

OCT 28 1993



October 27, 1993

Ms. Wendy Davenport
Lyndonville Savings bank
P.O. Box 125
Lyndonville, Vermont 05851

RE: Former St. Johnsbury Subaru, VTDEC Site #93-1415

Dear Ms. Davenport:

Enclosed is the October, 1993 St. Johnsbury Subaru site assessment report. I have also forwarded a copy of the report to Matthew Moran, of VTDEC.

I realize that the closing date for the sale of this property is set for next week. I will be available to answer any questions that you, the Murphy's and Mr. Moran have between now and then.

Sincerely,

A handwritten signature in black ink, appearing to read "Peter M. Murray". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Peter M. Murray
Project Hydrogeologist

cc: Matthew Moran
Peter Murphy

**SITE ASSESSMENT REPORT
ST. JOHNSBURY SUBARU
ST. JOHNSBURY, VERMONT
VTDEC Site #93-1415**

October, 1993

Prepared for:

**Lyndonville Savings Bank
Lyndonville, Vermont**

Prepared by:

**Griffin International, Inc.
2B Dorset Lane
Williston, Vermont
(802) 879-7708**

EXECUTIVE SUMMARY

Subsurface petroleum contamination was first detected at the former St. Johnsbury Subaru property during a Phase I Environmental Risk Assessment conducted by Griffin International in June, 1993. During the Phase I Assessment, it was determined that gasoline had been released to the subsurface in the vicinity of a former gasoline underground storage tank (UST) located near the southwest corner of the on-site building. In addition, the Phase I Assessment concluded that there were no significant releases of petroleum to the subsurface from other former or existing on-site USTs. Laboratory analysis of soil samples collected at this site indicates that no significant amounts of chlorinated solvents have been released to the subsurface on this property.

Based on the findings of the Phase I Environmental Risk Assessment, two additional phases of site assessment have been conducted. These assessments have included the installation of eight groundwater monitoring wells, the collection and analysis of groundwater samples, determination of groundwater flow direction and contamination migration pathways. In addition, the risks that the subsurface petroleum contamination pose to potential receptors have been assessed.

Adsorbed petroleum contamination exists in only the immediate vicinity of the former gasoline UST. Adsorbed contamination near the surface is the only portion of the contamination at this site that poses environmental risks. No impact to potential receptors has been detected. The recommended removal of a large portion of the contaminated soils beneath the former UST should significantly reduce these potential risks. Dissolved phase petroleum contamination in groundwater at this site is more extensive than the adsorbed contamination, however, it poses no significant environmental risks.

To reduce the duration of natural dispersion, dilution and degradation of dissolved and adsorbed contamination at this site, Griffin recommends that approximately 250 yards of contaminated soils be removed for proper treatment. Griffin also recommends that additional sampling and analysis of groundwater from on-site monitoring wells be conducted to document the expected reduction of contamination concentrations over time.

hour 1993
2/2/93
01-20-93

borehole, at five foot intervals, using a split spoon. Soil samples were logged and screened for volatile organic compounds (VOCs) using a portable photo-ionization device (PID). Soil characteristics and VOC concentrations are listed on the well logs, in Appendix B.

Each well is constructed of two inch diameter, PVC well screen and casing. The screened section of each well is ten feet long, and extends approximately five to seven feet below the water table. A silica sand pack was installed around the screened section of each well. A bentonite seal was installed near the top of each borehole to prevent surface water infiltration. Well construction details are included on the well logs in Appendix B.

MW-6 is located approximately 50 feet west of MW-2 and 120 feet west of the suspect gasoline UST. It was installed to determine the western extent of dissolved petroleum contamination. The initial site assessment concluded that groundwater in the vicinity of the suspect UST flows west, toward MW-2. Relatively low concentrations of dissolved benzene and toluene were detected in MW-2 in August.

Soils encountered in the borehole for MW-6 consisted of stratified, medium to fine sand and silt to a depth of approximately 20 feet below grade. From 20 feet to 22 feet, coarse sand and gravel was encountered. No VOCs were detected in soil samples collected from this borehole. The water table was encountered at an approximate depth of 13 feet.

MW-7 is located approximately 70 feet southwest of MW-3, and 120 feet southwest of the former gasoline UST. It was installed to determine the extent of dissolved BTEX contamination in this direction. Dissolved BTEX was detected in groundwater collected from MW-3 in the initial site assessment. Although groundwater appeared to be flowing toward the west, this well had a higher contamination concentration than MW-2.

Soils encountered in the borehole for MW-7 consisted of stratified, fine to medium sand and silt. No VOCs were detected in soil samples retrieved from this borehole. The water table was encountered at an approximate depth of 14 feet below grade.

MW-8 is located approximately 45 feet northwest of MW-4, and 90 feet northwest of the former gasoline UST. It was installed to determine the extent of dissolved BTEX contamination in this direction. Dissolved BTEX contamination was detected in MW-4 during the initial site assessment. It appears that gasoline released from the former UST was transmitted to the vicinity of MW-4 through preferential pathways related to floor drains and sewer lines in the area.

Soils encountered in the borehole for MW-8 consisted of stratified, fine to medium sand and silt from grade to twenty

feet, and coarse sand and gravel to 22 feet. No VOCs were detected in samples retrieved from this well. The water table was encountered at an approximate depth of 13.5 feet.

B. Determination of Groundwater Flow Direction and Gradient

On October 5, 1993, water table elevations were measured in each of the eight on-site monitoring wells. Water table elevations were measured relative to an assumed top of casing elevation at MW-5 of 100 feet.

The water table elevations are shown on the Liquid Level Data sheet, in Appendix C. Water table contours for October 5, 1993 are plotted on the Groundwater Contour Map, in Appendix A. The contour map indicates that the water table west of the former Subaru building is relatively horizontal, with a slight trough running from the vicinity of the former gasoline UST to the southwest, at a gradient of 0.02%. The occurrence of dissolved BTEX contamination in monitoring wells located both west and southwest of the former gasoline UST are likely due to this trough. The trough may be caused by higher permeability soils in this area which act to transmit groundwater toward the river more efficiently than surrounding soils.

C. Groundwater Sampling and Analysis

On October 5, 1993, Griffin collected water samples from each on-site monitoring well. The samples were analyzed by Endyne, Inc. of Williston. The samples were analyzed for BTEX and MTBE using EPA Method 602. Analytical results are listed in Appendix D.

The results indicate that groundwater in the vicinity of MW-1 and MW-2 contained no detectable concentrations of BTEX or MTBE. The sample collected from MW-3 contained detectable concentrations of BTEX and no MTBE. BTEX concentrations in this well decreased relative to the August 25 sample, however. BTEX concentrations detected in the October 5 sample collected from MW-4 increased slightly, relative to the August 25 sample. BTEX concentrations in MW-5, which is immediately adjacent to the former gasoline UST, remained relatively unchanged between August 25 and October 5, 1993.

Of the water samples collected from the three new monitoring wells, (MW-6, MW-7 and MW-8) only MW-7 contained detectable contamination concentrations. The sample collected from this well on October 5 contained 595 parts per billion (ppb) benzene and traces below quantifiable limits of xylenes and ethylbenzene.

III. RISK ASSESSMENT

Potential receptors of subsurface petroleum contamination identified during the initial site assessment include soils and groundwater in the area, the on-site building and the Passumpsic River. There are no water supply wells in the immediate vicinity of the site and the nearest buildings to the site are located hydraulically upgradient of the former gasoline UST.

Soils and groundwater in the vicinity of the former gasoline UST remain at risk from residual petroleum contamination. Eventually, the natural processes of dilution, dispersion, and bio-degradation will reduce subsurface contamination concentrations to below detectable limits. Although this natural reduction will take many years to occur, risks to the remaining potential receptors are minimal.

The most significant risk posed to the on-site building is the possibility of vapors entering it from the contaminated soils below. Ambient air inside the building has been screened for VOCs and none have been detected. In addition, since the building is constructed on a concrete slab, the risk from vapors is reduced. Tentative plans are for this building to be demolished, with a new building to be located west of a line running through MW-8 and MW-2.

The risks to the river are more remote than are risks to the on-site building. Based on the most recent round of groundwater analysis at the site, it is highly unlikely that petroleum contamination will migrate to the river in detectable concentrations. The most downgradient monitoring well, MW-7, is located 120 feet southwest of the former gasoline UST. Laboratory analysis of the sample collected from this well on October 5 indicates that this well is near the leading edge of the dissolved contamination plume. The river is located between 200 and 300 feet from the former gasoline UST. Visual inspection of the river bank, along the entire western and southern boundaries of the subject property, revealed no apparent petroleum contamination.

40-170
Pae X
river
MW-7

As natural processes act to reduce contamination concentrations, the leading edge of the dissolved plume will retreat to the east and northeast, towards the source area.

Potential risks to a future building located west of a line running between MW-8 and MW-2 are extremely low. Soils and groundwater west of this line contain no detectable VOCs as measured by PID. Contamination west of this line exists only in the dissolved phase, at or below the water table, which is at an approximate depth of 13 to 14 feet below grade. There are 13 to 14 feet of uncontaminated soil above the water table. This will provide an adequate buffer for any vapors which may originate from contaminated groundwater in this area. In addition, it is highly unlikely that detectable VOC vapor concentrations would

emanate from water containing concentrations similar to those detected in MW-7 (595 ppb benzene).

IV. CONCLUSIONS

Based on the findings of this site assessment, Griffin has reached the following conclusions regarding subsurface petroleum contamination at the former St. Johnsbury Subaru property:

1. Adsorbed phase gasoline contamination exists only in the immediate vicinity of the former gasoline UST, at the southwest corner of the on-site building. This contamination likely resulted from a leak in the former UST or associated piping. Adsorbed phase contamination extends to the water table, which is at a depth of 13 to 14 feet below grade.
2. At this site, only the adsorbed phase contamination poses potential environmental risks. These risks are extremely low, however.
3. Contact between adsorbed phase contamination and the water table has resulted in dissolved phase groundwater contamination. Dissolved phase contamination concentrations in four of eight on-site monitoring wells (MW-3, MW-4, MW-5 and MW-7) are above State of Vermont Drinking Water Standards.
4. Existing adsorbed phase contamination will continue to provide a source of dissolved phase contamination.
5. Since dissolved phase contamination is the most mobile phase of subsurface petroleum contamination, its extent is more significant than the adsorbed phase contamination at the site. Environmental risks posed by dissolved phase petroleum contamination at this site are extremely low, however.
6. No water supply wells, surface water bodies, or nearby buildings are at risk of impact from the subsurface petroleum contamination at this site.
7. Subsurface petroleum contamination at this site would not pose risks to a new building which is planned to be constructed west of the line running through MW-2 and MW-8.
8. Over time, the natural processes of dilution, dispersion and bio-degradation of the adsorbed and dissolved phase contaminants will reduce their concentrations to below detectable limits.

V. RECOMMENDATIONS

Based on the above conclusions, Griffin presents the following recommendations:

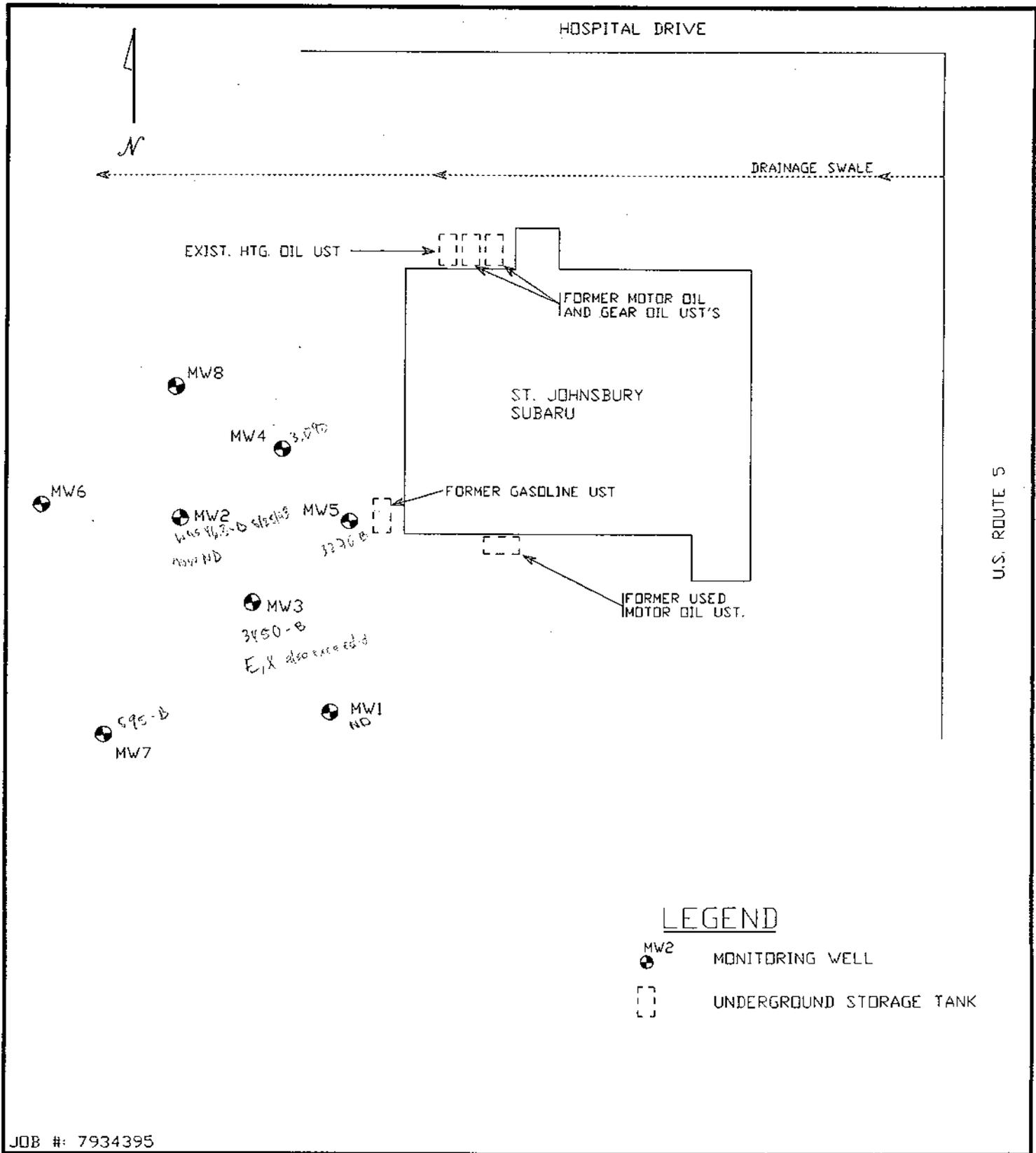
1. To adequately document the expected natural reduction of subsurface petroleum contamination at this site, groundwater samples from each on-site monitoring well should be analyzed on a quarterly basis for one year. If a clear trend toward contaminant reduction is identified during the first year, the frequency of sample collection and analysis should be reduced to annually for one additional year. If a clear trend of contaminant reduction is identified at the end of two years, additional sampling and analysis will likely not be necessary.

Monitoring wells MW-6, MW-7 and MW-8 will be destroyed if a new building is constructed in the planned location. This building will likely not be constructed until mid-1994. The loss of these three data points at that time will not significantly affect the capability to adequately monitor dissolved contamination at this site.

2. Soils containing the highest concentrations of adsorbed phase contamination should be excavated after the planned demolition of the on-site building. These soils are within a 15 foot radius of the former UST, at a depth of between 5 and 15 feet below grade. This will total approximately 250 yards of soil. Excavation of these soils will result in a more rapid reduction in dissolved phase contamination. The soils can either be transported to a VTDEC approved location for passive remediation or they can be used for asphalt batching.

APPENDIX A

Site Maps



LEGEND

-  MW2 MONITORING WELL
-  UNDERGROUND STORAGE TANK

JOB #: 7934395



ST. JOHNSBURY SUBARU

ST. JOHNSBURY,

VERMONT

SITE MAP

HOSPITAL DRIVE



DRAINAGE SWALE

EXIST. HTG. OIL UST

FORMER MOTOR OIL
AND GEAR OIL UST'S

ST. JOHNSBURY
SUBARU

FORMER GASOLINE UST

FORMER USED
MOTOR OIL UST.

U.S. ROUTE 5

MW8
86.0'

MW4
86.02'

MW5
86.03'

MW6
85.97'

MW2
85.97'

MW3
85.96'

MW7
85.96'

MW1
86.04'

85.98

86.0

86.02

LEGEND

MW6
85.97' MONITORING WELL AND WATER
TABLE ELEVATION IN FEET

[] UNDERGROUND STORAGE TANK

— 86.0' GROUNDWATER CONTOUR

JOB #: 7934395

MONITORING DATE: 10/5/93



ST. JOHNSBURY SUBARU

ST. JOHNSBURY,

VERMONT

GROUNDWATER CONTOUR MAP

DATE: 10/14/93

DWG.#: 2 OF 2

SCALE: 1"=50'

DRN.: SB

APP.: PM

APPENDIX B

Well Logs

PROJECT ST. JOHNSBURY SUBARU

LOCATION St. Johnsbury, Vermont

DATE DRILLED 9/30/93 TOTAL DEPTH OF HOLE 22'

DIAMETER 6"

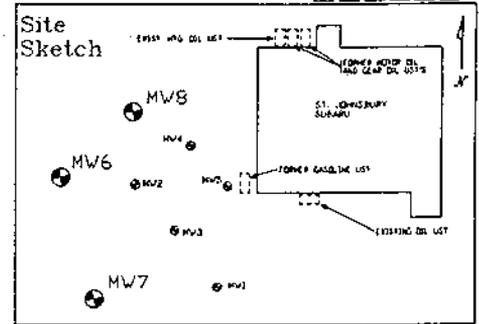
SCREEN DIA. 2" LENGTH 10' SLOT SIZE 0.010"

CASING DIA. 2" LENGTH 10' TYPE sch 40 pvc

DRILLING CO. Tri - State DRILLING METHOD Hollow Stem

DRILLER _____ LOG BY P. Murray

WELL NUMBER MW6



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'-2.5' 0 ppm	Medium SAND, moist	1
2		BENTONITE			2
3			2.5'-5' 0 ppm	Moist SILT, some fine sand	3
4		NATIVE BACKFILL			4
5			5'-7' 3,4,4,7 0 ppm	Moist, tight SILT, some med. sand	5
6		WELL RISER			6
7					7
8					8
9					9
10					10
11		SAND	10'-12' 5,9,4,5 0 ppm	Tight, damp, very fine SAND	11
12				12.83' WATER TABLE	12
13					13
14					14
15		WELL SCREEN			15
16			15'-17' 2,4,4,4 0 ppm	Wet, med. to fine SAND, little silt	16
17					17
18					18
19		BOTTOM CAP			19
20		UNDISTURBED NATIVE SOIL			20
21			20'-22' 3,2,2,3 0 ppm	Wet, coarse SAND and GRAVEL	21
22				END OF EXPLORATION AT 22'	22
23					23
24					24
25					25
26					26

PROJECT ST. JOHNSBURY SUBARU

LOCATION St. Johnsbury, Vermont

DATE DRILLED 9/30/93 TOTAL DEPTH OF HOLE 21'

DIAMETER 6"

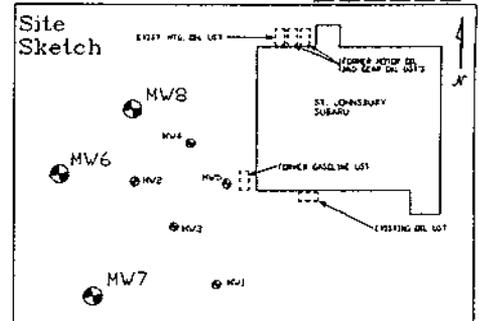
SCREEN DIA. 2" LENGTH 10' SLOT SIZE 0.010"

CASING DIA. 2" LENGTH 10' TYPE sch 40 pvc

DRILLING CO. Tri - State DRILLING METHOD Hollow Stem

DRILLER _____ LOG BY P. Murray

WELL NUMBER MW7



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 CONCRETE			0
1		NATIVE BACKFILL	0'-2.0' 0 ppm	Fine to medium SAND, damp	1
2		BENTONITE			2
3			2.0'-5.0' 0 ppm	Fine, silty SAND, dry	3
4		NATIVE BACKFILL			4
5			5'-7' 4.5, 5.5 0 ppm	Tight, damp SILT and fine SAND no odor	5
6		WELL RISER			6
7					7
8					8
9					9
10					10
11		SAND	10'-12' 2, 3, 2, 3 0 ppm	Moist, fine to very fine SAND, some silt	11
12					12
13				13.35' WATER TABLE	13
14					14
15		WELL SCREEN			15
16			15'-17' 4, 3, 3, 2 0 ppm	Brown, wet, fine SAND, some silt	16
17				Wet, gray, fine SAND	17
18					18
19		BOTTOM CAP			19
20		UNDISTURBED NATIVE SOIL			20
21					21
22				END OF EXPLORATION AT 21'	22
23					23
24					24
25					25
26					26

PROJECT ST. JOHNSBURY SUBARU

LOCATION St. Johnsbury, Vermont

DATE DRILLED 9/30/93 TOTAL DEPTH OF HOLE 22'

DIAMETER 6"

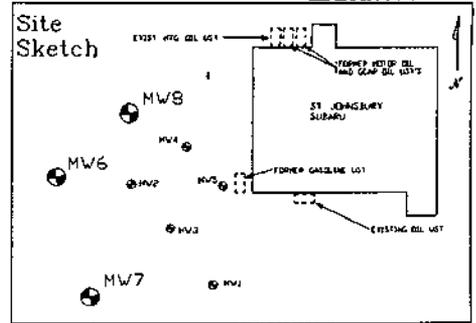
SCREEN DIA. 2" LENGTH 10' SLOT SIZE 0.010"

CASING DIA. 2" LENGTH 10' TYPE sch 40 pvc

DRILLING CO. Tri - State DRILLING METHOD Hollow Stem

DRILLER _____ LOG BY P. Murray

WELL NUMBER MW8



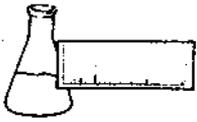
GRIFFIN INTERNATIONAL, INC

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			1
2		NATIVE BACKFILL	0'-3.0' 0 ppm	Light brown, damp, fine SAND, little silt	2
3		BENTONITE			3
4					4
5		NATIVE BACKFILL			5
6			5'-7' 3,2,3,3 0 ppm	Damp, very fine SAND, some silt	6
7		WELL RISER			7
8					8
9					9
10					10
11		SAND	10'-12' 2,3,2,2 0 ppm	Moist, very fine SAND, some silt	11
12					12
13				13.08' WATER TABLE	13
14					14
15		WELL SCREEN			15
16			15'-17' 3,4,4,6 0 ppm	Wet, medium SAND, no silt	16
17					17
18					18
19		BOTTOM CAP			19
20					20
21		UNDISTURBED NATIVE SOIL	20'-22' 4,5,5,9 0 ppm	Wet, coarse SAND, little gravel	21
22				END OF EXPLORATION AT 22'	22
23					23
24					24
25					25
26					26

APPENDIX C

Liquid Level Data

APPENDIX D
Laboratory Results



ENDYNE, 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: St. Johnsbury Subaru
REPORT DATE: October 20, 1993
DATE SAMPLED: October 5, 1993

PROJECT CODE: GISJ1869
REF.#: 52,308 - 52,318

Enclosed please find the results of the analyses performed for the samples referenced on the attached chain of custody. Chain of custody indicated sample preservation 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.

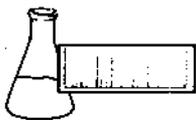
Individual sample performance was monitored by the addition of surrogate analytes to each sample. All surrogate recovery data was determined to be within laboratory QA/QC guidelines unless otherwise noted.

Reviewed by,

Harry B. Locker, Ph.D.
Laboratory Director

enclosures

RECEIVED OCT 22 1993



ENDYNE, INC.

Laboratory Services

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

LABORATORY REPORT

EPA METHOD 602--PURGEABLE AROMATICS

CLIENT: Griffin International
PROJECT NAME: St. Johnsbury Subaru
REPORT DATE: October 20, 1993
DATE SAMPLED: October 5, 1993
DATE RECEIVED: October 6, 1993
ANALYSIS DATE: October 15, 1993

PROJECT CODE: GISJ1869
REF.#: 52,308
STATION: Trip Blank
TIME SAMPLED: 7:15
SAMPLER: Peter Murray

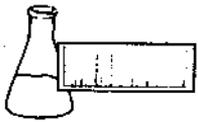
<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
Benzene	1	ND ¹
Chlorobenzene	1	ND
1,2-Dichlorobenzene	1	ND
1,3-Dichlorobenzene	1	ND
1,4-Dichlorobenzene	1	ND
Ethylbenzene	1	ND
Toluene	1	ND
Xylenes	1	ND
MTBE	10	ND

Bromobenzene Surrogate Recovery: 107%

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

NOTES:

1 None detected



ENDYNE, INC.

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FAX 879-7103

LABORATORY REPORT

EPA METHOD 602--PURGEABLE AROMATICS

CLIENT: Griffin International
PROJECT NAME: St. Johnsbury Subaru
REPORT DATE: October 20, 1993
DATE SAMPLED: October 5, 1993
DATE RECEIVED: October 6, 1993
ANALYSIS DATE: October 15, 1993

PROJECT CODE: GISJ1869
REF.#: 52,309
STATION: MW7
TIME SAMPLED: 10:40
SAMPLER: Peter Murray

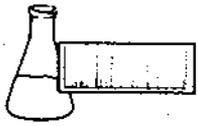
<u>Parameter</u>	<u>Detection Limit (ug/L)¹</u>	<u>Concentration (ug/L)</u>
Benzene	5	595.
Chlorobenzene	5	ND ²
1,2-Dichlorobenzene	5	ND
1,3-Dichlorobenzene	5	ND
1,4-Dichlorobenzene	5	ND
Ethylbenzene	5	TBQ ³
Toluene	5	ND
Xylenes	5	TBQ
MTBE	50	ND

Bromobenzene Surrogate Recovery: 115%

NUMBER OF UNIDENTIFIED PEAKS FOUND: 4

NOTES:

- 1 Detection limit raised due to high levels of contaminants. Sample run at 20% dilution.
- 2 None detected
- 3 Trace below quantitation limit



ENDYNE, INC.

Laboratory Services

32 James Brown Drive
Williston, Vermont 05495
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LABORATORY REPORT

EPA METHOD 602--PURGEABLE AROMATICS

CLIENT: Griffin International
PROJECT NAME: St. Johnsbury Subaru
REPORT DATE: October 20, 1993
DATE SAMPLED: October 5, 1993
DATE RECEIVED: October 6, 1993
ANALYSIS DATE: October 15, 1993

PROJECT CODE: GISJ1869
REF.#: 52,310
STATION: MW1
TIME SAMPLED: 10:55
SAMPLER: Peter Murray

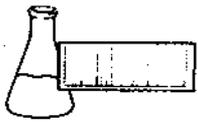
<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
Benzene	1	ND ¹
Chlorobenzene	1	ND
1,2-Dichlorobenzene	1	ND
1,3-Dichlorobenzene	1	ND
1,4-Dichlorobenzene	1	ND
Ethylbenzene	1	ND
Toluene	1	ND
Xylenes	1	ND
MTBE	10	ND

Bromobenzene Surrogate Recovery: 107%

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

NOTES:

1 None detected



ENDYNE, INC.

Laboratory Services

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Williston, Vermont 05495
(802) 879-4333
FAX 879-7103

LABORATORY REPORT

EPA METHOD 602--PURGEABLE AROMATICS

CLIENT: Griffin International
PROJECT NAME: St. Johnsbury Subaru
REPORT DATE: October 20, 1993
DATE SAMPLED: October 5, 1993
DATE RECEIVED: October 6, 1993
ANALYSIS DATE: October 18, 1993

PROJECT CODE: GISJ1869
REF.#: 52,311
STATION: MW6
TIME SAMPLED: 11:05
SAMPLER: Peter Murray

<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: 101%

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

NOTES:

1 None detected



Laboratory Services

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LABORATORY REPORT

EPA METHOD 602--PURGEABLE AROMATICS

CLIENT: Griffin International
PROJECT NAME: St. Johnsbury Subaru
REPORT DATE: October 20, 1993
DATE SAMPLED: October 5, 1993
DATE RECEIVED: October 6, 1993
ANALYSIS DATE: October 15, 1993

PROJECT CODE: GISJ1869
REF.#: 52,312
STATION: MW8
TIME SAMPLED: 11:15
SAMPLER: Peter Murray

<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: 102%

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

NOTES:

1 None detected

**Laboratory Services**

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Williston, Vermont 05495
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FAX 879-7103

LABORATORY REPORT**EPA METHOD 602--PURGEABLE AROMATICS**

CLIENT: Griffin International
PROJECT NAME: St. Johnsbury Subaru
REPORT DATE: October 20, 1993
DATE SAMPLED: October 5, 1993
DATE RECEIVED: October 6, 1993
ANALYSIS DATE: October 15, 1993

PROJECT CODE: GISJ1869
REF.#: 52,313
STATION: MW2
TIME SAMPLED: 11:25
SAMPLER: Peter Murray

<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: 101%

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

NOTES:

1 None detected



ENDYNE, INC.

Laboratory Services

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LABORATORY REPORT

EPA METHOD 602--PURGEABLE AROMATICS

CLIENT: Griffin International
PROJECT NAME: St. Johnsbury Subaru
REPORT DATE: October 20, 1993
DATE SAMPLED: October 5, 1993
DATE RECEIVED: October 6, 1993
ANALYSIS DATE: October 15, 1993

PROJECT CODE: GISJ1869
REF.#: 52,314
STATION: MW3
TIME SAMPLED: 11:35
SAMPLER: Peter Murray

<u>Parameter</u>	<u>Detection Limit (ug/L)¹</u>	<u>Concentration (ug/L)</u>
Benzene	20	3,450.
Chlorobenzene	20	ND ²
1,2-Dichlorobenzene	20	ND
1,3-Dichlorobenzene	20	ND
1,4-Dichlorobenzene	20	ND
Ethylbenzene	20	867.
Toluene	20	116.
Xylenes	20	2,030.
MTBE	200	ND

Bromobenzene Surrogate Recovery: 104%

NUMBER OF UNIDENTIFIED PEAKS FOUND: 22

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: Griffin International
PROJECT NAME: St. Johnsbury Subaru
REPORT DATE: October 20, 1993
DATE SAMPLED: October 5, 1993
DATE RECEIVED: October 6, 1993
ANALYSIS DATE: October 16, 1993

PROJECT CODE: GISJ1869
REF.#: 52,315
STATION: MW4
TIME SAMPLED: 11:45
SAMPLER: Peter Murray

<u>Parameter</u>	<u>Detection Limit (ug/L)¹</u>	<u>Concentration (ug/L)</u>
Benzene	20	3,090.
Chlorobenzene	20	ND ²
1,2-Dichlorobenzene	20	ND
1,3-Dichlorobenzene	20	ND
1,4-Dichlorobenzene	20	ND
Ethylbenzene	20	1,490.
Toluene	20	1,120.
Xylenes	20	901.
MTBE	200	TBQ ³

Bromobenzene Surrogate Recovery: 97%

NUMBER OF UNIDENTIFIED PEAKS FOUND: 24

NOTES:

- 1 Detection limit raised due to high levels of contaminants. Sample run at 5% dilution.
- 2 None detected
- 3 Trace below quantitation limit



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LABORATORY REPORT

EPA METHOD 602--PURGEABLE AROMATICS

CLIENT: Griffin International
PROJECT NAME: St. Johnsbury Subaru
REPORT DATE: October 20, 1993
DATE SAMPLED: October 5, 1993
DATE RECEIVED: October 6, 1993
ANALYSIS DATE: October 16, 1993

PROJECT CODE: GISJ1869
REF.#: 52,316
STATION: MW5
TIME SAMPLED: 11:55
SAMPLER: Peter Murray

<u>Parameter</u>	<u>Detection Limit (ug/L)¹</u>	<u>Concentration (ug/L)</u>
Benzene	50	3,270.
Chlorobenzene	50	ND ²
1,2-Dichlorobenzene	50	ND
1,3-Dichlorobenzene	50	ND
1,4-Dichlorobenzene	50	ND
Ethylbenzene	50	2,600.
Toluene	50	13,500.
Xylenes	50	11,700.
MTBE	500	ND

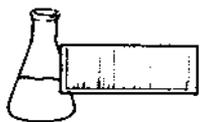
Bromobenzene Surrogate Recovery: 97%

NUMBER OF UNIDENTIFIED PEAKS FOUND: >25

NOTES:

1 Detection limit raised due to high levels of contaminants. Sample run at 2% dilution.

2 None detected



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LABORATORY REPORT

EPA METHOD 602--PURGEABLE AROMATICS

CLIENT: Griffin International
PROJECT NAME: St. Johnsbury Subaru
REPORT DATE: October 20, 1993
DATE SAMPLED: October 5, 1993
DATE RECEIVED: October 6, 1993
ANALYSIS DATE: October 16, 1993

PROJECT CODE: GISJ1869
REF.#: 52,317
STATION: MW5 Duplicate
TIME SAMPLED: 11:55
SAMPLER: Peter Murray

<u>Parameter</u>	<u>Detection Limit (ug/L)¹</u>	<u>Concentration (ug/L)</u>
Benzene	50	3,450.
Chlorobenzene	50	ND ²
1,2-Dichlorobenzene	50	ND
1,3-Dichlorobenzene	50	ND
1,4-Dichlorobenzene	50	ND
Ethylbenzene	50	2,680.
Toluene	50	14,400.
Xylenes	50	12,500.
MTBE	500	ND

Bromobenzene Surrogate Recovery: 97%

NUMBER OF UNIDENTIFIED PEAKS FOUND: >25

NOTES:

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



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LABORATORY REPORT

EPA METHOD 602--PURGEABLE AROMATICS

CLIENT: Griffin International
PROJECT NAME: St. Johnsbury Subaru
REPORT DATE: October 20, 1993
DATE SAMPLED: October 5, 1993
DATE RECEIVED: October 6, 1993
ANALYSIS DATE: October 16, 1993

PROJECT CODE: GISJ1869
REF.#: 52,318
STATION: Equipment Blank
TIME SAMPLED: 12:00
SAMPLER: Peter Murray

<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: 100%

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

NOTES:

1 None detected



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EPA METHOD 602 LABORATORY REPORT

MATRIX SPIKE AND DUPLICATE LABORATORY CONTROL DATA

CLIENT: Griffin International
PROJECT NAME: St. Johnsbury Subaru
REPORT DATE: October 20, 1993
DATE SAMPLED: October 5, 1993
DATE RECEIVED: October 6, 1993
ANALYSIS DATE: October 18, 1993

PROJECT CODE: GISJ1869
REF.#: 52,311
STATION: MW6
TIME SAMPLED: 11:05
SAMPLER: Peter Murray

<u>Parameter</u>	<u>Sample(ug/L)</u>	<u>Spike(ug/L)</u>	<u>Dup1(ug/L)</u>	<u>Dup2(ug/L)</u>	<u>Avg % Rec</u>
Benzene	ND ¹	10	9.1	9.4	93%
Toluene	ND	10	8.7	9.1	89%
Ethylbenzene	ND	10	9.3	9.7	95%
Xylenes	ND	30	27.5	28.6	93%

NOTES:

1 None detected

Project Name: <i>ST. JOHNSBURY SUBARU</i> Site Location: <i>ST. JOHNSBURY, VT</i>	Reporting Address: <i>GRIFFIN INTERNATIONAL</i> <i>23 DORSET LANE, WILLISTON, VT 05495</i>	Billing Address: <i>SAME</i>
Endyne Project Number: <i>GESJ18104</i>	Company: <i>GRIFFIN - Peter Murray</i> Contact Name/Phone #: <i>(802) 879-7708</i>	Sampler Name: Phone #: <i>SAME</i>

Lab #	Sample Location	Matrix	G R A B	C O M P	Date/Time	Sample Containers		Field Results/Remarks	Analysis Required	Sample Preservation	Rush
						No.	Type/Size				
<i>5000</i>	<i>Trip Blank</i>	<i>H₂O</i>	<i>✓</i>		<i>10/5/93</i> <i>7:15</i>	<i>2</i>	<i>40ML</i>		<i>602</i>	<i>HCL</i>	
<i>5004</i>	<i>MW7</i>	<i>H₂O</i>	<i>✓</i>		<i>10:40</i>	<i>2</i>	<i>40ML</i>		<i>602</i>	<i>HCL</i>	
<i>5006</i>	<i>MW1</i>	<i>H₂O</i>	<i>✓</i>		<i>10:55</i>	<i>2</i>	<i>40ML</i>		<i>602</i>	<i>HCL</i>	
<i>5008</i>	<i>MW6</i>	<i>H₂O</i>	<i>✓</i>		<i>11:05</i>	<i>2</i>	<i>40ML</i>		<i>602</i>	<i>HCL</i>	
<i>5012</i>	<i>MW8</i>	<i>H₂O</i>	<i>✓</i>		<i>11:15</i>	<i>2</i>	<i>40ML</i>		<i>602</i>	<i>HCL</i>	
<i>5015</i>	<i>MW2</i>	<i>H₂O</i>	<i>✓</i>		<i>11:25</i>	<i>2</i>	<i>40ML</i>		<i>602</i>	<i>HCL</i>	
<i>5017</i>	<i>MW3</i>	<i>H₂O</i>	<i>✓</i>		<i>11:35</i>	<i>2</i>	<i>40ML</i>		<i>602</i>	<i>HCL</i>	
<i>5021</i>	<i>MW4</i>	<i>H₂O</i>	<i>✓</i>		<i>11:45</i>	<i>2</i>	<i>40ML</i>		<i>602</i>	<i>HCL</i>	
<i>5026</i>	<i>MW5</i>	<i>H₂O</i>	<i>✓</i>		<i>11:55</i>	<i>2</i>	<i>40ML</i>		<i>602</i>	<i>HCL</i>	
<i>5027</i>	<i>MW5 Duplicate</i>	<i>H₂O</i>	<i>✓</i>		<i>11:55</i>	<i>2</i>	<i>40ML</i>		<i>602</i>	<i>HCL</i>	
<i>5028</i>	<i>Equipment Blank</i>	<i>H₂O</i>	<i>✓</i>		<i>12:00</i>	<i>2</i>	<i>40ML</i>		<i>602</i>	<i>HCL</i>	

Relinquished by: Signature <i>[Signature]</i>	Received by: Signature <i>[Signature]</i>	Date/Time <i>10/6/93 11:30 am</i>
Relinquished by: Signature	Received by: Signature	Date/Time

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	TCLP (Specify: volatiles, semi-volatiles, metals, pesticides, herbicides)										
30	Other (Specify):										