SEP 30 1987

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LESLIE N. KELLY
OFFICE ADMINISTRATOR

29 September 1987

Mr. John Amidon
Waste Management Division
Environmental Conservation Department
West Office Building
103 South Main Street
Waterbury, VT 05676

Re: Bank of Vermont/Gleason Site, Route 103, Rockingham, Vermont

Dear Mr. Amidon:

Bank of Vermont is the owner of a parcel of land on the northerly side of Route 103 in Rockingham. It acquired the property through foreclosure in April 1985. As a result of information it received, the Bank of Vermont retained the services of Wagner, Heindel and Noyes, Inc. of Burlington, Vermont, to investigate the premises for the presence of any hazardous waste or underground storage tank leaks. The property had been used for many years as a trucking terminal. I believe that your Division has been kept aware of the investigation of the site by Wagner, Heindel and Noyes.

I enclose the following:

1. Report of Gleason Site Investigation dated 16 October 1986.

2. Phase II Hydrogeologic Investigation, Gleason Site; Rockingham-VT dated 12 May 1987.

3. Letter dated 12 May 1987 from Crispin Prahl, Staff Geologist, Wagner, Heindel and Noyes, Inc., to me.

4. Copy of the letter of 20 August 1987 from David F. Buckley, Esq., attorney for the Town of Rockingham, to me.

Crispin Prahl's letter of 12 May 1987 recommends no remediation measures on the site based on the investigation done by Wagner, Heindel and Noyes.

I would appreciate it if you would confirm to me the Division's agreement with this recommendation. Bank of Vermont wishes to subdivide this property for conveyance to three prospective purchasers. In order to do so, it must obtain an amendment to the Act 250 permits relating to the former Gleason property.

The District Environmental Commission will, of course, want to know the resolution of any hazardous waste or underground storage tank issues which have been raised in connection with this property.

Very truly yours,

Raymond P. Perra

RPP/ab

Enclosures

cc: Jeffrey Noyes, Wagner, Heindel and Noyes
Crispin Prahl, Wagner, Heindel and Noyes
Barry Emerson, Vice President, Bank of Vermont

H
W N
Wagner, Heindel, and Noyes, Inc. consulting geologists
P.O. Box 1629 Burlington, Vermont 05402-1629 802-658-0820

May 12, 1987

Mr. Raymond Perra
139 Main Street
Brattleboro, VT 05301

Dear Raymond:

Enclosed please find a copy of our Phase II Hydrogeologic Investigation on the Gleason site, Rockingham, VT. In summary, it appears that groundwater beneath the re-fueling area is clean and unaffected by on-site petroleum storage facilities. However, BTX compound concentrations have been identified in MW-6 with an apparent source from off the property.

All monitor wells with the exception of MW-6 and MW-9 show no detectable aromatic compounds. The anomolous results in MW-9 are attributed to surface water runoff from the filling pad during the sampling procedure.

Monitor well 6, however, showed moderately high concentrations of seven out of the ten possible aromatic compounds identified under the 602 scan. Although we have no water table information or groundwater quality data from the Town of Rockingham garage property, the available data strongly suggests that a contaminant plume is migrating from this direction. Only off-site subsurface testing will determine the exact source(s) and extent of the contamination which now affects the Bank's property in the area around MW-6.

Since there are no immediate downgradient receptors and as yet, there are no signs of contamination migrating off the site, we do not feel that any remediation is warranted at this time. By request of the Agency's Waste Management Division, we are planning to have all the unused petroleum products and/or wastes removed from the site. This will involve having a certified waste hauler empty the abandoned 10,000 gallon gasoline tank, and the 500 gallon waste oil storage tank as well as the eight partially full crank case oil drums located at the northern end of the property. We are still accepting bids on this work but anticipate it's completion by late June. When this work is

completed, final closure procedures shall be followed as outlined in Vermont's Underground Liquuid Storage Tank Regulations, Subchapter 5, Section 5, pgs. 27-28. Until then, please don't hesitate to call if I can be of any further assistance.

Best Regards,

Crispin Prahl, Staff Geologist
Wagner, Heindel, and Noyes, Inc.

CP/sjh

enclosure

cc: Barry Emerson

DAVID F. BUCKLEY
ATTORNEY AT LAW
18 BRIDGE STREET
P. O. BOX 493
BELLOWS FALLS, VERMONT 05101-0493
(802) 463-3271

August 20, 1987

Raymond Perra, Esq.
Weber, Perra & Wilson
P.O. Box 558
Brattleboro, VT. 05301

Re: Town of Rockingham

Dear Ray:

With respect to your inquiry on the status of the Town of Rockingham's investigation of its underground storage tank on the town garage property located off Route 103 in Rockingham, the Town removed the tank and found that it was not leaking. Because of the age of the tank, the Town has decided not to put it back into the ground and will replace it with a new one.

The independent testing of the tank indicated that it was sound.
Best regards.

Very truly yours,

David F. Buckley

cc: Jeffrey Francis, Manager
Town of Rockingham

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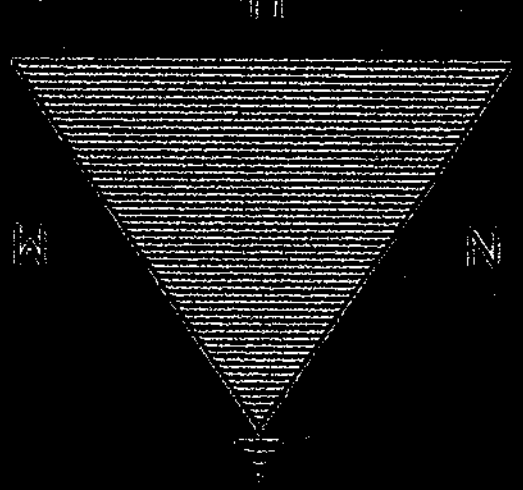
BANK OF VERMONT

CLEARSON SITE INVESTIGATION



WAGNER, HEINDEL, AND NOYES, INC.
CONSULTING GEOLOGISTS
BURLINGTON, VERMONT

Wagner, Heindel, and Noyes, Inc. consulting geologists
P.O. Box 1629 Burlington, Vermont 05402-1629 802-658-0820

BANK OF VERMONT
GLEASON SITE INVESTIGATION

Prepared by:

Jeffrey E. Noyes
Principal

Date: October 16, 1986

Summary, Conclusions, and Recommendations

1. A limited subsurface investigation of the Gleason Transportation site in Rockingham, Vermont has been completed. A total of seven monitoring wells were installed. Four of the wells we designed for groundwater sampling. The remaining three wells were used for water table mapping.

2. Monitor well #5 was accidently destroyed by a town dump truck. Therefore, only three groundwater quality samples were obtained for laboratory analysis.

3. Photoionization measurements were taken on all soil and groundwater samples recovered from the borings.

4. Photoionization measurements in boring #4 showed slight evidence of surface contamination in the upper 5.0' of the deposit. Boring #5 showed evidence of volatiles in the vadose zone. However, no contaminants were identified below the water table. Boring #6 showed evidence of contamination at the water table but no evidence of volatiles in the vadose zone.

DRAFT

5. Only boring #6 showed any evidence of groundwater contamination by laboratory testing. The only constituent identified in the laboratory analysis was xylene. The concentration reported was 740 ppb.

6. It is recommended that the results of the investigation be reviewed with the Agency of Environmental Conservation and that a determination be made of what, if any, remediation will be required. With the data base now available, it does not appear that serious contamination is present.

7. The area behind the terminal building, between boring 5 and 6 should be further investigated to determine if the 10,000 gallon diesel tanks are the source of xylene observed in boring 6.

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Bank of Vermont

Gleason Site Investigation

1.0 Introduction

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At the request of the Bank of Vermont, through its agent Mr. Raymond Perra; Wagner, Heindel, and Noyes, Inc. has completed a preliminary assessment of the groundwater quality at the Gleason Transportation site in Rockingham, Vermont. The site is located just east of Brockway Mills at the junction of Route 103 and Pleasent Valley Road (see vicinity map, Appendix 1)).

2.0 Study Approach

The hydrogeologic study was designed to determine the type and distribution of geologic materials at depth, the elevation of groundwater below the site, the direction of groundwater flow, and whether or not any contaminants could be identified in the groundwater system. The evaluation was, in part prompted by the Agency of Environmental Conservation's concern that various petroleum products stored above and below ground, may have inadvertently escaped into the underlying groundwater.

In order to evaluate the physical characteristics of the site, a limited boring program was designed by this office. Adams

DRAFT

Drilling Company was retained to carry out the boring program. WH&N supervised the installation of the monitoring wells and collection of soil and water samples.

To provide information on the quality of groundwater at depth and the subsurface direction of flow, a series of seven borings were completed at the locations shown in Appendix 1 (see pg. 13). In each of the borings, soil samples were retrieved on two foot to five foot centers using a split-spoon sampler. The soils in the intervening zones were identified and logged by inspection of drill cuttings.

Once the soils were removed from the subsurface environment, the grain sizes and textural classes were established by hand examination. A field portable photoionization unit was used as a screening device to determine whether or not any volatile contaminants were contained in the pore water or vapour of the sample removed from the split-spoon device.

3.0 Results of Soil and Water Table Investigation

The driller's logs (Attachment 1, pgs. 6 and 7) shows that the material on the site is relatively uniform and is comprised of fine to medium sand with occasional stringers of silt.

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A review of the published geology in the area suggests that the Gleason site is underlain by what are called glaciolacustrine sediments. These sediments are characteristic of geologic environments which occurred near old lake shores or in deltaic deposits forming at the terminus of rivers entering the ancient lakes. The sediments collected on the Gleason site are characteristic of such environments.

Total boring depths ranged from approximately 12 to 42 feet. No continuous impeding horizons were identified in any of the borings. Detailed sketches of the boring logs together with the soils identified in each boring are presented in Appendix 1, pages 2 to 4.

Once the soil logs were completed and photoionization measurements of each test sample taken, a monitoring well was installed in the boring. The monitoring wells were of two types. The first type used to determine water level depths, (wells 1, 2, and 7) were hand slotted 1 1/2 inch PVC pipes. At these locations, the well was inserted into the hollow-stem auger and the augers were rapidly extracted allowing the natural formation to collapse around the monitoring device.

The second type of well, was a two inch diameter manufacturers slotted PVC pipe, with a specially designed filter pack around

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the screened portion of each well. In these wells (3, 4, 5, and 6), a bentonite seal was provided at the top of the screen section to prevent channelization of water from the surface environment down the well bore to the water table. Standard and accepted techniques were used in the completion and development of the "monitoring grade" wells. The specific design for each of the "monitoring grade" wells is contained in Appendix 1, pages 2 to 4.

Once the wells had been installed and completed, Southern Vermont Engineering was brought to the site to survey the elevation and location of each boring. Elevations and locations were necessary in order to determine accurately, the elevation of groundwater at each boring location. These data were then used to contour the depth of groundwater and provide an assessment of the direction of groundwater flow. The contour map of the water table elevation, shows that the groundwater flow direction is northeastward and northward toward the Williams River (Appendix 1, pg. 13).

The depth to groundwater varies considerably on the site, with the shallowest depth occurring at boring #1 (4± feet below ground surface) and increasing northward towards the Williams River to a depth of 30+ feet at boring 4. The average water table slope on the site is approximately 4% to 5%.

DRAFT

Using estimates of soil permeability and the slope of the water table, groundwater velocities are estimated to be in the neighborhood of 2 to 5 feet per day. Thus, it is expected that groundwater at the entrance of the property near Route 103, would take approximately seven to ten months to move across the area of investigation.

4.0 Results of Water Quality Investigation

The site plan (Appendix 1, pg. 13) shows that there are a number of possible sources of contamination both on and adjacent to the Gleason site. This includes oil storage at the office building near boring #3, three 5,000 gallon gasoline storage tanks at the Town pumps, a 5,000 gallon diesel storage tank at the Town Garage, and two 10,000 gallon diesel storage tanks at the Gleason terminal. There are also smaller fuel storage tanks for other buildings on the site.

With the limited resources available for the first phase of study, the water quality grade monitoring points were selected at borings 3, 4, 5, and 6. These monitoring locations were selected to provide groundwater quality information near "logical" sources of contamination. Unfortunately, monitoring well #5 was knocked out by a town truck a short time after it

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was installed. Therefore, laboratory "grade" water quality information is only available at monitoring locations 3, 4, and 6.

Groundwater samples were collected on August 14, 1986. To properly prepare the samples, the wells were first evacuated with a 1 1/2 inch PVC baler. The baler was thoroughly cleaned with acetone and water and air dried before insertion into the first well. It was also thoroughly cleaned between sampling events to avoid cross contamination. Once the wells were evacuated (three well volumes) and fully recovered, a 1-inch, dual check-valve teflon baler was used to collect the water sample. The sample was then withdrawn from the well and placed in laboratory bottles prepared by Industrial and Environmental Analysts, Inc. of Essex Jct., Vermont. Immediately following collection of the samples, the vials were placed on ice and transported to Industrial and Environmental Analysts, Inc. on the same day the samples were collected. Industrial and Environmental Analysts, Inc. then followed all standard and accepted techniques for carrying out EPA Method 602 for purgeable halocarbons.

A total of eight compounds often associated with refined petroleum products were evaluated at monitoring wells 3, 4, and 6. With the exception of xylenes identified in monitoring well 6, no other contaminants were identified in the water quality samples.

At all boring locations, a qualitative assessment of volatile contaminants contained both in the saturated and unsaturated zone (above and below the water table) was made via field testing with a photoionization unit. During the drilling program, each 18" to 24" soil sample obtained from the split spoon device was completely scanned with the tip. Monitoring wells 1, 2, and 3 showed no evidence of any volatiles. Monitoring well 4 showed a trace reading of 2.0 ppm in the first five feet of the soil profile. Since the water table at monitoring well 4 is at 32 feet below the ground surface, and no other positive measurements were found in either the saturated or unsaturated zone, it is concluded that this is a surface phenomena.

Photoionization measurements in monitoring well 5 and 6 provided interesting correlations with the water quality data. In monitoring well 5, TIP measurements taken in soil above the water table revealed volatile components of up to 9 to 10 ppm (benzene calibration standard). However, no sign of contamination was observed at or below the water table. This is an important finding because boring #5 is immediately adjacent to the 10,000 gallon diesel tanks. Thus, if contamination originates from the tanks, it would appear that the plume is of limited lateral extent.

DRAFT

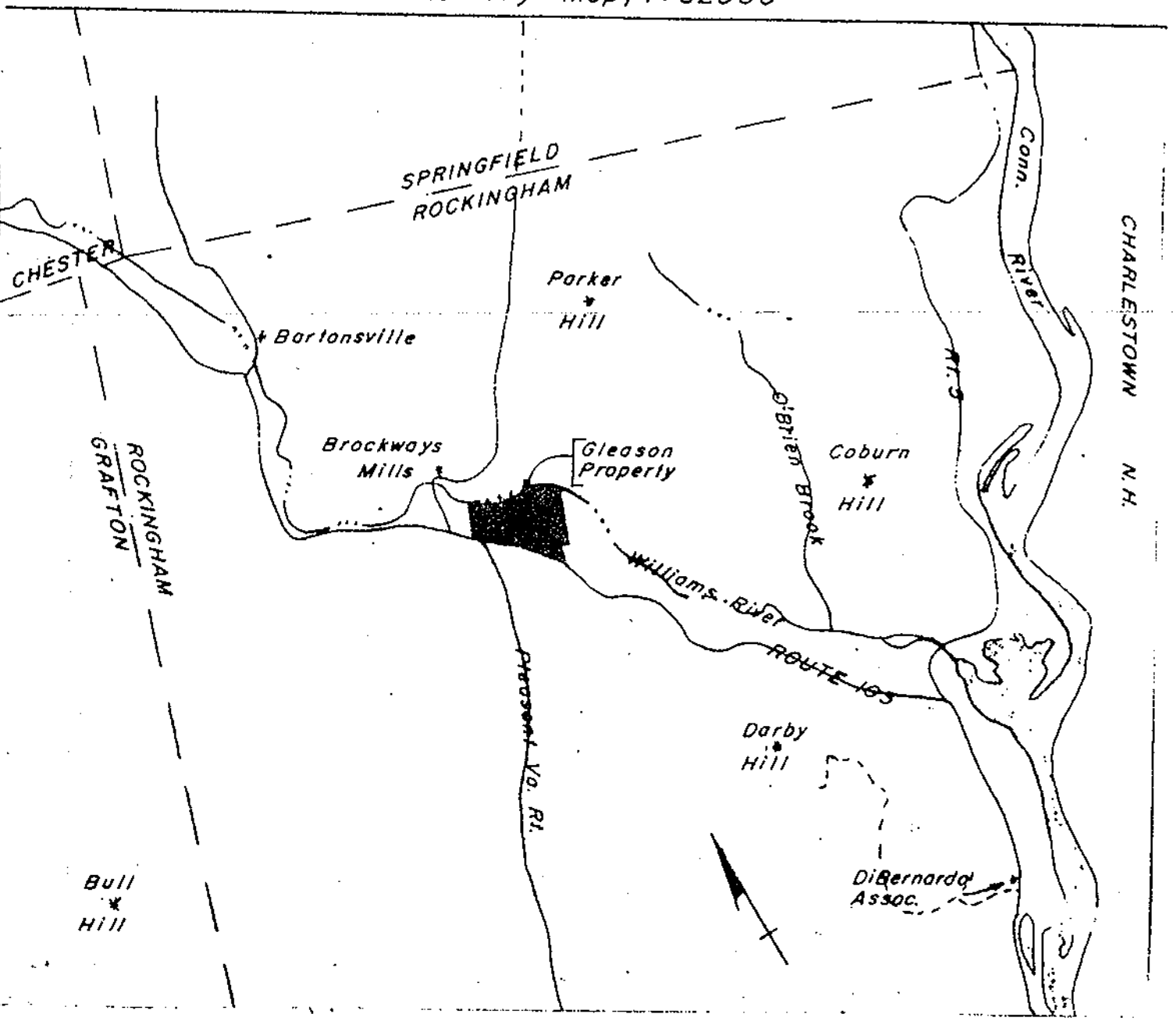
At boring location #6, the photoionization measurements did not record any volatiles in the unsaturated zone. However, just below the water table, a measurement of 1600 ppm was observed. The tip measurement at this location provides corroboration of the xylene measured in the laboratory sample. However, based upon the relationship between the tip measurement and the xylene determination, it is clear that other volatiles are present which were not picked up in the 602 scan.

In addition to monitoring the soils and groundwater in the borings, the tip was also used to survey groundwater seepage in a deeply incised drainage swale north of the terminal area. Also sampled in the swale was a drainage outfall which carries groundwater and surface water runoff from the parking lot areas (see pg. 13 for approximate location). No tip measurements were discernible at either the outfall of the pipe or from groundwater seeping into the drainage swale.

APPENDIX 1

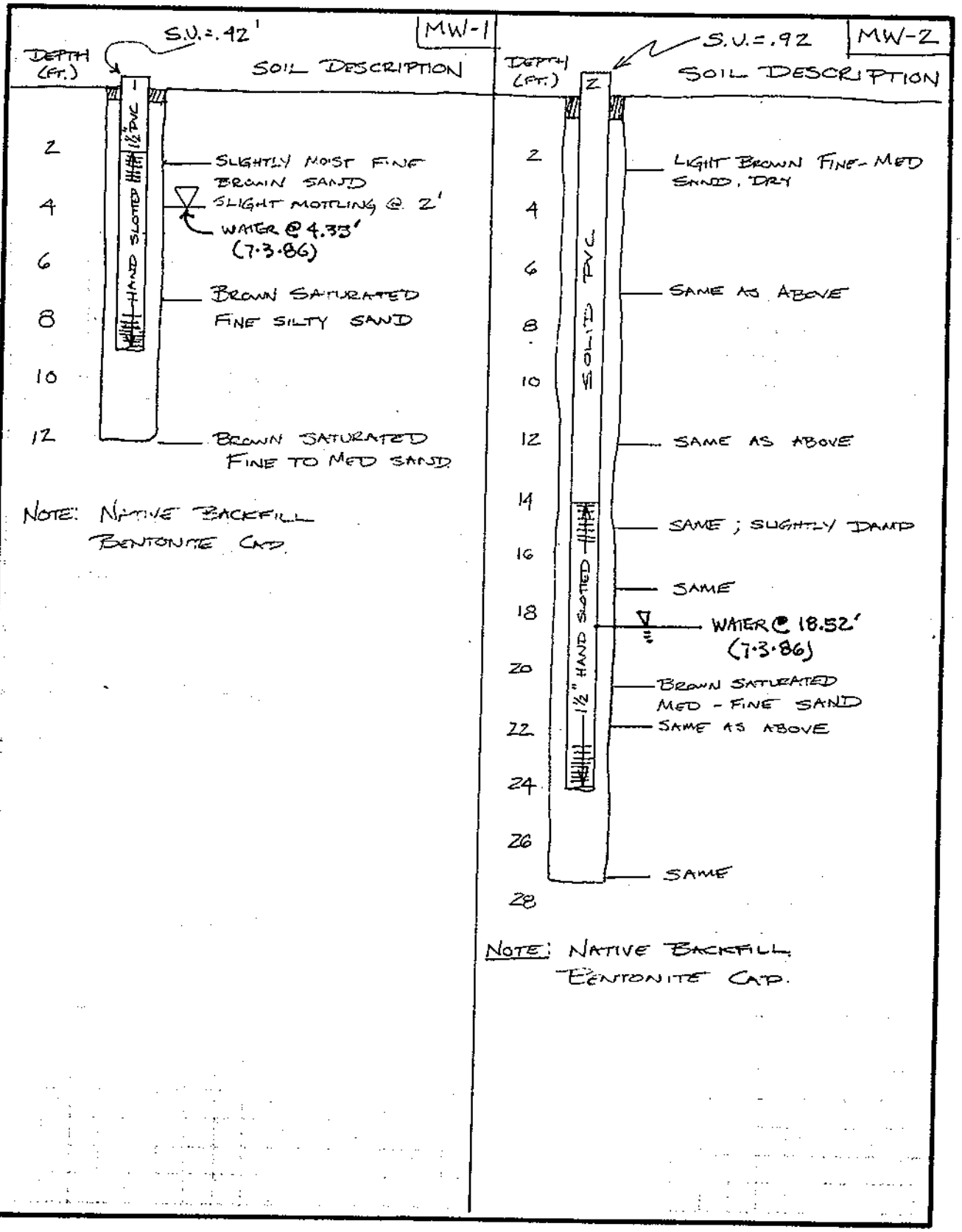
SOIL AND CHEMICAL DATA

Vicinity Map, 1:62500



Wagner, Heindel, and Noyes, Inc.
Consulting Geologists — Burlington, Vermont

PAGE ____ OF ____
PROJECT: BANK OF VT.
DATE: 7.1.86



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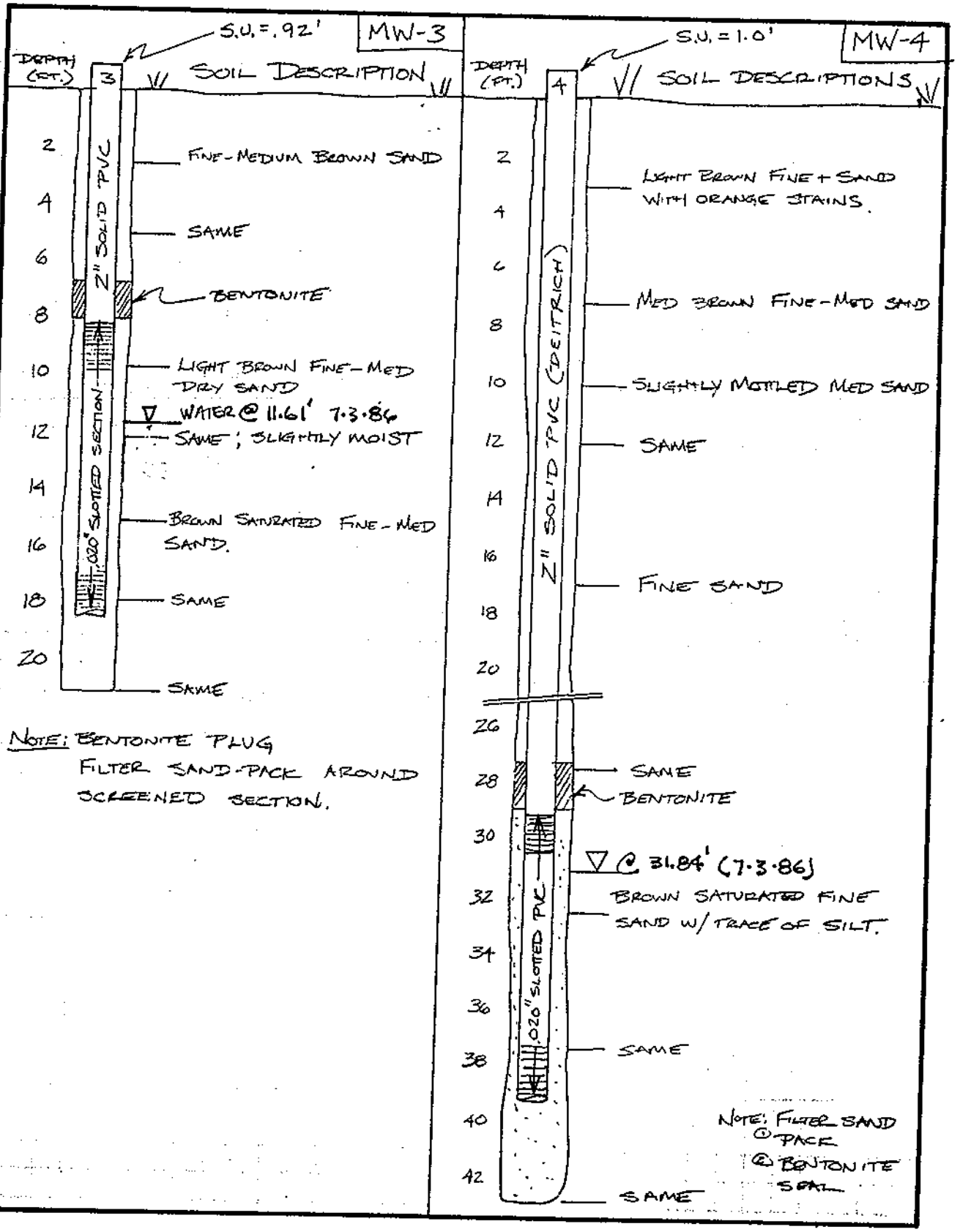
PAGE ____ OF ____

PROJECT: BANK OF VT.

DATE: 7.1.86



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Consulting Geologists — Burlington, Vermont

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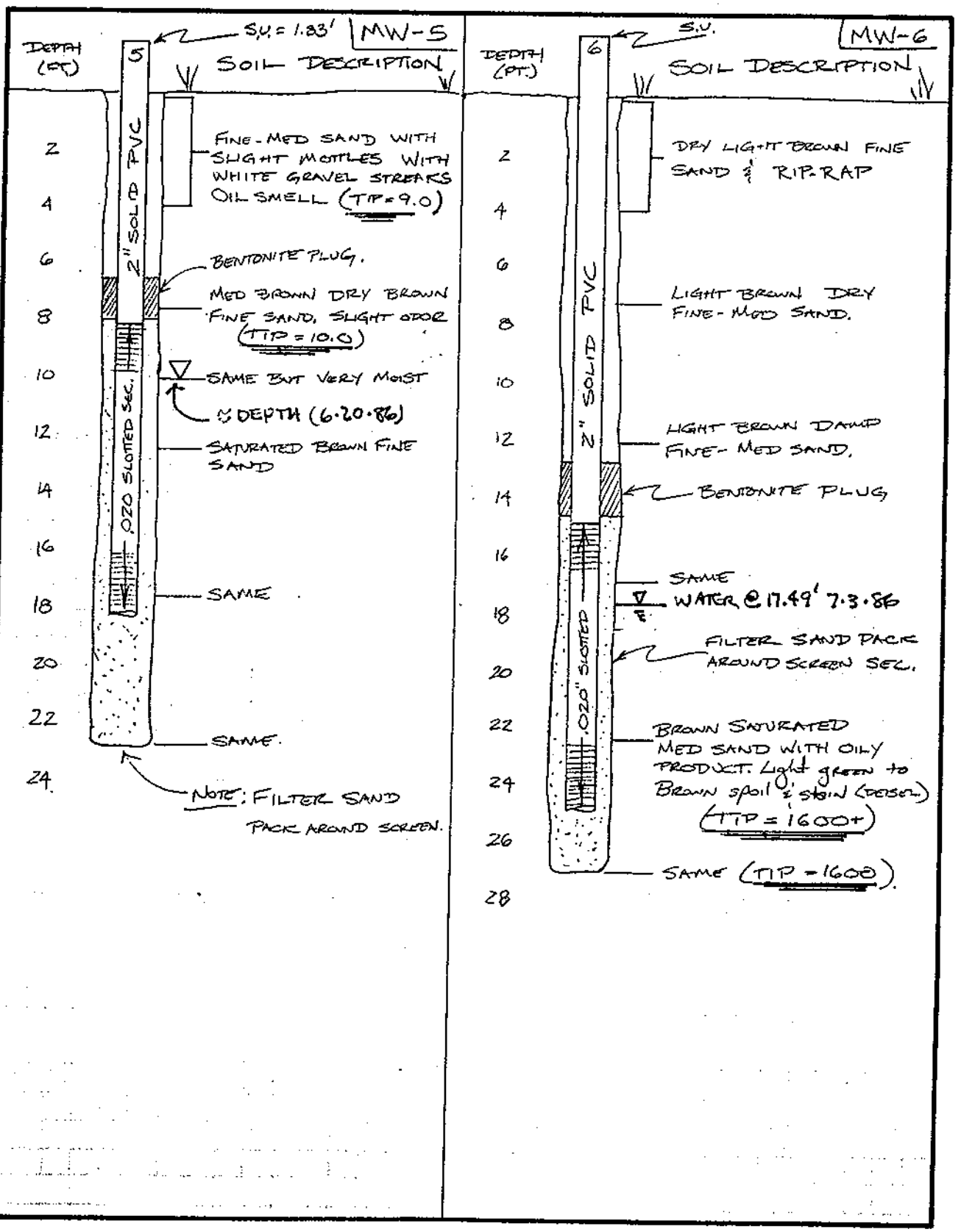
PROJECT: BANK OF VT
DATE: 7-1-86



Wagner, Heindel, and Noyes, Inc.
Consulting Geologists — Burlington, Vermont

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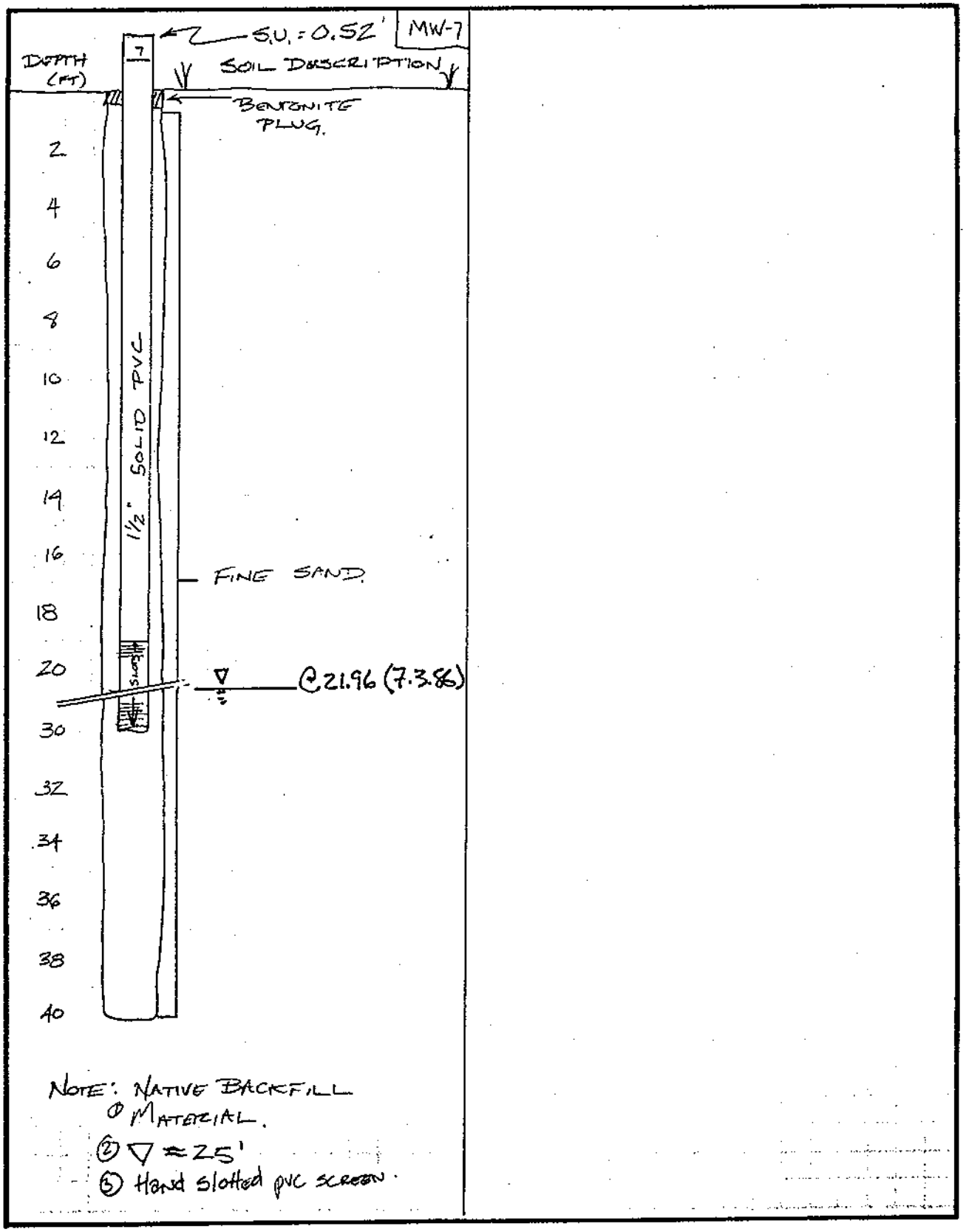
PROJECT: BANK OF VT
DATE: 7.1.86



NOTE: NATIVE BACKFILL MATERIAL.
② ▽ ≈ 25'
③ Hand slotted pvc screen.

ADAMS ENGINEERING
Gerard Adams
RD #1, Box #403
Underhill, Vt. 05489
899-4945

June 26, 1986

Mr. Noyes,

The following are the boring logs for the Rockingham project conducted under the direction of Crispin Prahl representing Wagner, Heindel, and Noyes.

WATER TABLE MONITOR #1 (NOT DESIGNED FOR WATER QUALITY TESTING)
06/19/86

-7.3' 2,3,2,1(blows from a #140 hammer falling 30" to drive a standard penetration sampler 6" -blow counts are not intended for load bearing information, ie; emphasis is on sample recovery) Brown saturated silty fine sand.

-12.2' 2,2,2,2 Brown saturated fine to medium sand

MONITOR WELL

1" Sand slotted PVC-Deitrich pipe wrapped with filter fabric and secured with filter reinforced tape.

10' 1" pipe / 10 lbs. Benseal.
Stick Up:.42'

WATER TABLE MONITOR #2 (NOT DESIGNED FOR WATER QUALITY TESTING)

-5.8' 4,7,7,7 Light brown dry medium to fine sand.
-9.7' 3,4,6,8 Light brown dry fine sand.
-12' 3,4,7,6 Same.
-14.9' 4,7,7,11 Same little damp.
-17.1' 3,4,5,6 Same still damp.
-20.4' 2,3,4,4 Brown saturated medium to fine sand.
-21.7' 3,2 Same as above.
-27.3' 4,6,5,5 Same.

MONITOR WELL

1" Sand slotted PVC-Deitrich pipe wrapped with filter fabric and secured with filter reinforced tape.

25' 1" pipe / 15 lbs. Benseal.
Stick Up:1'

WELL #3 (DESIGNED TO SAMPLE GROUNDWATER)

-7' 5,5,5,7 Light brown dry fine to medium sand.
-9.7' 5,4,5 Same.
-12.1' 2,3,3,3 Light brown damp fine to medium sand.
-15' 3,4,4,4 Brown saturated fine to medium sand.
-17.7' 3,4,5,4 Same.

MONITOR WELL

2" Factory threaded & Slotted (.020") PVC-Deitrich.

Slotted section:10' Solid Riser:10' Bags Sand:5 .49 mm
Sand Pack To below grade:- '
and 20# of granular betonite at '.
Total Pipe:19'3" Water Level:13'

14.25
.92

Stick Up:1'1" Top slot +above -below water:
Air surge/pump Developed: Flow:

WELL #4 (DESIGNED FOR WATER QUALITY SAMPLES)

-7.2'	4,5,8,8 Light brown fine to medium sand.
-10'	3,7,8,11 Light brown dry medium sand.
-12'	4,7,9,7 Medium and fine sand.
-17'	5,5,8 Fine sand.
-22.3'	5,6,9,7 Same.
-27.5'	3,5,4,6 Same.
-32.4'	3,3,6,6 Brown saturated fine sand with a trace of silt.
-37.7'	2,3,4,5 Brown saturated fine sand.
-42.8'	3,2,3,4 Brown saturated fine sand with a trace of silt.

MONITOR WELL
2" Factory threaded & Slotted (.020") PVC-Deitrich.
Slotted section:10' Solid Riser:30' Bags Sand:5 .49 mm
Sand Pack To below grade:-15'
and 20# of granular betonite at '.
Total Pipe:40' Water Level:
Stick Up:1.2' Top slot +above -below water:
Air surge/pump Developed: Flow:

06/20/86
WELL #5 (DESIGNED FOR WATER QUALITY SAMPLES) NOTE: THIS WELL DESTROYED

-7.2'	5,6,5,6 Light brown dry fine to medium sand.
-9.9'	3,3,4,5 Same, damp.
-12.4'	3,4,3,6 Brown saturated fine sand.
-17.6'	2,3,4,6 Same.
-22.7'	3,4,4,5 Same.

MONITOR WELL
2" Factory threaded & Slotted (.020") PVC-Deitrich.
Slotted section:10' Solid Riser:10' Bags Sand:5 .49 mm
Sand Pack To below grade:-7'
and 20# of granular betonite at '.
Total Pipe:20' Water Level:9'?
Stick Up:1'9" Top slot +above -below water:
Air surge/pump Developed: Flow:

WELL #6 (DESIGNED FOR WATER QUALITY SAMPLES)

-7.3'	4,6,6,5 Light brown dry fine sand.
-12.1'	2,5,5,6 Light brown damp fine to medium sand.
-16.9'	6,7,9 Same.
-22.4'	4,8,8,13 Brown saturated medium sand with contamination.
-26.9'	2,3,5 Fine to medium sand with contamination.

MONITOR WELL
2" Factory threaded & Slotted (.020") PVC-Deitrich.
Slotted section:10 Solid Riser:17' Bags Sand:6 .49 mm
Sand Pack To below grade:- '
and 20# of granular betonite at '.
Total Pipe:27' Water Level:
Stick Up:2'6" Top slot +above -below water:

WATER LEVEL MONITOR #7 (NOT DESIGNED FOR W.Q. SAMPLES
Water at 25', drilled to 40'. 0' Pipe with 10' Hand slotts & F.F

Wagner, Heindel, and Noyes, Inc.
Consulting Geologists Burlington, Vermont

PAGE ____ OF ____
PROJECT: BANK OF VT
DATE: 8.14.86

GROUNDWATER SAMPLING DATA
8.14.86

WELL #	▽(FTOC) ft	TOTAL DEPTH (FTOC) ft	TOTAL WELL VOLUME (gal)	GROUNDWATER EVACUATED (gal)	RECOVERY B-4 SAMPLING
#3	12.90	19.25	3.86	12.5	100%
#4	32.0	40.0	4.86	15.0	100%
#6	19.16	27.0	4.76	15.5	100%

NOTES: ① WELLS EVACUATED USING A 2" PVC BAILER
② BAILERS CLEANED WITH ALCETONE & WATER BETWEEN WELLS
③ WELLS SAMPLED WITH 1" TEFLON BAILER.
④ SAMPLER CLEANED BETWEEN WELLS.
⑤ ALL WELLS SAMPLED IN DUPLICATE FOR LAB ANALYSIS
⑥ WELL #5 WAS DESTROYED BY TOWN EQUIPMENT
⑦ STATIC LEVELS OF GROUNDWATER CONTROL WELLS ARE AS FOLLOWS
WELL #1 ; ▽ = 4.54'
#2 ▽ = 18.92'
#7 ▽ = 20.55'
⑧ LAB ANALYSIS BY IEA, ESSEX VT.
⑨ SAMPLING DONE BY CRISPIN PRAHL, WAGNER HEINDEL & NOYES

Industrial & Environmental Analysts, Inc.
P.O. Box 626 • Essex Junction, Vermont 05452 • 802-878-5138

ANALYSIS REPORT

Customer:	Wagner, Heindel & Noyes, Inc.
Address:	Box 1629
City, State, Zip:	Burlington, VT 05402-1629
Attention:	Crispin Prahl
Date:	8 Sept 1986
Date Samples Received:	18 Aug 1986
Customer Order Number:	

ROCKINGHAM

EPA METHOD 602 (PURGEABLE HALOCARBONS) ANALYSIS

Please see enclosed sheets.

Signature Catherine W. Cutting

PURGEABLE AROMATICS

Sample No. 181-274 #2

Client Identification Rockingham - MW3 (14 Aug 86) 586

Date Analyzed 22 Aug 86 By Randall

NUMBER	COMPOUND	DETECTION LIMIT µg/L	RESULTS CONCENTRATION µg/L
1	BENZENE	1.0	BDL
2	CHLOROBENZENE	1.0	BDL
3	1,2-DICHLOROBENZENE	1.0	BDL
4	1,3-DICHLOROBENZENE	1.0	BDL
5	1,4-DICHLOROBENZENE	1.0	BDL
6	ETHYLBENZENE	1.0	BDL
7	TOLUENE	1.0	BDL
8	XYLENES	1.0	BDL

BDL - BELOW DETECTION LIMIT

PURGEABLE AROMATICS

Sample No. 181-274 #1

Client Identification Rockingham - MW4 (14 Aug 86) 585

Date Analyzed 22 Aug 86 By Randall

NUMBER	COMPOUND	DETECTION LIMIT µg/L	RESULTS CONCENTRATION µg/L
1	BENZENE	1.0	BDL
2	CHLOROBENZENE	1.0	BDL
3	1,2-DICHLOROBENZENE	1.0	BDL
4	1,3-DICHLOROBENZENE	1.0	BDL
5	1,4-DICHLOROBENZENE	1.0	BDL
6	ETHYLBENZENE	1.0	BDL
7	TOLUENE	1.0	BDL
8	XYLENES	1.0	BDL

BDL - BELOW DETECTION LIMIT

PURGEABLE AROMATICS

Sample No. 181-274 #3

Client Identification Rockingham - MW6 (14 Aug 86)587

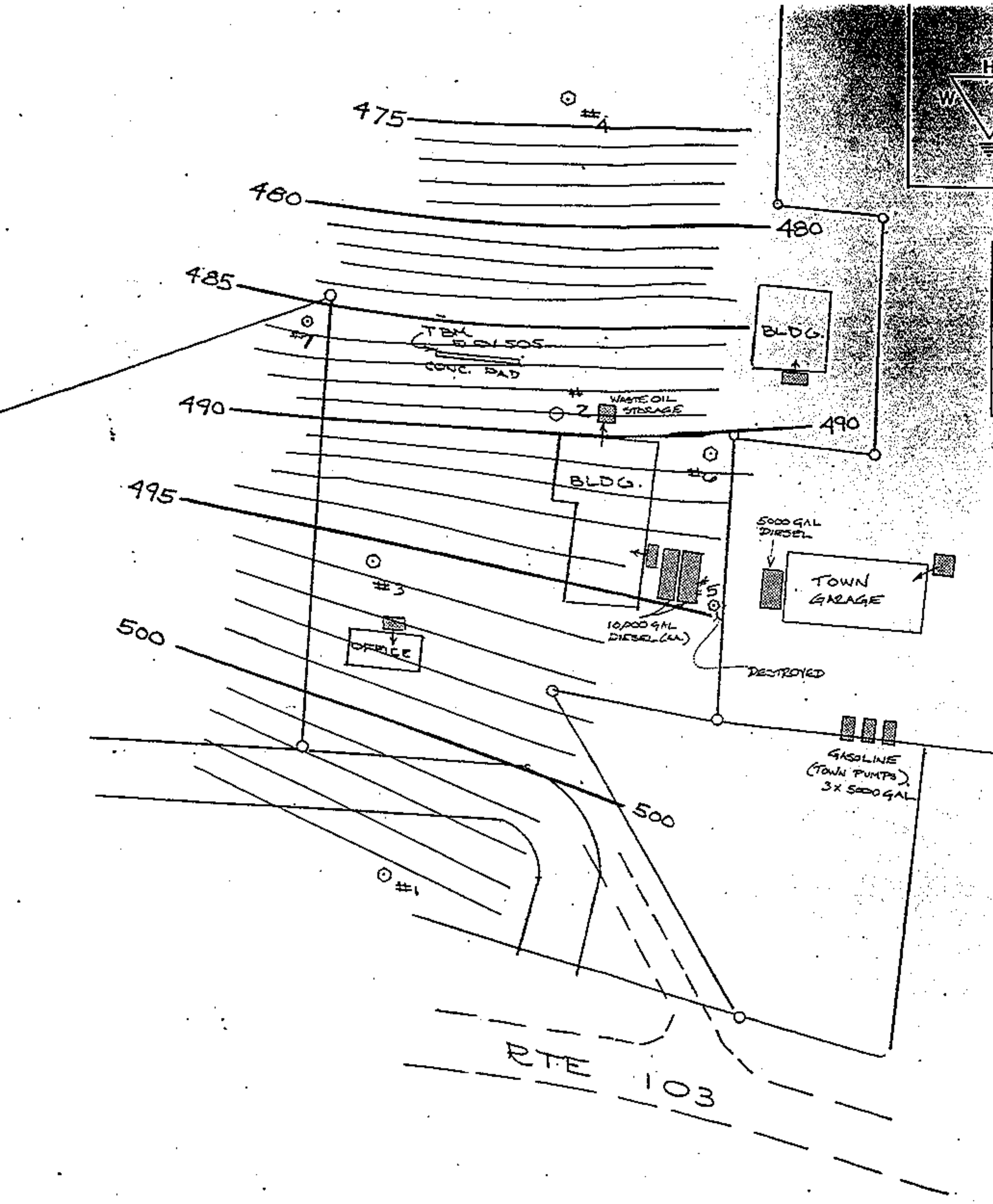
Date Analyzed 22 Aug 86 By Randall

NUMBER	COMPOUND	DETECTION LIMIT µg/L	RESULTS CONCENTRATION µg/L
1	BENZENE	20.0	BDL
2	CHLOROBENZENE	20.0	BDL
3	1,2-DICHLOROBENZENE	20.0	BDL
4	1,3-DICHLOROBENZENE	20.0	BDL
5	1,4-DICHLOROBENZENE	20.0	BDL
6	ETHYLBENZENE	20.0	BDL
7	TOLUENE	20.0	BDL
8	XYLENES	20.0	740

BDL - BELOW DETECTION LIMIT

Wagner, Heindel and Noyes, Inc. consulting geologists
285 North St. Burlington, Vermont 802-658-0820

- BANK OF V... PROPERTY -
ROCKINGHAM, VT.



MONITOR WELL	TOP OF WELL ELEV (FT.)	[illegible]	[illegible]	∇ (FT. FROG) 7.3.86
1	507.85	[illegible]	[illegible]	503.22
2	507.43	[illegible]	[illegible]	487.99
W.Q. 3	[illegible]	[illegible]	[illegible]	494.68
W.Q. 4	[illegible]	[illegible]	[illegible]	472.26
W.Q. 6	[illegible]	[illegible]	[illegible]	489.44
7	506.62	[illegible]	[illegible]	484.14

NOTES:
1. MONITOR WELL #5 INSTALLED ON 6/19/86. DESTROYED BY TOWN VEHICLE SHORTLY THEREAFTER.
2. ALL OTHER WELLS INSTALLED BY ADAMS ENG. ON 6/17-6/20/86
3. WELL LOCATIONS & ELEVATIONS SURVEYED BY SOUTHERN VT ENG., 7/86.
4. W.Q. ARE WATER QUALITY GRADE SAMPLING POINTS

≈ NORTH

480 ——— = WATER TABLE CONTOUR (ELEVATION IN FT)

▭ = PETROLEUM PRODUCT STORAGE TANK

SCALE 1" = 100'

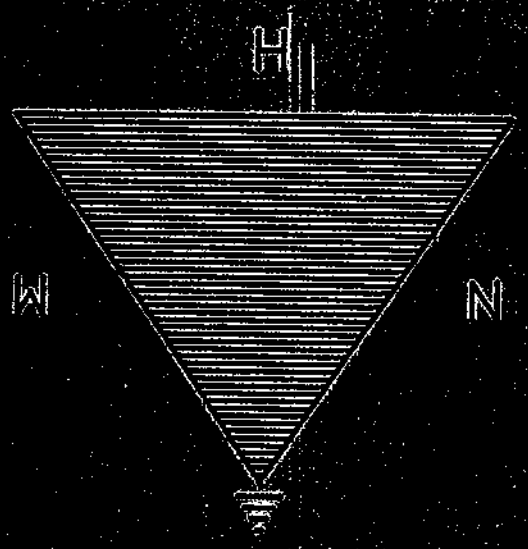
LOCATION OF MONITOR WELLS
RTE 103 ROCKINGHAM, VT.

SURVEY BY:
SOUTHERN VERMONT ENGINEERING
P.O. BOX 1201
BRATTLEBORO, VERMONT 05301
(802) 257-0561

PROJ. 1695

PHASE II HYDROGEOLOGIC INVESTIGATION

GLEASON SITE; ROCKINGHAM-VT



WAGNER, HEINDEL, AND NOYES, INC.

CONSULTING GEOLOGISTS

BURLINGTON VERMONT

Wagner, Heindel, and Noyes, Inc. consulting geologists
P.O. Box 1629 Burlington, Vermont 05402-1629 802-658-0820

Phase II Hydrogeologic Investigation

Gleason Site

Rockingham, VT

Prepared by:

Crispin Prahl
Staff Geologist

Reviewed by:

Jeffrey E. Noyes
Principal

Date: May 12, 1987

Phase II Hydrogeologic Investigation

Gleason Site

Rockingham, Vermont

Table of Contents

PHASE II HYDROGEOLOGIC INVESTIGATION

GLEASON SITE

ROCKINGHAM, VT

Summary, Conclusions, and Recommendations

1. Six additional monitor wells were installed around the re-fueling pad area at the Gleason Site in Rockingham, Vermont. All of these devices were designed for groundwater sampling as well as for water table elevation control in the apparent upgradient direction of monitor well 6.

2. Soil borings and the associated monitor wells were positioned to investigate the possibility of groundwater contamination caused by on-site subsurface storage of:

waste oil

home heating oil

leaded gasoline

diesel fuel

Where possible, the wells were installed in the apparent upgradient and downgradient directions of each of these storage facilities.

3. Photoionization measurements were taken on all soil and groundwater samples collected from each of the phase II borings. This survey showed no detection of contaminants above, at or below the water table.

4. All Phase II wells, plus MW-6, were sampled and analyzed for aromatic hydrocarbon compounds using EPA Method 602. Monitor wells 6 and 9 were the only wells which showed evidence of contamination. Laboratory analysis identified Benzene, Toluene and Xylenes (BTX) constituents at concentrations as follows:

	Compound	Concentration (ppb)
MW-6	Benzene	83
	Chlorobenzene	BDL
	1,2 - Dichlorobenzene	550
	1,3 - Dichlorobenzene	220
	1,4 - Dichlorobenzene	180
	Ethylbenzene	140
	Toluene	49
	p-Xylene	170
	m-Xylene	280
	o-Xylene	230
MW-9	Ethylbenzene	1.0
	Toluene	1.3
	p-Xylene	0.7
	m-Xylene	2.1
	o-Xylene	2.0

5. Snow melt running from the re-fueling pad into the nearby well casing may have caused the trace contaminant levels observed in MW-9.

6. Trip blanks and field blanks were also collected during the Phase II sampling. Trace amounts of Ethylbenzene (4.0 ppb) were detected in the trip blank. These samples were collected to examine possible sources of background contamination or cross-contamination introduced during the sampling procedures.

7. The detailed water table map developed from Phase II monitor well data indicates groundwater flow to be in a north-northwesterly direction. Given such flow conditions, monitor wells 10, 11, and 12 are located directly downgradient from all possible on-site contaminant sources. These wells show no sign of groundwater contamination. Monitor well 6 is located out of the primary flow path from the on-site petroleum storage facilities. However, it is directly downgradient of the underground diesel and gasoline storage tanks on the adjoining property.

8. It appears that the contaminants identified in MW-6 are most likely from a nearby off-site source. Additional hydrogeologic evaluation of the Town garage property, coupled with pressurized testing of off-site storage tanks will be necessary to further address the source(s) and extent of this contamination.

9. No on-site remedial actions will be necessary since there are no existing or foreseen downgradient receptors. The abandoned 500 gallon waste oil and 10,000 gallon gasoline tank must be emptied before additional site closure action may continue under Subchapter 5, Section 5 of the State guidelines (see Attachment 2, pgs. 11-12).

Introduction

The Gleason Site is located 175 yards north of Rt. 103 in an area surrounded by three trucking terminals as well as the Town of Rockingham Maintenance Garage. The property was the focus of an initial hydrogeologic investigation during the fall of 1986*. The Phase I investigation was designed to identify the hydrogeologic character and overall groundwater quality on the property, as well as to identify any possible on-site contaminant sources. That report should be considered as an essential companion document to this text.

Previous work revealed a moderately high concentration (740 ppb) of Xylenes in monitor well 6. Of the three wells sampled during the Phase 1 study, well 6 was the only device located in the apparent flow path of both on-site and off-site underground storage tanks.

The Phase II investigation was aimed at determining if the Xylene concentrations noted in MW-6 were derived from on-site petroleum storage facilities and related pumping activities. This report presents the findings of that study.

*"Bank of Vermont; Gleason Site Investigation"

1.0 Method of Study

After discussions with the manager and employees at Dave Noake's Freight Company, four underground storage tanks were located in the re-fueling pad area, situated approximately 100 ft. south of MW-6 (see Attachment 1, page 1). The on-site inventory consists of two centrally located 10,000 gallon tanks; one containing diesel fuel and the other containing a small quantity of leaded gasoline. Located adjacent to the trucking terminal are a 500 gallon waste oil tank and a 600 gallon fuel oil tank. Both the gasoline and waste oil tanks have been reportedly unused for nearly eight years, although both still contain small amounts of product.

2.0 Study Approach

To establish groundwater quality immediately adjacent to each of these tanks, a monitoring well was installed in the apparent upgradient and downgradient direction of these facilities. Such "bracketing" of possible contaminant sources enabled this office to monitor the local groundwater quality before and after the effects of possible leaks within the tank in question. The location of monitoring wells installed during the Phase II study are shown on the 100 scale site plan (see Attachment 1, pg. 2).

All sampling devices were installed under the supervision of Wagner, Heindel, and Noyes staff with drilling services provided by Adams Engineering. Subsurface soil information was gained

from samples collected on 5 to 10 ft. centers in each boring using split spoon sampling methods. Soil samples were screened for volatile hydrocarbons using a field portable photoionization unit following inspection of samples for moisture content and grain size.

Following soil sampling operations, a 2 inch factory slotted (0.020 inch) PVC sampling well was installed in each bore hole. Quartz sand filter packs were placed around the slotted sections to prevent infiltration and clogging by fine sediments. Each of the six sampling quality wells were then backfilled with native soil and capped with a bentonite plug above the screen and sand pack sections.

3.0 Results of the Soil and Water Table Investigation

All Phase II soil borings encountered consistently homogeneous fine to medium sand to depths of 20 to 30 feet. A review of the driller's logs and well schematics drawn by this office (see Attachment 1, pgs. 3 - 7) shows that the soil conditions were similar to those identified during the Phase I study.

Following the installation and grouting of the six monitor wells, standard and acceptable techniques were used in the completion and development of each sampling location. Street boxes were installed on each well casing to insure their protection from truck traffic.

A survey was then conducted by Southern Vermont Engineering to determine location and elevation of each sampling device. Current water table measurements were contoured to determine the present groundwater flow conditions below the re-fueling area (see Attachment 1, pg. 2). The resulting water table map shows groundwater flow to be in a north-northwesterly direction. Although no observation wells were installed off the Gleason site, the detailed water table elevation control provided by the Phase II monitoring points indicates that groundwater is travelling from beneath the adjoining Town garage property into the area addressed in this study. The average water table gradient is calculated to be on the order of 3 to 5% in this area.

4.0 Results of Water Quality Investigation

4.1 Well Development and Sampling Methods

Each of the seven monitor wells were developed by evacuating at least three well volumes of groundwater, prior to sampling. This process was undertaken to remove any foreign material (filter sand, PVC shavings, etc.) or sediment from the inside of each well. More importantly, the development process removes stagnant water from the well which is necessary to insure collection of representative groundwater samples.

In order to minimize the possibility of cross-contamination during well development, a number of precautionary measures

were taken. Firstly, wells were developed in order of increasing contamination as determined by their locations relative to the underground storage facilities. Development of wells with the least possible likelihood of contamination preceded those thought to be located downgradient from the probable contaminant sources. Secondly, the wells were evacuated using disposable suction tubes connected to a two-valve vacuum pump. While utilizing this two-valve system the pump could be shut down without backflow of water held in the pumping chamber. Additionally, water used for priming the pump was also contained by the use of these two valves.

The well development process began by measuring the static level and calculating the volume of groundwater contained in each well. The well was then evacuated at a given rate with the water level monitored occasionally during the pumping period. Most wells were pumped at equilibrium rates until clear, sediment free discharge was obtained. By knowing the discharge rates from each well, pumping continued for a period necessary to evacuate three or more well volumes or until dryness. Groundwater pumped from the monitoring points was directed away from the well in question in order to minimize recharge back to the water table. Prior to sampling, the water surface was allowed to recover to 90% of the static level.

Groundwater samples were collected using a 2" dual check valve teflon bailer. Before and after each successive well was sampled, the device was thoroughly cleaned using distilled water followed by a Methanol rinse, followed by a second distilled water rinse. The order in which the wells were sampled was the same as that used during the well development process. In order to further reduce the chances of cross-contamination, a disposable inert polypropylene bailer cord was used for sample collection at each well.

Samples were collected in 40 ml glass vials and stored in a cool dark environment prior to the same day delivery to Industrial and Environmental Analyst, Inc. in Essex Junction, Vermont. The samples were also acidified with a 1:1 HCl and distilled water solution, to ensure proper preservation of any volatile constituents.

4.2 EPA Method 602 Results

Groundwater samples were collected from all six Phase II wells plus monitor well 6 on 2/20/87 and analyzed by EPA Method 602 on 3/10/87. The laboratory results from these analyses are presented in Attachment 2, pgs. 1 - 10.

Monitor well 7 and 8, installed upgradient from the on-site petroleum storage facilities, showed no sign of any of the ten aromatic compounds identified by the 602 scan. Monitor

wells 10, 11, and 12 showed no BTX compounds at the detection limit of the instrumentation. These wells were located directly downgradient from the four buried tanks previously mentioned.

Trace concentrations of Ethylbenzene, Toulene, and Xylenes were detected in samples collected from monitor well 9. Since this well is located directly adjacent to the concrete fueling pad, the apparent trace contamination is attributed to small quantities of surface water flowing in and around the well casing during the sampling effort*.

Monitor well 6 showed the only significant concentration of BTX compounds of all wells sampled during the Phase I and Phase II investigations. Method 602 results from the Phase II study showed moderately high concentrations of aromatic hydrocarbons between 40 and 600 ppb (see Attachment 2, pg. 3). These concentrations are substantially higher than those noted from the Phase I 602 results. Such changes in BTX levels are likely due to the natural variation in concentration of these constituents within the contaminant plume.

*Slush, melting snow and wet conditions at the time of well installation and sampling.

5.0 Discussion

In an effort to identify the source(s) of the Xylenes previously detected in monitor well 6, six monitor wells were installed to "bracket" on-site subsurface petroleum storage tanks. Phase II groundwater quality results from these wells combined with a detailed water table map and associated flow analysis suggests that the source of the foremention ed BTX contamination is from off the Bank's property. Although groundwater monitoring was not possible on the adjoining Town owned property, the available data suggests that one or more of the Town's subsurface storage tanks are directly upgradient from monitor well 6.

Monitor well 7 and 8 are located upgradient from the Gleason tanks and showed no sign of BTX contamination. These data indicate that groundwater upgradient from these test points is not contributing to the contaminant concentrations found in monitor well 6. Thus, the probable lateral extent of contamination observed at monitoring well #6 is further confined to a source east of the Gleason site.

Monitor wells 10, 11 and 12 are located downgradient from the on-site subsurface storage facilities. These wells also showed no detectable compound concentrations in groundwater samples analyzed by Method 602. Flow analysis shows that these monitoring devices as well as the associated upgradient storage tanks are out of the direct or indirect flow paths affecting monitor well 6. From this data, it appears that the on-site

storage facilities in question are not contributing to groundwater contamination noted in MW-6, nor are these facilities affecting the area's overall water quality.

Water quality results for samples collected from monitor well 9 are viewed as anomalous due to probable contamination by surface water runoff during the sampling period. Flow net analysis also shows that this sampling location is out of the direct flow path from possible subsurface contaminant sources. Clean groundwater samples collected downgradient from monitor well 9 also suggest that it was contaminated by instantaneous introduction of filling pad runoff rather than by contaminated groundwater at this location.

Given the flow direction and generally acceptable quality of groundwater in and around the re-fueling area, it appears that the contaminants noted in monitor well 6 are derived from an off-site source. Only through pressurized tank testing and subsurface evaluation of the neighboring Town owned property will the exact source(s) and extent of this contamination be known.

ATTACHMENT 1

SITE PLANS

BORING LOGS

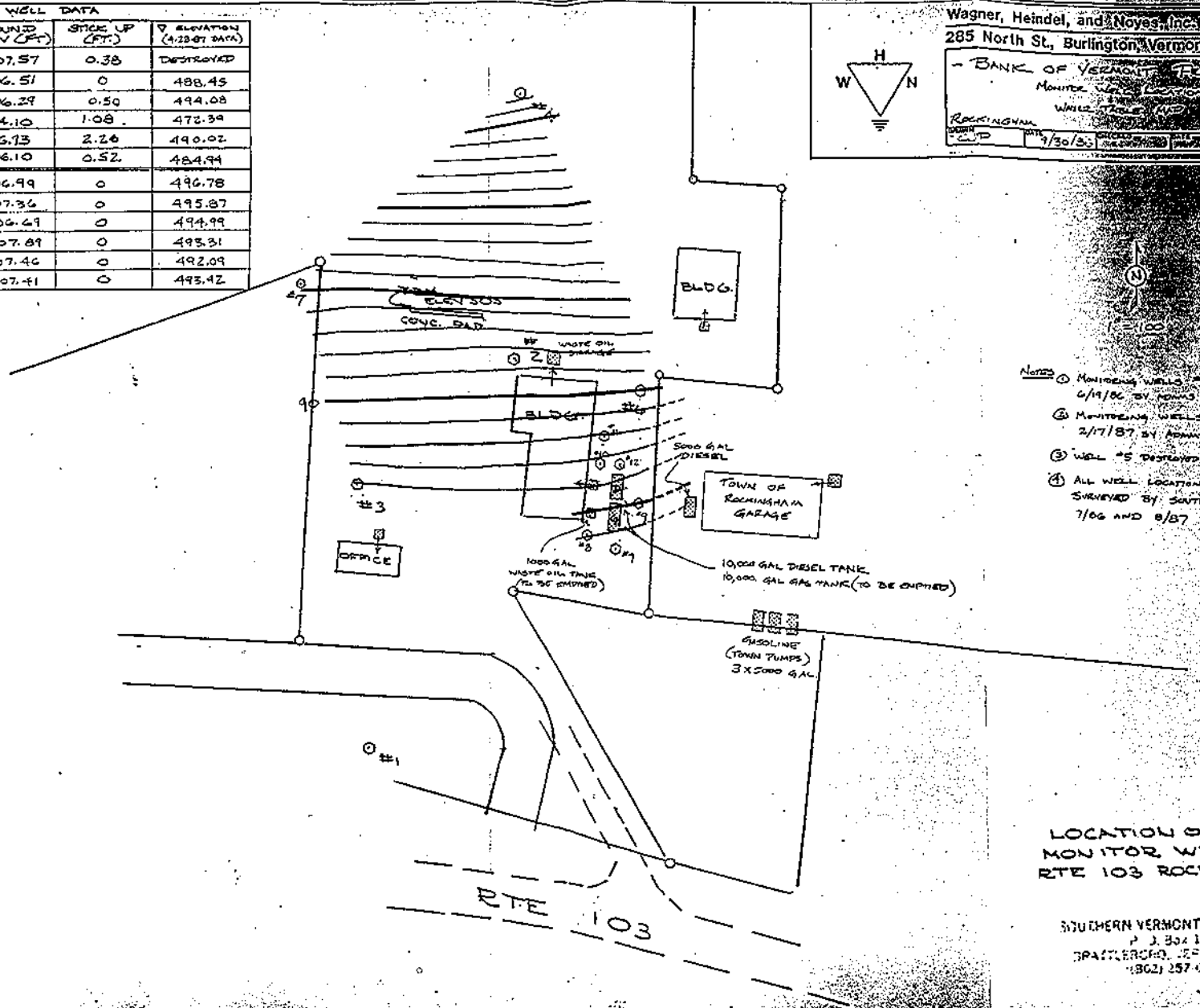
WELL SCHEMATICS

MONITORING WELL DATA

MONITOR WELL	TOP OF WELL ELEV. (FT.)	GROUND ELEV (FT)	STICK UP (FT.)	▽ ELEVATION (4-23-87 DATA)
1	507.95	507.57	0.38	DESTROYED
2	506.51	506.51	0	488.45
3	506.79	506.29	0.50	494.08
4	505.18	504.10	1.08	472.39
6	509.19	506.93	2.26	490.02
7A	506.62	506.10	0.52	484.94
7	506.99	506.99	0	496.78
8	507.36	507.36	0	495.87
9	506.69	506.69	0	494.99
10	507.89	507.89	0	493.31
11	507.46	507.46	0	492.09
12	507.41	507.41	0	493.42

Wagner, Heindel, and Noyes, Inc. Consulting Engineers
285 North St., Burlington, Vermont 802-658-0820

- BANK OF VERMONT PROPERTY -
MONITOR WELL LOCATIONS
WATER TABLE MAP
ROCKINGHAM
DRAWN JJD DATE 9/30/87 SCALE 1"=100' PROJ 87-1695

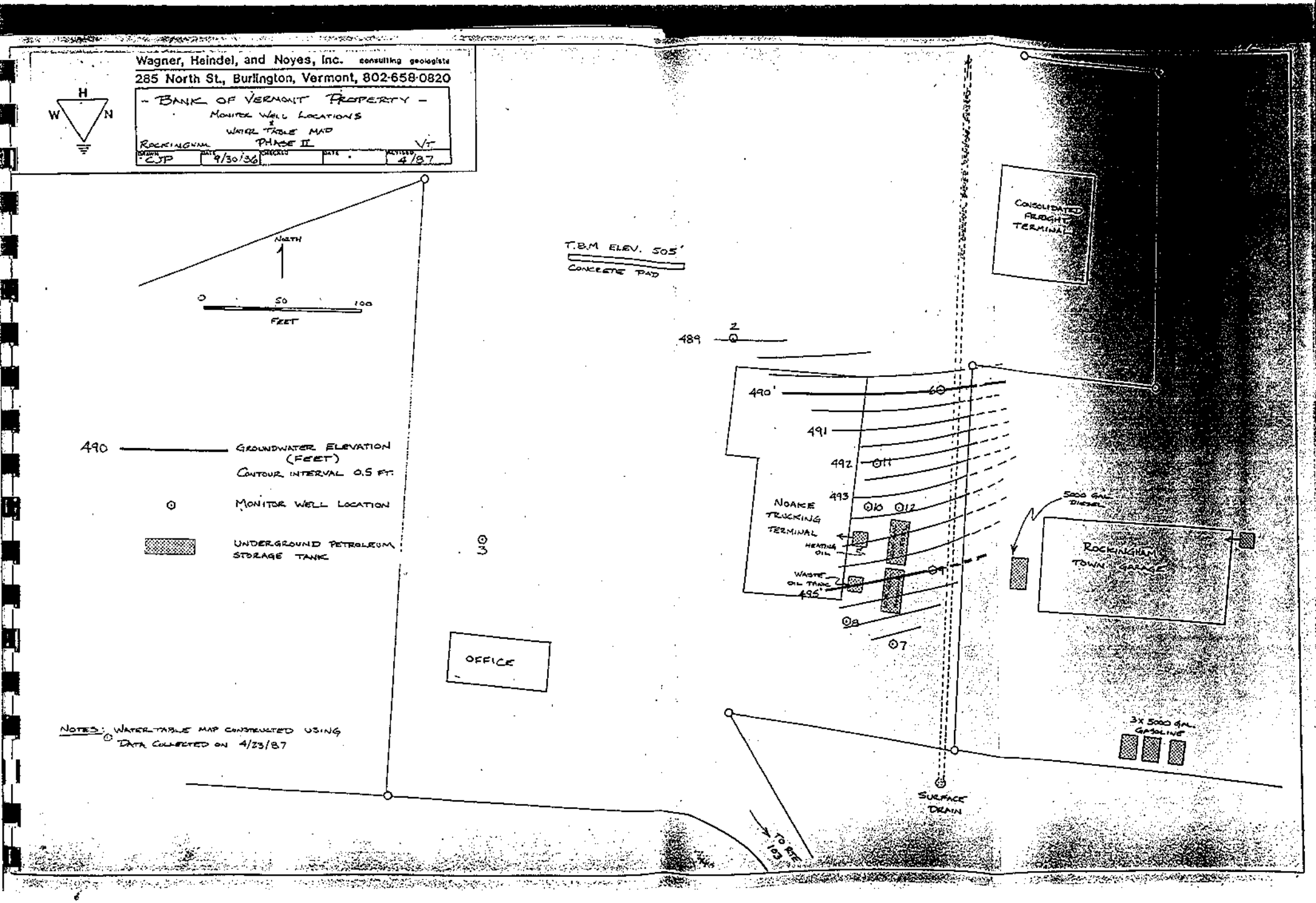


Notes
① Monitoring wells #1 - 3 installed on 6/19/86 by Adams Engineering
② Monitoring wells #4 - 12 installed on 2/17/87 by Adams Engineering
③ Well #5 destroyed by town vehicle
④ All well locations & elevations surveyed by Southern Vermont Eng. 7/86 and 8/87

LOCATION OF MONITOR WELLS RTE 103 ROCKINGHAM, VT.

SOUTHERN VERMONT ENGINEERING
P. O. Box 1301
BRATTLEBORO, VERMONT 05301
(802) 257-0561

PROJ. 1695


Wagner, Heindel, and Noyes, Inc. consulting geologists
285 North St., Burlington, Vermont, 802-658-0820
- BANK OF VERMONT PROPERTY -
MONITOR WELL LOCATIONS
&
WATER TABLE MAP
PHASE II
ROCKINGHAM VT
DRAWN CJP DATE 9/30/86 CHECKED DATE REVISED 4/87
H
W
N
NORTH
0 50 100
FEET
T.B.M ELEV. 505'
CONCRETE PAD
CONSOLIDATED FREIGHT TERMINAL
489
490'
491
492
493
490 GROUNDWATER ELEVATION (FEET)
CONTOUR INTERVAL 0.5 FT.
MONITOR WELL LOCATION
UNDERGROUND PETROLEUM STORAGE TANK
NOAKE TRUCKING TERMINAL
HEATING OIL
WASTE OIL TANK
495'
5000 GAL DIESEL
ROCKINGHAM TOWN GARAGE
3 X 5000 GAL GASOLINE
OFFICE
SURFACE DRAIN
TO RTE 103
NOTES: WATER-TABLE MAP CONSTRUCTED USING DATA COLLECTED ON 4/23/87

ADAMS ENGINEERING
Gerard Adams
RD #1, Box #403
Underhill, Vt. 05489
899-4945

February 26, 1987

Mr. Chrispen Praul

The following are the boring logs for The Bank of Vermont/Rockingham project conducted under your direction representing Heindel & Noyes Inc.

02/17/87 MW #7

-6.0'	6,8,7,6.(blows from a #140 hammer falling 30" to drive a standard penetration sampler 6" -blow counts are not intended for load bearing information, ie; emphasis is on sample recovery) Clean fine sand.
11.0'	4,5,3,3. Same.
16.3'	3,5,5,6. Same.
21.6'	3,5,6,8. Same.

MONITOR WELL
2" Factory threaded & Slotted (.020") PVC-Deitrich.
Slotted section: 10' Solid Riser: 10' Bags Sand:6 .49 mm
Sand Pack To below grade:-8.5' Betonite Plug: 15# of granular betonite at 6.5' '.
Screened from -9 To -18.5'
Protected by valve box.

MW #8

-6.5'	8,11,9,7. Fine sand.
-11.4'	4,7,8,9. Same.
-16.5'	4,6,8,12. Same.
-21.9'	7,10,11. Same.

MONITOR WELL
2" Factory threaded & Slotted (.020") PVC-Deitrich.
Slotted section: 10' Solid Riser: 10' Bags Sand:6.5 .49 mm
Sand Pack To below grade:-7.5' Betonite Plug: 15# of granular betonite at 6.0' '.
Screened from -9 To -18.5'
Protected by valve box.

MW #9

-6.3'	9,10,7,7. Fine sand.
-11.4'	3,4,4,5. Same.
-14.0'	3,5,7,8. Same.
-16.2'	5,6,8,8. Same.
-21.8'	2,5,3. Same.
-26.4'	3,5,5,5 Same.

MONITOR WELL
2" Factory threaded & Slotted (.020") PVC-Deitrich.
Slotted section: 10' Solid Riser: 15' Bags Sand: 5.5 .49 mm
Sand Pack To below grade:-12' Betonite Plug: 15# of granular betonite at -9.0'.

Screened from -13 To -22.5'
Protected by valve box.

2/18/87 MW #10
-5.9' 28,30,28 Fine sand.
Moved over.
-11.7' 4,5,5,7. Same.
-14.5' 3,5,5,4. Same.
-17.0' 3,4,4,5. Same.
-22.1' 2,2,2,5. Same.
-27.2' 3,4,5,7.

MONITOR WELL
2" Factory threaded & Slotted (.020") PVC-Deitrich.
Slotted section: 10' Solid Riser: 15' Bags Sand:6 .49 mm
Sand Pack To below grade:-12.0' Betonite Plug: 15# of granular betonite at -7'.
Screened from -13.8' To -23.3'
Protected by valve box.

MW #11
-5.0' 1 fell. Fine sand.
-11.6' 4,5,7,8. Same.
-16.5' 4,6,8,8. Same.
-21.6' 3,4,3,4. Same.
-28.0 4,9,8,9. Same

MONITOR WELL
2" Factory threaded & Slotted (.020") PVC-Deitrich.
Slotted section: 10' Solid Riser: 15' Bags Sand:6 .49 mm
Sand Pack To below grade:-13.0' Betonite Plug: 15# of granular betonite at -11'.
Screened from -14.5 To -24'
Protected by valve box.

MW #12
-7.3' 16,17,13,11. Fine Sand.
-11.5' 5,7,9,9. Same.
-16.3' 3,6,6,8. Same.
-18.8' 5,8,8,9. Same.
-21.6' 2,3,4,6. Same.
-27.7' 3,4,7,7. Same.

MONITOR WELL
2" Factory threaded & Slotted (.020") PVC-Deitrich.
Slotted section: 10' Solid Riser: 15' Bags Sand:6 .49 mm
Sand Pack To below grade:-12.0' Betonite Plug: 15# of granular betonite at -10.0'.
Screened from -14.7' To -24.2'
Protected by valve box.

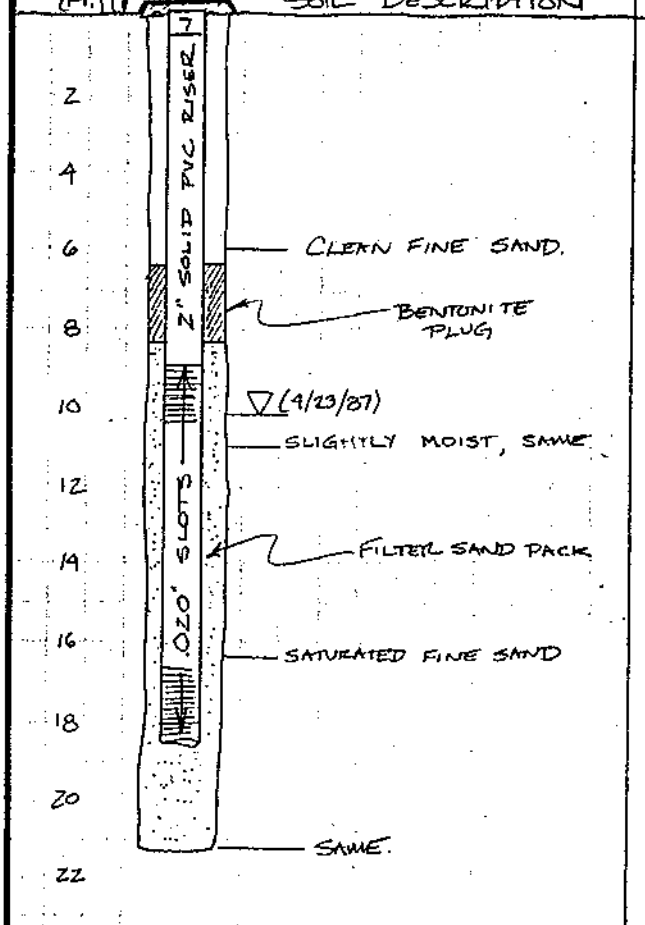
Gerard Adams

Wagner, Heindel, and Noyes, Inc.
Consulting Geologists — Burlington, Vermont

PAGE ____ OF ____
PROJECT: BANK OF VT.
DATE: 4/87

WELL SCHEMATICS

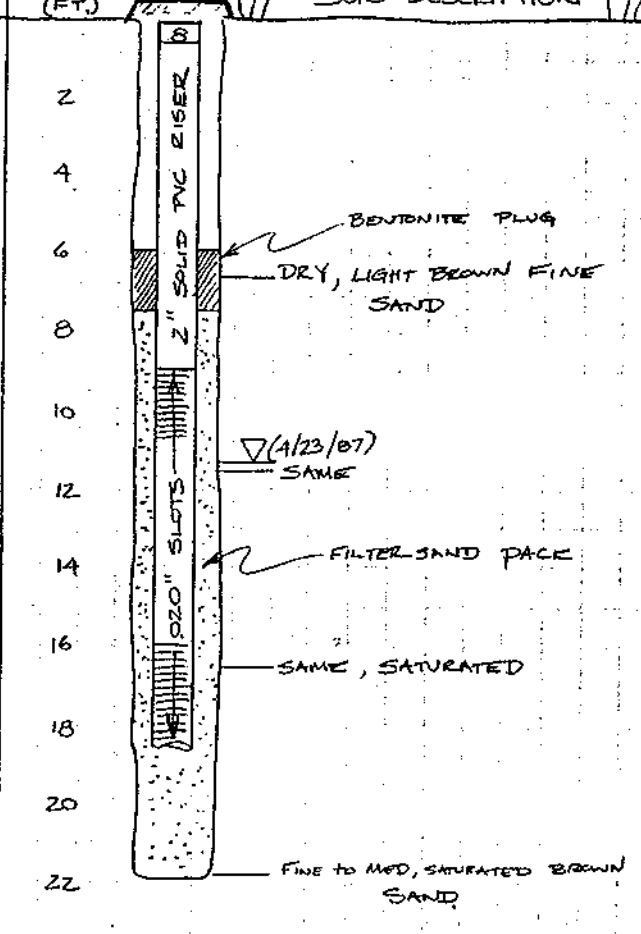
MW-7



NOTES: NO VISIBLE PRODUCT.
NO PETROLEUM ODOR
DEVELOPED WITH WHN PUMP.
PROTECTED BY STREET BOX
*NO RESPONSE BY P.I.D DETECTOR TEST.

LOCATION: UPGRADIENT OF 10,000 gal GAS. TANK

MW8



NOTES: NO VISIBLE PRODUCT
NO PETROLEUM ODOR
DEVELOPED WITH WHEN PUMP
PROTECTED BY STREET BOX.
*NO RESPONSE BY P.I.D DETECTOR TESTING

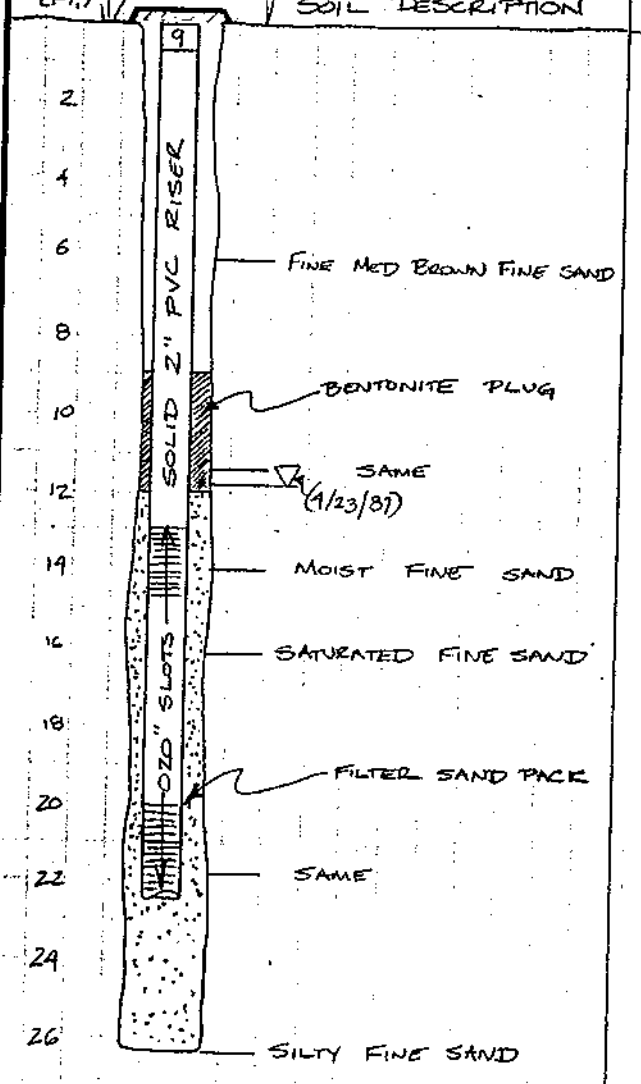
LOCATION: UPGRADIANT OF WASTE OIL STORAGE TANK

Wagner, Heindel, and Noyes, Inc.
Consulting Geologists — Burlington, Vermont

PAGE ____ OF ____
PROJECT: BANK OF VERMONT
DATE: 4/87.

WELL SCHEMATICS

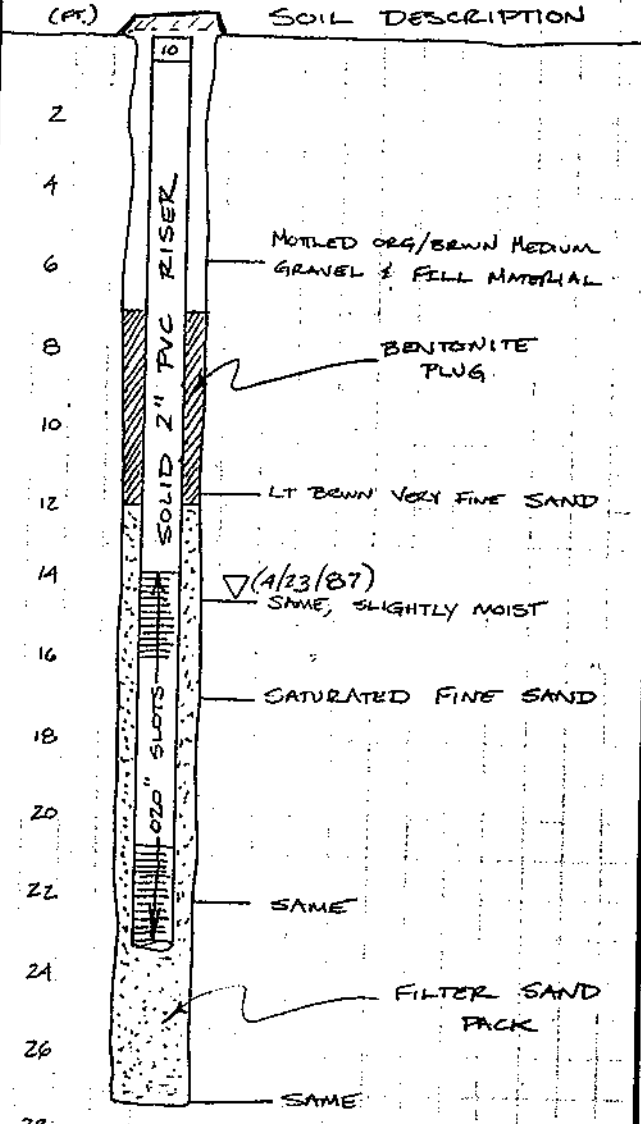
MW-9



NOTES: NO VISIBLE PRODUCT
NO PRODUCT ODOR.
DEVELOPED WITH WH & N PUMP
PROTECTED BY STREET BOX
* NO RESPONSE BY P.I.D DETECTOR TESTING.

LOCATION: BESIDE (EAST) OF 2 10K GAL TANKS.

MW-10



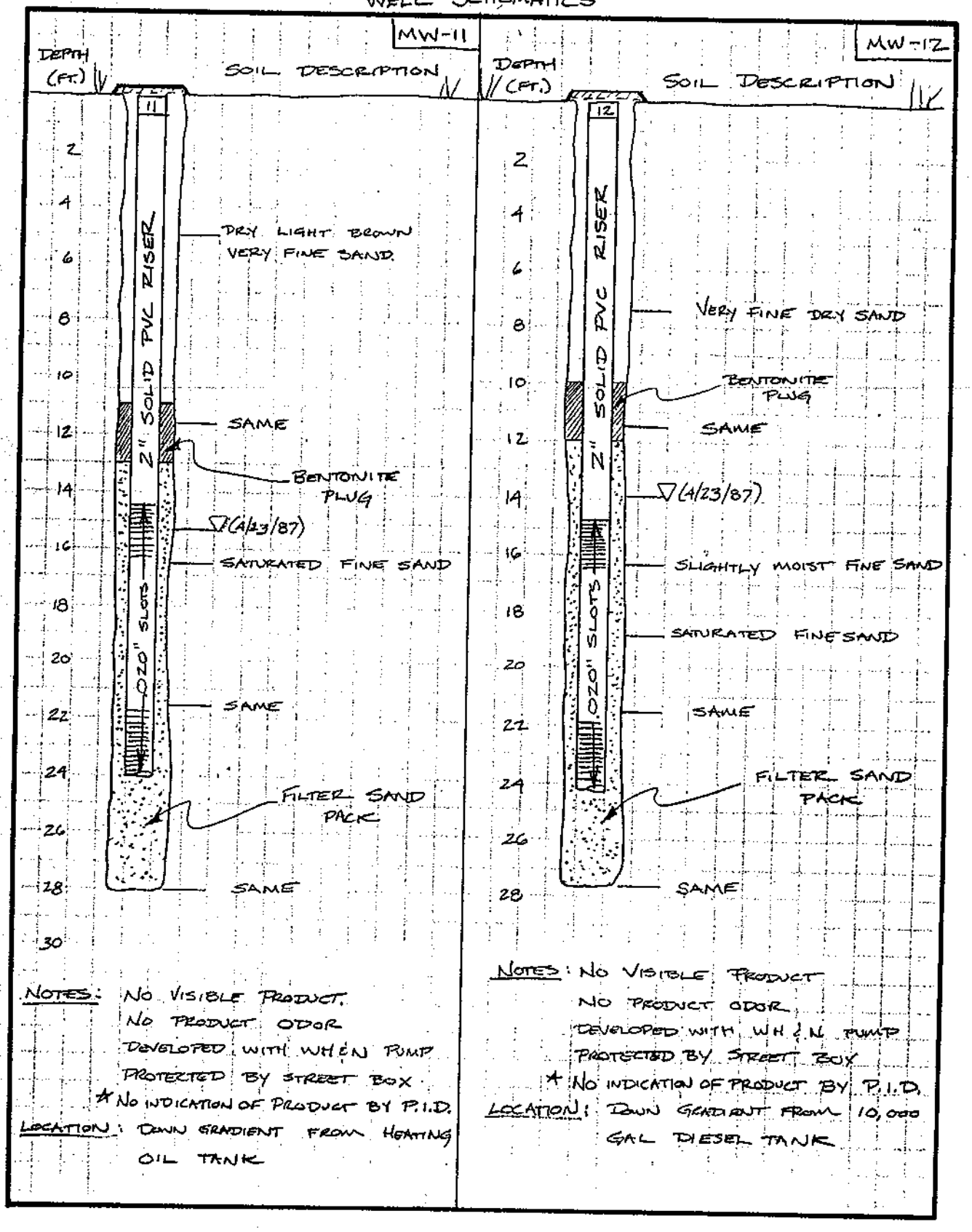
NOTES: NO VISIBLE PRODUCT
NO PRODUCT ODOR.
DEVELOPED WITH WH & N PUMP
PROTECTED BY STREET BOX
* NO RESPONSE BY P.I.D. DETECTOR TESTING

LOCATION: DOWN GRADIENT OF WASTE OIL TANK
UP GRADIENT FROM HEATING OIL TANK

Wagner, Heindel, and Noyes, Inc.
Consulting Geologists — Burlington, Vermont

PAGE ____ OF ____
PROJECT: BANK OF VT
DATE: 4/87

WELL SCHEMATICS



ATTACHMENT 2

GROUNDWATER QUALITY RESULTS

Industrial & Environmental Analysts, Inc.
P.O. Box 626 • Essex Junction, Vermont 05452 • 802-878-5138

April 1, 1987

Crispin Prahl
Wagner, Heindel & Noyes, Inc.
P. O. Box 1629
Burlington, VT 05402-1629

Dear Crispin:

Please find enclosed the EPA Method 602 Results submitted on 27 February 1987. Contact us if you require chromatograms.

If further assistance is needed, please call us.

Sincerely,

INDUSTRIAL & ENVIRONMENTAL ANALYSTS, INC.

Cathy

Catherine W. Cutting
Staff Scientist

CWC/skb

Enclosures

Reference: 28648

EPA METHOD 602 - PURGEABLE AROMATICS

Sample I. D. Rockingham Trip Blank - 26 Feb 1987

Date Analyzed: 10 Mar 1987

Analyzed By: C. Barnes

PARAMETER	CONCENTRATION (µg/L)[1]
Benzene	BDL[2]
Chlorobenzene	BDL
1,2-Dichlorobenzene	BDL
1,3-Dichlorobenzene	BDL
1,4-Dichlorobenzene	BDL
Ethylbenzene	4.0
Toluene	BDL
p-Xylene	BDL
m-Xylene	BDL
o-Xylene	BDL

[1]Detection limit is 0.4 µg/L.
[2]Below detection limit.

Reference: 28648

EPA METHOD 602 - PURGEABLE AROMATICS

Sample I. D. Rockingham MW6 (10 X Dilution) 26 Feb 1987

Date Analyzed: 10 Mar 1987

Analyzed By: C. Barnes

PARAMETER	CONCENTRATION (µg/L)[1]
Benzene	83
Chlorobenzene	BDL[2]
1,2-Dichlorobenzene	550
1,3-Dichlorobenzene	220
1,4-Dichlorobenzene	180
Ethylbenzene	140
Toluene	49
p-Xylene	170
m-Xylene	280
o-Xylene	230

[1] Detection limit is 4.0 µg/L.
[2] Below detection limit.

Reference: 28648

EPA METHOD 602 - PURGEABLE AROMATICS

Sample I. D. Rockingham Field 4 - 26 Feb 1987

Date Analyzed: 10 Mar 1987

Analyzed By: C. Barnes

PARAMETER	CONCENTRATION (µg/L)[1]
Benzene	BDL[2]
Chlorobenzene	BDL
1,2-Dichlorobenzene	BDL
1,3-Dichlorobenzene	BDL
1,4-Dichlorobenzene	BDL
Ethylbenzene	BDL
Toluene	BDL
p-Xylene	BDL
m-Xylene	BDL
o-Xylene	BDL

[1]Detection limit is 0.4 µg/L.
[2]Below detection limit.

Note: Large quantity of methanol present. (From RINSING of SAMPLER)

Reference: 28648

EPA METHOD 602 - PURGEABLE AROMATICS

Sample I. D. Rockingham MW-7 - 26 Feb 1987

Date Analyzed: 10 Mar 1987

Analyzed By: C. Barnes

PARAMETER	CONCENTRATION (µg/L)[1]
Benzene	BDL[2]
Chlorobenzene	BDL
1,2-Dichlorobenzene	BDL
1,3-Dichlorobenzene	BDL
1,4-Dichlorobenzene	BDL
Ethylbenzene	BDL
Toluene	BDL
p-Xylene	BDL
m-Xylene	BDL
o-Xylene	BDL

[1]Detection limit is 0.4 µg/L.
[2]Below detection limit.

Reference: 28648

EPA METHOD 602 - PURGEABLE AROMATICS

Sample I. D. Rockingham MW-8 - 26 Feb 1987

Date Analyzed: 10 Mar 1987

Analyzed By: C. Barnes

PARAMETER	CONCENTRATION (µg/L)[1]
Benzene	BDL[2]
Chlorobenzene	BDL
1,2-Dichlorobenzene	BDL
1,3-Dichlorobenzene	BDL
1,4-Dichlorobenzene	BDL
Ethylbenzene	BDL
Toluene	BDL
p-Xylene	BDL
m-Xylene	BDL
o-Xylene	BDL

[1]Detection limit is 0.4 µg/L.
[2]Below detection limit.

Reference: 28648

EPA METHOD 602 - PURGEABLE AROMATICS

Sample I. D. Rockingham MW9 - 26 Feb 1987

Date Analyzed: 10 Mar 1987

Analyzed By: C. Barnes

PARAMETER	CONCENTRATION (µg/L)[1]
Benzene	BDL[2]
Chlorobenzene	BDL
1,2-Dichlorobenzene	BDL
1,3-Dichlorobenzene	BDL
1,4-Dichlorobenzene	BDL
Ethylbenzene	1.0
Toluene	1.3
p-Xylene	0.7
m-Xylene	2.1
o-Xylene	2.0

[1] Detection limit is 4.0 µg/L.
[2] Below detection limit.

Reference: 28648

EPA METHOD 602 - PURGEABLE AROMATICS

Sample I. D. Rockingham MW-10 - 26 Feb 1987

Date Analyzed: 11 Mar 1987

Analyzed By: C. Barnes

PARAMETER	CONCENTRATION (µg/L)[1]
Benzene	BDL[2]
Chlorobenzene	BDL
1,2-Dichlorobenzene	BDL
1,3-Dichlorobenzene	BDL
1,4-Dichlorobenzene	BDL
Ethylbenzene	BDL
Toluene	BDL
p-Xylene	BDL
m-Xylene	BDL
o-Xylene	BDL

[1]Detection limit is 0.4 µg/L.
[2]Below detection limit.

Note: Large quantity of methanol present. (From rinsing sampler)

Reference: 28648

EPA METHOD 602 - PURGEABLE AROMATICS

Sample I. D. Rockingham MW-11 - 26 Feb 1987

Date Analyzed: 11 Mar 1987

Analyzed By: C. Barnes

PARAMETER	CONCENTRATION (µg/L)[1]
Benzene	BDL[2]
Chlorobenzene	BDL
1,2-Dichlorobenzene	BDL
1,3-Dichlorobenzene	BDL
1,4-Dichlorobenzene	BDL
Ethylbenzene	BDL
Toluene	BDL
p-Xylene	BDL
m-Xylene	BDL
o-Xylene	BDL

[1] Detection limit is 0.4 µg/L.
[2] Below detection limit.

Reference: 28648

EPA METHOD 602 - PURGEABLE AROMATICS

Sample I. D. Rockingham MW-12 - 26 Feb 1987

Date Analyzed: 11 Mar 1987

Analyzed By: C. Barnes

PARAMETER	CONCENTRATION (µg/L)[1]
Benzene	BDL[2]
Chlorobenzene	BDL
1,2-Dichlorobenzene	BDL
1,3-Dichlorobenzene	BDL
1,4-Dichlorobenzene	BDL
Ethylbenzene	BDL
Toluene	BDL
p-Xylene	BDL
m-Xylene	BDL
o-Xylene	BDL

[1] Detection limit is 0.4 µg/L.
[2] Below detection limit.

Reference: 28648

monitoring system is not repaired within six months, then the UST shall be retested thereafter pursuant to the testing schedule in section 503(1)(b) of this subchapter.

(e) Monitoring records for cathodic protection shall be maintained on the premises for the operational life of the protected UST or piping. Records for leak detection systems shall be kept on the premises for a period of at least three (3) years.

504 Reporting the Release of a Regulated Substance

Any person with knowledge of a release of a regulated substance shall report the incident to the Agency within two (2) hours of discovery. The results of any test or inspection which shows a facility is leaking shall be reported to the Agency within two (2) hours of the discovery. Reporting is accomplished by calling the Underground Storage Tank Program during normal working hours or by calling the 24-hour emergency phone numbers at 1-800-641-5005 or 244-8721.

505 Closure of out-of-service USTs

(1) Closure of USTs temporarily out-of-service

(a) Underground storage tanks or facilities which are temporarily out-of-service for ninety (90) or more days, but less than one (1) year, shall be closed as follows:

(i) All product shall be removed from the UST(s) and piping system to the lowest drawoff point. Any waste product removed from the UST(s) shall be disposed of in accordance with all applicable state and federal requirements; and

(ii) All manways shall be locked and all fill pipes, gauge openings and lines shall be capped or plugged to prevent unauthorized use or tampering.

(b) Underground storage tanks or facilities which are temporarily out-of-service are subject to all requirements of this subchapter and subchapters 3 and 4 of this chapter.

(2) Closure of USTs permanently out-of-service

(a) Any UST or facility which is permanently out-of-service for more than one year shall comply with the following:

(i) Liquid and sludge shall be removed from the UST and connecting lines. Any waste products removed shall be handled in accordance with all applicable state and federal requirements; and

(ii) Underground storage tank(s) shall be removed from the ground. Connecting lines may be permanently closed in-place provided that all openings are either capped or plugged. In cases where there is reason to believe that environmental contamination may have occured, the Secretary may require removal of piping; and

(iii) Any environmental contamination that has occured shall be remediated in accordance with all applicable state and federal requirements; and

(iv) The UST shall be rendered free of harmful vapors before it may be transported.

(b) Exception: If removal of an UST would serve to undermine the integrity of an overlying structure(s), or compromise the structural integrity of an adjacent fiberglass reinforced plastic UST, then the UST may be permanently closed in place.

In these cases, and after the requirements of 505(2)(a)(i) and (iii) above are performed, then the UST(s) may be filled to capacity with an inert material (such as sand or concrete slurry) until all voids are filled.

(3) Reporting of out-of-service tanks

The owner of a tank or facility which is to be permanently closed shall notify the Vermont Department of Labor and Industry, Fire Prevention Division within ten (10) days prior to permanent closure of the tank or