



APR 27 10 24 AM '95  
HAZARDOUS MATERIALS  
WASTEWATER DIVISION

April 26, 1995

Mr. Bill Whitby  
Perry Restaurant Group  
1980 Shelburne Road  
Shelburne, Vermont 05482

RE: Groundwater Sampling and Analysis for April, 1995  
Sirloin Saloon, Rutland, Vermont (VTDEC Site #94-1646)

Dear Mr. Whitby:

This letter summarizes the results of groundwater sampling conducted at the above referenced site on April 7, 1995. This work has been conducted in response to requests made in the letter (dated September 12, 1994) to you from Mr. Richard Spiese of the State of Vermont Department of Environmental Conservation (VTDEC).

## **GROUNDWATER SAMPLING AND ANALYSIS**

On April 7, 1995, Griffin collected groundwater samples from the four monitoring wells at the site. Groundwater monitoring well locations are indicated on the attached Groundwater Contour Map. All samples were analyzed according to EPA Methods 602 which tests for the petroleum compounds benzene, toluene, ethylbenzene, and xylenes (BTEX) and methyl tertiary-butyl ether (MTBE), an octane enhancement additive. The results of the analysis of groundwater samples are tabulated on Table 1 along with data from the previous analysis of groundwater from the site conducted last August. Laboratory report forms are also attached.

Analysis of the groundwater sample collected from MW1, in the reported area of the former underground storage tanks (USTs) which had been present at the site several years ago, indicates the presence of benzene in concentrations exceeding the Vermont Groundwater Enforcement Standard (VGES) for the compound. The benzene concentration detected in the well is

significantly unchanged compared to analysis last August. The sum of BTEX concentrations has decreased from 6.0 parts per million (ppm) to 3.2 ppm since last September.

Analysis of the groundwater sample collected from MW2, MW3, and MW4, all of which are located down-gradient from the former UST area, indicates no petroleum compounds detected in concentrations exceeding VGES. MW2 is located about 90 feet north of the former UST area near the site's property line. MW3 is located about 70 feet northwest of the former UST area near South Main Street. MW4 is located about 65 feet southwest of the former UST area near South Main Street.

All samples were collected according to Griffin's Groundwater Sampling Protocol which meets industry and state standards. Analyses of duplicate, trip blank and equipment blank samples indicate that adequate Quality Assurance and Control was maintained during sample collection and analyses.

## **GROUNDWATER FLOW DIRECTION AND GRADIENT**

On April 7, 1995 water table elevations in each of the four monitoring wells were gauged. Gauging data is attached. This data was used to generate the Groundwater Contour Map (also attached). The data indicate that the groundwater elevation at the site is about 1/4 to 1/3 feet higher than last August. The data indicate that groundwater at the site is flowing towards the northwest at an average hydraulic gradient of 4.0%.

## **CONCLUSIONS AND RECOMMENDATIONS**

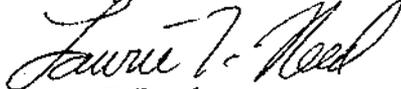
No further work is recommended at the Sirloin Saloon. Griffin recommends that this site be designation "Site Activities Management Complete" (SMAC) by the VTDEC for the following reasons.

- The source, nature, and extent of residual subsurface petroleum contamination has been adequately defined.
- The primary source of soil and groundwater contamination (the former USTs) have been removed.

- Groundwater contaminants in soil and groundwater are falling or stable. Groundwater at the site in the vicinity of the former tank field remains contaminated with benzene in concentrations above VGES. The benzene concentration has remained significantly unchanged. However, analysis indicates overall improved groundwater quality since August, 1994. Dilution, dispersion, and biodegradation will eventually reduce remaining contaminants to non-detectable levels.
- Vermont Groundwater Enforcement Standards are not exceeded at compliance points MW2, MW3, and MW4 (located down-gradient near property boundaries).
- Soil contamination likely remains with VOCs in concentration above the State Action Guidelines of 20 ppm. However, the VOCs in the soil are not known to have impacted any sensitive receptors except the groundwater at the site. The soil should be left in place so that passive remediation can continue. As long as no excavation is conducted in this area without the presence of appropriate monitoring, no significant risk to human health remains from the VOCs in the soil.
- No unacceptable threat to human health or the environment exists on-site.
- The Sirloin Saloon is not a RCRA Site and no known RCRA violations are known to exist.
- The Sirloin Saloon is not a CERCLA Site.

Griffin is pleased to be conducting this work for you. If you have any questions or comments regarding this report or if I can be of any assistance to you in any matter, please call.

Sincerely,

  
Laurie T. Reed,  
Project Geologist

Attachments

c. Richard Spiese, VTDEC

- vicinity map w/prop.  
boundary, adjacent  
property lines, and receptors.  
  
- receptors

TABLE 1.

**Groundwater Quality Summary  
Sirloin Saloon  
Rutland, Vermont**

## MW1

PARAMETER	Date of Sample Collection			V.G.E.S.
	8/11/94	4/7/95		
Benzene	94.9	99.1		5.0*
Chlorobenzene	ND	ND > 50		100**
1,2-DCB	ND	ND > 50		600*
1,3-DCB	ND	ND > 50		600**
1,4-DCB	ND	ND > 50		75*
Ethylbenzene	614.	440.		700**
Toluene	1,180.	114.		1,000**
Xylenes	4,090.	2,550.		10,000**
Total BTEX	5,979.	3,203.		-
MTBE	ND	ND > 500		40**
BTEX + MTBE	5,979.	3,203.		-

## MW2

PARAMETER	Date of Sample Collection			V.G.E.S.
	8/11/94	4/7/95		
Benzene	ND	ND > 1		5.0*
Chlorobenzene	ND	ND > 1		100**
1,2-DCB	ND	ND > 1		600*
1,3-DCB	ND	ND > 1		600**
1,4-DCB	ND	ND > 1		75*
Ethylbenzene	ND	ND > 1		700**
Toluene	ND	ND > 1		1,000**
Xylenes	ND	3.7		10,000**
Total BTEX		3.7		-
MTBE	ND	ND > 10		40**
BTEX + MTBE		3.7		-

V.G.E.S. - Vermont Groundwater Enforcement Standards

\* - Maximum Contaminant Level

\*\* - Health Advisory Level

ANALYSIS BY EPA METHOD 602

ND - None Detected

TBQ - Trace, below quantitation limits

All Values Reported in ug/L (ppb)



**Liquid Level Monitoring Data  
Sirloin Saloon  
Rutland, Vermont**

**Monitoring Date:8/11/94**

Well I.D.	Well Depth	Top of Casing Elevation	Depth To Product	Depth To Water	Corrected Water Table Elevation
MW-1	9.50	99.92	-	4.92	95.00
MW-2	10.50	100.00	-	7.9	92.10
MW-3	7.50	96.35	-	3.75	92.60
MW-4	7.50	96.86	-	3.62	93.24

**Monitoring Date:4/7/95**

Well I.D.	Well Depth	Top of Casing Elevation	Depth To Product	Depth To Water	Corrected Water Table Elevation
MW-1	9.50	99.92	-	4.56	95.36
MW-2	10.50	100.00	-	6.61	93.39
MW-3	7.50	96.35	-	3.31	93.04
MW-4	7.50	96.86	-	3.35	93.51

All Values Reported in feet

Elevations are based on Arbitrary Datum - MW2 Set at 100.00'

NA - Not Available





**ENDYNE, INC.**

Laboratory Services

32 James Brown Drive  
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(802) 879-4333  
FAX 879-7103

**REPORT OF LABORATORY ANALYSIS**

CLIENT: Griffin International  
PROJECT NAME: Sirloin Saloon  
REPORT DATE: April 15, 1995  
DATE SAMPLED: April 7, 1995

PROJECT CODE: GISS1650  
REF.#: 72,890 - 72,896

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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**LABORATORY REPORT**

**EPA METHOD 602--PURGEABLE AROMATICS**

CLIENT: Griffin International  
PROJECT NAME: Sirloin Saloon  
REPORT DATE: April 15, 1995  
DATE SAMPLED: April 7, 1995  
DATE RECEIVED: April 7, 1995  
DATE ANALYZED: April 14, 1995

PROJECT CODE: GISS1650  
REF.#: 72,890  
STATION: Trip Blank  
TIME SAMPLED: 8:00  
SAMPLER: J. Valley

<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
Benzene	1	ND <sup>1</sup>
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: 98%

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

**NOTES:**

1 None detected



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**LABORATORY REPORT**

**EPA METHOD 602--PURGEABLE AROMATICS**

CLIENT: Griffin International  
PROJECT NAME: Sirloin Saloon  
REPORT DATE: April 15, 1995  
DATE SAMPLED: April 7, 1995  
DATE RECEIVED: April 7, 1995  
DATE ANALYZED: April 14, 1995

PROJECT CODE: GISS1650  
REF.#: 72,891  
STATION: MW-2  
TIME SAMPLED: 12:00  
SAMPLER: J. Valley

<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
Benzene	1	ND <sup>1</sup>
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	3.7
MTBE	10	ND

Bromobenzene Surrogate Recovery: 99%

NUMBER OF UNIDENTIFIED PEAKS FOUND: 1

NOTES:

1 None detected



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**LABORATORY REPORT**

**EPA METHOD 602--PURGEABLE AROMATICS**

CLIENT: Griffin International  
PROJECT NAME: Sirloin Saloon  
REPORT DATE: April 15, 1995  
DATE SAMPLED: April 7, 1995  
DATE RECEIVED: April 7, 1995  
DATE ANALYZED: April 14, 1995

PROJECT CODE: GISS1650  
REF.#: 72,892  
STATION: Duplicate MW-2  
TIME SAMPLED: 12:00  
SAMPLER: J. Valley

<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
Benzene	1	ND <sup>1</sup>
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	3.8
MTBE	10	ND

Bromobenzene Surrogate Recovery: 96%

NUMBER OF UNIDENTIFIED PEAKS FOUND: 1

NOTES:

1 None detected



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LABORATORY REPORT

EPA METHOD 602--PURGEABLE AROMATICS

CLIENT: Griffin International  
PROJECT NAME: Sirloin Saloon  
REPORT DATE: April 15, 1995  
DATE SAMPLED: April 7, 1995  
DATE RECEIVED: April 7, 1995  
DATE ANALYZED: April 14, 1995

PROJECT CODE: GISS1650  
REF.#: 72,893  
STATION: MW-4  
TIME SAMPLED: 12:20  
SAMPLER: J. Valley

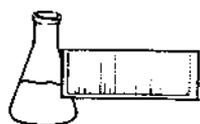
<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
Benzene	1	ND <sup>1</sup>
Chlorobenzene	1	ND
1,2-Dichlorobenzene	1	ND
1,3-Dichlorobenzene	1	ND
1,4-Dichlorobenzene	1	ND
Ethylbenzene	1	ND
Toluene	1	ND
Xylenes	1	ND
MTBE	10	ND

Bromobenzene Surrogate Recovery: 101%

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

NOTES:

1 None detected



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**LABORATORY REPORT**

**EPA METHOD 602--PURGEABLE AROMATICS**

CLIENT: Griffin International  
PROJECT NAME: Sirloin Saloon  
REPORT DATE: April 15, 1995  
DATE SAMPLED: April 7, 1995  
DATE RECEIVED: April 7, 1995  
DATE ANALYZED: April 14, 1995

PROJECT CODE: GISS1650  
REF.#: 72,894  
STATION: MW-3  
TIME SAMPLED: 12:35  
SAMPLER: J. Valley

<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
Benzene	1	ND <sup>1</sup>
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	6.8
MTBE	10	ND

Bromobenzene Surrogate Recovery: 103%

NUMBER OF UNIDENTIFIED PEAKS FOUND: 4

**NOTES:**

1 None detected



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LABORATORY REPORT

EPA METHOD 602--PURGEABLE AROMATICS

CLIENT: Griffin International  
PROJECT NAME: Sirloin Saloon  
REPORT DATE: April 15, 1995  
DATE SAMPLED: April 7, 1995  
DATE RECEIVED: April 7, 1995  
DATE ANALYZED: April 14, 1995

PROJECT CODE: GISS1650  
REF.#: 72,895  
STATION: MW-1  
TIME SAMPLED: 12:50  
SAMPLER: J. Valley

<u>Parameter</u>	<u>Detection Limit (ug/L)<sup>1</sup></u>	<u>Concentration (ug/L)</u>
Benzene	50	99.1
Chlorobenzene	50	ND <sup>2</sup>
1,2-Dichlorobenzene	50	ND
1,3-Dichlorobenzene	50	ND
1,4-Dichlorobenzene	50	ND
Ethylbenzene	50	440.
Toluene	50	114.
Xylenes	50	2,550.
MTBE	500	ND

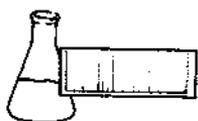
Bromobenzene Surrogate Recovery: 108%

NUMBER OF UNIDENTIFIED PEAKS FOUND: >10

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: Sirloin Saloon  
REPORT DATE: April 15, 1995  
DATE SAMPLED: April 7, 1995  
DATE RECEIVED: April 7, 1995  
DATE ANALYZED: April 14, 1995

PROJECT CODE: GISS1650  
REF.#: 72,896  
STATION: Equipment Blank  
TIME SAMPLED: 13:00  
SAMPLER: J. Valley

<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
Benzene	1	ND <sup>1</sup>
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



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**EPA METHOD 602 LABORATORY REPORT**

**MATRIX SPIKE AND DUPLICATE LABORATORY CONTROL DATA**

CLIENT: Griffin International  
PROJECT NAME: Sirloin Saloon  
REPORT DATE: April 15, 1995  
DATE SAMPLED: April 7, 1995  
DATE RECEIVED: April 7, 1995  
DATE ANALYZED: April 14, 1995

PROJECT CODE: GISS1650  
REF.#: 72,891  
STATION: MW-2  
TIME SAMPLED: 12:00  
SAMPLER: J. Valley

<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 <sup>1</sup>	10	10.4	10.8	106%
Toluene	ND	10	10.8	11.1	109%
Ethylbenzene	ND	10	10.7	10.9	108%
Xylenes	3.7	30	33.0	33.9	99%

**NOTES:**

1 None detected

**CHAIN-OF-CUSTODY RECORD**

13528

Project Name: <u>SIRLOIN SALOON</u>	Reporting Address: <u>GRIFFIN #794583</u>	Billing Address: <u>GRIFFIN</u>
Site Location: <u>RUTLAND, VT</u>		
Endyne Project Number: <u>GISS 1650</u>	Company: <u>GRIFFIN</u>	Sampler Name: <u>J. VALLEY</u>
	Contact Name/Phone #: <u>865-4288</u>	Phone #:

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				
72,890	TRIP BLANK	1100	X		09:00	2	40ml		602	ACC	
72,891	MW-2	↓	↓		12:00	↓	↓		↓	↓	
72,892	DUPLICATE MW-2	↓	↓		12:00	↓	↓		↓	↓	
72,893	MW-1	↓	↓		12:20	↓	↓		↓	↓	
72,894	MW-	↓	↓		12:35	↓	↓		↓	↓	
72,895	MW-1	↓	↓		12:50	↓	↓		↓	↓	
72,896	EQUIPMENT BLANK	↓	↓		13:00	↓	↓		↓	↓	

Relinquished by: Signature 	Received by: Signature 	Date/Time: <del>4-6-95</del> 4-7-95 2:20
Relinquished by: Signature	Received by: Signature	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 <sub>5</sub>	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):										