



March 12, 1996

Mr. Chuck Schwer
State of Vermont
Department of Environmental Conservation
HMMD
103 South Main St./
Waterbury, VT 05671-0404

RE: Expressway Site Assessment, Utton's Muffler, Montpelier 96-1953

Dear Mr. Schwer:

Enclosed is the completed Expressway Site Assessment Report for Utton's Muffler on Route 2 in Montpelier. Griffin has recommended follow up groundwater sampling to track the water quality at this site. Please review the report and call me with any questions or comments that you may have.

Sincerely,

A handwritten signature in cursive script, appearing to read "Peter Hack".

Peter Hack
Engineer

c: Utton's Muffler

MAR 13 1996

EXPRESSWAY SITE INVESTIGATION REPORT

For

**UTTON'S MUFFLER
33 RIVER STREET
MONTPELIER, VERMONT 05602**

46-1953

FEBRUARY 1996

Prepared for:

**Ms. Patricia Woodard
RD 1, Box 3F
East Montpelier, VT 05651**

Prepared By:



**P.O. Box 943
Williston, Vermont 05495
(802) 865-4288**

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I. INTRODUCTION

This report details the site investigation conducted by Griffin International Inc. (Griffin) after the routine removal of two underground storage tanks (USTs) on January 23, 1996. Two single-walled steel USTs with capacities of 1500 and 1000 gallons were used for gasoline storage prior to 1982. The age of the tanks is unknown. A formal Tank Pull Inspection Report was prepared by Griffin, and submitted to the VTDEC on January 24, 1996.

During the tank closure, subsurface petroleum contamination was detected in the soils surrounding the two USTs with maximum concentrations above 220 ppm (parts per million) as measured with a photo-ionization device (PID). Groundwater was encountered in the tank pit at 7 feet below grade. A slight petroleum sheen was observed on the water table in the pit.

Due to the detection of VOCs in the soil, and petroleum sheen on the groundwater, the site was placed on the Site Investigation Expressway program. Griffin coordinated the installation of three groundwater monitoring wells and collected groundwater samples for laboratory analysis to further define the extent and degree of subsurface contamination at this site. This Site Investigation Report has been prepared in compliance with VTDEC guidelines to assess the risk posed to local receptors, and includes conclusions and recommendations for further work.

II. SITE DESCRIPTION

The site is located on U.S. Route 2, (a.k.a. River Street and Berlin Street) in Montpelier, VT. This area contains several commercial businesses and residences located nearby along U.S. Route 2. Directly across Route 2, approximately 100 feet to the northeast of Utton's is the Winooski River. Buildings in this area are served by municipal water and sewer.

The site topography is predominantly level, with a steep rise behind the building to the south. Bedrock outcroppings are visible behind and above the site. The geologic maps of the area indicate bedrock materials consisting of quartzite and quartz-plagioclase granulite, separated by partings of muscovite, chlorite, epidote, biotite and garnet. Additionally, carbonaceous phyllite and slate may be found in this area. The material encountered during this investigation consisted of poorly sorted fine sands, silts and clay. Rock, cinders and organic materials were also encountered in MW2 and MW3. Bedrock was encountered in MW1 at 18 feet below grade. A Site Location Map and Site Map are included in Appendix A.

The Utton's Muffler property has been owned by Ms. Patricia Woodard since 1982, and has operated as an automotive muffler, suspension, and brake repair shop since then. The two USTs were installed and used prior to Ms. Woodard acquiring the property, and have not been used by the present owner. The tanks were reportedly emptied and abandoned in 1975. In January, 1996, Utton's removed the USTs in preparation for a property transfer. No replacement tanks were installed.

Adjacent to Utton's on the east side is Cumberland Farms convenience store and gas station. This property has three gasoline USTs on the east side of the building that were upgraded to fiberglass construction with leak protection in 1987. The former USTs at Cumberland Farms were reportedly adjacent to the Utton's property.

III. MONITORING WELL INSTALLATION

Three groundwater monitoring wells were installed on February 15, 1996, by Green Mountain Boring of Barre, VT. A Griffin engineer supervised the boring and installation of the wells.

The wells were installed with a 4.25 inch diameter hollow stem auger drill rig, and are constructed with ten feet of 2 inch diameter, factory slotted PVC well screen installed with five feet extending into the water table. A 2 inch diameter solid PVC riser pipe extends from the screened section to just below the ground surface. The annulus between the well screen and the borehole wall is filled with a silica sandpack to facilitate groundwater flow into the well. The remainder of the annulus is filled with native materials, and sealed with a bentonite plug to prevent surface water from entering the well. The wells are completed with a flush mounted, steel, protective access cover.

Undisturbed soil samples were collected from the boreholes at five foot intervals with a Split Spoon Sampler. The samples were field screened with a photo-ionization device (PID) which detects Volatile Organic Compounds (VOCs). The soil types and PID readings are presented on Boring Logs in Appendix B.

Monitoring well MW1 was installed on the eastern side of the site, away from the tank pit, to determine if contamination is potentially migrating onto the site from the Cumberland Farms gasoline station next door. This boring was advanced to refusal on bedrock at 18 feet below grade. Soil samples collected from this well had strong fuel oil odors. PID readings of the soil samples collected from this borehole detected a maximum VOC concentration of up to 100 parts per million (ppm) in the sample collected from five to seven feet below grade. The sample collected from fifteen to seventeen feet contained only 2 ppm of VOCs. Groundwater was also detected at fifteen feet.

MW2 was installed in the presumed downgradient groundwater flow direction from the former USTs, at the north-western corner of the site. During the installation of MW2, petroleum odors were encountered throughout the boring. VOC concentrations ranged from 70 ppm in the sample collected from the auger cuttings from the first five feet of boring, to 200 ppm in the five to seven and ten to twelve foot sample intervals. The soil sample collected from fifteen to seventeen feet contained 135 ppm of VOCs, as detected by PID. Groundwater was detected at fifteen feet, and bedrock was not encountered.

MW3 was installed in the presumed upgradient direction of groundwater flow from the former USTs. PID readings of the soil sample collected from five to seven feet detected 170 ppm of

VOCs. The soil sample collected from ten to twelve feet contained 8 ppm, as detected with the PID. Groundwater was detected at eight feet and bedrock was not encountered.

IV. WATER SAMPLING AND ANALYSIS

Griffin surveyed the top of the well casings using an arbitrary bench mark of 100 feet, located at the top of monitoring well MW3. The depth to groundwater was measured from the top of the wells which indicates the relative groundwater elevation in each well. This data was used to calculate the groundwater flow direction and gradient. On February 22, 1996, the water table was approximately between four and ten feet below grade, and was estimated to flow to the northeast at a steep hydraulic gradient of 18%. A groundwater contour map is included in Appendix A.

On February 21, 1996, Griffin collected groundwater samples from the three on-site monitoring wells. During the sample collection, no odors or sheens were detected in the groundwater samples. The water samples were analyzed by EPA Method 602, which tests for benzene, toluene, ethylbenzene, xylene (BTEX), and methyl tertiary butyl ether (MTBE).

The EPA Method 602 analysis of groundwater collected from MW3, located immediately upgradient of the former USTs, detected low concentrations of Ethylbenzene, Toluene and Xylenes, all well below the Vermont Groundwater Enforcement Standards (VTGES).

The analysis of the groundwater sample collected from MW2, located directly downgradient of the former USTs, detected 4,920 parts per billion (ppb) of Benzene, 2,780 ppb of Ethylbenzene, 14,000 ppb of Toluene, and 10,700 ppb of Xylenes, all above the VTGES of 5 ppb, 700 ppb, 1,000 ppb and 10,000 ppb, respectively. The laboratory detection limits were raised due to the elevated concentrations of BTEX compounds. Even though the detection limit for MTBE was also raised significantly to 5000 ppb, and small amounts of MTBE would not be detected, MTBE would not likely be found at this site since it was not introduced to gasoline until the mid 1980's.

The EPA Method 602 analysis of groundwater collected from MW1, located on the eastern side of the property, also detected low concentrations of Ethylbenzene, Toluene and Xylenes, all well below the Vermont Groundwater Enforcement Standards (VTGES).

The analytical results from the trip blank, equipment blank and duplicate indicate that proper quality control was maintained during collection, transportation, and analysis of the samples. The analytical laboratory results are attached in Appendix C.

V. RECEPTOR SURVEY AND RISK ASSESSMENT

During the tank pull inspection and drilling activities, Griffin visually inspected the area for potential sensitive receptors. Potential receptors identified during this investigation include the nearby residences and businesses, and the Winooski River, located about 100 feet northeast of the property. The area is served by municipal water and sewer systems.

The Winooski River was visually inspected, but was covered with ice and snow, and no indications of petroleum contamination were observed.

The Utton's building and adjacent Cumberland Farms are constructed on concrete slabs on grade and do not have basements. The commercial and residential building located approximately thirty feet west of the Utton's building has a dirt floor basement with walls constructed of concrete and stone. The basement was screened with a PID on February 15, 1996 and there were no indications of petroleum contamination.

No other potential receptors were observed.

Based on the groundwater flow direction, lack of contamination in the nearby basement, and length of time passed since the USTs at this site were used, the Utton's building, adjacent buildings, and the Winooski River do not appear to be at significant risk of impact from contamination at this site.

VI. CONCLUSIONS

There has been release of petroleum to the subsurface at the Utton's Muffler property. The amount and duration of the release are not known, but it most likely originated from the former gasoline USTs, which have been out of service since about 1975. The two USTs were removed in January, 1996, and no other potential sources of petroleum contamination remain at this site.

Soils and groundwater in this vicinity have been impacted by the release. Adsorbed phase contamination was detected by PID in the soil samples collected during the installation of the three monitoring wells. Elevated concentrations of BTEX compounds, above the VTGES, were detected in the groundwater sample collected from MW2, located directly downgradient of the former tank pit.

Low concentrations of Ethylbenzene, Toluene and Xylenes were detected in the groundwater samples collected from MW1, located at the east side of the property, and MW3, located immediately upgradient of the former USTs. The contamination concentrations in these two wells are below the VTGES. The source of contamination in MW1 is not known, but could potentially be due to the former USTs at the adjacent Cumberland Farms.

Significant impact to the Winooski River is not likely, due to the age of the probable release, the dissolved phase contamination concentrations in downgradient well MW2, and distance from MW2 to the river.

Based on the low risk to the identified potential receptors, the groundwater flow gradient and direction, the relatively low level of contamination concentrations in two of the three on-site monitoring wells (MW1, MW3), and the length of time since the former USTs were used, the

contamination detected at this site does not pose an immediate or serious threat to human health and safety or to the environment.

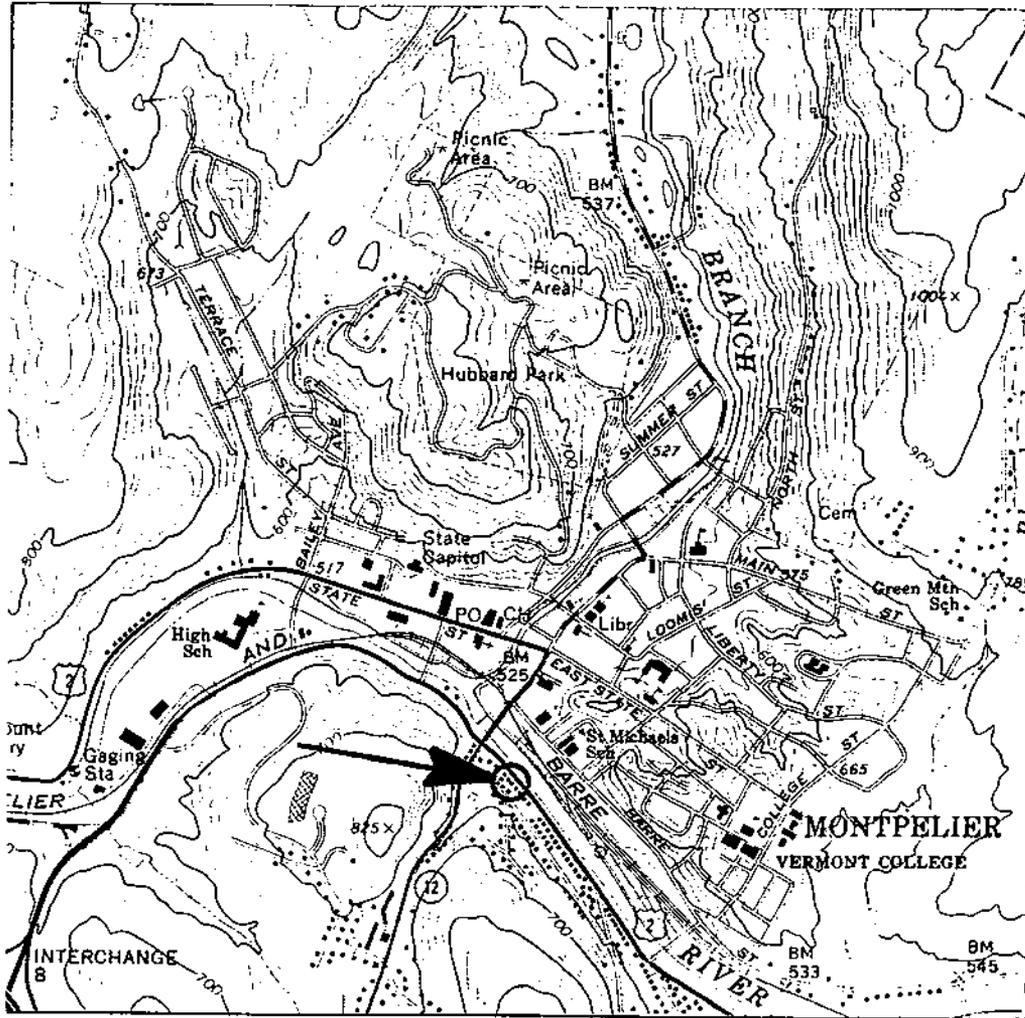
Residual contamination detected at is site is likely contained at the site, will continue to slowly degrade over time by the natural processes of biodegradation, dilution, dispersion and volatilization.

VII. RECOMMENDATIONS

Griffin recommends three additional quarterly sampling events, in May, August, and November 1996, to document the expected decrease in dissolved phase contamination in the groundwater at this site. Once a downward trend has been established, Griffin will recommend site closure.

APPENDIX A

Site Location Map
Site Map
Groundwater Contour Map



JOB #: 2964802

SOURCE: USGS- MONTPELIER, VERMONT QUADRANGLE



UTTON'S MUFFLER

MONTPELIER,

VERMONT

SITE LOCATION MAP

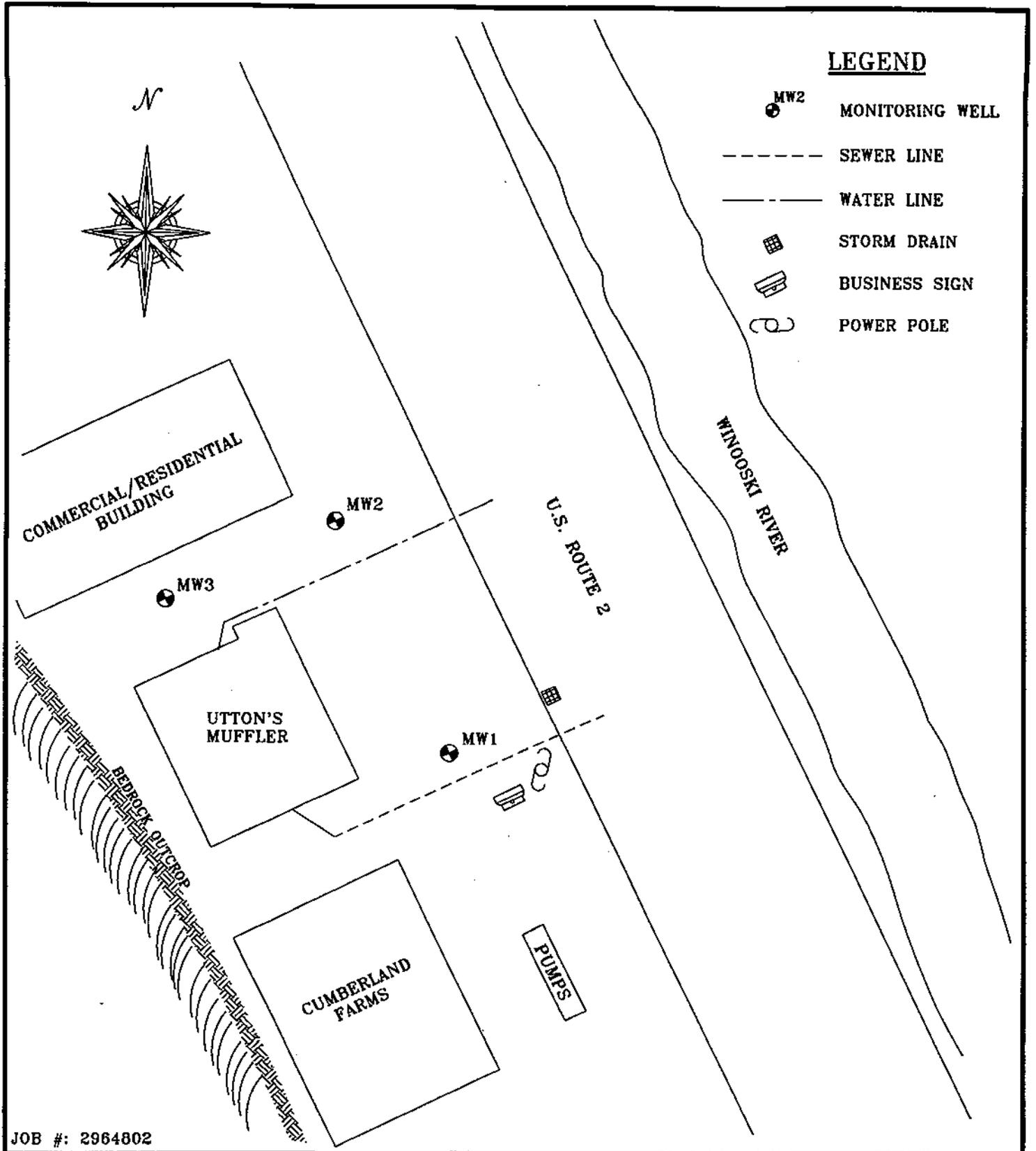
DATE: 2/23/96

DWG.#:1

SCALE: 1:24000

DRN.:SB

APP.:PH



JOB #: 2964802



UTTON'S MUFFLER

MONTPELIER,

VERMONT

SITE MAP

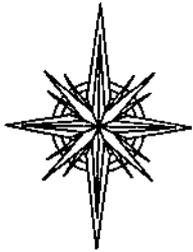
DATE: 2/23/96

DWG.#: 2

SCALE: 1"=30'

DRN.:SB

APP.:PH



LEGEND

MW2 88.52' MONITORING WELL AND WATER TABLE ELEVATION IN FEET

92.0' GROUNDWATER CONTOUR IN FEET (DASHED WHERE INFERRED)

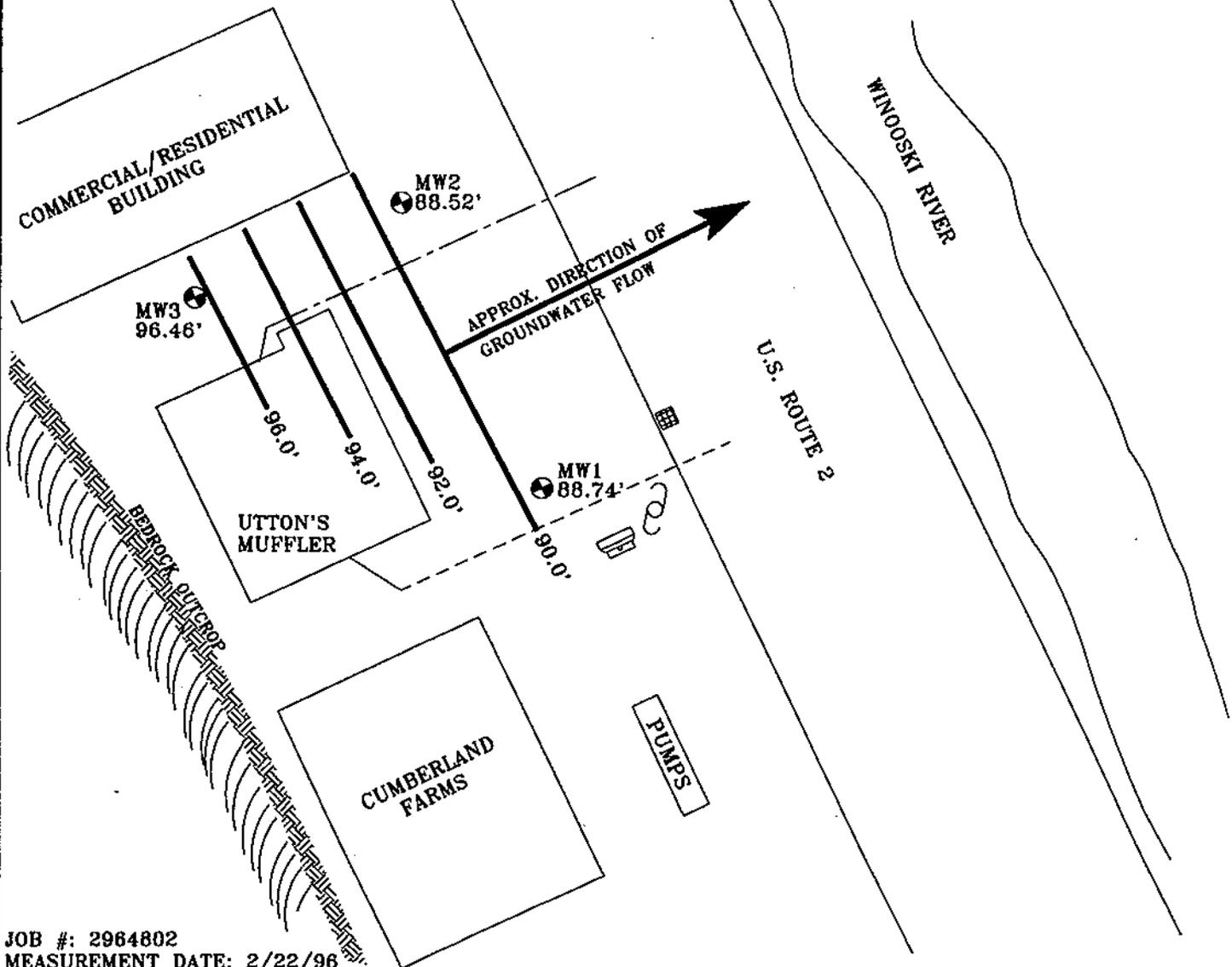
----- SEWER LINE

----- WATER LINE

▣ STORM DRAIN

⊏ BUSINESS SIGN

⊖ POWER POLE



JOB #: 2964802
MEASUREMENT DATE: 2/22/96



UTTON'S MUFFLER

MONTPELIER,

VERMONT

GROUNDWATER CONTOUR MAP

DATE: 2/23/96

DWG.#: 3

SCALE: 1"=30'

DRN.:SB

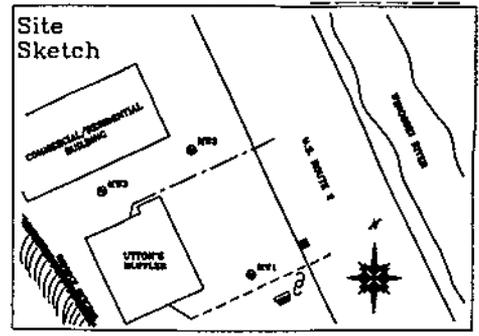
APP.:PH

APPENDIX B

Well Logs

PROJECT UTTONS MUFFLER
 LOCATION MONTPELIER, VERMONT
 DATE DRILLED 2/15/96 TOTAL DEPTH OF HOLE 18'
 DIAMETER 4.25"
 SCREEN DIA. 2" LENGTH 10' SLOT SIZE 0.010"
 CASING DIA. 2" LENGTH 7.5' TYPE sch 40 pvc
 DRILLING CO. GMB DRILLING METHOD HSA
 DRILLER RON & DAVE LOG BY P. HACK

WELL NUMBER MW1

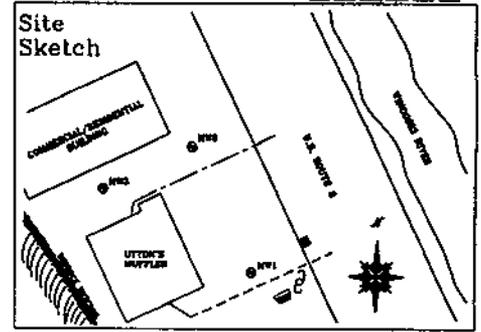


GRIFFIN INTERNATIONAL, INC

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		Pavement	0
1	CONCRETE				1
2	NATIVE BACKFILL		0'-4' 15 ppm	Dry, light brown, medium SAND.	2
3	BENTONITE				3
4	NATIVE BACKFILL				4
5	NATIVE BACKFILL				5
6	WELL RISER		5'-7'- 7/2/4/5 50-100 ppm	Hard (frozen), black SILT/SAND.	6
7	SAND PACK			8.0' WATER TABLE	7
8	WELL SCREEN				8
9	WELL SCREEN				9
10	WELL SCREEN				10
11	WELL SCREEN		10'-12'- 5/5/6/5 15 ppm	Moist, gray/green, silty fine SAND.	11
12	WELL SCREEN				12
13	WELL SCREEN				13
14	WELL SCREEN				14
15	WELL SCREEN				15
16	WELL SCREEN		15'-17'- 4/9/14/17 2 ppm	Wet, green/brown, SILT, SAND and GRAVEL.	16
17	BOTTOM CAP				17
18	BEDROCK			BASE OF WELL AT 18' REFUSAL AT 18'	18
19					19
20					20
21					21
22					22
23					23
24					24
25					25

PROJECT UTTONS MUFFLER
 LOCATION MONTPELIER, VERMONT
 DATE DRILLED 2/15/96 TOTAL DEPTH OF HOLE 17.5'
 DIAMETER 4.25"
 SCREEN DIA. 2" LENGTH 10' SLOT SIZE 0.010"
 CASING DIA. 2" LENGTH 7.0' TYPE sch 40 pvc
 DRILLING CO. GMB DRILLING METHOD HSA
 DRILLER RON & DAVE LOG BY P. HACK

WELL NUMBER MW2

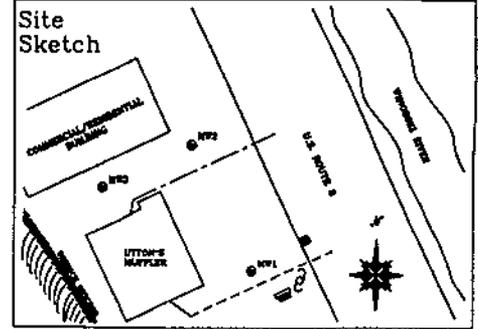


GRIFFIN INTERNATIONAL, INC

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		Pavement	0
1		CONCRETE		Dry, light brown, medium SAND.	1
2		NATIVE BACKFILL			2
3		BENTONITE	1'-5' 70 ppm	Moist, black SILT, SAND, CLAY, petroleum odor.	3
4					4
5		WELL RISER			5
6			5'-7'- 2/4/4/4 200 ppm	Damp, gray SILT/ CLAY, rock, cinders, organics, petroleum odor.	6
7					7
8		SAND PACK		8.0' WATER TABLE	8
9					9
10		WELL SCREEN			10
11			10'-12'- 3/3/5/6 200 ppm	Moist, gray/green, very fine SAND and SILT, fine sand lens at 11.75'	11
12					12
13					13
14					14
15					15
16		BOTTOM CAP	15'-17'- 10/23/15/12 135 ppm	Wet, very fine SAND and gray SILT, stones, coarse sand.	16
17		UNDISTURBED NATIVE SOIL			17
18				BASE OF WELL AT 17.5' END OF EXPLORATION AT 17.5'	18
19					19
20					20
21					21
22					22
23					23
24					24
25					25

PROJECT UTTONS MUFFLER
 LOCATION MONTPELIER, VERMONT
 DATE DRILLED 2/15/96 TOTAL DEPTH OF HOLE 15.0'
 DIAMETER 4.25"
 SCREEN DIA. 2" LENGTH 10' SLOT SIZE 0.010"
 CASING DIA. 2" LENGTH 4.5' TYPE sch 40 pvc
 DRILLING CO. GMB DRILLING METHOD HSA
 DRILLER RON & DAVE LOG BY P. HACK

WELL NUMBER MW3

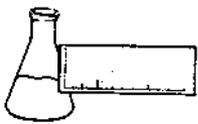


GRIFFIN INTERNATIONAL, INC

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				0
1	NATIVE BACKFILL				1
2	BENTONITE				2
3	WELL RISER				3
4					4
5					5
6			5'-7'- 3/3/3/5 170 ppm	Damp, brown gray SILT, peat and organics.	6
7					7
8				8.0' WATER TABLE	8
9	SAND PACK				9
10					10
11	WELL SCREEN		10'-12'- 4/5/5/6 8 ppm	Wet, gray, SILT with trace of clay.	11
12					12
13					13
14	BOTTOM CAP				14
15	UNDISTURBED NATIVE SOIL			BASE OF WELL AT 15'	15
16				END OF EXPLORATION AT 15'	16
17					17
18					18
19					19
20					20
21					21
22					22
23					23
24					24
25					25

APPENDIX C

Analytical 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: Uptons Mufflers
REPORT DATE: March 1, 1996
DATE SAMPLED: February 21, 1996

PROJECT CODE: GIUM1913
REF.#: 86,033 - 86,038

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

**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: Uptons Mufflers
REPORT DATE: March 1, 1996
DATE SAMPLED: February 21, 1996
DATE RECEIVED: February 21, 1996
DATE ANALYZED: February 26, 1996

PROJECT CODE: GIUM1913
REF.#: 86,033
STATION: Trip Blank
TIME SAMPLED: 7:27
SAMPLER: R. Higgins

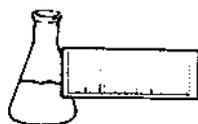
<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
Benzene	1	ND ¹
Chlorobenzene	1	ND
1,2-Dichlorobenzene	1	ND
1,3-Dichlorobenzene	1	ND
1,4-Dichlorobenzene	1	ND
Ethylbenzene	1	ND
Toluene	1	ND
Xylenes	1	ND
MTBE	10	ND

Bromobenzene Surrogate Recovery: 101%

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

NOTES:

1 None detected



ENDYNE, INC.

Laboratory Services

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

LABORATORY REPORT

EPA METHOD 602--PURGEABLE AROMATICS

CLIENT: Griffin International
PROJECT NAME: Uptons Mufflers
REPORT DATE: March 1, 1996
DATE SAMPLED: February 21, 1996
DATE RECEIVED: February 21, 1996
DATE ANALYZED: February 26, 1996

PROJECT CODE: GIUM1913
REF.#: 86,034
STATION: MW1
TIME SAMPLED: 1:01
SAMPLER: R. Higgins

<u>Parameter</u>	<u>Detection Limit (ug/L)¹</u>	<u>Concentration (ug/L)</u>
Benzene	10	ND ²
Chlorobenzene	10	ND
1,2-Dichlorobenzene	10	ND
1,3-Dichlorobenzene	10	ND
1,4-Dichlorobenzene	10	ND
Ethylbenzene	10	64.4
Toluene	10	10.5
Xylenes	10	266.
MTBE	100	ND

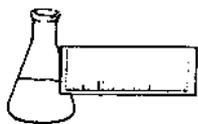
Bromobenzene Surrogate Recovery: 98%

NUMBER OF UNIDENTIFIED PEAKS FOUND: >10

NOTES:

1 Detection limit raised due to high levels of contaminants. Sample run at a 10% dilution.

2 None detected



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: Uptons Mufflers
REPORT DATE: March 1, 1996
DATE SAMPLED: February 21, 1996
DATE RECEIVED: February 21, 1996
DATE ANALYZED: February 29, 1996

PROJECT CODE: GIUM1913
REF.#: 86,036
STATION: MW2
TIME SAMPLED: 1:36
SAMPLER: R. Higgins

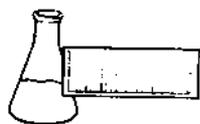
<u>Parameter</u>	<u>Detection Limit (ug/L)¹</u>	<u>Concentration (ug/L)</u>
Benzene	500	4,920.
Chlorobenzene	500	ND ²
1,2-Dichlorobenzene	500	ND
1,3-Dichlorobenzene	500	ND
1,4-Dichlorobenzene	500	ND
Ethylbenzene	500	2,780.
Toluene	500	14,000.
Xylenes	500	10,700.
MTBE	5,000	ND

Bromobenzene Surrogate Recovery: 92%

NUMBER OF UNIDENTIFIED PEAKS FOUND: > 10

NOTES:

- 1 Detection limit raised due to high levels of contaminants. Sample run at a 0.2% dilution.
- 2 None detected



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: Uptons Mufflers
REPORT DATE: March 1, 1996
DATE SAMPLED: February 21, 1996
DATE RECEIVED: February 21, 1996
DATE ANALYZED: February 29, 1996

PROJECT CODE: GIUM1913
REF.#: 86,035
STATION: MW3
TIME SAMPLED: 1:19
SAMPLER: R. Higgins

<u>Parameter</u>	<u>Detection Limit (ug/L)¹</u>	<u>Concentration (ug/L)</u>
Benzene	10	ND ²
Chlorobenzene	10	ND
1,2-Dichlorobenzene	10	ND
1,3-Dichlorobenzene	10	ND
1,4-Dichlorobenzene	10	ND
Ethylbenzene	10	57.5
Toluene	10	14.4
Xylenes	10	227.
MTBE	100	ND

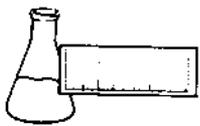
Bromobenzene Surrogate Recovery: 104%

NUMBER OF UNIDENTIFIED PEAKS FOUND: > 10

NOTES:

1 Detection limit raised due to high levels of contaminants. Sample run at a 10% dilution.

2 None detected



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: Uptons Mufflers
REPORT DATE: March 1, 1996
DATE SAMPLED: February 21, 1996
DATE RECEIVED: February 21, 1996
DATE ANALYZED: March 1, 1996

PROJECT CODE: GIUM1913
REF.#: 86,037
STATION: Duplicate MW2
TIME SAMPLED: 1:36
SAMPLER: R. Higgins

<u>Parameter</u>	<u>Detection Limit (ug/L)¹</u>	<u>Concentration (ug/L)</u>
Benzene	500	4,700.
Chlorobenzene	500	ND ²
1,2-Dichlorobenzene	500	ND
1,3-Dichlorobenzene	500	ND
1,4-Dichlorobenzene	500	ND
Ethylbenzene	500	2,390.
Toluene	500	14,100.
Xylenes	500	9,190.
MTBE	5,000	ND

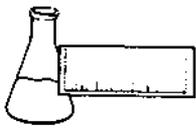
Bromobenzene Surrogate Recovery: 94%

NUMBER OF UNIDENTIFIED PEAKS FOUND: >10

NOTES:

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

2 None detected



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: Uptons Mufflers
REPORT DATE: March 1, 1996
DATE SAMPLED: February 21, 1996
DATE RECEIVED: February 21, 1996
DATE ANALYZED: February 26, 1996

PROJECT CODE: GIUM1913
REF.#: 86,038
STATION: Equipment Blank
TIME SAMPLED: 1:47
SAMPLER: R. Higgins

<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

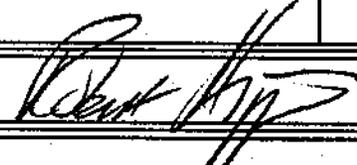
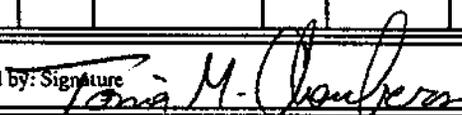
2764002

CHAIN-OF-CUSTODY RECORD

18279

Project Name: UPTON MUFFLES	Reporting Address: GILPIN INTL	Billing Address:
Site Location: MONTRAILLEX, VT		
Endyne Project Number: GIUM1913	Company: Contact Name/Phone #: P. HARK	Sampler Name: R. Higgins 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				
86,033	TRIP BLANK	140	✓		2/21/96 7:27	2	400ml		602	HEA	
86,034	MW 1	↓	↓		1:01	↓	↓		↓	↓	
86,035	MW 3	↓	↓		1:19	↓	↓		↓	↓	
86,036	MW 2	↓	↓		1:36	↓	↓		↓	↓	
86,037	Duplicate MW2	↓	↓		1:36	↓	↓		↓	↓	
86,038	EQUIPMENT BLANK	↓	↓		1:47	↓	↓		↓	↓	

Relinquished by: Signature 	Received by: Signature 	Date/Time 2-21-96 3:10
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 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):										

CHAIN-OF-CUSTODY RECORD

18279

276402

Project Name: <u>UTAS MUFFLER</u>	Reporting Address: <u>GILFEN INC</u>	Billing Address:
Site Location: <u>M. MERRILL S. VT</u>		
Endyne Project Number:	Company: Contact Name/Phone #: <u>P. HALL</u>	Sampler Name: <u>R. Higgins</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				
	<u>TRIP BANK</u>	<u>140</u>	<input checked="" type="checkbox"/>		<u>2/21/96</u> <u>7:27</u>	<u>2</u>	<u>4MM L</u>		<u>602</u>	<u>HL1</u>	
	<u>MW 1</u>	↓	↓		<u>1:11</u>	↓	↓		↓	↓	
	<u>MW 3</u>	↓	↓		<u>1:14</u>	↓	↓		↓	↓	
	<u>MW 2</u>	↓	↓		<u>1:36</u>	↓	↓		↓	↓	
	<u>Duplicate MW2</u>	↓	↓		<u>1:36</u>	↓	↓		↓	↓	
	<u>EQUIPMENT BANK</u>	↓	↓		<u>1:47</u>	↓	↓		↓	↓	

Relinquished by: Signature <u>[Signature]</u>	Received by: Signature <u>[Signature]</u>	Date/Time <u>2-21-96</u> <u>3:10</u>
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
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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):										