

Wagner, Heindel, and Noyes, Inc.

- Consulting Hydrogeologists
- Engineers
- Environmental Scientists

P.O. Box 1629 Burlington, Vermont 05402-1629

802-658-0820
FAX: 802-860-1014

October 11, 1994

Mr. Richard Spiese
Agency of Natural Resources
Hazardous Materials Management Division
103 South Main Street/West Office
Waterbury, VT 05671-0404

RE: Former Fairway Auto Site
Fairlee, Vermont

Dear Richard:

We have completed our supplementary investigation of the former Fairway Auto facility in Fairlee, Vermont. The follow-up work included the drilling and installation of three monitoring wells, laboratory analysis of soil and groundwater samples, water level measurements, and a site survey. The results of the follow-up investigation are described below. Supporting documentation is appended in the Attachment.

Site Location and History

The former Fairway auto facility is located on the southeast side of Route 5 in Fairlee, Vermont (see site location map, page 1 of Attachment). The morphology and land use history of the property was described in our Phase II Investigation Report¹.

Soil Borings/Monitoring Well Installation

Three soil borings were completed on September 1, 1994 to assess the possibility of deeper soil and groundwater contamination. Monitoring wells MW-3, MW-4, and MW-5 were placed to evaluate the distribution of MTBE and other potential gasoline contaminants on the property (see Site Plan, page 2 of Attachment). The soil borings were advanced using the hollow-stem auger technique by Tri-State Drilling and Boring, Inc. under WH&N supervision.

In each boring, split-spoon samples were collected at five-foot intervals from 0 to 15 feet below ground surface and from approximately 45 to 52 feet below ground surface. Composite samples were collected in all other intervals. Soil samples were described and screened with a Photovac Microtip photoionization detector (PID). One soil sample from each boring was collected near the water table and submitted for laboratory

analysis by EPA Method 8020. Soil logs with PID readings and driller's logs are compiled in the Attachment (pages 3 to 8). The wells were developed and sampled for laboratory analysis at a later date.

The three new borings were completed to a depth of approximately 60 feet below ground surface. Soils consisted of light to dark brown, medium- to fine-grained sand. No PID readings above background (0.0 ppm) were observed in any of the split- spoon or composite samples for the three borings. The lamp energy (10.6 eV) was sufficient to detect potential contaminants of interest (e.g. MTBE). The depth to water was approximately 49.5 feet below ground surface in each boring.

The three monitoring wells were constructed of 2" PVC pipe with a 15' screened section centered about the water table. The 0.020" screened sections were double-wrapped with filter sock to reduce the influx of fines into the monitoring well. Well construction details are provided on the soil boring logs.

Site Survey and Groundwater Elevation Results

The location and orientation of property boundaries, utilities, and points of interest to the investigation were surveyed on September 14, 1994. In addition, the location and relative elevation of the five monitoring wells on-site were surveyed, and the depth to water was determined for each. Monitoring well locations and depth-to-water measurements are illustrated on the groundwater contour map (page 9 of Attachment). The September 14 data indicates that the groundwater flow direction is southerly toward the Connecticut River.

Soil and Groundwater Analytical Results

One soil sample was collected from each boring at the water table for laboratory characterization by modified EPA Method 8020. The laboratory analytical reports are presented in the Attachment (pages 10 to 14). No EPA Method 8020 compounds, modified to include MTBE, were detected in these samples.

The new monitoring wells were developed and all onsite monitoring wells were sampled on September 14, 1994. Groundwater samples were submitted for laboratory characterization by modified EPA Method 602. The modified method includes quantification of MTBE. Laboratory analytical reports are compiled in the Attachment (pages 15 to 22).

MTBE was detected in monitoring wells MW-1, MW-2, and MW-3 in concentrations ranging from 370 to 54,100 ppb. The maximum MTBE concentration observed is more than two orders of magnitude below the aqueous solubility of the compound. MTBE was not encountered in MW-4 or MW-5. No other EPA Method 602 compounds were detected in the five monitoring wells.

Mr. Richard Spiese
October 11, 1994
Page 3

The MTBE distribution is illustrated on the contour map in the Attachment (page 23). The orientation of the plume, and the fact that MTBE is the sole contaminant, suggests that the source of the plume is located upgradient from the Fairway Auto property. This conclusion is also supported by the absence of detectable soil contamination in any of the three recent soil borings.

Summary and Conclusions

The concentrations of MTBE in groundwater from MW-1, MW-2, and MW-3 exceed the Vermont Health Advisory of 40 ppb. The absence of other gasoline contaminants in the groundwater, and the distribution of MTBE on the subject property relative to groundwater flow direction, suggest that an upgradient source is responsible for the contamination. Moreover, the gasoline USTs on the subject property were removed in 1982 according to Mr. Anderson; the tank removal predates the introduction of MTBE as a gasoline addition in circa 1983. Newton's Texaco, located upgradient to the northwest, operates underground storage tanks at the intersection of Route 5 and the I-91 access road. It is possible that these USTs are the source of MTBE observed on the former Fairway Auto property.

If you have any questions or comments concerning our analysis, please contact me or Jeff Noyes at your convenience.

Sincerely,

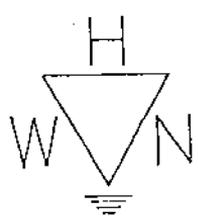
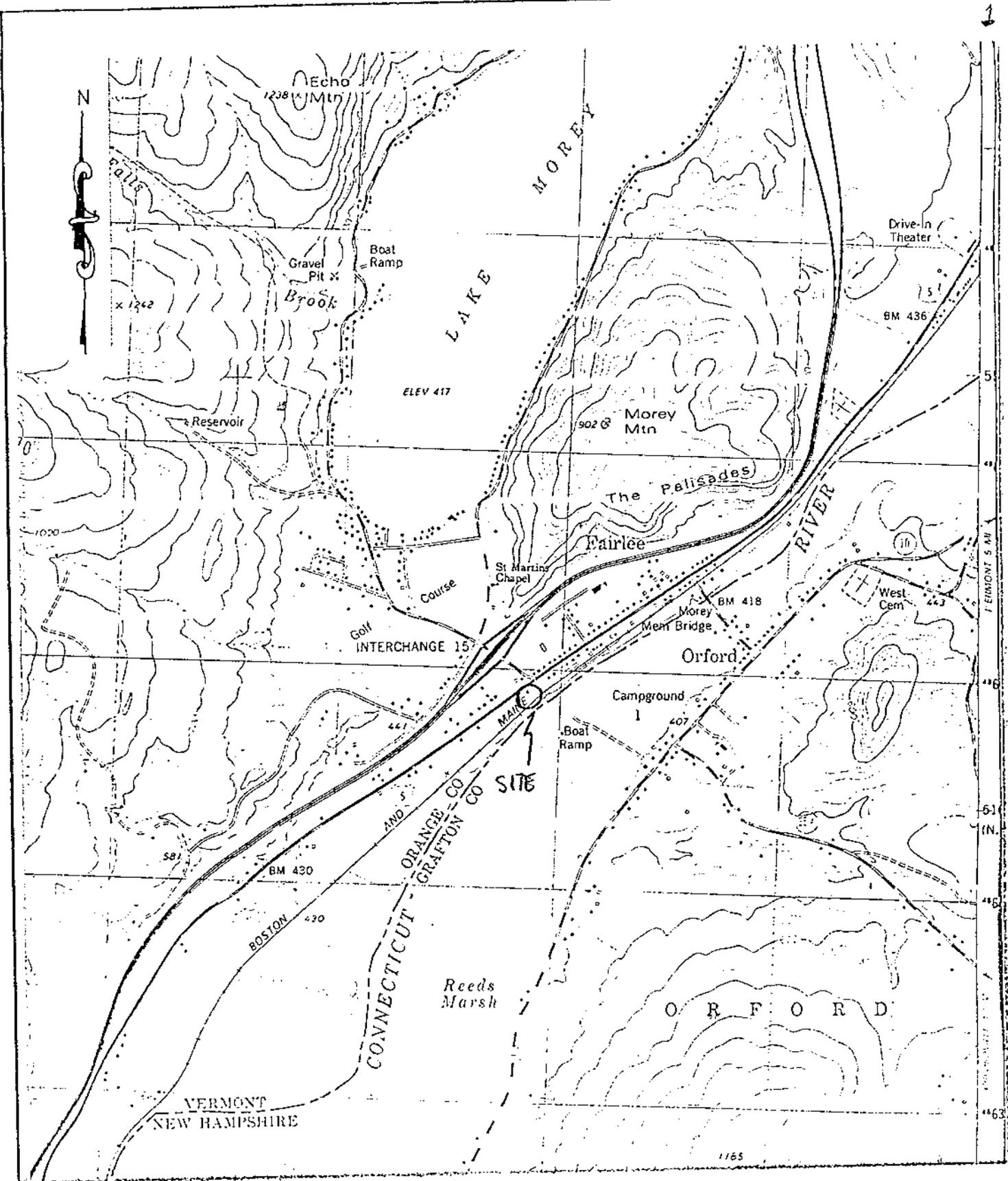


Jeffrey A. Silfer
Geochemist

JAS/ral

Attachments

[SPIESE.L1/JASILFER]



Wagner, Heindel, and Noyes

CONSULTING SCIENTISTS AND ENGINEERS

- Hydrogeology • Ecology •
- Environmental Engineering •

BURLINGTON, VERMONT

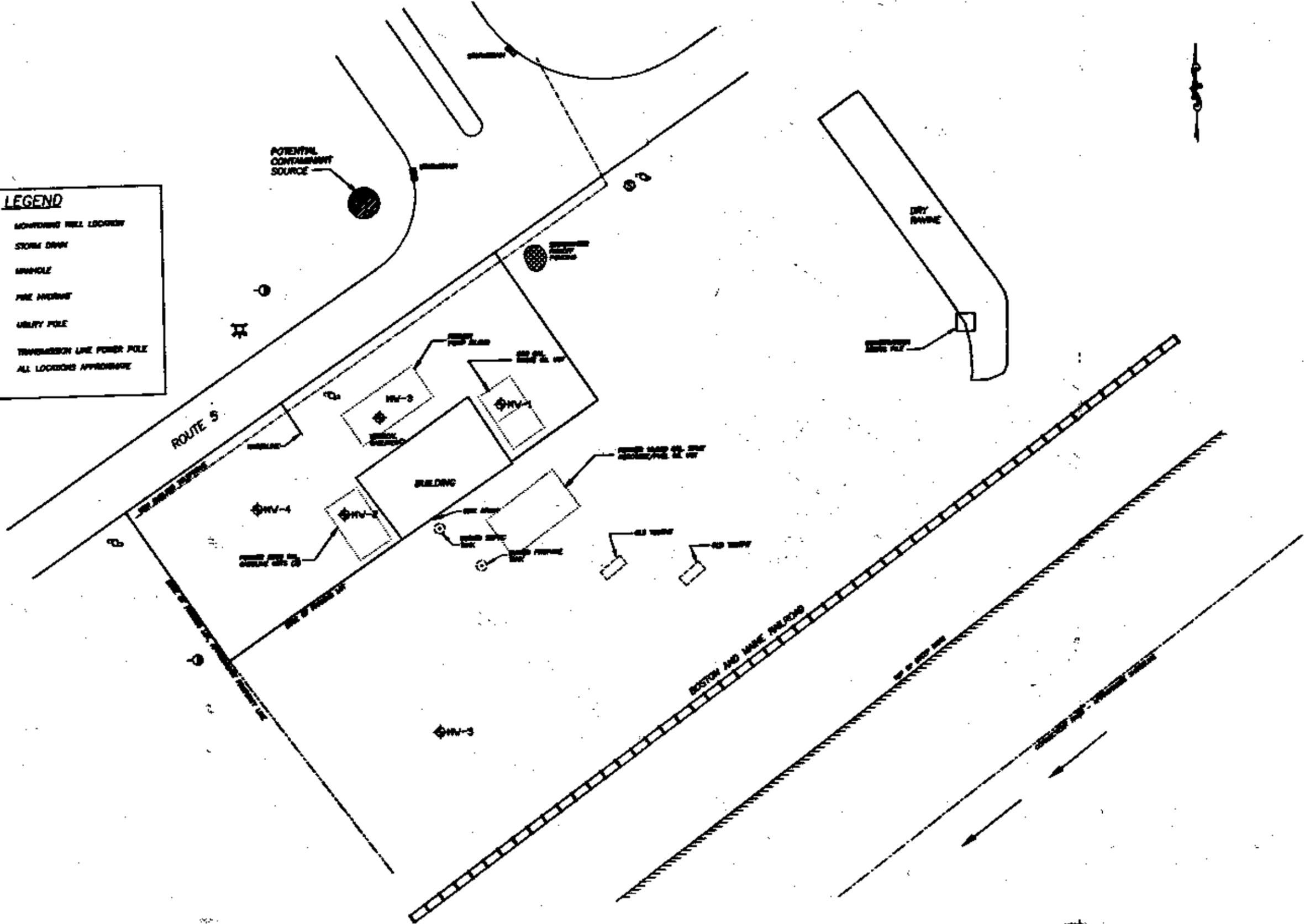
FORMER FAIRWAY AUTO FACILITY
FAIRLEE, VERMONT

SITE LOCATION MAP

DATE: 7-28-93 | SCALE: 1:24,000 | DRN: JAS | APPD: JAS

LEGEND

- ⊕ MW-5 MONITORING WELL LOCATION
- STORM DRAIN
- MANHOLE
- ⊕ FIRE HYDRANT
- ⊕ UTILITY POLE
- ⊕ TRANSMISSION LINE POWER POLE
- ALL LOCATIONS APPROXIMATE



THIS PLAN AND SURVEY PERTAINING TO THE ABOVE PROPERTY IS THE PROPERTY OF HANCOCK, HENDEL, AND NOYER, INC. OF SEPTEMBER 14, 1994.

FORMER FAIRWAY AUTO PROPERTY

FAIRLEE, VERMONT

SITE PLAN

SCALE: 1"=50'

DATE: OCTOBER 10, 1994

PROJECT NO. 94106
FILE: C:\WELLSRV\SURVEY

DRAWN BY: M. Luman
APPROVED: J. Saffer

HANCOCK, HENDEL, AND NOYER, INC.
CONSULTING SCIENTISTS AND ENGINEERS

• Hydrogeology • Ecology •
• Environmental Engineering •

P.O. BOX 1829 BURLINGTON, VERMONT 05402

SOIL LOG

Fairway Auto
Fairlee, Vermont

Prepared for:
Mr. George Anderson

Page 1

September 1, 1994

Driller: Tri-State Drilling and Boring, Inc. (West Burke, Vermont)

Inspector: Jeff Silfer (Wagner, Heindel, and Noyes, Inc.)

PID: Photovac MicroTIP (10.6 eV lamp probe)

DEPTH	SOIL DESCRIPTION	PID (ppm)	NOTES
Monitoring Well MW-3			
0 - 0.2'	Asphalt	-	
0.2' - 4.5'	Brown course sand	0.0	composite
4.5' - 6.5'	Light brown course sand	0.0	split spoon
6.5' - 9.5'	Light brown course sand	0.0	composite
9.5' - 11.5'	Light brown course sand; Iron stained at 10.5' - 11.5'	0.0	split spoon
11.5' - 14.5'	Dark brown course sand	0.0	composite
14.5' - 16.5'	Light brown course sand; iron stained lenses	0.0	split spoon
14.5' - 24.5'	Brown medium to fine sand	0.0	composite
24.5' - 34.5'	Dark brown fine sand	0.0	composite
34.5' - 44.5'	Dark brown fine sand	0.0	composite
44.5' - 46.5'	Light brown medium to fine sand	0.0	split spoon
44.5' - 49.5'	Dark brown sand	0.0	composite
49.5' - 51.5'	Wet brown sand; water table at approximately 49.5'	0.0	split spoon; samples for EPA 8020
49.5' - 59.5'	Wet brown sand	-	

Well Construction:

58.7' to 43.7' 0.020" slot screen (double fabric wrapped) with native backfill 44.0', silica sand to 41.7'. 2" diameter PVC riser from 43.7' to surface. Bentonite from 41.7' to 39.8'. Native fill from 39.8' to 4'. Bentonite from 4' to 3'. Native fill/concrete from 3' to surface.

SOIL LOG

Fairway Auto
Fairlee, Vermont

Prepared for:
Mr. George Anderson

Monitoring Well MW-4

0 - 0.2'	Asphalt	-	
0.2' - 4.5'	Dark brown medium to coarse sand	0.0	composite
4.5' - 6.5'	Light brown coarse sand	0.0	split spoon
4.5' - 9.5'	Light to dark brown coarse sand	0.0	composite
9.5' - 11.5'	Light to dark brown coarse sand with iron-stained lenses	0.0	split spoon
9.5' - 14.5'	Light to dark brown sand	0.0	composite
14.5' - 16.5'	Light to dark brown, medium sand; iron-stained lenses	0.0	split spoon
14.5' - 24.5'	Dark brown medium to fine sand	0.0	composite
24.5' - 34.5'	Dark brown medium to fine sand	0.0	composite
34.5' - 44.5'	Dark brown fine sand	0.0	composite
44.5' - 46.5'	Grey fine sand	0.0	split spoon
44.5' - 49.5'	Dark brown medium to fine sand	0.0	composite
49.5' - 51.5'	Wet, dark brown medium sand	0.0	split spoon; submitted for EPA 8020
51.5' - 60.0'	Wet, grey medium to fine sand	-	

Well Construction:

2" PVC 0.020" slotted screen from 59.8' to 44.8', with silica sand pack to 41.8'. 2" PVC riser from 44.8' to surface. Bentonite from 41.8' to 39.7'. Native fill from 39.7' to 4'. Bentonite from 4' to 3'. Native fill/concrete from 3' to surface.

SOIL LOG

Fairway Auto
Fairlee, Vermont

Prepared for:
Mr. George Anderson

Monitoring Well MW-5

0 - 0.5'	Brown soil/loam	-	
0.5' - 4.5'	Dark brown coarse sand	0.0	composite
4.5' - 6.5'	Light brown medium to coarse sand	0.0	split spoon
4.5' - 9.5'	Brown medium sand	0.0	composite
9.5' - 11.5'	Light brown medium sand	0.0	split spoon
9.5' - 14.5'	Light brown medium sand	0.0	composite
14.5' - 16.5'	Light brown to orange brown, medium to fine sand	0.0	split spoon
14.5' - 24.5'	Brown medium to fine sand	0.0	composite
24.5' - 34.5'	Brown medium to fine sand	0.0	composite
34.5' - 44.5'	Brown medium to fine sand	0.0	composite
44.5' - 46.5'	Grey fine sand	0.0	split spoon
46.5' - 49.5'	Dark brown fine sand	0.0	composite
49.5' - 51.5'	Wet medium to fine brown sand	0.0	split spoon; submitted for EPA 8020
51.5' - 60.0'	Wet medium to fine brown sand	-	

Well construction:

2" PVC 0.020" slotted screen from 60.0' to 45.0', silica sand pack to 42.7'. 2" PVC riser from 45.0' to surface. Bentonite from 42.7' to 40.5'. Native fill from 40.5' to 4'. Bentonite from 4' to 3'. Native fill/concrete from 3' to surface.

SOIL PROBE LOG

Page 1 of 3
MW # 3
Fairway Auto
Fairlee, VT

TRI STATE
DRILLING & BORING, INC.
RFD #2, Box 113 West Burke, VT 05871
(802) 467-0129

		SAMPLER	SOIL
		Continuous	Saturated
TYPE	HSA	SS	Wet
SIZE	2"		Moist
HAMMER	140#		Damp
FALL	30"		Slightly Damp

DATE STARTED: 09/01/94

DATE COMPLETED: 09/01/94

FOOTAGE

DEPTH BLOW COUNTS REC

DRILLER'S NOTES & COMMENTS

6 12 18 24

0.2' Asphalt.

0.2-2' Brown damp fine to coarse sand,
fine gravel fill.

2-49.5' Brown damp fine to coarse sand.

49.5-59' Gray wet fine sand.

Bottom 59.0'.

Heaving sands.

Screen 58.7' to 42.7' below GS.

Riser 42.7' to GS.

Backfill 58.7' to 44' below GS.

Cand 44' to 41.7' below GS.

Hole plug 41.7' to 39.8' below GS.

Backfill 39.8' to 4' below GS.

Hole plug 4' to 3' below GS.

Backfill 3' to 1' below GS.

Cement 1' to GS.

Client: Fairway Auto
Job Location: Fairlee, VT
Engineer: Wagner, Heindel & Noyes
Burlington, VT
Inspector: Jeff Silver #94220

Driller: Ray Gilfillian
Helper: Sean Hogan
Materials: 1 bag sand, 1.5 bags
bentonite.

SOIL PROBE LOG

Page 2 of 3
MW # 4
Fairway Auto
Fairlee, VT

TRI STATE
DRILLING & BORING, INC.
RFD #2, Box 113 West Burke, VT 05871
(802) 467-3123

TYPE	SAMPLER	SOIL
HSA	Continuous	Saturated
SIZE	SS	Wet
HAMMER		Moist
FALL		Damp
		Slightly Damp

DATE STARTED: 09/01/94

DATE COMPLETED: 09/01/94

FOOTAGE	DEPTH	BLOW COUNTS	REC	DRILLER'S NOTES & COMMENTS
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6 12 18 24

0.2' Asphalt.

0.2-2' Brown damp fine to coarse sand, and fine gravel.

2-49.5' Brown damp fine to coarse sand.

49.5-60' Gray wet fine medium sand.

Bottom 60.0'.

Heaving sands.

Screen 59.8' to 44.8' below GS.
Riser 44.8' to GS.
Sand 59.8' to 41.8' below GS.
Hole plug 41.8' to 39.7' below GS.
Backfill 39.7' to 4' below GS.
Hole plug 4' to 3' below GS.
Backfill 3' to 1' below GS.
Cement 1' to GS.

Client: Fairway Auto
Job Location: Fairlee, VT
Engineer: Wagner, Heindel & Noyes
Burlington, VT
Inspector: Jeff Silber #94220

Driller: Ray Silfillan
Helper: Sean Hogan
Materials: 2.5 bags sand, 1.5 bags hole plug, 1 bag sakrete.

SOIL PROBE LOG

Page 3 of 3
MW # 5
Fairway Auto
Fairlee, VT

TRI STATE
DRILLING & BORING, INC.
RFD #2, Box 113 West Burke, VT 05871
(802) 467-3123

		SAMPLER	SOIL
TYPE	HSA	Continuous	Saturated
SIZE	2"	SS	Wet
HAMMER	140#		Moist
FALL	30"		Damp
			Slightly Damp

DATE STARTED: 09/01/94

DATE COMPLETED: 09/01/94

FOOTAGE

DEPTH BLOW COUNTS REC

DRILLER'S NOTES & COMMENTS

6 12 18 24

0.3' Topsoil.

0.3-2' Brown damp silty fine to coarse sand.

2-49.5' Brown damp fine to coarse sand.

49.5-60' Gray wet fine sand.

Bottom 60.0'.

Heaving sands.

Screen 60' to 45' below GS.

Riser 45' to GS.

Sand 60' to 42.7' below GS.

Hole plug 42.7' to 40.5' below GS.

Backfill 40.5' to 4' below GS.

Hole plug 4' to 3' below GS.

Backfill 3' to 1' below GS.

Sakrete 1' to GS.

Client: Fairway Auto
Job Location: Fairlee, VT
Engineer: Wagner, Heindel & Noyes
Burlington, VT
Inspector: Jeff Silber #94220

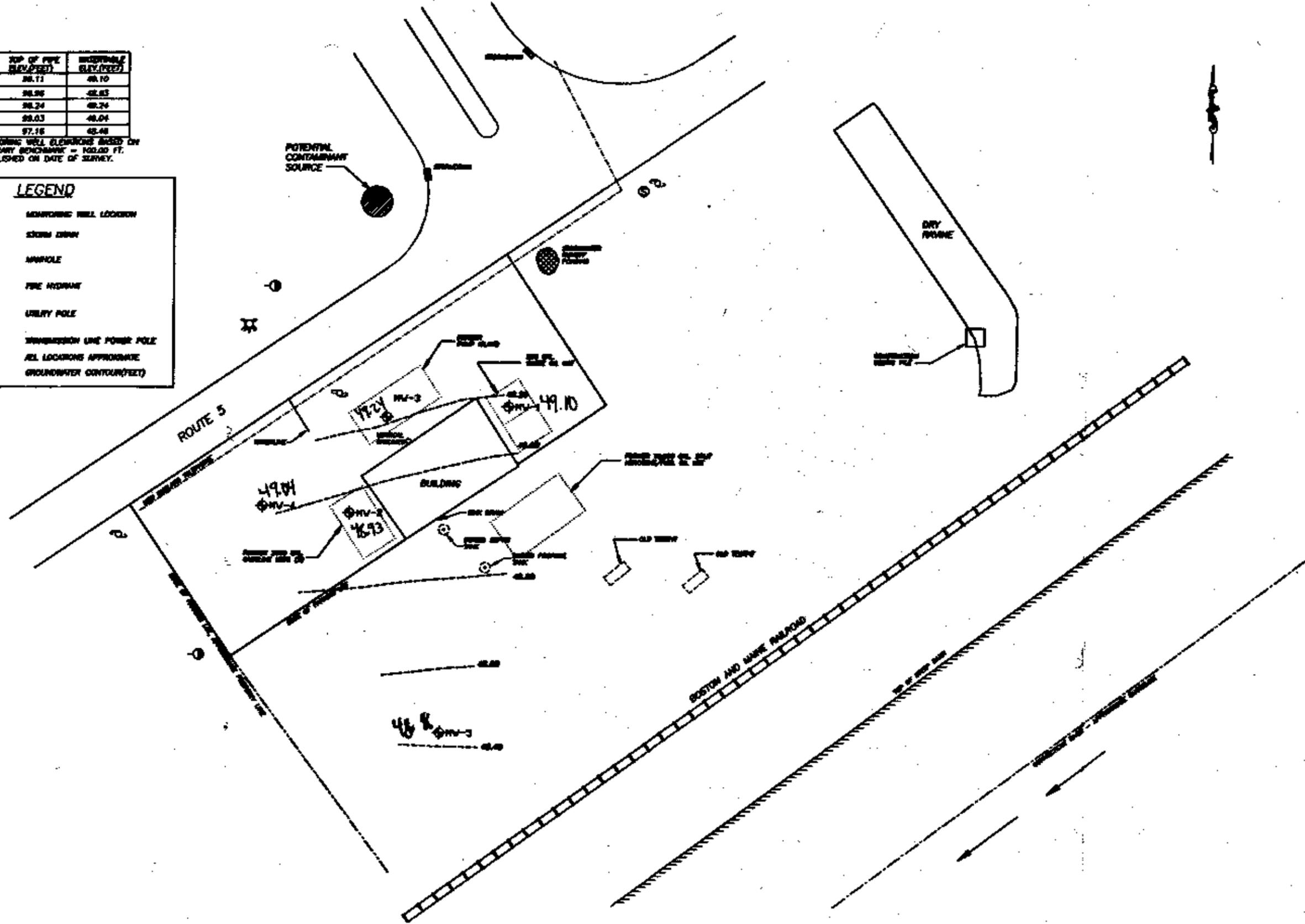
Driller: Ray Gilfillian
Helper: Sean Hogan
Materials: 2 bags sand, 1.5 bags
hole plug, 1 bag sakrete.

WELL #	TOP OF PIPE ELEV. (FEET)	WATER TABLE ELEV. (FEET)
1	88.11	48.10
2	88.96	48.83
3	88.24	48.24
4	88.03	48.04
5	87.18	48.48

NOTE: MONITORING WELL ELEVATIONS BASED ON
ARBITRARY BENCHMARK = 100.00 FT.
ESTABLISHED ON DATE OF SURVEY.

LEGEND

- ⊕ MW-5 MONITORING WELL LOCATION
- STORM DRAIN
- MANHOLE
- ⊕ FIRE HYDRANT
- UTILITY POLE
- TRANSMISSION LINE POWER POLE
- ALL LOCATIONS APPROXIMATE
- - - - GROUNDWATER CONTOUR (FEET)



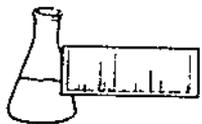
THIS
MAP WAS SURVEY PERFORMED BY W. HEIDEL AND S. NOYES
OF WAGNER, HEIDEL, AND NOYES, INC. ON SEPTEMBER 14, 1994.

PROJECT NO. 94106
FILE: C:\WELLSRV\ SURVEY

DRAWN BY: M. Luman
APPROVED: J. Siffer

Wagner, Heidel, and Noyes, Inc.
CONSULTING SCIENTISTS AND ENGINEERS
• Hydrogeology • Ecology •
• Environmental Engineering •
P.O. BOX 1629 BURLINGTON, VERMONT 05402

FORMER FAIRWAY AUTO PROPERTY
FAIRLEE, VERMONT
GROUNDWATER CONTOUR MAP (9/14/94)
SCALE: 1" = 50'
DATE: OCTOBER 10, 1994



ENDYNE, INC.

Laboratory Services

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

REPORT OF LABORATORY ANALYSIS

CLIENT: Wagner, Heindel & Noyes, Inc.
PROJECT NAME: Anderson/Fairway Auto
DATE REPORTED: September 13, 1994
DATE SAMPLED: September 1, 1994

PROJECT CODE: HNFA1558
REF. #: 64,045 - 64,047

Enclosed please find the results of the analyses performed for the samples referenced on the attached chain of custody record.

Chain of custody did not indicate sample preservation.

All samples were prepared and analyzed by requirements outlined in the referenced methods and within the specified holding times.

All instrumentation was calibrated with the appropriate frequency and verified by the requirements outlined in the referenced methods.

Blank contamination was not observed at levels affecting the analytical results.

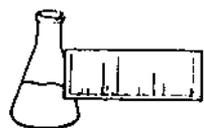
Analytical method precision and accuracy was monitored by laboratory control standards which included matrix spike, duplicate and quality control analyses. These standards were determined to be within established laboratory method acceptance limits.

Individual sample performance was monitored by the addition of surrogate analytes to each sample. All surrogate data was determined to be within Laboratory QA/QC guidelines unless otherwise noted.

Reviewed by,

Harry B. Locker, Ph.D.
Laboratory Director

enclosures



ENDYNE, INC.

Laboratory Services

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

LABORATORY REPORT

EPA METHOD 8020 COMPOUNDS BY EPA METHOD 8260

CLIENT: Wagner, Heindel & Noyes, Inc.
PROJECT NAME: Anderson/Fairway Auto
REPORT DATE: September 13, 1994
SAMPLER: Jeff Silfer
DATE SAMPLED: September 1, 1994
DATE RECEIVED: September 2, 1994

PROJECT CODE: HNFA1558
ANALYSIS DATE: September 12, 1994
STATION: MW-3 (49.5'-51.5')
REF.#: 64,045
TIME SAMPLED: 11:00 a.m.

<u>Parameter</u>	<u>Detection Limit (ug/kg)</u>	<u>Concentration As Received (ug/kg)</u>
Benzene	10	ND ¹
Chlorobenzene	20	ND
1,2-Dichlorobenzene	20	ND
1,3-Dichlorobenzene	20	ND
1,4-Dichlorobenzene	20	ND
Ethylbenzene	10	ND
Toluene	10	ND
Xylene	30	ND
MTBE	30	ND

NUMBER OF UNIDENTIFIED PEAKS FOUND: >10

ANALYTICAL SURROGATE RECOVERY:

Dibromofluoromethane: 106%
Toluene-d8: 101%
4-Bromofluorobenzene: 97%

PERCENT SOLIDS: 79%

NOTES:

1 None detected



Laboratory Services

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

LABORATORY REPORTEPA METHOD 8020 COMPOUNDS BY EPA METHOD 8260

CLIENT: Wagner, Heindel & Noyes, Inc.
PROJECT NAME: Anderson/Fairway Auto
REPORT DATE: September 13, 1994
SAMPLER: Jeff Silfer
DATE SAMPLED: September 1, 1994
DATE RECEIVED: September 2, 1994

PROJECT CODE: HNFA1558
ANALYSIS DATE: September 12, 1994
STATION: MW-4 (49.5'-51.5')
REF.#: 64,046
TIME SAMPLED: 2:00 p.m.

<u>Parameter</u>	<u>Detection Limit (ug/kg)</u>	<u>Concentration As Received (ug/kg)</u>
Benzene	10	ND ¹
Chlorobenzene	20	ND
1,2-Dichlorobenzene	20	ND
1,3-Dichlorobenzene	20	ND
1,4-Dichlorobenzene	20	ND
Ethylbenzene	10	ND
Toluene	10	ND
Xylene	30	ND
MTBE	30	ND

NUMBER OF UNIDENTIFIED PEAKS FOUND: 7

ANALYTICAL SURROGATE RECOVERY:

Dibromofluoromethane: 102%
Toluene-d8: 99%
4-Bromofluorobenzene: 98%

PERCENT SOLIDS: 83%

NOTES:

1 None detected



Laboratory Services

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

LABORATORY REPORTEPA METHOD 8020 COMPOUNDS BY EPA METHOD 8260

CLIENT: Wagner, Heindel & Noyes, Inc.
PROJECT NAME: Anderson/Fairway Auto
REPORT DATE: September 13, 1994
SAMPLER: Jeff Silfer
DATE SAMPLED: September 1, 1994
DATE RECEIVED: September 2, 1994

PROJECT CODE: HNFA1558
ANALYSIS DATE: September 12, 1994
STATION: MW-5 (49.5'-51.5')
REF.#: 64,047
TIME SAMPLED: 5:00 p.m.

<u>Parameter</u>	<u>Detection Limit (ug/kg)</u>	<u>Concentration As Received (ug/kg)</u>
Benzene	10	ND ¹
Chlorobenzene	20	ND
1,2-Dichlorobenzene	20	ND
1,3-Dichlorobenzene	20	ND
1,4-Dichlorobenzene	20	ND
Ethylbenzene	10	ND
Toluene	10	ND
Xylene	30	ND
MTBE	30	ND

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

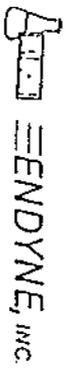
ANALYTICAL SURROGATE RECOVERY:

Dibromofluoromethane: 111%
Toluene-d8: 101%
4-Bromofluorobenzene: 98%

PERCENT SOLIDS: 81%

NOTES:

1 None detected



32 Jackson Brown Drive
William Vermont 05495
(802) 879-4333

CHAIN-OF-CUSTODY RECORD

004792

Project Name: Anderson/LeRoy, hite
Site Location: Fairlee, VT

Reporting Address: Lohand

Billing Address: Lohand

Endyne Project Number: HMA/1995

Contact Name: Jeff Miller
Company/Phone #: 802-879-2626

Sampler Name: Jeff Miller
Company/Phone #:

Lab #	Sample Description	Matrix	Date/Time	Container		Field Results/Remarks	Analysis Required	Sample Preservation	Risk
				No.	Type/Size				
1	MU-3 (49.5'-51.5')	Soil	11/16/05	1	Quart Jar	PH, ORP, ...	PH, ORP		
2	MU-4 (49.5'-51.5')	Soil	11/16/05	1	Quart Jar	PH, ORP, ...	PH, ORP		
3	MU-5 (49.5'-51.5')	Soil	11/16/05	1	Quart Jar	PH, ORP, ...	PH, ORP		

Relinquished by: Signature [Signature]

Received by: Signature [Signature]

Date/Time

Relinquished by: Signature [Signature]

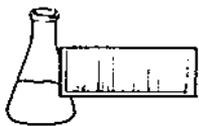
Received by: Signature [Signature]

Date/Time

Requested Analyses

Lab #	Parameter	Method	Standard
1	TVN	11	Total Solids
2	Chloride	7	Total P
3	Ammonia N	8	Total Diss. P
4	Nitrite N	9	BOD ₅
5	Nitrate N	10	Alkalinity
6	Total Solids	11	Total Solids
7	TSS	12	TSS
8	TDS	13	TDS
9	Turbidity	14	Turbidity
10	Conductivity	15	Conductivity
16	Methicillin	16	Methicillin
17	Fecal and/or Tot.	17	Fecal and/or Tot.
18	COO	18	COO
19	BTEX	19	BTEX
20	EPA 601/602	20	EPA 601/602
21	EPA 571	21	EPA 571
22	EPA 625 B,N or A	22	EPA 625 B,N or A
23	EPA 418.1	23	EPA 418.1
24	EPA 608 Pentachlor	24	EPA 608 Pentachlor
25	EPA 8240	25	EPA 8240
26	EPA 8270	26	EPA 8270
27	EPA 9010	27	EPA 9010
28	EPA 9070	28	EPA 9070
29	EPA 9090	29	EPA 9090
30	EPTOX	30	EPTOX

LABORATORY: WHITE PROJECT MANAGER: YELLOW SAMPLER: PINK



ENDYNE, INC.

Laboratory Services

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

REPORT OF LABORATORY ANALYSIS

CLIENT: Wagner, Heindel, and Noyes, Inc.
PROJECT NAME: Fairway Auto
REPORT DATE: September 23, 1994
DATE SAMPLED: September 14, 1994

PROJECT CODE: HNFA1423
REF.#: 64,449 - 64,454

Enclosed please find the results of the analyses performed for the samples referenced on the attached chain of custody. Chain of custody indicated samples were preserved with HCl.

All samples were prepared and analyzed by requirements outlined in the referenced method and within the specified holding times. All instrumentation was calibrated with the appropriate frequency and verified by the requirements outlined in the referenced method. Blank contamination was not observed at levels affecting the analytical results.

Analytical method precision and accuracy was monitored by laboratory control standards which included matrix spike, duplicate and quality control analyses. These standards were determined to be within established laboratory method acceptance limits.

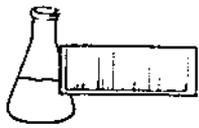
Individual sample performance was monitored by the addition of surrogate analytes to each sample. All surrogate recovery data was determined to be within laboratory QA/QC guidelines unless otherwise noted.

Reviewed by,

Harry B. Locker, Ph.D.
Laboratory Director

enclosures

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ENDYNE, INC.

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Laboratory Services

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FAX 879-7103

LABORATORY REPORT

EPA METHOD 602--PURGEABLE AROMATICS

CLIENT: Wagner, Heindel, and Noyes, Inc.
PROJECT NAME: Fairway Auto
REPORT DATE: September 23, 1994
DATE SAMPLED: September 14, 1994
DATE RECEIVED: September 15, 1994
ANALYSIS DATE: September 22, 1994

PROJECT CODE: HNFA1423
REF.#: 64,449
STATION: MW1
TIME SAMPLED: 11:50
SAMPLER: D. Reese

<u>Parameter</u>	<u>Detection Limit (ug/L)¹</u>	<u>Concentration (ug/L)</u>
Benzene	5	ND ²
Chlorobenzene	5	ND
1,2-Dichlorobenzene	5	ND
1,3-Dichlorobenzene	5	ND
1,4-Dichlorobenzene	5	ND
Ethylbenzene	5	ND
Toluene	5	ND
Xylenes	5	ND
MTBE	50	370.

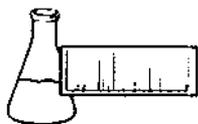
Bromobenzene Surrogate Recovery: 113%

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

NOTES:

1 Detection limit raised due to high levels of contaminants. Sample run at 20% dilution.

2 None detected



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LABORATORY REPORT

EPA METHOD 602--PURGEABLE AROMATICS

CLIENT: Wagner, Heindel, and Noyes, Inc.
PROJECT NAME: Fairway Auto
REPORT DATE: September 23, 1994
DATE SAMPLED: September 14, 1994
DATE RECEIVED: September 15, 1994
ANALYSIS DATE: September 22, 1994

PROJECT CODE: HNFA1423
REF.#: 64,450
STATION: MW2
TIME SAMPLED: 12:25
SAMPLER: D. Reese

<u>Parameter</u>	<u>Detection Limit (ug/L)¹</u>	<u>Concentration (ug/L)</u>
Benzene	20	ND ²
Chlorobenzene	20	ND
1,2-Dichlorobenzene	20	ND
1,3-Dichlorobenzene	20	ND
1,4-Dichlorobenzene	20	ND
Ethylbenzene	20	ND
Toluene	20	ND
Xylenes	20	ND
MTBE	200	1,340.

Bromobenzene Surrogate Recovery: 102%

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

NOTES:

1 Detection limit raised due to high levels of contaminants. Sample run at 5% dilution.

2 None detected



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LABORATORY REPORT

EPA METHOD 602--PURGEABLE AROMATICS

CLIENT: Wagner, Heindel, and Noyes, Inc.
PROJECT NAME: Fairway Auto
REPORT DATE: September 23, 1994
DATE SAMPLED: September 14, 1994
DATE RECEIVED: September 15, 1994
ANALYSIS DATE: September 22, 1994

PROJECT CODE: HNFA1423
REF.#: 64,451
STATION: MW3
TIME SAMPLED: 13:30
SAMPLER: D. Reese

<u>Parameter</u>	<u>Detection Limit (ug/L)¹</u>	<u>Concentration (ug/L)</u>
Benzene	500	ND ²
Chlorobenzene	500	ND
1,2-Dichlorobenzene	500	ND
1,3-Dichlorobenzene	500	ND
1,4-Dichlorobenzene	500	ND
Ethylbenzene	500	ND
Toluene	500	ND
Xylenes	500	ND
MTBE	5000	54,100.

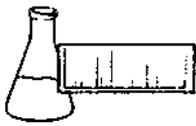
Bromobenzene Surrogate Recovery: 98%

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

NOTES:

1 Detection limit raised due to high levels of contaminants. Sample run at 0.2% dilution.

2 None detected



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LABORATORY REPORT

EPA METHOD 602--PURGEABLE AROMATICS

CLIENT: Wagner, Heindel, and Noyes, Inc.
PROJECT NAME: Fairway Auto
REPORT DATE: September 23, 1994
DATE SAMPLED: September 14, 1994
DATE RECEIVED: September 15, 1994
ANALYSIS DATE: September 22, 1994

PROJECT CODE: HNFA1423
REF.#: 64,452
STATION: MW4
TIME SAMPLED: 14:45
SAMPLER: D. Reese

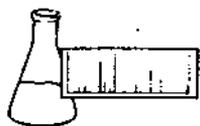
<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
Benzene	1	ND ¹
Chlorobenzene	1	ND
1,2-Dichlorobenzene	1	ND
1,3-Dichlorobenzene	1	ND
1,4-Dichlorobenzene	1	ND
Ethylbenzene	1	ND
Toluene	1	ND
Xylenes	1	ND
MTBE	10	ND

Bromobenzene Surrogate Recovery: 97%

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

NOTES:

1 None detected



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LABORATORY REPORT

EPA METHOD 602--PURGEABLE AROMATICS

CLIENT: Wagner, Heindel, and Noyes, Inc.
PROJECT NAME: Fairway Auto
REPORT DATE: September 23, 1994
DATE SAMPLED: September 14, 1994
DATE RECEIVED: September 15, 1994
ANALYSIS DATE: September 22, 1994

PROJECT CODE: HNFA1423
REF.#: 64,453
STATION: MW5
TIME SAMPLED: 15:15
SAMPLER: D. Reese

<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
Benzene	1	ND ¹
Chlorobenzene	1	ND
1,2-Dichlorobenzene	1	ND
1,3-Dichlorobenzene	1	ND
1,4-Dichlorobenzene	1	ND
Ethylbenzene	1	ND
Toluene	1	ND
Xylenes	1	ND
MTBE	10	ND

Bromobenzene Surrogate Recovery: 96%

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

NOTES:

1 None detected



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LABORATORY REPORT

EPA METHOD 602--PURGEABLE AROMATICS

CLIENT: Wagner, Heindel, and Noyes, Inc.
PROJECT NAME: Fairway Auto
REPORT DATE: September 23, 1994
DATE SAMPLED: September 14, 1994
DATE RECEIVED: September 15, 1994
ANALYSIS DATE: September 22, 1994

PROJECT CODE: HNFA1423
REF.#: 64,454
STATION: Trip Blank
TIME SAMPLED: 8:00
SAMPLER: D. Reese

<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
Benzene	1	ND ¹
Chlorobenzene	1	ND
1,2-Dichlorobenzene	1	ND
1,3-Dichlorobenzene	1	ND
1,4-Dichlorobenzene	1	ND
Ethylbenzene	1	ND
Toluene	1	ND
Xylenes	1	ND
MTBE	10	ND

Bromobenzene Surrogate Recovery: 96%

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

NOTES:

1 None detected

CHAIN-OF-CUSTODY RECORD

Project Name: FAIRWAY AUTO
 Site Location: FAIRLEE, VT
 Reporting Address: 100 HWY
 Billing Address:

Endyne Project Number: 11MFA141A
 Company: WMA
 Contact Name/Phone #: J. SUTHER
 Sampler Name: J. SUTHER
 Phone #: 558-0820

Lab #	Sample Location	Matrix	C R A B	C O M P	Date/Time	Sample Containers		Field Results/Remarks	Analysis Required	Sample Preservation	Rush
						No.	Type/Size				
11/11/94	MW 1	WATER	X		11/11/94	2	40 ml		20	11/11/94	
11/11/94					12/25						
11/11/94					13/30						
11/11/94					14/15						
11/11/94					15/15						
11/11/94	TRIP BLANK				1/8/00						

Relinquished by: Signature [Signature] Received by: Signature [Signature] Date/Time 9-25-94
 Relinquished by: Signature [Signature] Received by: Signature [Signature] Date/Time 9-25-94

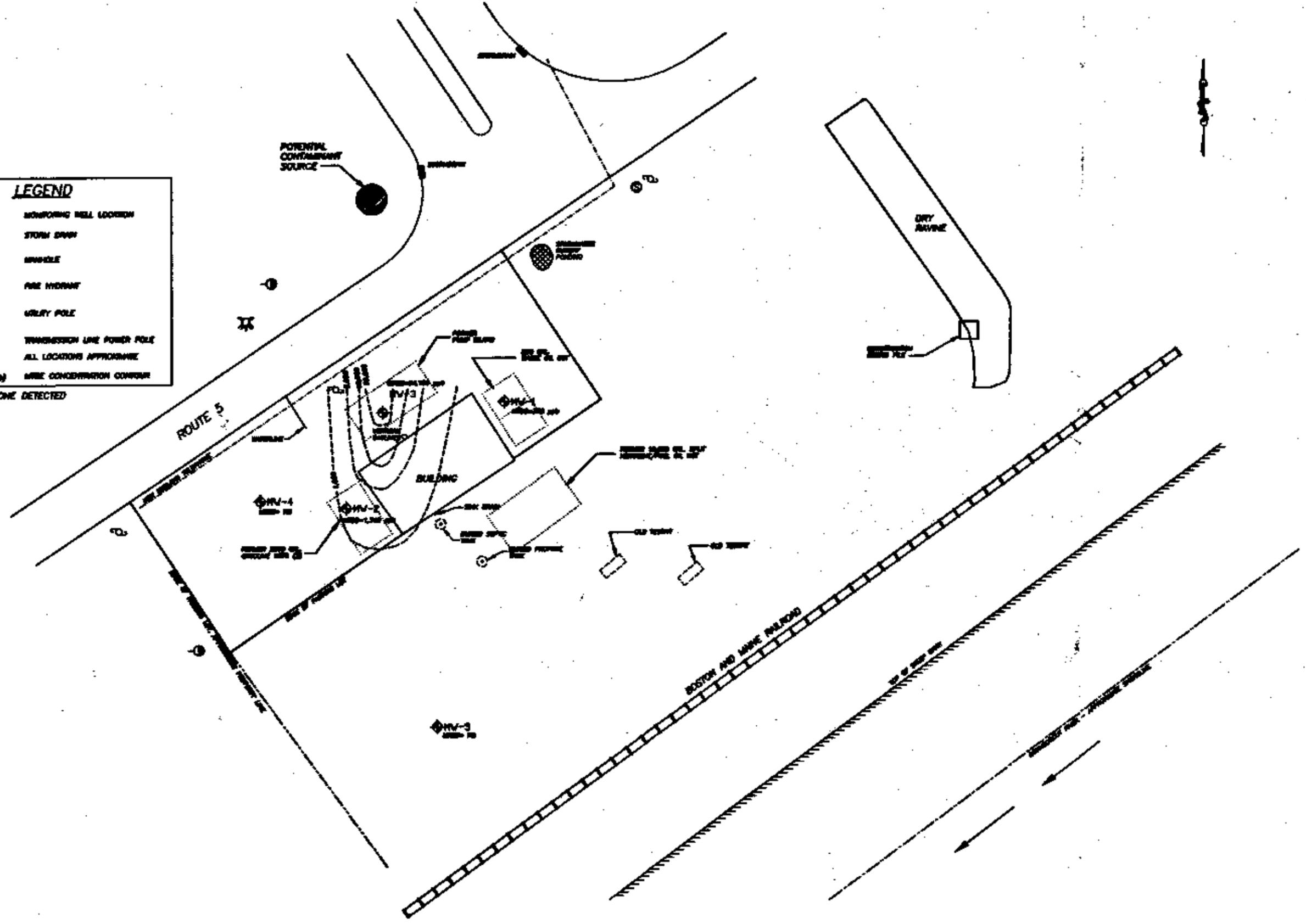
Requested Analyses

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
pH	TKN	Total Solids	Metals (Specify)	EPA 634																								
Chloride	Total P	TSS	Coliform (Specify)	EPA 625 B/N or A																								
Ammonia N	Total Diss. P	TDS	COD	EPA 418.1																								
Nitrite N	BOD ₅	Turbidity	BTEX	EPA 608 Pgw/PCB																								
Nitrate N	Alkalinity	Conductivity	EPA 601/602	EPA 8240																								
TCLP (Specify: volatiles, semi-volatiles, metals, pesticides, herbicides)																												
Other (Specify):																												

LEGEND

- ◆ MW-5 MONITORING WELL LOCATION
- STORM DRAIN
- WINDMILL
- ⊗ FIRE HYDRANT
- ⊕ UTILITY POLE
- ⊙ TRANSMISSION LINE POWER POLE
- ALL LOCATIONS APPROXIMATE
- MTBE CONCENTRATION CONTOUR

ND = NONE DETECTED



THIS MAP WAS PREPARED BY S. LUMAN AND G. HENNE OF WAGNER, HEINDEL, AND NOYES, INC. ON SEPTEMBER 14, 1994.

FORMER FAIRWAY AUTO PROPERTY

FAIRLEE, VERMONT

MTBE CONCENTRATION CONTOUR MAP (9/14/94)

SCALE: 1"=50'

DATE: OCTOBER 10, 1994

PROJECT NO. 94106

FILE: C:\WELLSRV\SURVEY

DRAWN BY: M. Luman

APPROVED: J. Soffer

Wagner, Heindel, and Noyes, Inc.
CONSULTING SCIENTISTS AND ENGINEERS

• Hydrogeology • Ecology •
• Environmental Engineering •

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