

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

SITE LOCATION:

**BUDGET RENT-A-CAR
700 AIRPORT PARKWAY
SOUTH BURLINGTON, VERMONT 05403
(VT DEC SITE #93-1526)**

APRIL 7, 1994

PREPARED FOR:

**VAL PREDA LEASING, INC.
700 AIRPORT PARKWAY
SOUTH BURLINGTON, VERMONT 05403**

Prepared by:

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APR 25 9 27 AM '94
HAZARDOUS MATERIALS
MANAGEMENT DIVISION

April 22, 1994

Mr. Chuck Schwer
Vermont ANR/DEC
Hazardous Materials Management Division
103 South Main Street / West Building
Waterbury, Vermont 05671-0404

RE: Site Investigation Report for Budget Rent-A-Car in South Burlington, Vermont
(Site #93-1526)

Dear Mr. Schwer:

Please find the enclosed "Report on the Investigation of Suspected Subsurface Petroleum Contamination" for the above referenced site. Please call me if you have any comments or questions.

Sincerely,

Erik C. Sandblom
Engineer

Enclosure

TABLE OF CONTENTS

	<u>SECTION</u>	<u>PAGE</u>
I.	INTRODUCTION	1
II.	SITE BACKGROUND	
	A. Site History	1
	B. Site Description	1
III.	INVESTIGATIVE PROCEDURES	
	A. Soil Boring	2
	B. Sensitive Receptor Assessment	3
IV.	CONCLUSIONS	3
V.	RECOMMENDATIONS	4

APPENDICES

- A. SITE LOCATION MAP
- B. SITE MAP
- C. SOIL BORING LOGS

I. INTRODUCTION

The following report details the investigation of suspected subsurface petroleum contamination at Budget Rent-A-Car located at 700 Airport Parkway in South Burlington, Vermont. This investigation has been conducted by Griffin International, Inc. (Griffin) for Val Preda Leasing, Inc., the owner of the Budget Rent-A-Car property. The State of Vermont Department of Environmental Conservation (DEC) requested that this investigation be conducted to determine the degree and extent of the contamination that was first detected during the in-place closure of an underground storage tank (UST) on November 10, 1993. The request was made in their letter from Mr. Chuck Schwer of the DEC to Mr. David LeClaire of Val Preda Leasing, Inc. dated December 30, 1993. The work presented here has been conducted in accordance with the Griffin Work Plan dated January 18, 1994 and approved by Chuck Schwer of the DEC on February 4, 1994. The investigation consisted of the installation of one soil boring and a receptor risk assessment. No groundwater monitoring wells were installed as a part of this investigation.

II. SITE BACKGROUND

A. Site History

In November of 1993, the 3,000 gallon UST used to store gasoline at Budget Rent-A-Car in South Burlington was replaced by a 2,000 gallon capacity aboveground storage tank (AST). The UST was closed in place on November 10, 1993 by emptying the tank of all product, cleaning it out, and filling it completely with concrete grout. The UST was closed in place rather than removed from the ground since the AST is located directly over the southern end of the UST. The removal of the AST would have compromised the integrity of the ground support to the AST.

Griffin International performed the environmental site assessment required by the DEC at UST closure. A test pit was dug adjacent to the UST and the soils field screened for volatile organic compounds (VOCs) with a properly calibrated Photovac MicroTip photoionization detector (PID). VOC vapors were detected in the soils on top of the UST and immediately to the southwest of the tank. The test pit extended to approximately twelve feet below grade. Griffin's report on the UST closure was submitted to the DEC in November, 1993.

B. Site Description

Budget Rent-A-Car is located on Airport Parkway in an industrial section of South Burlington, Vermont. The site is bordered to the north and east by the runway area of the Burlington International Airport, to the southwest by Airport Parkway and to the southeast by a natural ravine and wooded area. The South Burlington Landfill is located directly across Airport Parkway from the site. A steep elevation drop occurs from Airport Parkway to the landfill.

The only building in the vicinity of the site is the Budget Rent-A-Car main building which is located a minimum of 50 feet from the UST and AST and is built on a slab foundation at grade. All properties along Airport Parkway receive water from the Champlain Water District which receives its water from Lake Champlain. There are no supply wells located in the area.

Soils encountered at the site consist primarily of well graded fine to very fine sand with some silty deposits. Groundwater is located approximately 40 feet below grade in the location of the UST.

III. INVESTIGATIVE PROCEDURES

A. Soil Boring Drilling

On March 29, 1993, one soil boring was drilled at the site in order to determine the extent and degree of subsurface contamination. The location of this boring (SB-1) is displayed on the site map included in Appendix B. Groundwater monitoring wells were not installed as a part of this site investigation.

The boring was drilled with the use of a 4.25 inch hollow stem auger drill under the direct supervision of a Griffin engineer. Undisturbed soil samples were collected at five foot intervals with the use of a two-inch diameter split spoon sampler and identified in accordance with the Unified Soil Classification System. Each soil sample was screened with an HNu HW-101 PID for the presence of VOCs. All drilling was conducted in accordance to Griffin protocols which comply with state and industry standards.

SB-1 was drilled to a depth of 42 feet at the edge of the asphalt parking lot immediately to the southwest of the closed UST. The soils in this location consisted primarily of well graded, medium dense, brown, damp, coarse to very fine sand with trace silt. Groundwater was encountered at approximately 40 feet below grade.

The results of the soil PID screening indicated a maximum VOC concentration of 56 ppm at five to seven feet below grade. VOC concentrations in the soil dropped to 32 ppm at 10 to 12 feet below grade and then to 2.2 ppm at 15 to 17 feet below grade. Levels remained between 0.8 ppm and 1.3 ppm from 20 feet below grade to 40 feet below grade. The VOC concentration measured in the soil sample taken from 40 to 42 feet below grade was at 0.7 ppm. All undisturbed soil samples were placed in closed jars after sampling and allowed to sit for a few minutes before lightly agitating and screening the headspace with a PID. A background reading of 0.3 ppm was detected during the soil screening.

The Griffin work plan prepared for this site and approved by the Vermont DEC included the installation of groundwater monitoring wells only if significant VOC vapors were detected in the soils all the way down to the groundwater. The VOC concentration of 0.4 ppm (0.7 ppm minus 0.3 ppm background) detected in the soil at groundwater was determined to be at a low enough concentration that the installation of groundwater monitoring wells was not warranted. Griffin contacted Linda Elliot of the Vermont DEC and received verbal concurrence on the decision to

not install monitoring wells. Therefore, the soil boring was abandoned. It was filled in with native material and covered at the ground surface with cold patch.

B. Sensitive Receptor Assessment

There do not appear to be any receptors in the vicinity that may be at risk of impact from petroleum contamination at this site. All lots in this area are serviced by Champlain Water District; there are no water supply wells in the area. The on-site building is the only building in the vicinity of contaminated soils. This is not likely to be a potential receptor as proximity to the contamination and a concrete slab foundation at grade protect it from potential gasoline vapor impact. Screening of the building with a PID indicated 0.0 ppm of VOCs in the building.

Two surface waters exist in the vicinity of the site. To the southeast of the site is located a ravine and wooded area. Two culverts discharge storm water runoff from the Budget Rent-A-Car parking lot into this ravine. At the time of the site investigation, the culvert linked to the parking lot on the southeast side of the site was flowing continuously. There were no signs of petroleum contamination exiting from this culvert. This appeared to be the only source of water flow in the ravine. The water in the ravine drains to the east towards the Burlington International Airport. Directly across Airport Parkway is a pond apparently dammed by the South Burlington Landfill. A tributary to the Winooski River flows under the landfill to the north. The banks of the slopes across Airport Parkway and the ravine to the southeast were inspected as well during the site investigation. No signs of petroleum contamination were observed (i.e. stressed vegetation, stained soils, petroleum odor, etc.).

IV. CONCLUSIONS

Based on the data collected from Budget Rent-A-Car and surrounding areas on March 29, 1994, the following conclusions can be made.

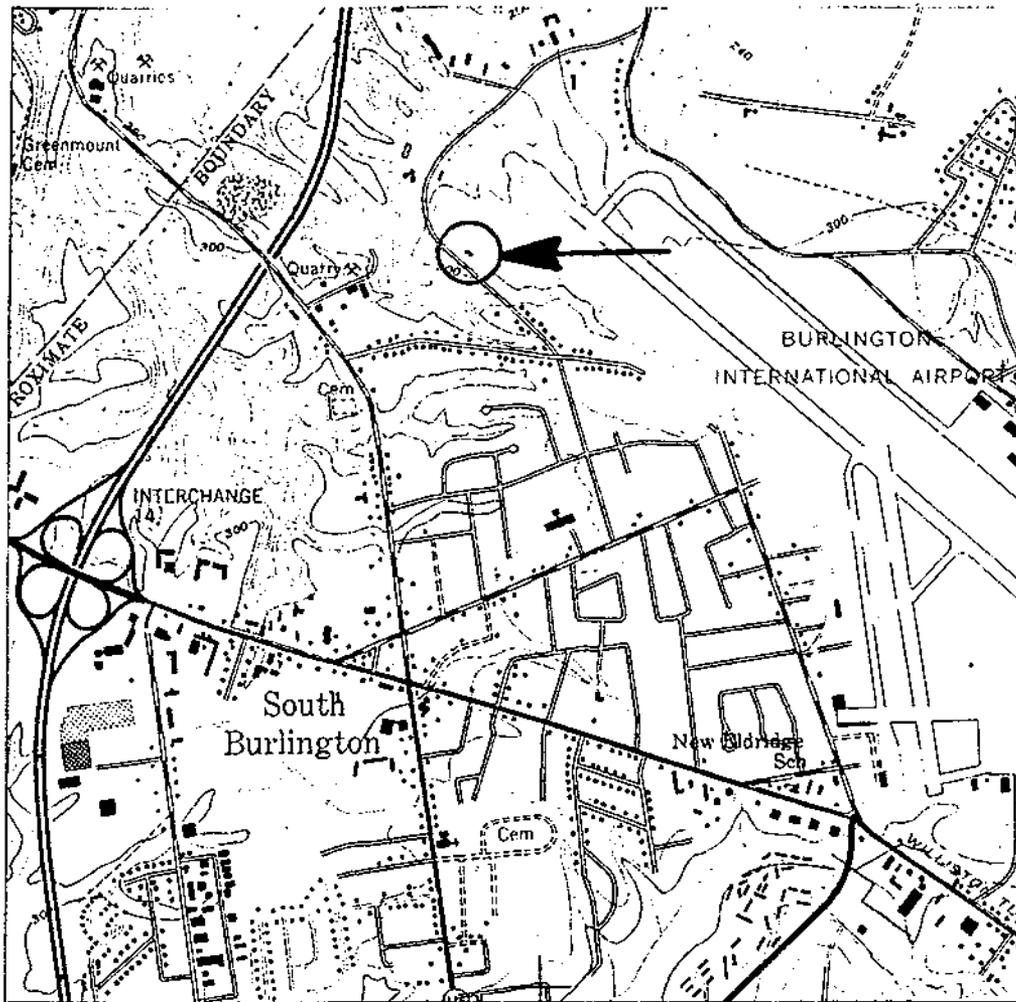
- 1) Petroleum contamination exists adsorbed in the soils in the vicinity of the gasoline UST that was closed in place on November 10, 1994. The contaminant plume appears to be contained vertically from just below the ground surface to approximately 15 feet below the ground surface. The horizontal extent of the contamination is not known, however, based on the large depth to groundwater and medium densely compacted soils, it has most likely not migrated significantly from the UST.
- 2) Based on the nature of the contaminants in the soil and data collected during the UST closure in November, 1993, the VOCs detected in the soil are most likely due to gasoline spills and/or tank overfills that occurred in the past.
- 3) There are no identified potential receptors to the contamination detected in the soil at Budget Rent-A-Car.

V. RECOMMENDATIONS

Based on the above conclusions, Griffin recommends the following action concerning petroleum contamination at Budget Rent-A-Car in South Burlington, Vermont.

- 1) Based on the relatively low concentrations of VOCs detected in the soils near the UST at the site and the lack of any potential receptors of the contamination, Budget Rent-A-Car should be considered for site closure and removed from the Vermont Hazardous Waste Sites List.

APPENDIX A
SITE LOCATION MAP



JOB #: 8934426
 SOURCE: USGS BURLINGTON, VERMONT QUADRANGLE



BUDGET RENT-A-CAR

SOUTH BURLINGTON,

VERMONT

SITE LOCATION MAP

DATE 3/23/94

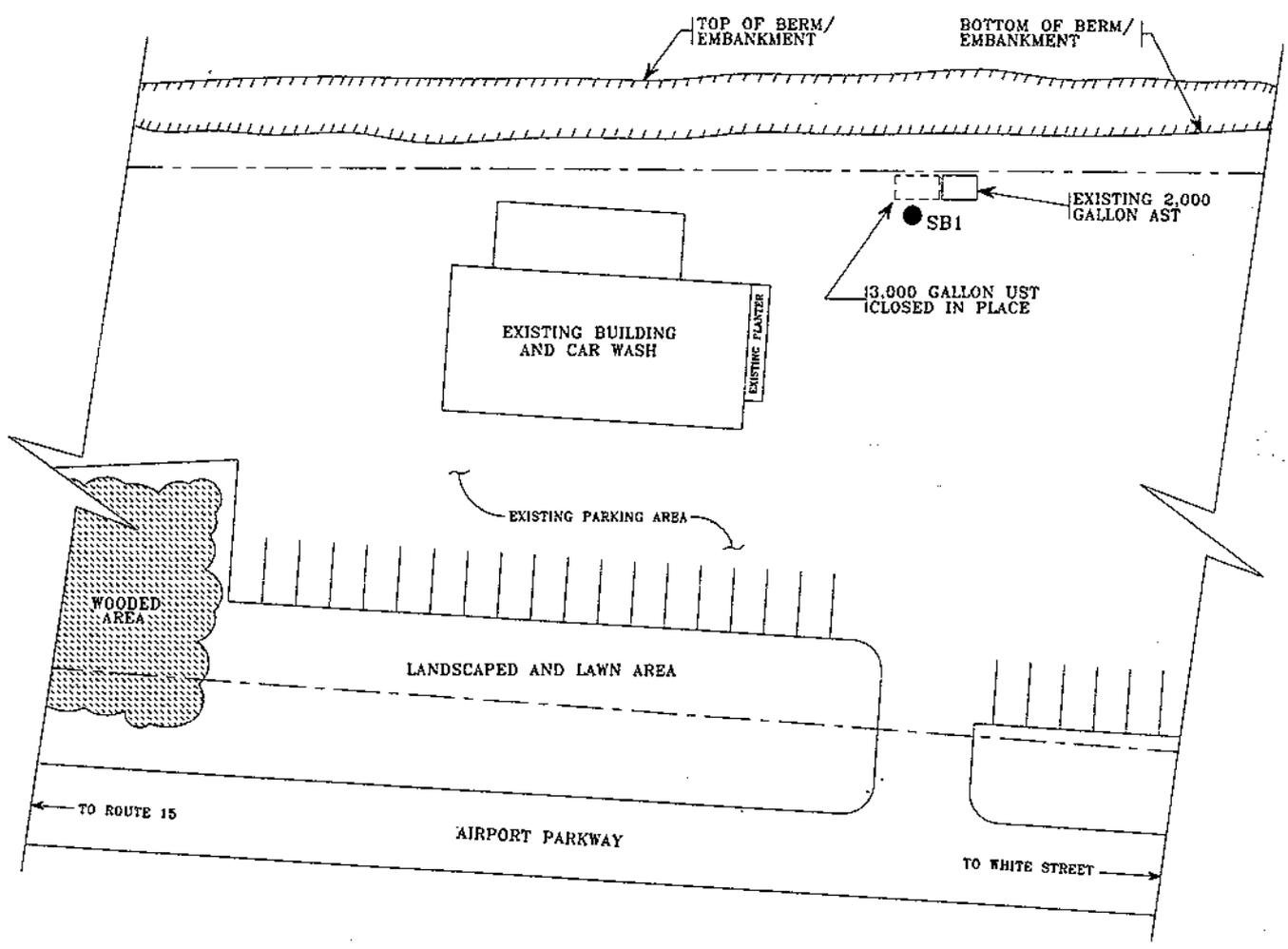
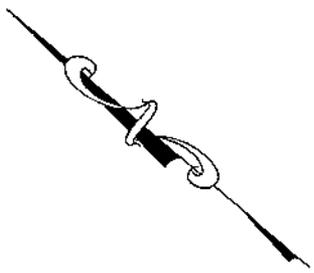
DWG.#1

SCALE: 1:24000

DRN: SB APP:ES

APPENDIX B

SITE MAP



LEGEND

● SB1 SOIL BORE

JOB #: 8934426
 SKETCH DERIVED FROM SITE PLAN DRAWN BY LAMOUREUX & STONE DATED 7/16/91.



BUDGET RENT-A-CAR

SOUTH BURLINGTON, VERMONT

SITE MAP

DATE: 3/23/94	DWG.#: 2	SCALE: 1"=50'	DRN.: SB	APP.: ES
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APPENDIX C
SOIL BORING LOGS

PROJECT BUDGET RENT-A-CAR

LOCATION SOUTH BURLINGTON, VT.

DATE DRILLED 3/29/94 TOTAL DEPTH OF HOLE 42.0'

DIAMETER 4"

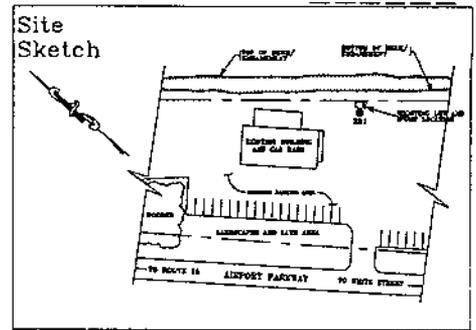
SCREEN DIA. _____ LENGTH _____ SLOT SIZE _____

CASING DIA. _____ LENGTH _____ TYPE _____

DRILLING CO. GMB DRILLING METHOD HSA

DRILLER MIKE M. LOG BY E. SANDBLOM

WELL NUMBER SB1



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					0
2			0'-5' 1.5 ppm	Brown fine to medium SAND, damp	2
4					4
6			5'-7'- 9,15,12,20 56 ppm	Damp SILT and very fine SAND to damp very fine SAND, brown	6
8					8
10			10'-12'- 3,11,22,23 32 ppm 13" of recovery	Brown very fine damp SAND with trace amounts of silt to dry light brown very fine sand	10
12					12
14			15'-17'-10,22,24,27 2.2 ppm 18" of recovery	Dry silty fine SAND, light brown slight odor	14
16					16
18			20'-22'-6,11,15,17 1.1 ppm 22" of recovery	Light brown fine to medium SAND, dry, petroleum odor	18
20		NATIVE SOIL			20
22					22
24			25'-27'-6,10,15,20 0.8 ppm 16" of recovery	Light brown fine to medium SAND, damp to dry, no petroleum odor	24
26					26
28			30'-32'-18,42,52,69 1.3 ppm 18" of recovery	Fine to very fine SAND, light gray, damp, with varves of dark brown, no pet. odor	28
30					30
32			35'-37'-11,18,17,17 1.3 ppm 21" of recovery	Fine brown moist SAND to dark brown moist fine SAND with silt and some gravel, no petroleum odor	32
34					34
36					36
38					38
40			40'-42'-3,6,8,15 0.7 ppm	40.0' WATER TABLE	40
42		UNDISTURBED NATIVE SOIL		Wet fine to very fine SAND with silt brown, no petroleum odor or sheen	42
44				BASE OF HOLE AT 42.0' END OF EXPLORATION AT 42.0'	44
46					46
48					48
50					50