

JAN 13 1993



DEPARTMENT OF VETERANS AFFAIRS
Medical and Regional Office Center
White River Junction VT 05009

January 11, 1993

In Reply Refer To: 405/138

Mr. Charles B. Schwer, Supervisor
Sites Management Section
Hazardous Materials Management Division
103 S. Main Street, West Building
Waterbury, VT 05671-0404

Dear Mr. Schwer:

Please find enclosed a copy of Griffin International, Inc.
December, 1992 Report on the Investigation of Residual Subsurface
Petroleum Contamination at the VA Medical and Regional Office
Center in White River Junction, VT.

If you have any questions or require any additional information,
please call Mr. Richard A. Neff, P.E., Chief, Engineering Service
at 802-295-9363, ext. 5980.

Sincerely yours,

A handwritten signature in black ink, appearing to read "Gary M. De Gasta". The signature is written in a cursive style with a large initial "G" and "D".

GARY M. DE GASTA
Director

Enclosure



#8
90cr

5 January, 1993

Mr. Fred Gross
VA Medical Center
North Hartland Road
White River Junction, Vermont 05001

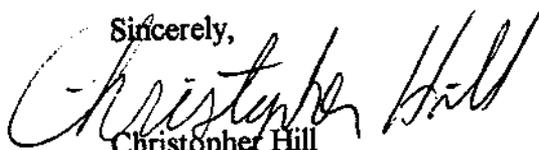
RE: Report on the Investigation of Residual Subsurface Petroleum Contamination.
Veteran's Administration Hospital, White River Junction, VT VTDEC Site #77-0086

Dear Mr. Gross:

Please find enclosed a copy Griffin's Report on the Investigation of Residual Subsurface Petroleum Contamination at the above referenced site. Bloomfield Associates has received and reviewed the Report and will probably soon forward an additional copy of the Report to you.

Griffin is pleased to have conducted this work for you. Please call once you have completed your review, or if you have any questions.

Sincerely,


Christopher Hill
Hydrogeologist

Enclosure

1/13/93
1/13/93
1/13/93

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

**VETERAN'S ADMINISTRATION HOSPITAL
WHITE RIVER JUNCTION, VERMONT**

**VTDEC SITE #92-1215
GRIFFIN PROJECT #9924284**

DECEMBER 1992

Prepared By:

GRIFFIN INTERNATIONAL, INC.
2B Dorset Lane
Williston, Vermont 05495

(802) 879-7708

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EXECUTIVE SUMMARY

Three petroleum underground storage tanks were removed from the Veteran's Administration Hospital location in White River Junction, Vermont during the period April 6-8, 1992. During removal of the tanks, residual petroleum contamination was observed on soils and groundwater surrounding and beneath several of the tanks. Two hundred cubic yards of petroleum contaminated soils were removed from the former UST pits and stockpiled on-site. These stockpiled soils are being addressed separately by the H. Loney Construction Co. of Brattleboro, Vermont.

A follow-up investigation to help determine the degree and extent of residual subsurface petroleum contamination indicates that residual petroleum contamination is confined to soils and groundwater in the immediate vicinity of the former USTs. No significant petroleum contamination appears to exist beyond the limits of the tank pits. Lab analyses of composite soil samples from a soil boring downgradient of the former UST pits did not detect any petroleum related compounds. Soil core samples extracted from two downgradient soil borings were inspected for petroleum odors and screened for volatile organic compounds using a photoionization detector and none were detected. No off property migration appears to have occurred. No free phase product was detected in any of the soil borings completed during this investigation. Petroleum related compounds detected in a groundwater sample taken from a downgradient and previously installed monitoring well are below Vermont Drinking Water Standards.

The dense glacial till into which the former USTs were buried does not appear to contain a significant groundwater saturated zone above bedrock. No groundwater was encountered during the drilling of six soil borings which were drilled to refusal on bedrock.

Based on the data collected from the Veteran's Administration Hospital site to date, Griffin is not recommending active remediation or any other additional remedial or monitoring actions.

INTRODUCTION

This report details Griffin's investigation of residual subsurface petroleum contamination at the Veteran's Administration Hospital in White River Junction, Vermont. This work has been conducted by Griffin International, Inc. (Griffin) for the Veteran's Administration Hospital through Bloomfield Associates, P.C., of Concord, New Hampshire. Bloomfield Associates, P.C. is the engineering firm coordinating this work effort for The Veteran's Administration Hospital and can be contacted at (603) 225-7602. This work was requested by the Vermont Department of Environmental Conservation (VTDEC) in their 21 May 1992 letter to Mr. Fred Gross of The Veteran's Administration Hospital.

SITE BACKGROUND

Site Description

The Veteran's Administration Hospital is located approximately 5.2 miles (straight line distance) west of downtown White River Junction, Vermont (See Site Location Map, Page A1, Appendix). The site is located on a southward sloping hill at an elevation of approximately 650 feet and is outside the flood plains of the Connecticut and White Rivers to the east and north of the site. The surficial geology of the site is mapped on the Surficial Geologic Map of Vermont as glacial till mantling bedrock. Bedrock is indicated to be locally exposed. The subsurface materials observed at the site during this investigation corresponded well to the mapped geology of the site, and generally consisted of glacial till composed of very dense, fine to medium grained, silty sand with imbedded gravel. Bedrock underlies this deposit at depths ranging from 8 to 16 feet.

Drinking water to the surrounding hospital buildings is supplied by the town of Hartford Municipal Water Supply. Review of the Hartford Municipal Water Supply Wellhead Protection Area by the Water Supply Division of the VTDEC has established that the Veteran's Administration Hospital site is outside of that Wellhead Protection Area and poses little or no threat to that water supply.

Site History

On April 6-8, 1992, three petroleum underground storage tanks were removed from the Veteran's Administration Hospital Property. The locations of the former USTs are indicated on the attached Site Map, page A2 of the Appendix. The removed USTs consisted of two 20,000 gallon

heating oil tanks and one 2,000 gallon gasoline UST. During removal of the tanks residual petroleum contamination was detected in soils and groundwater surrounding several or all of the USTs. Tank removal oversight services were completed by Jet Line Services, Inc., based in Lowell, MA. A copy of their report is on file with the VTDEC in Waterbury, Vermont. During removal of the petroleum USTs, approximately two hundred cubic yards of petroleum contaminated soils were stockpiled on-site. These soils are being addressed separately by the H. Loney Construction Company of Brattleboro, Vermont.

Prior to removal of the USTs, two subsurface investigations were conducted in the area of the USTs by DuBois & King, Inc. of Randolph, Vermont. These investigations were conducted to characterize soil types and bearing capacities and to determine depths to bedrock and groundwater, the extent of observed petroleum contamination and the identity of any downstream receptors. Several soil borings and monitoring wells were installed as part of that investigation. The locations of all soil borings completed by DuBois & King are indicated on the attached Site Map, Page A2 of the Appendix. A copy of the DuBois & King report is on file with the VTDEC.

INVESTIGATIVE PROCEDURES

In an effort to determine the degree and extent of residual petroleum contamination at the site, Griffin attempted to install three monitoring wells. Two attempts were made at each proposed well location to install a monitoring well to a depth below the water table. In all cases, drilling was continued to refusal on bedrock. Groundwater was not encountered in any of the boreholes and no monitoring wells were installed. However, a groundwater sample was obtained from a pre-existing monitoring well and submitted for lab analysis. The completed soil borings were located for inclusion on a site map of the area. Details of the work conducted follow.

Soil Borings

The six soil borings completed during the attempts to install groundwater monitoring wells were drilled by Technical Drilling Services, Inc. of Clinton, Massachusetts under the direct supervision of a Griffin Hydrogeologist. This work was completed on 27 October 1992. The locations of the six soil borings are indicated on the attached Site Map.

The soil borings are identified as SB31 through SB36. The soil borings completed on 27 October are the third round of borings to be completed in conjunction with the study of the former UST

area and have been assigned a thirty series numbering scheme. The designation SB31 indicates the first boring of the third series.

The soil borings SB31 and SB32 were completed in the presumed upgradient direction from the former UST sites. This location was selected to provide background water quality data at the site and to obtain subsurface data to the northeast of the former USTs as requested by the VTDEC.

SB33 and SB34 were completed at the west end of building #2, in the direction presumed to be immediately downgradient of the former UST locations to provide information on the extent of downgradient migration of any residual petroleum contamination.

SB35 and SB36 were completed in a cross gradient direction from the former UST pits to determine the lateral extent of any residual petroleum contamination.

All borings were completed using a hollow stem auger drill rig and were advanced to refusal on bedrock. Undisturbed soil core samples were collected in a split spoon sampler at five foot intervals from each borehole. Split spoon corings and drill cuttings collected directly from the augers were screened for volatile organic compounds (VOCs) using an Hnu Model PI101 photoionization detector (PID) and logged by the hydrogeologist. Soils encountered in the six boreholes generally consisted of eight to sixteen feet of glacial till composed of very dense, fine to medium grained, silty sand with imbedded gravel. Bedrock underlies this deposit. No elevated PID readings above the background of 0.2 parts per million (ppm) were detected during the drilling of the six boreholes. PID readings and soil characteristics observed during drilling are listed on the detailed borehole logs on pages A4 to A9 of the Appendix.

Soil Sampling and Analyses

Since groundwater was not encountered in any of the completed soil borings, Griffin substituted soil samples from soil borings at each of the three proposed monitoring well locations. The soil samples from each location were composited from sections of the soil core samples extracted from the boreholes. The samples were placed in 125 ml jars and submitted for analyses according to EPA Method 8020 (solids) and EPA Method 418.1 which test for petroleum related compounds. The lab results from the analyses of each of the composite soil samples are tabulated on Page A3 of the Appendix.

The EPA Method 602 analyses of the soil samples from SB31, SB34, and SB35 detected no petroleum related compounds. The EPA Method 418.1 analyses of the soil samples detected no Total Petroleum Hydrocarbons in SB31 or SB34. 25 ppm of Total Petroleum Hydrocarbons were detected in the soil sample from SB35, located on the south side of building #2.

Groundwater Sampling and Analysis

The previously installed monitoring well from which a groundwater sample was obtained is designated SB14. SB14 is located on the far side of Building #2 as indicated on the attached Site Map. After developing SB14 to draw fresh groundwater into it, a groundwater sample was collected. The sample was analyzed according to EPA Method 602. Results from the analysis of this groundwater sample appear on page A3 of the Appendix. The results indicate the presence of very low concentrations of toluene and xylenes. The observed concentrations (1.2 parts per billion (ppb) Toluene and 4.7 ppb Xylenes) are significantly below the Vermont Drinking Water Standards for these compounds.

Duplicate, trip blank and equipment blank samples indicate that adequate quality assurance/quality control was maintained during sample collection and analyses. The sample holding times exceeded the EPA maximum recommended holding time by one day. No free phase product was detected during collection of the groundwater sample.

Determination of Groundwater Flow Direction and Gradient

Since groundwater was not encountered in any of the soil borings completed during this investigation, there is insufficient water level data with which to prepare a groundwater contour map. A monitoring well installed by Jet Line Services, Inc. in 1989 (See Site Map) was destroyed prior to this investigation and no water level data from that well is available. The water level data from SB14, the only monitoring well at the site in which groundwater was detected, is inadequate to make a groundwater flow determination. However, Based on the topography of the site, which slopes to the southwest, it is likely that any groundwater which occurs in the surficial aquifer flows to the southwest since groundwater in a surficial aquifer generally flows in the direction of the slope of the topography. The July 1991 DuBois & King report used data from the, now removed, Jet Line well to establish that groundwater does flow to the southwest.

CONCLUSIONS

Based on the information gathered during this limited site assessment, Griffin has reached the following conclusions:

- 1) Three petroleum USTs were removed from the Veteran's Administration Hospital Location between 6 and 8 April, 1992. During the tank removals, residual petroleum contamination was observed in soils and groundwater surrounding the tanks.
- 2) Griffin completed six soil borings in an attempt to install groundwater monitoring wells to determine the degree and extent of groundwater contamination, if any. No groundwater was encountered in any of these borings. The absence of groundwater in these and other borings completed at the site (DuBois & King report, July 1991) suggests that the surficial aquifer at the site lacks a significant saturated zone.
- 3) Griffin collected composite soil samples from the soil cores extracted from the three areas where the boreholes were completed. The EPA Method 602 Lab Analyses of these soil samples detected no petroleum related compounds in any of the sampled soil borings. The EPA Method 418.1 analysis of the composite soil sample from SB35 detected low levels (25 ppm) of Total Petroleum Hydrocarbons.
- 4) No significantly elevated PID readings, or petroleum odors were detected in soil core samples from soil borings surrounding the former UST area, which indicates an absence of extensive residual petroleum contamination.
- 5) The EPA Method 602 analyses of the groundwater sample from SB14, which appears to be hydraulically down and cross gradient from the former UST location, detected very low concentrations of toluene and xylenes. The observed concentrations are significantly below the Vermont Drinking Water Standards for these compounds.
- 7) The removal of approximately 200 cubic yards of petroleum contaminated soils has likely removed the majority of residual petroleum contamination for the former UST pits.
- 8) Subsurface materials in the vicinity of the former USTs appear to consist of a dry, very dense, essentially non-water bearing, eight to sixteen foot thick deposit of glacial till. The absence of an extensive saturated zone within this deposit prevents an accurate groundwater contour map

from being developed. The local topography and water level data collected during a previous investigation by DuBois & King using a now removed monitoring well, suggest that any groundwater which does exist beneath the site will flow to the southwest.

The very small amounts of soil and groundwater petroleum contamination observed in SB35 and SB14 indicate some residual petroleum contamination on the south side of building #2. Whether or not the observed contaminants are associated with the former USTs or a separate, unrelated release is unclear. In either case, the degree of observed contamination on the south side of building #2 appears too limited to be considered significant. Based on the data collected during this, and previous, site investigations, it appears that the majority of residual petroleum contamination is contained within the immediate vicinity of the former USTs. No significant amounts of residual petroleum contamination have been detected outside or in the presumed downgradient direction from the area of the former USTs.

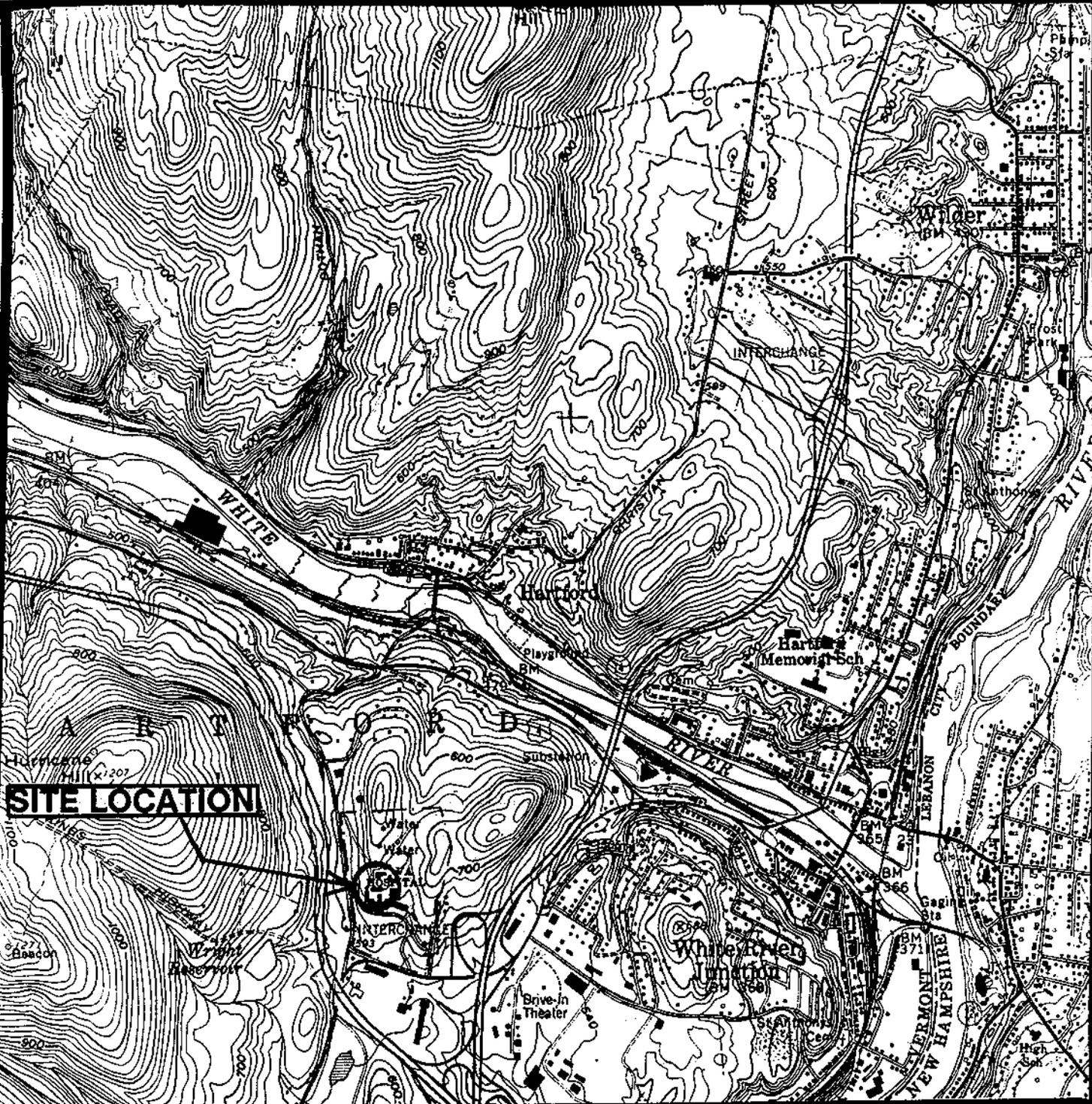
RECOMMENDATIONS

Based on the information collected during this site assessment, Griffin does not recommend active remediation at this site. This recommendation is based on the following:

- 1) The absence of free phase product, petroleum odors, or elevated PID readings in any of the soil core samples extracted from the soil borings completed around, and in the presumed downgradient direction from, the former UST locations.
- 2) The absence of free phase product or significantly elevated contaminant concentrations in groundwater in the vicinity of SB14.
- 3) The removal of 200 cubic yards of petroleum contaminated soils which has likely removed the majority of residual, adsorbed contamination from the vicinity of the former UST pits.

Based on the information gathered during this investigation, and information gathered during previous investigations, Griffin is not recommending any additional remedial or monitoring actions at this site.

APPENDIX

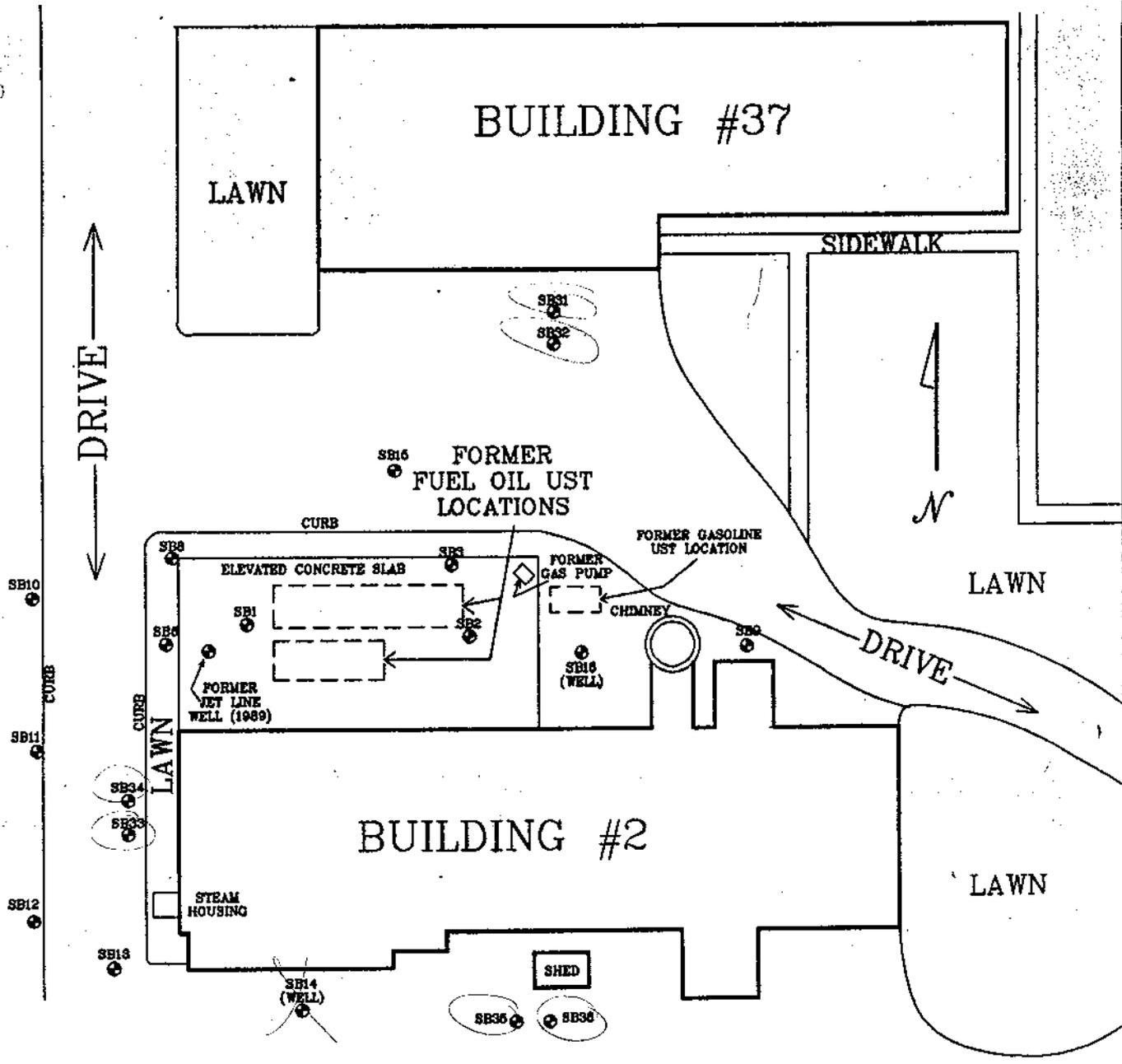


SITE LOCATION

SITE LOCATION MAP
VETERAN'S ADMINISTRATION
HOSPITAL

WHITE VT
 921215
 MIN QUAD
 GRIFFIN PROJ
 SOURCE: USGS
 SCALE: 1:24,000
 CONTOUR INT
 ISSUED 1959-
 GRIFFIN IN.





NOTE:
 BASEMAP DATA ADOPTED FROM MEASUREMENTS
 AND MAP BY DuBOISE & KING DATED JULY 1991

SITE MAP
VETERAN'S ADMINISTRATION HOSPITAL
WHITE RIVER JUNCTION, VT

● SB36 } SOIL BORING LOCATION WITH I.D.

GRIFFIN PROJECT #9924284
 DRAWN: 12/21/92
 REF: HOSPITAL

0 25 50 100
 SCALE IN FEET

GRIFFIN INTERNATIONAL, INC.

**Sample Analyses Results
Veteran's Administration Hospital
White River Junction Vermont**

Sampling Date: 27 October 1992

Soil Samples

PARAMETER	Location		
	SB-31	SB-34	SB-35
Benzene	ND	ND	ND
Chlorobenzene	ND	ND	ND
1,2-DCB	ND	ND	ND
1,3-DCB	ND	ND	ND
1,4-DCB	ND	ND	ND
Ethylbenzene	ND	ND	ND
Toluene	ND	ND	ND
Xylenes	ND	ND	ND
Total BTEX	ND	ND	ND
MTBE	ND	ND	ND
BTEX+MTBE	ND	ND	ND
T.P.H.	ND	ND	25.

All Values Reported in ug/L (ppb),
Except T.P.H. - reported in mg/L (ppm)
ND - None Detected

Water Sample

PARAMETER	Location	Vermont Drinking
	SB-14	Water Standards
Benzene	ND	5.0*
Chlorobenzene	ND	100**
1,2-DCB	ND	-
1,3-DCB	ND	-
1,4-DCB	ND	-
Ethylbenzene	ND	680**
Toluene	1.2	2,420**
Xylenes	4.7	400**
Total BTEX	5.9	-
MTBE	ND	40**
BTEX+MTBE	5.9	-
T.P.H.	-	-

All Values Reported in ug/L (ppb),
Except T.P.H. - reported in mg/L (ppm)
* - Maximum Contaminant Level
** - Health Advisory Level

Quality Assurance and Control Sample Results

PARAMETER	Trip Blank
Benzene	ND
Chlorobenzene	ND
1,2-DCB	ND
1,3-DCB	ND
1,4-DCB	ND
Ethylbenzene	ND
Toluene	ND
Xylenes	ND
Total BTEX	ND
MTBE	ND
BTEX+MTBE	ND

All Values Reported in ug/L (ppb),
ND - None Detected

PROJECT VETERAN'S ADMINISTRATION HOSPITAL

LOCATION WHITE RIVER JUNCTION VERMONT

DATE DRILLED 10-27-92 TOTAL DEPTH OF HOLE 14.75'

DIAMETER 4.6"

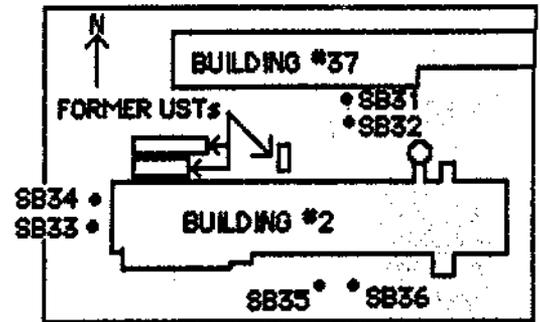
SCREEN DIA. _____ LENGTH _____ SLOT SIZE _____

CASING DIA. _____ LENGTH _____ TYPE _____

DRILLING CO. TECH. DRILLING SVCS DRILLING METHOD HOLLOW STEM AUGER

DRILLER _____ LOG BY KEVIN McGRAY

WELL NUMBER SB-31



DEPTH IN FEET	WELL CONSTRUCTION	NOTES	BLOWS PER 6" OF SPOON AND PID READINGS	DESCRIPTION / SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
0	NOT APPLICABLE		0 - 2'	0 - 2' Brown Fine to Medium SAND, Dry No Odor
1			0.2 PPM	
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14		14 - 14.75'	14 - 14.75' Very Dense, Dry, Glacial TILL No Odor	
14.75	0.2 PPM			
15		77,120/3"	BASE OF EXPLORATION AT 14.75' DUE TO AUGER REFUSAL. NO WATER.	
16				
17		BACKGROUND PID		
18		READING = 0.2 PPM		
19				
20				
21				
22				
23				
24				
25				
26				

Griffin International
REF: PAINT 75

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PROJECT VETERAN'S ADMINISTRATION HOSPITAL

LOCATION WHITE RIVER JUNCTION VERMONT

DATE DRILLED 10-27-92 TOTAL DEPTH OF HOLE 8'

DIAMETER 4.6"

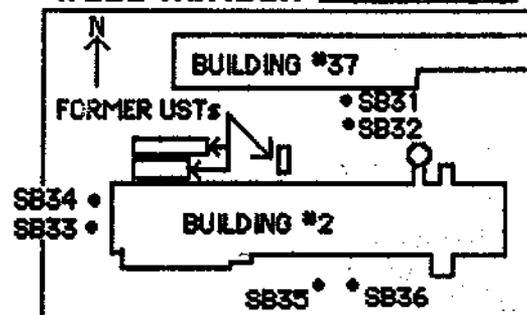
SCREEN DIA. _____ LENGTH _____ SLOT SIZE _____

CASING DIA. _____ LENGTH _____ TYPE _____

DRILLING CO. TECH. DRILLING SVCS DRILLING METHOD HOLLOW STEM AUGER

DRILLER _____ LOG BY _____

WELL NUMBER SB-32



DEPTH IN FEET	WELL CONSTRUCTION	NOTES	BLOWS PER 6" OF SPOON AND PID READINGS	DESCRIPTION / SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
0	NOT APPLICABLE			0 - 2' Brown, Fine to Medium SAND, Dry - No Odor
1				
2				
3				
4				
5			5 - 7'	5 - 7' Brown Glacial TILL. Dry, No Odor. Very Hard Drilling.
6			0.4 PPM	
7			19,14,13,20	
8				
9				BASE OF EXPLORATION AT 8' DUE TO AUGER REFUSAL. NO WATER.
10			BACKGROUND PID READING = 0.2 PPM	
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				

Griffin International
REF PAINT 75

A5

PROJECT VETERAN'S ADMINISTRATION HOSPITAL

LOCATION WHITE RIVER JUNCTION VERMONT

DATE DRILLED 10-27-92 TOTAL DEPTH OF HOLE 16'

DIAMETER 4.6"

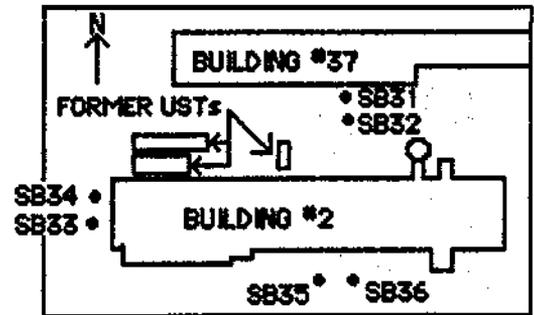
SCREEN DIA. --- LENGTH --- SLOT SIZE ---

CASING DIA. --- LENGTH --- TYPE ---

DRILLING CO. TECH. DRILLING SVCS DRILLING METHOD HOLLOW STEM AUGER

DRILLER --- LOG BY KEVIN McGRAW

WELL NUMBER 9B-33



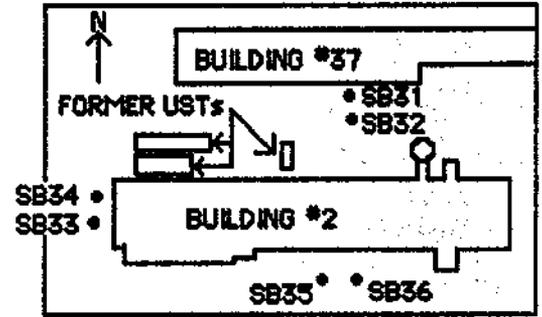
DEPTH IN FEET	WELL CONSTRUCTION	NOTES	BLOWS PER 5" OF SPOON AND PID READINGS	DESCRIPTION / SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
0	NOT APPLICABLE			0 - 2' Brown Fine to Medium SAND with Some GRAVEL. Dry, No Odor.
1				1
2			2	
3			3	
4			4	
5			5	
6			6	
7			7	
8			8	
9			9	
10			10	
11			11	
12			12	
13			13	
14			14	
15			15	
16	16			
17	17			
18	18			
19	19			
20	20			
21	21			
22	22			
23	23			
24	24			
25	25			
26	26			

Griffin International

REF: PAINT 76

PROJECT VETERAN'S ADMINISTRATION HOSPITAL
 LOCATION WHITE RIVER JUNCTION VERMONT
 DATE DRILLED 10-27-92 TOTAL DEPTH OF HOLE 13'
 DIAMETER 4.6"
 SCREEN DIA. _____ LENGTH _____ SLOT SIZE _____
 CASING DIA. _____ LENGTH _____ TYPE _____
 DRILLING CO. TECH. DRILLING SVCS DRILLING METHOD HOLLOW STEM AUGER
 DRILLER _____ LOG BY KEVIN McGRAY

WELL NUMBER SB-35



DEPTH IN FEET	WELL CONSTRUCTION	NOTES	BLOWS PER 6" OF SPOON AND PID READINGS	DESCRIPTION / SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)	
0	NOT APPLICABLE		0 - 2' 0.3 ppm	0 - 2' Brown Fine To Medium SAND with Trace of GRAVEL. Dry, No Odor.	
1					
2					
3					
4					
5			5 - 7' 0.2 ppm 10,28,36,49		5 - 7' Brown Fine To Medium SAND Dry, No Odor.
6					
7					
8					
9					
10			10-12' 0.2 ppm		10-12' Grayish Brown Fine SAND with trace inorganic SILT. TILL. Moist. No Odor.
11					
12					
13	BACKGROUND PID READING = 0.2 PPM			13	
14				14	
15				15	
16				16	
17				17	
18				18	
19				19	
20				20	
21				21	
22				22	
23				23	
24				24	
25				25	
26	26				

Griffin International
REF: PAINT 76

PROJECT VETERAN'S ADMINISTRATION HOSPITAL

LOCATION WHITE RIVER JUNCTION VERMONT

DATE DRILLED 10-27-92 TOTAL DEPTH OF HOLE 13'

DIAMETER 4'6"

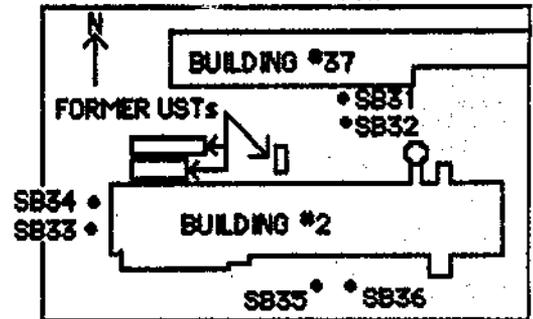
SCREEN DIA. _____ LENGTH _____ SLOT SIZE _____

CASING DIA. _____ LENGTH _____ TYPE _____

DRILLING CO. TECH. DRILLING SVCS DRILLING METHOD HOLLOW STEM AUGER

DRILLER _____ LOG BY KEVIN McGRAY

WELL NUMBER SB-34



DEPTH IN FEET	WELL CONSTRUCTION	NOTES	BLOWS PER 6" OF SPOON AND PID READINGS	DESCRIPTION / SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
0	NOT APPLICABLE		0 - 2' 0.2 ppm	0 - 2' Brown Fine to Medium SAND with Trave of GRAVEL. Dry, No Odor.
1				
2				
3				
4				
5			5 - 7' 0.2 ppm 5,15,15,21	5 - 7' Brown Fine SAND with some GRAVEL. Sands are tight. Dry. No Odor.
6				
7				
8				
9				
10			10-12' 0.2 ppm 22,47,50,55	10-12' Brown Fine SAND with some GRAVEL. Dry, No Odor. Very Compact sands.
11				
12				
13	BASE OF EXPLORATION AT 13' DUE TO AUGER REFUSAL. NO WATER.			
14	BACKGROUND PID READING 0.2 PPM			
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				

Griffin International
REF: PAINT 76

PROJECT VETERAN'S ADMINISTRATION HOSPITAL

LOCATION WHITE RIVER JUNCTION VERMONT

DATE DRILLED 10-27-92 TOTAL DEPTH OF HOLE 8'

DIAMETER 4.6"

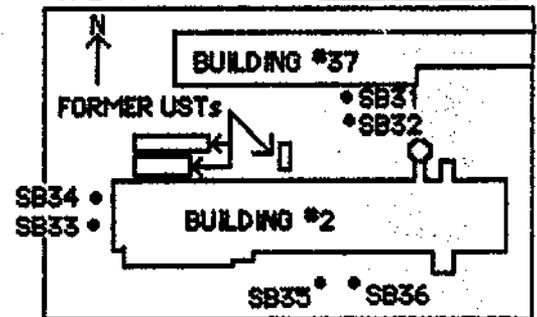
SCREEN DIA. --- LENGTH --- SLOT SIZE ---

CASING DIA. --- LENGTH --- TYPE ---

DRILLING CO. TECH. DRILLING SVCS DRILLING METHOD HOLLOW STEM AUGER

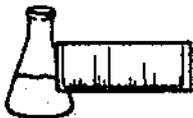
DRILLER --- LOG BY KEVIN McGRAY

WELL NUMBER SB-36



DEPTH IN FEET	WELL CONSTRUCTION	NOTES	BLOWS PER 6" OF SPOON AND PID READINGS	DESCRIPTION / SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
0	NOT APPLICABLE		0 - 2'	0 - 2' Brown Fine To Medium SAND with Trace of GRAVEL. Dry, No Odor.
1			0.2 ppm	
2				
3				
4				
5			5 - 7'	5 - 7' Brown Fine SAND and SILT. Trace of GRAVEL. Very Compact and Dense Dry. No Odor.
6			0.2 ppm	
7			24,36,55,100	
8				
9				BASE OF EXPLORATION AT 8' DUE TO AUGER REFUSAL. NO WATER.
10			BACKGROUND PID READING = 0.2 PPM	
11				
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24				
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26				

Griffin International
REF: PAINT 76



ENDYNE, INC.

Laboratory Services

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

LABORATORY REPORT

EPA METHOD 8020 -- PURGEABLE AROMATICS (SOLIDS)

CLIENT: Griffin International
PROJECT NAME: VA Hospital
REPORT DATE: November 15, 1992
SAMPLER: Kevin McGraw
DATE SAMPLED: October 27, 1992
DATE RECEIVED: October 28, 1992

PROJECT CODE: GIVA1790
ANALYSIS DATE: November 11, 1992
STATION: SB-1 (SB-31) CAH
REF.#: 37,661
TIME SAMPLED: 10:10

<u>Parameter</u>	<u>Concentration (ug/kg)¹</u> <u>dry weight</u>
Benzene	ND ²
Chlorobenzene	ND
1,2-Dichlorobenzene	ND
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	ND
Ethylbenzene	ND
Toluene	ND
Xylene	ND
MTBE	ND

NUMBER OF UNIDENTIFIED PEAKS FOUND: 1

NOTES:

- 1 Method 8020 detection limit is 10 ug/kg
- 2 None detected

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LABORATORY REPORT

EPA METHOD 8020 -- PURGEABLE AROMATICS (SOLIDS)

CLIENT: Griffin International
PROJECT NAME: VA Hospital
REPORT DATE: November 15, 1992
SAMPLER: Kevin McGraw
DATE SAMPLED: October 27, 1992
DATE RECEIVED: October 28, 1992

PROJECT CODE: GIVA1790
ANALYSIS DATE: November 11, 1992
STATION: SB-4 (SB-34) CAH
REF.#: 37,662
TIME SAMPLED: 11:40

<u>Parameter</u>	<u>Concentration (ug/kg)¹</u> <u>dry weight</u>
Benzene	ND ²
Chlorobenzene	ND
1,2-Dichlorobenzene	ND
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	ND
Ethylbenzene	ND
Toluene	ND
Xylene	ND
MTBE	ND

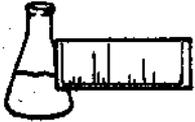
NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

NOTES:

- 1 Method 8020 detection limit is 10 ug/kg
- 2 None detected

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LABORATORY REPORT

EPA METHOD 8020 -- PURGEABLE AROMATICS (SOLIDS)

CLIENT: Griffin International
PROJECT NAME: VA Hospital
REPORT DATE: November 15, 1992
SAMPLER: Kevin McGraw
DATE SAMPLED: October 27, 1992
DATE RECEIVED: October 28, 1992

PROJECT CODE: GIVA1790
ANALYSIS DATE: November 11, 1992
STATION: SB-5 (SB-35) ^{CAH}
REF.#: 37,663
TIME SAMPLED: 14:00

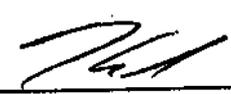
<u>Parameter</u>	<u>Concentration (ug/kg)¹</u> <u>dry weight</u>
Benzene	ND ²
Chlorobenzene	ND
1,2-Dichlorobenzene	ND
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	ND
Ethylbenzene	ND
Toluene	ND
Xylene	ND
MTBE	ND

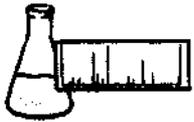
NUMBER OF UNIDENTIFIED PEAKS FOUND: 2

NOTES:

- 1 Method 8020 detection limit is 10 ug/kg
- 2 None detected

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LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International
PROJECT NAME: VA Hospital
REPORT DATE: December 2, 1992
DATE SAMPLED: November 19, 1992
DATE RECEIVED: November 20, 1992
ANALYSIS DATE: November 30, 1992

PROJECT CODE: GIVA1630
REF.#: 38,835
STATION: SB-14
TIME SAMPLED: 8:05
SAMPLER: R. Miller

<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
Benzene	1	ND ¹
Chlorobenzene	2	ND
1,2-Dichlorobenzene	2	ND
1,3-Dichlorobenzene	2	ND
1,4-Dichlorobenzene	2	ND
Ethylbenzene	1	ND
Toluene	1	1.2
Xylenes	1	4.7
MTBE	5	ND

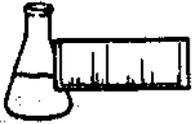
NUMBER OF UNIDENTIFIED PEAKS FOUND: 12

NOTES:

1 None detected

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LABORATORY REPORT

TOTAL HYDROCARBONS - EPA METHOD 418.1 (SOIL)

CLIENT: Griffin International
REPORT DATE: November 12, 1992
PROJECT NAME: VA Hospital
PROJECT CODE: GIVA1791
DATE SAMPLED: October 27, 1992
DATE RECEIVED: October 28, 1992
DATE ANALYZED: November 11, 1992
SAMPLER: Kevin McGraw

Reference number:

Concentration (mg/kg)¹

37,664
37,665
37,666

ND²
ND
25.

Sample ID:

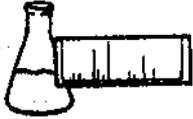
37,664: SB-1; 10:10
37,665: SB-4; 11:40
37,666: SB-5; 14:00

Notes:

- 1 Method detection limit is 6.1 ppm
- 2 None detected

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LABORATORY REPORT

EPA METHOD 602 - PURGEABLE AROMATICS

CLIENT: Griffin International
PROJECT NAME: VA Hospital
REPORT DATE: December 2, 1992
DATE SAMPLED: November 18, 1992
DATE RECEIVED: November 20, 1992
ANALYSIS DATE: November 30, 1992

PROJECT CODE: GIVA1630
REF.#: 38,836
STATION: Trip Blank
TIME SAMPLED: 19:15
SAMPLER: R. Miller

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

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

NOTES:

1 None detected

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