



AUG 2 10 22 AM '96

WASTE MANAGEMENT
DIVISION

August 1, 1996

Mr. Richard Spiese
Agency of Natural Resources
Department of Environmental Conservation
Hazardous Materials Management Division
103 South Main Street / West Building
Waterbury, Vermont 05671-0404

Re: Investigation of Subsurface Petroleum Contamination for Don's Auto in Derby, Vermont
(Vermont DEC Site # 95-1811)

Dear Mr. Spiese:

Enclosed, please find the report on the Investigation of Subsurface Petroleum Contamination at the above referenced site. Mr. Donald Keenan, the owner, has reviewed and approved the report, and is anxious to conclude the site investigation process. Griffin International, Inc. (Griffin) will submit a work plan for the additional activity recommended in the report upon your approval.

If you have any questions regarding the report or if we can be of assistance to you, please call Laurie Reed, the Griffin project manager for the site.

Sincerely,

Tom Beck

Tom Beck, P. E.
Principal Engineer

c: Mr. Donald Keenan, Don's Auto

**REPORT ON THE INVESTIGATION
OF SUBSURFACE
PETROLEUM CONTAMINATION**

AT

**DON'S AUTO
MAIN STREET
DERBY, VERMONT**

VTDEC SITE #95-1811

July, 1996

PREPARED FOR:

**Don's Auto
Main Street
Derby, Vermont**



**PO Box 943 / 19 Commerce Street
Williston, VT 05495
(802) 865-4288**

Griffin Project #10954760

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I. INTRODUCTION

This report describes the investigation of subsurface petroleum contamination at Don's Auto located on Main Street (Route 105 and 5A) in Derby, Vermont. This investigation was conducted by Griffin International Inc. (Griffin) for Mr. Donald Keenan of Derby, Vermont, owner of the site.

This investigation was initiated after petroleum contamination was discovered at the site during the closure of three underground storage tanks (USTs) at the site on April 21, 1995. All of the former USTs were located in a common pit situated at the southwest corner of the building at Don's Auto. The USTs reportedly had been out of service since 1981. The USTs removed were:

- #1, 1,000 gallon capacity gasoline installed circa 1960.
- #2, 1,000 gallon capacity gasoline installed circa 1950.
- #3, 1,000 gallon capacity gasoline installed circa 1950.

No significant petroleum contamination was detected during the UST removals in the excavations of UST#2 or UST#3. Based on photo ionization device (PID) screening results, soil in the area of UST #1 contained relatively high concentrations of adsorbed petroleum compounds. PID (Model HNU- PI-101) responses in the area of the main tank field averaged approximately 200 parts per million (ppm) and peaked at 230 ppm at a depth of 12 feet. During the UST removals, concentrations of volatile organic compounds (VOCs) recorded by PID remained above 200 ppm to a depth of 12 feet. The limits of contamination were not defined. Twenty (20) cubic yards of contaminated soil were backfilled into the UST pit on April 21, 1995.

This investigation was requested by the Vermont department of Environmental Conservation (VTDEC) in a letter (dated September 19, 1995) to Donald Keenan of Don's Auto, from Richard Spiese, VTDEC. Griffin prepared a Work Plan and Cost Estimate detailing the work performed in this assessment, which was submitted to Don's Auto on October 2, 1995 and was submitted to the VTDEC on October 4, 1995. The Work Plan was approved by the VTDEC on June 7, 1996. Site investigation work began at Don's Auto on June 17, 1996.

II. SITE DESCRIPTION

The site is located in a mixed commercial and residential area on Main Street in Derby, Vermont (See Site Location Map in Appendix A.). Don's Auto is currently an auto service shop. A gasoline service station had operated at this site for more than 30 years, from approximately 1950 to 1981. Two buildings are located at the site, the auto repair facility and Mr. Keenan's residence. The dates of construction for the buildings are not known.

The site is generally level to gently sloping towards the south and west. The vicinity of the site is also generally level to gently sloping towards the south and west. Storm drainage from the site drains overland to Main Street, thence in a southerly direction to the Clyde River.

The site lies near the edge of the flood plain of the Clyde River. According to the Surficial Geologic Map of Vermont (Charles G. Doll, 1970), overburden at the site consists of Pleistocene, glaciolacustrine, littoral beach gravel. Drilling conducted during this investigation found silt with some sand and small amounts of clay. The Geologic Map of Vermont (Charles G. Doll, 1961) indicates that the bedrock beneath the site is the Lower Devonian Waits River Formation (Barton Member) which is characterized by gray quartzose and micaceous crystalline limestone interbedded and intergradational with gray quartzite-muscovite phyllite or schist.

There are currently no USTs in use at the site or known to be present at the site.

The site is abutted to the west by Main Street. West from the site, across Main Street, is West Street, which is oriented east west. On both sides of West Street are residences. The site is abutted to the north by apartments with a vacant store. Abutting the south is a farm with barns and a residence. To the east is a gravel drive, across which are two residences.

The relative area is shown on the Area Map in Appendix A. The site and surrounding area are served by municipal water and sewer systems.

III. INVESTIGATIVE PROCEDURES

To better define the extent of subsurface petroleum contamination at the site, Griffin installed three monitoring wells on June 19, 1996. MW1 is located southwest of the former UST field. MW2 is located south-southeast from and slightly down-gradient of the former UST field. MW3 is located directly west of the former UST field. The locations of the wells are indicated on the Site Map in Appendix A.

Depths to groundwater were measured in all on-site monitoring wells on June 26, 1996. Groundwater samples were collected from two of the monitoring wells for laboratory analysis on the same date. Soil samples collected from the boreholes were screened for VOCs with a PID.

A. Monitoring Well Installation

Monitoring wells (MW1, MW2, and MW3) were installed on June 19, 1996 by Green Mountain Boring of East Barre, Vermont under the direct supervision of Griffin. The wells were installed using a truck mounted 4 1/4" I.D. hollow stem auger. The wells are constructed of two inch diameter, 0.010" slot, PVC well screen and attached solid PVC riser. The annulus between the borehole wall and the screened section of each well is filled with grade #1 sand pack to filter fine sediments in groundwater from entering the well. Approximately one foot below grade, the annulus between the borehole wall and the riser is filled with a bentonite clay seal to prevent surface water from entering the borehole. Each well is protected at the surface by a flush mounted steel well head man-hole with a bolt down cover. The manholes are set in cement. Well construction details are listed on the well logs in Appendix B.

B. Soil Boring and Screening

Undisturbed soil samples were collected at five foot intervals from the borings using a split spoon sampling device. Samples were screened for VOCs using an HNU Model HW-101 PID equipped with a 10.2 electron-volt lamp. Samples were logged by the supervising geologist. Prior to screening, the PID was calibrated with isobutylene with reference made to benzene. Detailed soil descriptions and VOC concentrations are listed on the well logs in Appendix B.

MW1 was drilled southwest of the building at Don's Auto, approximately 30 feet west and 20 feet south of the center of the former UST field. The boring of MW1 intersected damp, brown silt underlain by damp and wet silt with few clay particles and a trace of fine medium sand. MW1 was drilled to 14.5 feet below grade. The water table was intersected at approximately 6 feet below grade. VOC concentrations were non-detect in all of the samples collected from MW1.

MW2 was drilled approximately 20 feet south and approximately 10 feet east of the center of the former UST field. The boring of MW2 intersected moist, brown silt at 3.0 feet, underlain by damp, brown silt with some very fine grained sand. This soil was subsequently underlain by moist, gray silt with fine and medium graded sand, and a trace of gravel. This soil was subsequently underlain by moist to wet silt, damp silt, and fine sand with some rock fragments. Gasoline odor was detected in the sample collected from 14.5 feet. MW2 was drilled to 17.0 feet below grade, with the base of the well set at 14.5 feet below grade. The water table was intersected at approximately 12.3 feet below grade. VOC concentrations detected in soil samples collected from the vadose zone ranged from 0.2 ppm to non-detect, decreasing with depth. VOC concentrations detected from soil samples collected from the phreatic zone ranged from 6.0 to 110 ppm, increasing with depth.

MW3 was drilled approximately 15 feet north and approximately 15 feet west of and up-gradient from the former UST field. The boring of MW3 intersected dry, brown sand and gravel fill underlain by wet, brown silt with few clay and medium to fine sand. This soil was subsequently underlain by black sand 3" thick and exhibiting a strong gasoline odor. MW3 was drilled to 14 feet below grade, with the base of the well set at 13.0 feet below grade. The water table was intersected at approximately 5.5 feet below grade. VOC concentrations were non-detect in soil samples collected from the vadose zone and were greater than 120 ppm in the soil sample collected from the phreatic zone. The highest VOC concentration detected was greater than 120 ppm at 9.5 to 14.0 feet below grade.

C. Water Table Measurements And Groundwater Flow

The water table elevations in all on-site monitoring wells were measured on June 26, 1996. After measuring the water table elevations, it was apparent that the aquifer that MW2 is completed in is not likely the same aquifer as in MW1 and MW3. For this reason, the groundwater surface could not be contoured. The available data is inconclusive with regard to

groundwater flow direction because MW1 and MW3 encountered a shallow and presumably perched aquifer. MW2 did not encounter this aquifer. Rather, MW2 encountered a deeper aquifer that MW1 and MW3 apparently did not encounter. Four hundredths of a foot (0.04') of free product was detected in MW2; free product was not detected in MW1 or MW2. It is assumed that the groundwater in the vicinity of the site flows south-southwest towards the Clyde River.

All groundwater level data are recorded on the Liquid Level Table in Appendix C.

D. Groundwater Sampling and Analysis

On June 26, 1996, Griffin collected groundwater samples from on-site monitoring wells MW1 and MW3. As MW2 contained free product, groundwater samples were not collected from it. Laboratory report forms are presented in Appendix D. All collected samples were analyzed for the presence of the petroleum compounds benzene, toluene, ethyl benzene, xylenes, and methyl tertiary butyl ether (MTBE) via EPA Method 602. All samples were collected according to Griffin's groundwater sampling protocol. Duplicate, trip blank, and equipment blank samples collected during sampling indicate that adequate quality assurance/quality control was maintained during sample collection and analysis.

Analysis of the groundwater sample collected from MW1 indicates the presence of ethylbenzene in a concentration of 49.2 micrograms per liter ($\mu\text{g/l}$), which is below the Vermont Groundwater Enforcement Standard (VGES) for that compound (680 $\mu\text{g/l}$). Xylenes were detected in concentrations of 429 $\mu\text{g/l}$ which is slightly above the VGES for that compound (400 $\mu\text{g/l}$). No other VOCs were detected in the samples collected from MW1.

Analysis of the groundwater sample collected from MW3 indicates the presence of ethylbenzene in a concentration of 26.2 $\mu\text{g/l}$ which is below the VGES for the compound. Xylenes were detected in concentrations of 327 $\mu\text{g/l}$ which is below the VGES for the compound. No other VOCs were detected in the samples collected from MW3.

IV. RECEPTOR SURVEY AND RISK ASSESSMENT

Griffin conducted a visual survey of the site and vicinity to identify local potential receptors of subsurface petroleum contaminants.

The building at Don's Auto has not been reported to have been impacted by petroleum vapors. This building does not have a basement. Residences and commercial buildings with basements, located east and north of the site, are not at significant risk of impact from petroleum vapors from Don's Auto, since all of these buildings are presumed to be up-gradient from the site. Residential properties, located to the south and south-southwest of the site, are approximately 200 feet from the site. Considering the distance from Don's Auto and the depth of the water table in the vicinity of the site, it is unlikely that petroleum vapors will impact any of these buildings.

Municipal water and sewer serves the area including the subject property. The water source is not at risk of impact from subsurface petroleum contamination at the subject property, because the water supply is located north, and presumably upgradient of the site. No supply wells were identified in the vicinity of the site.

Subsurface utilities in the vicinity of the site include water force-mains and sewer mains. Because the water and sewer lines are located above the most significantly contaminated aquifer at the site, it is not possible for the lines to be significant conduits for or receptors of contaminated groundwater from Don's Auto.

The Clyde River, located approximately 800 feet southwest of and down-gradient from the site, is the likely discharge point for groundwater at the site. However, it is likely that dilution, dispersion, and attenuation of dissolved petroleum compounds act to dissipate any contaminants significantly by the time groundwater from Don's Auto reaches the river.

V. CONCLUSIONS

On the basis of this investigation, Griffin has concluded the following:

- 1) There have been release(s) of petroleum product at this site. The amounts and duration of the release(s) are unknown. Data collected during the site assessment, in the areas where borings were drilled, indicates that gasoline is the principal contaminant present in these areas.
- 2) The release(s) have resulted in contamination of soil and groundwater at the site. Two aquifers have been impacted. The shallow groundwater at the site is impacted by Xylenes in concentrations above regulatory level in one well. There is free product present in one well. The full degree and extent of the groundwater contaminant plume has not been defined.
- 3) The source of the release was from the former USTs and or ancillary equipment. One of the three USTs removed in April, 1995, did exhibit evidence of leaks. Possible releases from the former UST piping, the pump island, and UST overfills may have contributed to the limited contamination of the shallow aquifer. The significant potential on-site primary sources of a release (old USTs and ancillary equipment) have been removed. The site no longer has any known USTs.
- 4) There do not appear to be other USTs located in the presumed up-gradient direction from Don's Auto.
- 5) Soils at the site consist generally of silt with fine sand underlain by silt with clay and sands. The water tables at the site are approximately 6 feet and 12 feet below grade. Groundwater is assumed to flow south-southwest towards the Clyde River. Due to the

silty nature of the soil, the hydraulic conductivity of both aquifer formations are estimated to be relatively low. Contaminated groundwater from the site flows south-southwest from the site towards the Clyde River. Dilution, dispersion, and attenuation likely significantly reduce any petroleum contaminants in groundwater by the time it flows into the river.

6) No sensitive receptors other than groundwater were determined to have been impacted from subsurface contamination at Don's Auto.

7) Dissolved petroleum compounds in groundwater and adsorbed petroleum compounds in soil will be gradually reduced by dilution and attenuation. Considering the relatively low concentrations of petroleum compounds detected in the shallow soil and groundwater at the site, extensive bioremediation and/or volatilization has likely already taken place in the shallow aquifer. It is likely that adsorbed petroleum compounds in the deeper soil and free product in the deeper aquifer will continue to be a source of groundwater contamination for several years.

VI. RECOMMENDATIONS

1) Define the extent of the free product plume. At least two additional monitoring wells should be installed that target the deep aquifer. Because it is impossible to determine the location of the deep aquifer in advance, exploratory soil borings may have to be drilled prior to monitor well placement.

2) A product recovery program should be implemented on MW2 to determine the free product yield of the well.

3) Further define the extent of the deep aquifer dissolved product plume (This can be done in conjunction with recommendation 1).

4) Implement a quarterly groundwater sampling and analysis program for the site.

5) Because of the limited contamination found in the shallow aquifer, further defining the extent of the shallow groundwater plume is not recommended at this time.

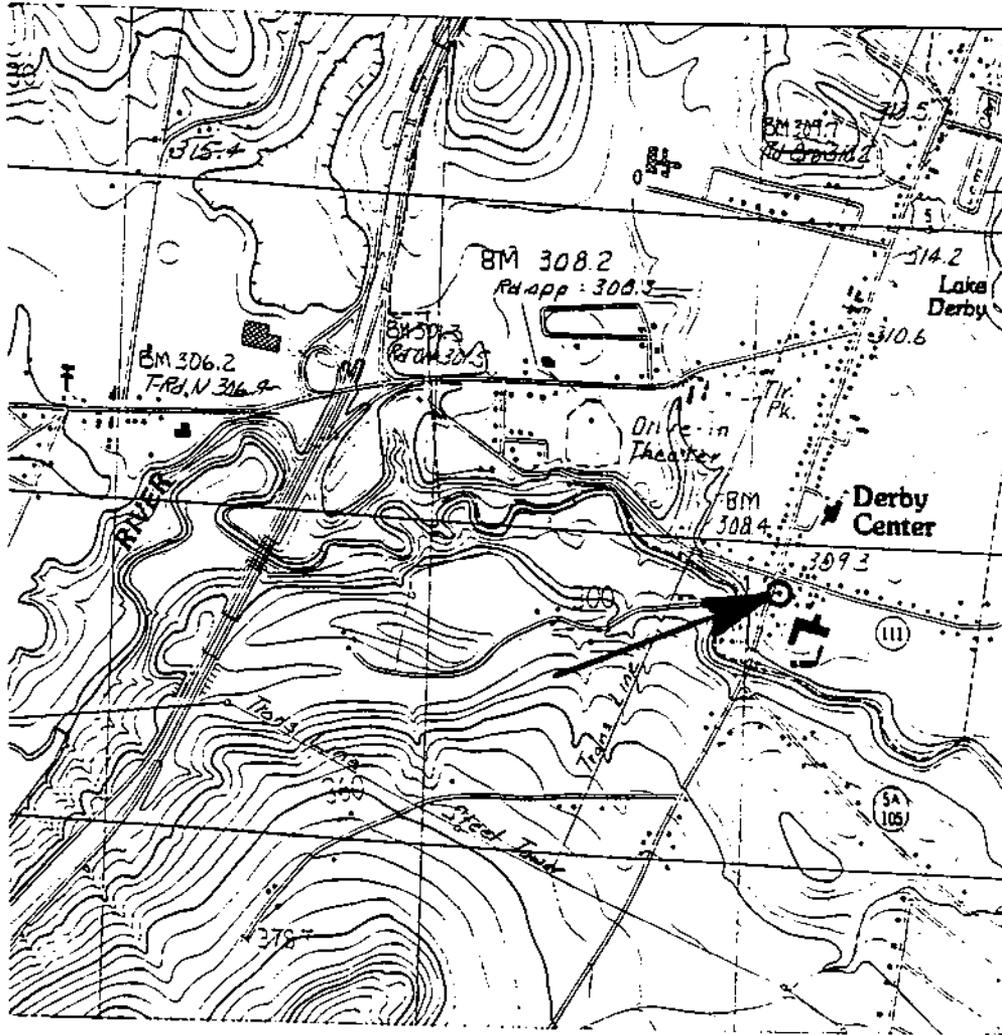
APPENDIX A

Location Map

Area Map

Site Map

Groundwater Elevation Map



JOB #: 10954760
 SOURCE: USGS- NEWPORT, VERMONT QUADRANGLE



DON'S AUTO

DERBY,

VERMONT

SITE LOCATION MAP

DATE: 6/20/96 | DWG.#:1 | SCALE: 1:24000 | DRN.:SBI | APP.:LR

ROUTES 105 AND 5A

SIDEWALK

N



GRAVEL DRIVE



DON'S
AUTO



MW3



MW1

MW2

LEGEND



MONITORING WELL



FORMER LOCATION OF
UNDERGROUND UST'S



PUMP ISLAND



PROPERTY LINE



FENCE LINE

JOB #: 10954760



DON'S AUTO

DERBY,

VERMONT

SITE MAP

DATE: 6/20/96 DWG.#: 3 SCALE: 1"=30' DRN:SBIAPP:LR



ROUTES 105 AND 5A

SIDEWALK

GRAVEL DRIVE

DON'S AUTO

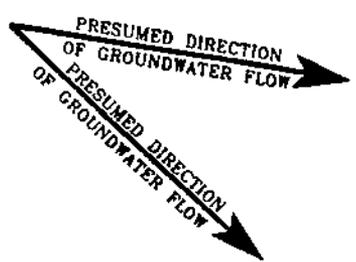
MW3
93.40'

MW1
92.61'

MW2
88.02'



LEGEND



MW2 88.02' MONITORING WELL AND WATER TABLE ELEVATION IN FEET

FORMER LOCATION OF UNDERGROUND UST'S

PUMP ISLAND

PROPERTY LINE

FENCE LINE

JOB #: 10954760
MEASUREMENT DATE: 6/26/96



DON'S AUTO

DERBY,

VERMONT

GROUNDWATER ELEVATION MAP

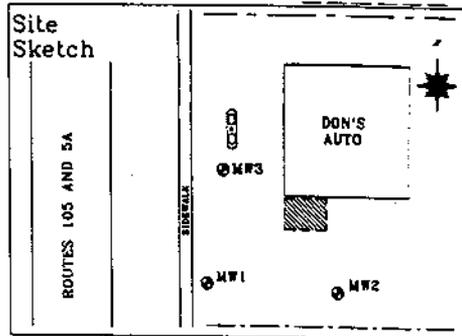
DATE: 7/23/96 | DWG.#: 4 | SCALE: 1"=30' | DRN.:SB | APP.:LR

APPENDIX B
Drilling Logs

PROJECT DON'S AUTO

WELL NUMBER MW1

LOCATION DERBY, VERMONT



DATE DRILLED 6/19/96 TOTAL DEPTH OF HOLE 14.5'

DIAMETER 4.25"

SCREEN DIA. 2" LENGTH 10.0' SLOT SIZE 0.010"

CASING DIA. 2" LENGTH 4.0' TYPE sch 40 pvc

DILLING CO. GMB DRILLING METHOD HSA

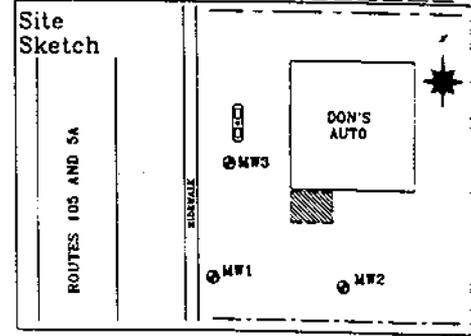
DRILLER MIKE LOG BY L. REED

GRIFFIN INTERNATIONAL, INC

DEPTH IN FEET	WELL CONSTRUCTION	NOTES	BLOWS PER 6" OF SPOON & PID READINGS	DESCRIPTION/SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)	DEPTH IN FEET
0	ROAD BOX LOCKING WELL CAP				0
1	CONCRETE NATIVE BACKFILL		0'-2' ND	Dark gray, dry, SAND and GRAVEL FILL	1
2	BENTONITE				2
3					3
4	WELL RISER		4'-6'- 11/8/11/12 ND	Damp, brown, SILT with few fine sand and small gravel.	4
5			5.0' ND	Moist SILT with some clay at 5.0'. 6.0' WATER TABLE	5
6					6
7	SAND PACK				7
8					8
9					9
10	WELL SCREEN		9.5'-11.5'- 8/3/5/5 ND	Damp to wet SILT with few clay, trace of fine medium sand.	10
11					11
12					12
13	BOTTOM CAP				13
14					14
15	UNDISTURBED NATIVE SOIL			BASE OF WELL AT 14.5' END OF EXPLORATION AT 14.5'	15
16					16
17					17
18					18
19					19
20					20
21					21
22					22
23					23
24					24
25					25

PROJECT DON'S AUTO
 LOCATION DERBY, VERMONT
 DATE DRILLED 6/19/96 TOTAL DEPTH OF HOLE 14.5'
 DIAMETER 4.25"
 SCREEN DIA. 2" LENGTH 10.0' SLOT SIZE 0.010"
 CASING DIA. 2" LENGTH 4.0' TYPE sch 40 pvc
 DRILLING CO. GMB DRILLING METHOD HSA
 DRILLER MIKE LOG BY L. REED

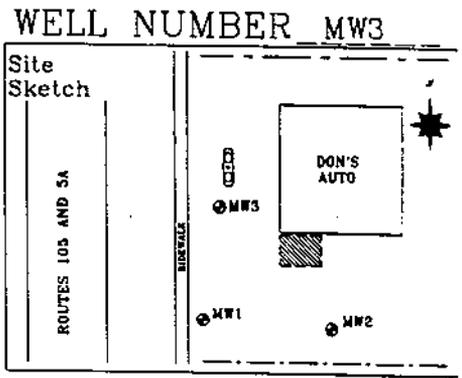
WELL NUMBER MW2



GRIFFIN INTERNATIONAL, INC

DEPTH IN FEET	WELL CONSTRUCTION	NOTES	BLOWS PER 6" OF SPOON & PID READINGS	DESCRIPTION/SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)	DEPTH IN FEET
0	ROAD BOX				0
0	LOCKING WELL CAP				0
0	CONCRETE NATIVE BACKFILL			Grassed topsoil	0
1	BENTONITE			Dry, dark gray SAND and GRAVEL FILL mostly gravel.	1
2				Moist, brown SILT at 3.0'.	2
3	WELL RISER				3
4					4
5			4.5'-6.5'- 9/1/1/5	Damp, brown SILT with some very fine sand, trace clay, 2" of fine and medium sand at bottom.	5
6	SAND PACK		0.2 ppm		6
7					7
8					8
9					9
10	WELL SCREEN		9.5'-11.5'- 8/3/5/5	Moist, gray SILT with few clay, fine and medium graded sand, trace of small rounded gravel. Wet, black, fine and medium bed of SAND at 11.0', no odor.	10
11			ND		11
12				12.3' WATER TABLE	12
13	BOTTOM CAP		13.0'	Moist to wet SILT at 13.0'.	13
14			6.0 ppm		14
15				Damp SILT and fine SAND with some small gravel and rock fragments, gasoline odor.	15
16			14.5'-17.5'- 12/10/50		16
17	UNDISTURBED NATIVE SOIL		110 ppm		17
18				BASE OF WELL AT 14.5'	18
19				END OF EXPLORATION AT 17.0'	19
20					20
21					21
22					22
23					23
24					24
25					25

PROJECT DON'S AUTO
 LOCATION DERBY, VERMONT
 DATE DRILLED 6/19/96 TOTAL DEPTH OF HOLE 14.0'
 DIAMETER 4.25"
 SCREEN DIA. 2" LENGTH 10.0' SLOT SIZE 0.010"
 CASING DIA. 2" LENGTH 2.0' TYPE sch 40 pvc
 DRILLING CO. GMB DRILLING METHOD HSA
 DRILLER MIKE LOG BY L. REED



GRIFFIN INTERNATIONAL, INC

DEPTH IN FEET	WELL CONSTRUCTION	NOTES	BLOWS PER 6" OF SPOON & PID READINGS	DESCRIPTION/SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)	DEPTH IN FEET
0	ROAD BOX	LOCKING WELL CAP			0
1	CONCRETE NATIVE BACKFILL		0'-2' ND	Dry, brown SAND and GRAVEL FILL	1
2	BENTONITE		2'-4.5' ND		2
3	WELL RISER		4.5'-7.5'- 11/14/12		3
4					4
5				5.5' WATER TABLE	5
6	SAND PACK		5.0' ND		6
7					7
8					8
9	WELL SCREEN				9
10					10
11	BOTTOM CAP		9.5'-14.0'- 9/9/4/4 >120 ppm	Wet, brown SILT with few clay, and medium and fine sand. Black, sandy layer 3" thick, gas odor.	11
12					12
13					13
14	UNDISTURBED NATIVE SOIL			BASE OF WELL AT 13.0' END OF EXPLORATION AT 14.0'	14
15					15
16					16
17					17
18					18
19					19
20					20
21					21
22					22
23					23
24					24
25					25

APPENDIX C
Water Level Data

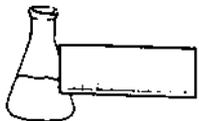
**Liquid Level Monitoring Data
Don's Auto
Derby, Vermont**

Monitoring Date: 6/26/96

Well I.D.	Well Depth	Top of Casing Elevation	Depth To Product	Depth To Water	Product Thickness	Specific Gravity Of Product	Hydro Equivalent	Corrected Depth To Water	Corrected Water Table Elevation
MW1	14.5	97.85	-	5.24	-	-	-	-	92.61
MW2	14.5	98.61	10.58	10.62	0.04	0.73	0.03	10.59	88.02
MW3	13.0	98.36	-	4.96	-	-	-	-	93.40

All Values Reported in Feet

APPENDIX D
Laboratory Results



ENDDYNE, INC.

Laboratory Services

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

REPORT OF LABORATORY ANALYSIS

CLIENT: Griffin International
PROJECT NAME: Don's Auto/10954760
DATE REPORTED: July 8, 1996
DATE SAMPLED: June 26, 1996

PROJECT CODE: GIDA1220
REF. #: 90,622 - 90,626

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

Chain of custody indicated sample preservation with HCl.

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.

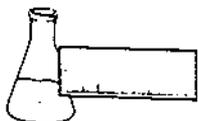
Individual sample performance was monitored by the addition of surrogate analytes to each sample. All surrogate data was determined to be within Laboratory QA/QC guidelines unless otherwise noted.

Reviewed by,

Harry B. Locker, Ph.D.
Laboratory Director

enclosures

RECEIVED JUL 10 1996



ENDYNE, INC.

Laboratory Services

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

LABORATORY REPORT

EPA METHOD 602 COMPOUNDS BY EPA METHOD 8260

CLIENT: Griffin International
PROJECT NAME: Don's Auto/10954760
REPORT DATE: July 8, 1996
SAMPLER: R. Higgins
DATE SAMPLED: June 26, 1996
DATE RECEIVED: June 27, 1996

PROJECT CODE: GIDA1220
ANALYSIS DATE: July 7, 1996
STATION: Trip Blank
REF.#: 90,622
TIME SAMPLED: 10:56

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

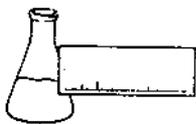
NUMBER OF UNIDENTIFIED PEAKS FOUND: 5

ANALYTICAL SURROGATE RECOVERY:

Dibromofluoromethane: 91.%
Toluene-d8: 87.%
4-Bromofluorobenzene: 89.%

NOTES:

1 None detected



ENDYNE, INC.

Laboratory Services

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

LABORATORY REPORT

EPA METHOD 602 COMPOUNDS BY EPA METHOD 8260

CLIENT: Griffin International
PROJECT NAME: Don's Auto/10954760
REPORT DATE: July 8, 1996
SAMPLER: R. Higgins
DATE SAMPLED: June 26, 1996
DATE RECEIVED: June 27, 1996

PROJECT CODE: GIDA1220
ANALYSIS DATE: July 3, 1996
STATION: MW1
REF.#: 90,625
TIME SAMPLED: 12:33

<u>Parameter</u>	<u>Detection Limit (ug/L)¹</u>	<u>Concentration (ug/L)</u>
Benzene	10	ND ²
Chlorobenzene	20	ND
1,2-Dichlorobenzene	20	ND
1,3-Dichlorobenzene	20	ND
1,4-Dichlorobenzene	20	ND
Ethylbenzene	10	49.2
Toluene	20	ND
Xylene	30	429.
MTBE	30	ND

NUMBER OF UNIDENTIFIED PEAKS FOUND: > 10

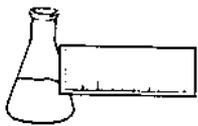
ANALYTICAL SURROGATE RECOVERY:

Dibromofluoromethane: 91.%
Toluene-d8: 96.%
4-Bromofluorobenzene: 91.%

NOTES:

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

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ENDYNE, INC.

Laboratory Services

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

LABORATORY REPORT

EPA METHOD 602 COMPOUNDS BY EPA METHOD 8260

CLIENT: Griffin International
PROJECT NAME: Don's Auto/10954760
REPORT DATE: July 8, 1996
SAMPLER: R. Higgins
DATE SAMPLED: June 26, 1996
DATE RECEIVED: June 27, 1996

PROJECT CODE: GIDA1220
ANALYSIS DATE: July 7, 1996
STATION: MW3
REF.#: 90,623
TIME SAMPLED: 12:14

<u>Parameter</u>	<u>Detection Limit (ug/L)¹</u>	<u>Concentration (ug/L)</u>
Benzene	10	ND ²
Chlorobenzene	20	ND
1,2-Dichlorobenzene	20	ND
1,3-Dichlorobenzene	20	ND
1,4-Dichlorobenzene	20	ND
Ethylbenzene	10	26.2
Toluene	20	ND
Xylene	30	327.
MTBE	30	ND

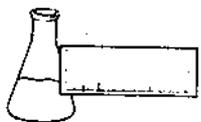
NUMBER OF UNIDENTIFIED PEAKS FOUND: >10

ANALYTICAL SURROGATE RECOVERY:

Dibromofluoromethane: 98.%
Toluene-d8: 90.%
4-Bromofluorobenzene: 94.%

NOTES:

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



ENDYNE, INC.

Laboratory Services

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LABORATORY REPORT

EPA METHOD 602 COMPOUNDS BY EPA METHOD 8260

CLIENT: Griffin International
PROJECT NAME: Don's Auto/10954760
REPORT DATE: July 8, 1996
SAMPLER: R. Higgins
DATE SAMPLED: June 26, 1996
DATE RECEIVED: June 27, 1996

PROJECT CODE: GIDA1220
ANALYSIS DATE: July 7, 1996
STATION: Duplicate
REF.#: 90,624
TIME SAMPLED: 12:14

<u>Parameter</u>	<u>Detection Limit (ug/L)¹</u>	<u>Concentration (ug/L)</u>
Benzene	10	ND ²
Chlorobenzene	20	ND
1,2-Dichlorobenzene	20	ND
1,3-Dichlorobenzene	20	ND
1,4-Dichlorobenzene	20	ND
Ethylbenzene	10	28.1
Toluene	20	ND
Xylene	30	372.
MTBE	30	ND

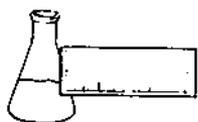
NUMBER OF UNIDENTIFIED PEAKS FOUND: >10

ANALYTICAL SURROGATE RECOVERY:

Dibromofluoromethane: 101.%
Toluene-d8: 86.%
4-Bromofluorobenzene: 99.%

NOTES:

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



ENDYNE, INC.

Laboratory Services

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FAX 879-7103

LABORATORY REPORT

EPA METHOD 602 COMPOUNDS BY EPA METHOD 8260

CLIENT: Griffin International
PROJECT NAME: Don's Auto/10954760
REPORT DATE: July 8, 1996
SAMPLER: R. Higgins
DATE SAMPLED: June 26, 1996
DATE RECEIVED: June 27, 1996

PROJECT CODE: GIDA1220
ANALYSIS DATE: July 7, 1996
STATION: Equipment Blank
REF.#: 90,626
TIME SAMPLED: 12:40

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

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

ANALYTICAL SURROGATE RECOVERY:

Dibromofluoromethane: 90.%
Toluene-d8: 94.%
4-Bromofluorobenzene: 91.%

NOTES:

1 None detected

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CHAIN-OF-CUSTODY RECORD

16167

Project Name: <i>DUSTY</i>	Reporting Address:	Billing Address:
Site Location: <i>1300 VT</i>	Company:	Sampler Name: <i>R. Hixson</i>
Endyne Project Number:	Contact Name/Phone #: <i>L. Reed</i>	Phone #:

Lab #	Sample Location	Matrix	GRA B	COM P	Date/Time	Sample Containers		Field Results/Remarks	Analysis Required	Sample Preservation	Rush
						No.	Type/Size				
	<i>TOP BANK</i>	<i>SOIL</i>	<input checked="" type="checkbox"/>		<i>12/10</i>	<i>2</i>	<i>100ml</i>		<i>GC/MS</i>	<i>HC/</i>	
	<i>MWS</i>				<i>12/14</i>						
	<i>DUSTY S</i>				<i>12/14</i>						
	<i>MWS 1</i>				<i>12/23</i>						
	<i>CENTRAL BANK</i>				<i>12/23</i>						

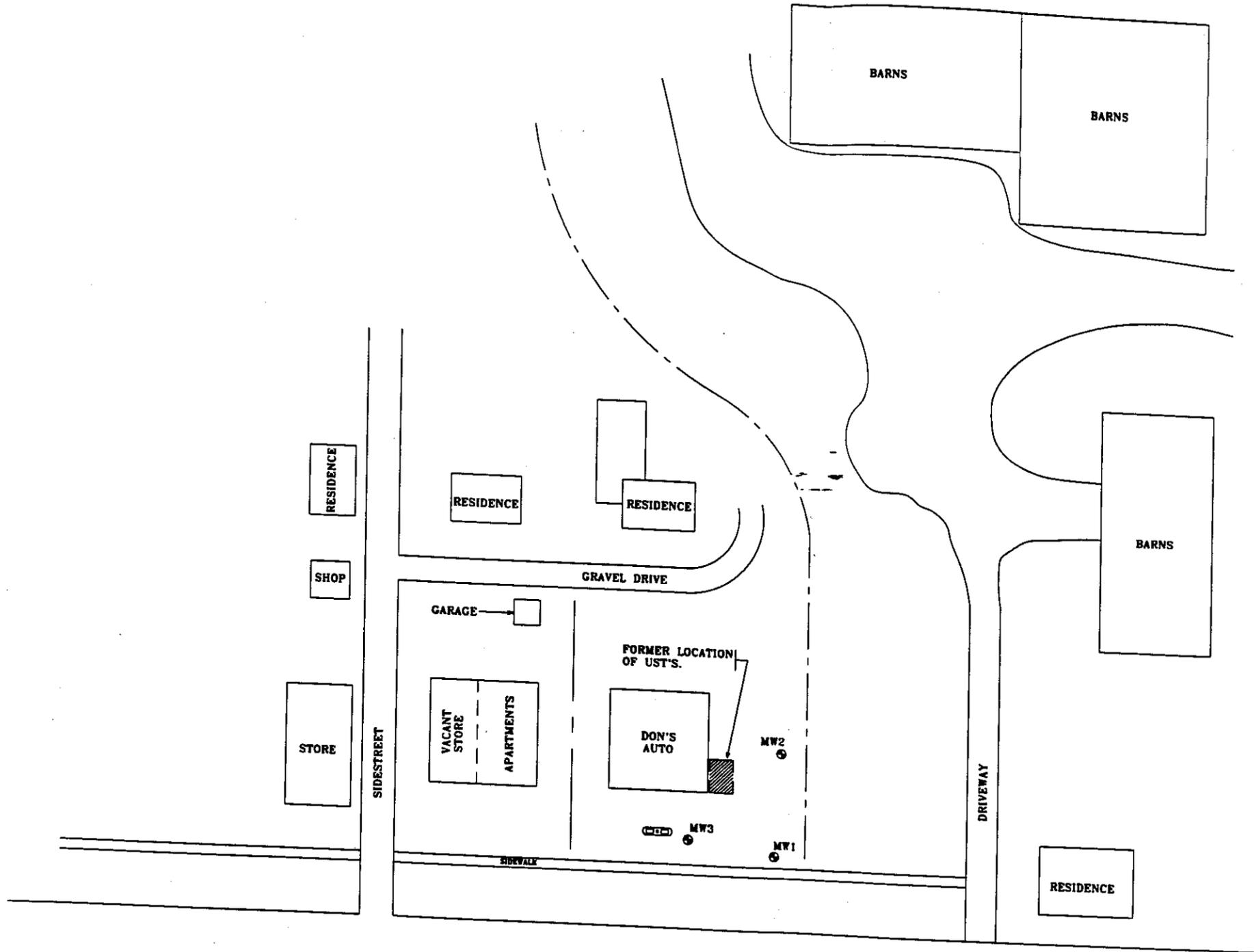
Relinquished by: Signature <i>[Signature]</i>	Received by: Signature <i>[Signature]</i>	Date/Time <i>6/27/16 1:30</i>
Relinquished by: Signature <i>[Signature]</i>	Received by: Signature <i>[Signature]</i>	Date/Time

New York State Project: Yes No

Requested Analyses

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

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ROUTES 105 AND 5A



WEST STREET



JOB NO. 10954760

GRIFFIN
INTERNATIONAL

DON'S AUTO
DERBY, VERMONT
AREA MAP

DATE: 6/20/98