S-6. Dry.	
					9-9						
25'							GRAVELLY SILTY SAND	29'	26' BENTONITE SEAL 28' FILTER SAND 28.5' 2" PVC SCREEN		
		S-8	24/16	25-27	17-15	0.8				Medium dense, brown, fine to medium SAND, little Silt, with layers of fine SAND and Silt. Dry.	
					14-15						

**REMARKS**

- Field test data refers to photoionization detector (PID) readings which were measured using a Thermo Electron Instruments (TEI) Model 580B organic vapor meter, calibrated to an isobutylene-in-air standard, with a detection limit of 1 part per million (ppm). Results are expressed in ppm.
- A 6-inch layer of topsoil was encountered at ground surface.



**GZA**  
**GeoEnvironmental, Inc.**  
*Engineers and Scientists*

**NYNEX**

**Newport, Vermont**

Boring No.: GZ-2  
 Page: 2 of 2  
 File No.: 21349  
 Check: AAJ

Contractor: Great Works Test Boring Inc.  
 Foreman: Don Bolstridge  
 Logged by: Armand A. Juneau  
 Date Start/Finish: 12/7/94 12/8/94  
 Boring Location: See Site Plan  
 GS Elev.: \_\_\_\_\_ Datum: \_\_\_\_\_

Auger/  
 Casing Sampler  
 Type: H.S.A. SS  
 O.D. / I.D.: 4-1/4" 2" O.D.  
 Hammer Wt.: 140 lb  
 Hammer Fall: 30"  
 Other: \_\_\_\_\_

**GROUNDWATER READINGS**

Date	Time	Depth	Casing	Stab
12/8/94	1200	29.8'	PVC	3 hrs.

Depth	Casing Blows	Sample Information				Field Test Data (ppm)	Sample Description & Classification	Stratum Desc.	Rmks.	Equipment Installed
		No.	Pen/ Rec. (In.)	Depth (Ft.)	Blows (/6")					
		S-9	24/10	30-32	16-25	0.8	Dense, olive-brown, fine to medium SAND and SILT, little Gravel. Wet.	GRAVELLY SILTY SAND 33'		
					15-12					
35'		S-10	24/16	35-37	7-13	0.8	Very stiff, olive, CLAY & SILT, trace Gravel. Wet.	CLAY & SILT		
					14-17					
40'							Bottom of boring at 40 feet.		3, 4	
45'										
50'										
55'										



**REMARKS**

3. No refusal encountered. Bottom of boring at 40 feet.  
 4. Monitoring well (2" PVC) installed to 38.5 feet with flush-mounted curb box at ground surface.



**GZA**  
**GeoEnvironmental, Inc.**  
*Engineers and Scientists*

NYNEX

Newport, Vermont

Boring No.: GZ-3

Page: 1 of 2

File No.: 21349

Check: AAJ

Contractor: Great Works Test Boring Inc.  
 Foreman: Don Bolstridge  
 Logged by: Armand A. Juneau  
 Date Start/Finish: 12/8/94 12/8/94  
 Boring Location: See Site Plan  
 GS Elev.: \_\_\_\_\_ Datum: \_\_\_\_\_

Auger/Casing Sampler  
 Type: H.S.A. SS  
 O.D. / I.D.: 4-1/4" 2" O.D.  
 Hammer Wt.: 140 lb  
 Hammer Fall: 30"  
 Other: \_\_\_\_\_

GROUNDWATER READINGS				
Date	Time	Depth	Casing	Stab

Depth	Casing Blows	Sample Information				Field Test Data (ppm)	Sample Description & Classification	Stratum Desc.	Rmks.	Equipment Installed	
		No.	Pen/ Rec. (In.)	Depth (Ft.)	Blows (/6")					1	2
5'		S-1	24/10	0.5-2.5	9-11	0.0	Medium dense, dark brown, fine to coarse SAND, little fine Gravel, little Silt. Dry.	GRAVELLY SAND	1, 2	CURB BOX	CONCRETE
					7-6						2" FILTER SAND
5'		S-2	24/8	5-7	5-3	0.0	Loose, similar to S-1. Dry.	7'			2" PVC RISER
					2-2						
10'		S-3	24/16	10-12	6-6	0.0	Medium dense, brown, fine SAND, some Silt. Dry.	SILTY SAND			FORMATION MATERIAL
					7-7						
15'		S-4A	24/16	15-16	5-4	0.0	S-4A: Loose, brown, fine to medium SAND, little Silt. Dry. S-4B: Change at 16 feet to olive-brown, CLAYEY SILT, little, fine SAND. Wet.	16'			
		S-4B		16-17	3-3	0.0					
20'		S-5	24/16	20-22	5-6	0.0	Medium dense, brown, fine to medium SAND, little Silt with layers of Silt and Sand. Dry.	18'			22" BENTONITE SEAL
					8-8						
25'		S-6	24/14	25-27	4-6	0.0	Medium dense, similar to S-5. Dry.	SAND WITH SILT LAYERS			25.5' FILTER SAND
					5-7						

**REMARKS**

- Field test data refers to photoionization detector (PID) readings which were measured using a Thermo Electron Instruments (TEI) Model 580B organic vapor meter, calibrated to an isobutylene-in-air standard, with a detection limit of 1 part per million (ppm). Results are expressed in ppm.
- A 2-inch layer of asphalt was encountered at ground surface.



**GZA**  
**GeoEnvironmental, Inc.**  
*Engineers and Scientists*

**NYNEX**

Newport, Vermont

Boring No.: GZ-3  
 Page: 2 of 2  
 File No.: 21349  
 Check: AAJ

Contractor: Great Works Test Boring Inc.  
 Foreman: Don Bolstridge  
 Logged by: Armand A. Juneau  
 Date Start/Finish: 12/8/94 12/8/94  
 Boring Location: See Site Plan  
 GS Elev.: \_\_\_\_\_ Datum: \_\_\_\_\_

Auger/  
Casing Sampler

Type: H.S.A. SS

O.D. / I.D.: 4-1/4" 2" O.D.

Hammer Wt.: 140 lb

Hammer Fall: 30"

Other: \_\_\_\_\_

**GROUNDWATER READINGS**

Date	Time	Depth	Casing	Stab

Depth	Casing Blows	Sample Information					Field Test Data (ppm)	Sample Description & Classification	Stratum Desc.	Rmks.	Equipment Installed
		No.	Pen/ Rec. (In.)	Depth (Ft.)	Blows (1/6")						
35'		S-7	24/12	30-32	5-5	0.0	Medium dense, brown, fine to medium SAND, little Silt. Dry.	SILTY SAND 32'		2" PVC SCREEN	
					9-9						
40'		S-8	24/22	35-37	5-9	0.0	Very stiff, olive-brown, CLAY & SILT, little fine Sand, trace Gravel. Very moist.	CLAY & SILT		FILTER SAND	
					15-21						
45'		S-9	24/22	40-42	10-9	0.0	Very stiff, gray, Silty CLAY, trace Gravel. Wet.		3, 4	40.5'	
					11-15						
50'							Bottom of boring at 42 feet.			42'	
55'											

**R E M A R K S**

3. No refusal encountered. Bottom of boring at 42 feet.  
 4. Monitoring well (2-inch PVC) installed to 40.5 feet with flush-mounted curb box at ground surface.

**APPENDIX D**  
**ANALYTICAL LABORATORY DATA**

GZA GEOENVIRONMENTAL, INC.  
 ENVIRONMENTAL CHEMISTRY LABORATORY  
 320 NEEDHAM STREET, NEWTON UPPER FALLS, MA 02164  
 MASSACHUSETTS LABORATORY I.D. NO. MA092

EPA METHOD 8020 ANALYSIS - PURGEABLE AROMATICS

PROJECT:	NYNEX - NEWPORT, VT	PROJECT MGR.:	A. JUNEAU
FILE NO.:	21349	DATE SAMPLED:	12/7/94
SAMPLE ID:	GZ-1, S-5A	DATE TESTED:	12/16/94
MATRIX:	SOLID	DILUTION FACTOR:	1
LABORATORY #:	13874-2		

8020 COMPOUNDS	CONCENTRATION ug/kg (PPB)	QUANTITATION LIMIT ug/kg (PPB)
METHYL TERT-BUTYL ETHER (MTBE)	ND	5.0
BENZENE	ND	1.0
TOLUENE	ND	1.0
ETHYL BENZENE	ND	1.0
m & p-XYLENES	ND	1.0
o-XYLENE	ND	1.0
CHLOROBENZENE	ND	1.0
1,3-DICHLOROBENZENE	ND	1.0
1,4-DICHLOROBENZENE	ND	1.0
1,2-DICHLOROBENZENE	ND	1.0

SURROGATE	RECOVERY %	ACCEPTANCE LIMITS %
FLUOROBENZENE	66.4	70-121
4-BROMOFLUOROBENZENE	66.0	74-121

COMMENTS:

Low surrogate recoveries in sample GZ-1, S-5A, confirmed by re-analysis, may be attributed to matrix interference.

ANALYZED BY: *K. Phillips*

REVIEWED BY: *AW Pickering*  
for KW

GZA GEOENVIRONMENTAL, INC.  
 ENVIRONMENTAL CHEMISTRY LABORATORY  
 320 NEEDHAM STREET, NEWTON UPPER FALLS, MA 02164  
 MASSACHUSETTS LABORATORY I.D. NO. MA092

EPA METHOD 8020 ANALYSIS - PURGEABLE AROMATICS

PROJECT:	NYNEX - NEWPORT, VT	PROJECT MGR.:	A. JUNEAU
FILE NO.:	21349	DATE SAMPLED:	12/8/94
SAMPLE ID:	GZ-3, S-8	DATE TESTED:	12/16/94
MATRIX:	SOLID	DILUTION FACTOR:	1
LABORATORY #:	13875-2		

8020 COMPOUNDS	CONCENTRATION ug/kg (PPB)	QUANTITATION LIMIT ug/kg (PPB)
METHYL TERT-BUTYL ETHER (MTBE)	ND	5.0
BENZENE	ND	1.0
TOLUENE	ND	1.0
ETHYL BENZENE	ND	1.0
m & p-XYLENES	ND	1.0
o-XYLENE	ND	1.0
CHLOROBENZENE	ND	1.0
1,3-DICHLOROBENZENE	ND	1.0
1,4-DICHLOROBENZENE	ND	1.0
1,2-DICHLOROBENZENE	ND	1.0

SURROGATE	RECOVERY %	ACCEPTANCE LIMITS %
FLUOROBENZENE	70.3	70-121
4-BROMOFLUOROBENZENE	66.7	74-121

COMMENTS:

Low 4-BFB recovery in sample GZ-3, S-8, confirmed by re-analysis, may be attributed to matrix interference.

ANALYZED BY:

*K. Phillep*

REVIEWED BY:

*CW Richering  
for KW*

GZA GEOENVIRONMENTAL, INC.  
 ENVIRONMENTAL CHEMISTRY LABORATORY  
 320 NEEDHAM STREET, NEWTON UPPER FALLS, MA 02164  
 MASSACHUSETTS LABORATORY I.D. NO. MA092

EPA METHOD 8020 ANALYSIS - PURGEABLE AROMATICS

PROJECT:	NYNEX - NEWPORT, VT	PROJECT MGR.:	A. JUNEAU
FILE NO.:	21349	DATE SAMPLED:	12/8/94
SAMPLE ID:	GZ-2	DATE TESTED:	12/19/94
MATRIX:	AQUEOUS	DILUTION FACTOR:	1
LABORATORY #:	13891-2		

8020 COMPOUNDS	CONCENTRATION ug/L (PPB)	QUANTITATION LIMIT ug/L (PPB)
METHYL TERT-BUTYL ETHER (MTBE)	ND	5.0
BENZENE	ND	1.0
TOLUENE	ND	1.0
ETHYL BENZENE	ND	1.0
m & p-XYLENES	ND	1.0
o-XYLENE	ND	1.0
CHLOROBENZENE	ND	1.0
1,3-DICHLOROBENZENE	ND	1.0
1,4-DICHLOROBENZENE	ND	1.0
1,2-DICHLOROBENZENE	ND	1.0

SURROGATE	RECOVERY %	ACCEPTANCE LIMITS %
FLUOROBENZENE	85.2	74-114
4-BROMOFLUOROBENZENE	85.8	80-115

COMMENTS:

ANALYZED BY:

*K. Phillips*

REVIEWED BY:

*CW Pichering  
for KW*

GZA GEOENVIRONMENTAL, INC.  
 ENVIRONMENTAL CHEMISTRY LABORATORY  
 320 NEEDHAM STREET, NEWTON UPPER FALLS, MA 02164 (617) 969-0050  
 MASSACHUSETTS LABORATORY I.D. NO. MA092

EPA METHOD 8010/8020/8021 ANALYSIS  
 PURGEABLES IN AQUEOUS AND/OR SOLID MATRIX

QUALITY CONTROL

DATE: 12/19/94 - II

AQUEOUS

13901, 13902

COMPOUND	MATRIX SPIKE RECOVERY (%)	ACCEPTANCE LIMITS (%)	DUPLICATE SPIKE DIFFERENCE (%)	ACCEPTANCE LIMITS (%)
1,1-DICHLOROETHENE	---	70-125	---	20
TRICHLOROETHENE	---	70-130	---	20
TOLUENE	---	70-125	---	20
TOLUENE (INSTR.#2)	88.8	70-125	0.113	20

SOLID

13879, 13880

COMPOUND	MATRIX SPIKE RECOVERY (%)	ACCEPTANCE LIMITS (%)	DUPLICATE SPIKE DIFFERENCE (%)	ACCEPTANCE LIMITS (%)
1,1-DICHLOROETHENE	---	65-125	---	35
TRICHLOROETHENE	---	65-130	---	35
TOLUENE	---	65-125	---	35
TOLUENE (INSTR.#2)	68.1	65-125	7.94	35

METHOD BLANK

LABORATORY NO.: 13882

TOTAL COMPOUNDS DETECTED	ND
--------------------------	----

SURROGATES	RECOVERY (%)	ACCEPTANCE LIMITS (%)
1-CHLORO-2-BROMOPROPANE	---	80-110
FLUOROBENZENE	96.0	74-114
4-BROMOFLUOROBENZENE	105	80-115

GZA GEOENVIRONMENTAL, INC.  
 ENVIRONMENTAL CHEMISTRY LABORATORY  
 320 NEEDHAM STREET  
 NEWTON UPPER FALLS, MA 02164  
 MASSACHUSETTS LABORATORY ID# MA092

HYDROCARBON FINGERPRINTING  
 MODIFIED ASTM METHOD D3328 / EPA METHOD 8100  
 CONCENTRATION (PPM-ug/g-Solid)

PROJECT: NYNEX - NEWPORT, VT  
 FILE NO.: 21349  
 PROJECT MGR: A. JUNEAU  
 DATE SAMPLED: 12/7/94  
 DATE EXTRACTED: 12/14/94  
 DATE TESTED: 12/15/94

SAMPLE ID GZA LAB NO.	METHOD BLANK 121494-QC	GZ-2, S-3 W14727-PHC
1. HYDROCARBON CONTENT	<10	<10
2. PERCENT SOLID CONTENT	N/A	87%
3. MATRIX	N/A	SOIL
4. DETECTION LIMIT (TOTAL PRODUCT)	10	10
5. DETECTION LIMIT (INDIVIDUAL HYDROCARBONS)	0.5	0.5
6. SURROGATE RECOVERY (P-TERPHENYL)	87%	85%

QUALITATIVE IDENTIFICATION: N/A

ANALYZED BY:

*On Camera*

REVIEWED BY:

*AW Piberling  
for KW*

GZA GEOENVIRONMENTAL, INC.  
 ENVIRONMENTAL CHEMISTRY LABORATORY  
 320 NEEDHAM STREET, NEWTON UPPER FALLS, MA 02164 (617) 969-0050  
 MASSACHUSETTS LABORATORY I.D. NO. MA092

EPA METHOD 8010/8020/8021 ANALYSIS  
 PURGEABLES IN AQUEOUS AND/OR SOLID MATRIX

QUALITY CONTROL

DATE: 12/16/94 - II

AQUEOUS

13850, 13851

COMPOUND	MATRIX SPIKE RECOVERY (%)	ACCEPTANCE LIMITS (%)	DUPLICATE SPIKE DIFFERENCE (%)	ACCEPTANCE LIMITS (%)
1,1-DICHLOROETHENE	---	70-125	---	20
TRICHLORETHENE	---	70-130	---	20
TOLUENE	---	70-125	---	20
TOLUENE (INSTR.#2)	84.0	70-125	5.49	20

SOLID

13879, 13880A

COMPOUND	MATRIX SPIKE RECOVERY (%)	ACCEPTANCE LIMITS (%)	DUPLICATE SPIKE DIFFERENCE (%)	ACCEPTANCE LIMITS (%)
1,1-DICHLOROETHENE	---	65-125	---	35
TRICHLORETHENE	---	65-130	---	35
TOLUENE	---	65-125	---	35
TOLUENE (INSTR.#2)	68.1	65-125	7.94	35

METHOD BLANK

LABORATORY NO.: 13864

TOTAL COMPOUNDS DETECTED	ND
--------------------------	----

SURROGATES	RECOVERY (%)	ACCEPTANCE LIMITS (%)
1-CHLORO-2-BROMOPROPANE	---	80-110
FLUOROBENZENE	109	74-114
4-BROMOFLUOROBENZENE	112	80-115

**GZA GEOENVIRONMENTAL, INC.**  
**ENGINEERS AND SCIENTISTS**  
 380 HARVEY ROAD  
 MANCHESTER, NEW HAMPSHIRE  
 (603) 623-3600

**CHAIN-OF-CUSTODY RECORD  
 AND  
 ANALYSIS REQUEST**

**CUSTODY  
 RECORD**

GZA FILE NO. 21349 P.O. NO. ~~0~~  
 PROJECT NY NEX  
 LOCATION NEWPORT, VERMONT  
 PROJECT MANAGER A. Juneau  
 COLLECTOR(S) A. Juneau  
 DATE(S) OF COLLECTION 12/7-8/94 SHEET 1 OF 1  
 ANALYTICAL LABORATORY: ECL  
 PHONE: \_\_\_\_\_ LAB CONTACT: Ted. Pickering

**ANALYSES REQUESTED**

**OTHER**

- 8240  624
- 8010  601
- 8020  602
- 8015  8015 Modified
- GC SCREEN
- TPH-FINGERPRINT  TPH-IR
- DISSOLVED METALS  TOTAL METALS
- CHLORIDE  FLUORIDE
- NITRATE  NITRITE
- SULFATE  SULFITE  SULFIDE
- BOD  COD  TOC  TKN
- PHENOLS  TDS
- ABNS  BNS  ACIDS
- AMMONIA  PHOSPHORUS
- TOTAL CYANIDE  AMENABLE CYANIDE
- PCBs

8020 + MTBE  
TPH (B100 Quant. only)

Sample ID	Date	Time (24 hr.)	# Containers	MATRIX				PRESERVATIVE											
				WATER	SOIL	SLUDGE	AIR	HCl	HNO <sub>3</sub>	H <sub>2</sub> SO <sub>4</sub>									
62-1,5-5A	12-7-94	-	1		X														
62-2,5-3	12-7-94	-	1		X														
62-3,5-8	12-8-94	-	1		X														
62-2	12-8-94	1245	3	X				X											

RECEIVED BY: B. J. W. [Signature]  
 RECEIVED BY: [Signature]  
 RECEIVED BY: \_\_\_\_\_

DATE 12/12/94 TIME 0530  
 DATE 12/12/94 TIME 0900  
 DATE \_\_\_\_\_ TIME \_\_\_\_\_

RELINQUISHED BY SAMPLER: [Signature]  
 RELINQUISHED BY: B. J. W. [Signature]  
 RELINQUISHED BY: \_\_\_\_\_  
 RELINQUISHED BY: \_\_\_\_\_

NOTES: (1) Please note prices quoted for this job by T. Pickering as follows:

8020+MTBE (soil) = \$90- x 2 = 180-  
 8020+MTBE (water) = \$85- x 1 = 85-  
 B100 (soil) = \$100- x 1 = 100-  
\$365-