# SITE INVESTIGATION/REMEDIAL ALTERNATIVES REPORT FINAL

RIDGE STREET BROWNFIELD PROJECT (B00140-5) 30-34 RIDGE STREET GLENS FALLS, NEW YORK

# April 2001

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#### **Executive Summary**

This Site Investigation/Remedial Alternatives Report (SI/RAR) summarizes HRP Associates, Inc.'s (HRP's) subsurface investigation of the site located at 30-34 Ridge Street in Glens Falls, New York. The purpose of the investigation was to determine if the site's historical use as a gasoline filling station adversely impacted the site's soils and/or ground water. The SI/RAR included: conducting a ground penetrating radar survey (GPR), the removal of two 1,000-gallon underground storage tanks, the installation of eight (8) soil borings and four (4) monitoring wells, and the collection and analysis of representative soil and ground water samples within identified areas of concern. Based on the data collected to date, HRP noted the following:

- Two, 1,000-gallon underground storage tanks were identified on-site and subsequently removed.
- During the removal of the on-site underground storage tanks, a gasoline odor was exhibited by the soils beneath the western tank. Therefore, HRP supervised the removal of approximately 8 cubic yards of soil from the tank grave. The soils were then hauled off-site for disposal.
- The confirmatory soil sample results from the former UST area indicated that no STARS volatile organic compounds (VOCs) were detected above the laboratory detection limits in any of the samples. However, several STARS semi-VOCs were detected in the soil samples collected within the tank grave (UST-North, UST-East, and the UST-West) above STARS guidance cleanup values. The source of the semi-VOCs detected in the former tank grave is unknown, however, possible sources include noted fill materials and historic on-site operations. The degree and extent appears to be limited.
- The results of the soil sample analytical results indicated that no STARS VOCs were detected above STARS cleanup guidance values in any of the analyzed samples. However, four semi-VOC compounds were detected in GF-6, 12'-14', above the STARS cleanup guidance values. GF-6 is located at the southwestern perimeter of the former UST area on-site. The source of the low levels of semi-VOC compounds is unknown,



however, the site was reportedly a service station for many years, and likely used petroleum products contained in these compounds. In addition, fill was noted within the soil borings installed on-site. It is possible that the fill or the historic site uses are the source of the semi-VOCs noted in GF-6.

- The results of the ground water sampling indicated that each of the analyzed constituents was below the laboratory detection limits for both STARS 8021B and 8270C compounds and lead. Therefore it appears that the site's historical operations have not adversely impacted the site's ground water. Based on HRP's ground water survey, ground water flow direction in the on-site overburden aquifer is to the west-northwest.
- Since the semi-volatile impacted soils noted on-site appear limited, and ground water does not appear to have been adversely impacted, HRP does not recommend any remedial action at this time. However, should future site use change (proposed use for paved parking lot), then remedial action may be warranted at that time.

# SITE INVESTIGATION/ REMEDIAL ALTERNATIVES REPORT

# 30-34 RIDGE STREET GLENS FALLS, NEW YORK

#### 1.0 INTRODUCTION

#### 1.1 Purpose of Report

In November 1999, the New York State Department of Environmental Conservation (NYSDEC) awarded the City of Glens Falls a Municipal Restoration Grant (B00140-5) to conduct an environmental investigation at 30-34 Ridge Street in the City of Glens Falls, New York. Subsequently, the City of Glens Falls retained HRP Associates, Inc. (HRP) to perform the investigation. The purpose of the investigation was to determine if the site's historical use as a gasoline filling station adversely impacted the site's soils and/or ground water. This Site Investigation/Remedial Alternatives Report (SI/RAR) details the site conditions, field activities, sample collection and analytical results for the 30-34 Ridge Street site.

# 1.2 Site Background

## 1.2.1 Site Description

The  $0.1\pm$  acre site is located at 30-34 Ridge Street (See Figure 1) in a densely developed, downtown section of Glens Falls, New York. The site is currently improved by an abandoned, 2,000 ft<sup>2</sup> $\pm$  single-story, slab-on-grade building. The site is abutted to the east by Glens Falls City Hall, to the south by Ridge Street, and to the north and west by multi-level commercial/residential buildings. The entire site is developed with either the building or asphalt pavement (See Figure 2 for site plan).

# 1.2.2 Site History

The existing, abandoned  $2,000\text{-ft}^2\pm$  building was reportedly constructed circa 1950. However, based on a historical review completed by HRP, the site was initially developed since at least the late 1800's. The site has been redeveloped several times throughout its history and occupied by a variety of tenants including:

- Ridge Street Fire Engine House (1918-1935)
- Amoco Service Station (1935-1968)
- Vacant (1968-1975)
- Pizzeria (Omni & Pope) (1975-1993)

## 1.2.3 Previous Investigations (see Appendix A)

#### NYSDEC Spill Report 8906152

On September 21, 1989, a caller reported to the NYSDEC that an abandoned tank was located under the parking and a fill pipe was exposed to the surface at 30-34 Ridge Street. In addition, the Glens Falls Fire Department noted a petro/chemical smell and a high reading on a "sniffer/explosimeter." The NYSDEC assigned the report Spill File # 8906152. In response to the NYSDEC request, in May 1991, Mr. Paul Amato (site owner) retained Mike Busone of M.J. Busone Company to remove two, 500-gallon underground gasoline tanks located to the south of the building. According to the spill report, one tank was full of water and the other tank was half full with gasoline. Reportedly, since the tanks were located too close to the building, the liquids were removed, the tanks cleaned, and were filled with concrete to abandon them in place. The report also indicated that a test pit was dug below the tanks and no odor was evident on the ground water.

# HRP Associates, Inc. (HRP), Subsurface Investigation (June 23, 1999)

A review of the site's 1961 Sanborn Fire Insurance Map indicated that two underground gasoline tanks were located immediately to the south of the on-site building. Therefore, HRP completed a limited subsurface investigation of the subject site, which was detailed in a June 23, 1999 letter report to Avalon Associates, Inc. (See Appendix A). HRP's limited investigation included the installation of five soil borings and the collection and analysis of select soil samples and two grab, ground water samples to investigate the potential impact of the former tanks upon the site's soil and ground water. Based on the field evaluation, HRP selected and submitted two soil and two-grab ground water samples to a state certified laboratory for analysis of STARS volatile organic compounds (VOCs) via EPA Method 8021B and lead by mass analysis.

Based on the analytical results and HRP's observations, it appeared that residual petroleum soil contamination, which exceeded applicable NYSDEC guidance values remained in the vicinity of the abandoned underground tanks at a depth of 12 feet and greater. Additionally, based on the ground water analytical results, it appeared that limited ground water contamination exceeded NYSDEC standards in the vicinity of the abandoned tanks. However, the degree and extent of the soil and ground water contamination at the site were not defined at that time. HRP's findings were reported to the NYSDEC Spill Hotline, however, a spill number was not assigned, since the detected contaminants were associated with the previous reported spill number (8906152).

# 1.3 Report Organization

This report details the site conditions, field activities, sample collection and analysis and analytical results for the site located at 30-34 Ridge Street in the City of Glens Falls, New York. The report was prepared in accordance with the Suggested Site Investigation and Remedial Alternatives Report Format outlined in Appendix 1 of "Municipal Assistance Environmental Restoration Projects, Brownfield Program". In particular, the report consists of the following sections:

- Section 2. Study Area Investigations-details site investigation methodologies;
- Section 3. Physical Characteristics of the Study Area-details the site setting, hydrogeology and geology;
- Section 4. Evaluation and Presentation of Results-presents the results of the site investigation;
- Section 5. Summary and Conclusions.

#### 2.0 STUDY AREA INVESTIGATIONS

To define the degree and extent of gasoline contamination detected during HRP's June 1999 investigation, the following activities were completed during October 2000 through January 2001:

Ground Penetrating Radar-To accurately locate the two existing on-site underground tanks and piping and determine if any additional tanks are located on-site, a ground penetrating radar survey (GPR) was completed.

<u>Underground Tank Removal</u>-To investigate the potential, adverse impact of the underground tanks upon the site, the two underground tanks were removed and the surrounding and underlying soils reviewed.

<u>Soil Boring Installation-</u>To evaluate the degree, extent, persistence, mobility, and state of the contamination present on-site, soil borings were installed to collect representative soil samples within identified areas of concern.

Monitoring Well Installation-To determine if historical site operations adversely impacted the site's ground water, a monitoring well network was installed to collect representative ground water samples.

<u>Demolition Asbestos Survey-</u> A building pre-demolition asbestos survey was conducted of the on-site building to identify and quantify asbestos-containing materials. The methods and results of the pre-demolition asbestos survey are presented in a separate report, titled "Asbestos Pre-Demolition Survey, 30-34 Ridge Street, Glens Falls, New York."

#### 2.1 Field Activities

Each of the field activities, as well as the site's surface features is described in detail below.

2.1.1 Surface Features (topographic mapping, etc.), natural and manmade features

The  $0.1\pm$  acre site, located in a densely developed, downtown section of Glens Falls, New York, is improved by an abandoned, 2,000 ft<sup>2</sup> $\pm$  single-story, slab-on-grade building located in the northwest comer of the site. The site is situated on a relatively level

parcel located at 340 ft above mean sea level, according to the latest topographic map of the Glens Falls Quadrangle. The entire site is developed with either the building or asphalt pavement (see Figure 2 for site plan).

No surface water is located on-site, however, the Hudson River is located approximately 2,000 feet south of the site.

## 2.1.2 Ground Penetrating Radar Survey

#### Purpose

HRP conducted a Ground Penetrating Radar (GPR) Survey of the site to accurately locate the two existing abandoned underground tanks and evaluate if any other underground tanks or piping exists on-site.

#### Methodology

HRP utilized a GSSI Subsurface Interface Radar System 3, coupled with a 500 MHz antenna to provide an instant graphic printout during the survey. Initially, HRP established a 5-foot grid, measured from fixed points so that reconstruction of the survey grid can be done at a later date, if necessary. Due to variable attenuation and reflectance characteristics of the subsurface materials, the variation in return signals produces a continuous two-dimensional cross-sectional picture of the subsurface. The signal penetrates asphalt and, to a certain extent concrete, and reflect from targets such as underground steel tanks, pipes and utility lines. Natural and man-made conditions can affect the results of a GPR survey, including reinforced concrete, soils with high clay or silt content, uneven terrain covered with brush, debris, etc., and other stored items or bulky wastes.

#### Results

HRP Associates, Inc. completed the GPR Survey at the Ridge Street site on October 18, 2000. The GPR survey identified the location of the two existing abandoned underground tanks, two small diameter pipes along the north and west walls of the building and two anomalies areas located to the north of the building (see Figure 3). The GPR printouts and associated field notes can be reviewed in Appendix B.

#### 2.1.3 Underground Tank Removal

#### <u>Purpose</u>

The June 1999 subsurface investigation by HRP determined that soils in the vicinity of the two abandoned underground tanks exhibited residual soil contamination above the NYSDEC Guidance cleanup values. Therefore, to evaluate the degree and extent of the detected soil contamination and eliminate the potential source of on-site contamination, the two-abandoned underground tanks and the associated were removed and the soils were reviewed for the presence of contamination.

#### Methodology

Initially, HRP notified the local Fire Marshal and NYSDEC Petroleum Bulk Storage unit personnel of the pending tank removal project. Mr. Christopher Bablin of HRP and Mr. Andrew Frank of the NYSDEC supervised and oversaw the tank removal, respectively.

On October 24, 2000 HRP and Albany Tank Services, Inc. mobilized to the site to remove the two-abandoned underground 1,000-gallon steel tanks, which formerly stored gasoline. Initially, the asphalt and approximately two-feet of soil covering the tanks was removed to expose the tops of the tanks. Once exposed, a cutsaw was used to open the tanks and expose the concrete within the tanks. The backhoe bucket was then used to peel (remove) the steel from the concrete inside the tanks to facilitate their excavation. Once the steel was removed, a backhoe was utilized to breakup and remove the large concrete chunks from the excavation. When the steel tanks and the concrete were removed, HRP reviewed the tank graves for physical evidence of contamination (i.e. odor, staining). In addition, representative soil samples were collected from the tank grave and subjected to a headspace analysis for the presence of hydrocarbons utilizing a photoionization detector (PID). No evidence of contamination was noted beneath the eastern tank; however, a gasoline odor was exhibited by the soils beneath the western tank. Since the soil contamination appeared limited, HRP supervised the removal of any soils that exhibited an odor, staining or elevated PID readings.

In total, approximately 8 cubic yards of soil was removed from the tank grave (which measured approximately 10 feet wide, 12 feet

long, 6-7 feet deep) and staged and covered with plastic. Following the soil removal activities, six confirmatory soil samples were collected from the tank grave's walls and bottom and submitted to a state-certified laboratory for analysis. The samples were collected at approximately five feet below grade, placed in a pre-cleaned glass jar, labeled, and placed in a cooler for preservation. In addition, composite soil samples were collected from the excavated soil pile to characterize the excavated soils for disposal purposes. Subsequent to the sample collection the tank grave was backfilled.

In accordance with NYS DEC protocol (STARS), the collected soil samples from the tank grave were submitted to Schneider Laboratories, Inc. (Schneider) for analysis of the following parameters:

- STARS volatile organics via EPA Method 8021B;
- STARS semi-volatile via EPA Method 8270C; and,
- · Lead via mass analysis.

The results of the confirmatory soil samples are presented in Table 1, while the laboratory analytical reports are included in Appendix C. In addition, to obtain approval to dispose of the staged soils at Environmental Soil Management, Inc. (ESMI) facility located in Fort Edward, New York, a sample of the staged soil pile was submitted to Hudson Environmental Services (HES), a state certified laboratory for analysis of total petroleum hydrocarbons via EPA Method 8015 (Modified), total benzene via EPA Method 8021B and Lead via TCLP. Upon receipt of approval from ESMI, 8.99 tons of soil was transported by Albany Tank Service's to ESMI's facility for recycling. In addition, the concrete removed from the tanks was transported to L. Harris Co. of Queensbury, New York for recycling. Manifests are included as Appendix D.

# 2.1.4 Soil and Vadose Zone Investigations

#### **Purpose**

To evaluate the degree and extent of soil contamination associated with the two underground tanks and the anomaly areas identified during the GPR Survey, HRP installed a series of soil borings and submitted select soil samples for analysis.

# Methodology

Mr. Christopher Bablin and Ms. Lauren Sufleta of HRP, and North Star Drilling, Inc. (licensed drilling subcontractor) mobilized to the



site on November 7, 2000 to install eight soil borings. Four of the soil borings, designated GF-6 through GF-9, (GF-1 through GF-5 were installed during HRP's June 1999 investigation) were installed south of the building in the immediate vicinity of the former underground gasoline tanks. The other four borings, designated GF-10 through GF-13, were installed north of the building in the vicinity of the detected GPR anomalies. The soil boring locations are depicted on Figure 4.

Vibratory push techniques (Geoprobe®) were used to install the borings to a total depth of 8 to 16 feet below the surface, depending on location. During the boring installations, continuous four-foot soil samples were collected using dedicated 1 3/4" I.D. stainless steel macrocore samplers. Each four-foot soil sample was collected in a new, acetate liner to ensure the sample's integrity, and then split into two (2), two-foot segments. The collected soil samples were reviewed in the field for physical evidence of contamination (i.e. odor and staining), placed in glass containers equipped with Teflon®-lined lids, labeled, and stored in a cooler for preservation. In addition, a portion of each soil sample was placed in a sealable plastic bag, allowed to warm to ambient temperature, then subjected to a headspace analysis for total VOCs using an HNu® photoionization detector (PID) equipped with a 10.2 eV bulb. The boring logs and PID readings are included in Appendix E. HRP's observations and field screening results are discussed in the following table.

#### SUMMARY OF SOIL SAMPLE FIELD REVIEW

30-34 Ridge Street Glens Falls, New York

Boring	Location	Soil	PID reading (ppm)		
		Depth (ft)	Odor/Staining	SS	HS
GF-6	Southwest of Former USTs	0-2	N/N	1	6.0
		2-4*	N/N	1	1.7
		4-6	Y/N	10	2.8
		6-8	Y/N	0	1.8
		8-10	N/N	5	5.8
		10-12	N/N	0	2.8
		12-14*	N/N	1	5.8
		14-15.5	N/N	1	2.5
GF-7	South of Former USTs	0-2	Y/N	4	7.2
		2-4	Y/N	0	1.4
		4-4.5	N/N	10	0.0
		4.5-6	N/N	0	3.8
		6-8	N/N	0	2.4

# SUMMARY OF SOIL SAMPLE FIELD REVIEW

30-34 Ridge Street Glens Falls, New York

Boring	Location	Soil	PID reading (ppm)		
		Depth (ft)	Odor/Staining	SS	HS
		8-8.5	N/N	1	0.0
		8.5-10	N/N	0	5.0
		10-12	N/N	0	1.6
		12-14*	N/N	2	3.4
		14-15	N/N	0	2.6
GF-8	Southeast of Former USTs	0-2	N/N	0	4.4
		2-4*	N/N	0	2.6
		4-6	N/N	0	5.0
······································		6-8	N/N	0	1.8
		8-10	N/N	0	4.6
		10-12	N/N	0	3.0
GF-9	East of Former USTs	0-2	N/N	0	2.6
		2-4	N/N	0	0.4
		4-6	N/N	3	1.8
		6-8	N/N	2	0.2
		8-10	N/N	2	0.2
		10-12*	N/N	0	0.0
		12-14	N/N	0	0.6
		14-15	N/N	0	0.2
GF-10	Northwest of alley, near Anomaly 1	0-2	N/N	0	4.4
		2-4	N/N	0	2.4
		4-6	N/N	0	2.2
		6-8	N/N	0	2.0
		8-10	N/N	0	2.4
		10-12	N/N	0	2.0
		12-14	N/N	0	4.4
		14-16	N/N	0	3.0
GF-11	Alley, near concrete slab, covered concrete pit and 4" diameter pipe	0-2	N/N	1	8.0
		2-4	N/N	1	2.8
		4-6*	Y/N	4	6.0
		6-8	N/N	0	2.4
		8-10*	N/N	5	3.0
		10-12	N/N	0	3.4
		12-13	N/N	2	0.0
		13-14	N/N	2	4.8
		14-16	N/N	0_	2.8
GF-12	Alley, northern end of site, 6 feet east of GF-11	0-2	N/N	0	2.0
**************************************		2-4	N/N	0	2.8
, ,		4-6	N/N	0	2.3
······		6-8*	N/N	0	2.6

# SUMMARY OF SOIL SAMPLE FIELD REVIEW

30-34 Ridge Street Glens Falls, New York

Boring	Location	Soil	Soil Sample			
		Depth (ft)	Odor/Staining	(pp SS	HS	
GF-13	Alley, northern end of site, 6 feet west of GF-11	0-2	N/N	0	2.8	
		2-4	N/N	0	3.0	
		4-6	N/N	0	2.0	
		6-8	N/N	0	3.4	
MW-1	Rear (northern) end of site	0-2	N/N	0	0.8	
		2-4	N/N	0	1.2	
		4-6	N/N	0	1.0	
		6-8	N/N	0	0.8	
		8-10	N/N	0	0.6	
		10-12	N/N	0	1.6	
		12-14	N/N	0	1.4	
		14-16	N/N	0	1.0	
		16-18	N/N	0	1.0	
	<u> </u>	18-20	N/N	0	1.6	
MW-2	Southeast corner of site, adjacent to sidewalk	0-2	N/N	0	0.8	
		2-4	N/N	0	0.4	
		4-6	N/N	0	1.0	
		6-8	N/N	0	0.6	
		8-10	N/N	0	1.2	
		10-12	N/N	0	0.8	
		12-14	N/N	0	1.2	
		14-16	N/N	0	1.8	
<del></del>		16-18 18-19	N/N N/N	0	1.6	
MW-3	In driveway, east of Former USTs	0-2	N/N	0	1.0	
		2-4	N/N	0	1.2	
		4-6	N/N	0	1.2	
		6-8	N/N	0	1.4	
		8-10	N/N	0	0.9	
		10-12	N/N	0	1.8	
· · · · · · · · · · · · · · · · · · ·		12-14	N/N	0	1.4	
		14-16	N/N	0	1.6	
		16-18	N/N	0	0.8	
MW-4	Southeast of Former USTs	0-2	N/N	0	1.0	
		2-4	N/N	0	1.0	
		4-6	N/N	0	0.9	
		6-8	N/N	0	0.9	
····		8-10	N/N	0	1.0	
		10-12	N/N	0	1.0	
		12-14	N/N	0	1.4	
		14-16	N/N	0	1.4	

#### SUMMARY OF SOIL SAMPLE FIELD REVIEW

30-34 Ridge Street Glens Falls, New York

Boring	Location	Soil	PID reading (ppm)		
		Depth (ft)	Odor/Staining	SS	HS
		16-18	N/N	0	1.8
		18-20	N/N	0	1.5

<sup>\*-</sup> Submitted for laboratory analysis

N = No

Y = Yes

SS-Measured directly from Soil Sample

**HS-Head Space** 

Based on HRP's field screening results and physical examination of the soil samples, HRP selected nine soil samples for analysis. Each sample was submitted to Schneider Laboratories Inc. (NYELAP #11413), a State-certified laboratory, for analysis of STARS volatile organics via EPA Method 8021B and STARS semivolatile organics via EPA Method 8270C. In addition, two samples were selected for analysis of the eight RCRA Metals (Arsenic [As], Barium [Bad], Cadmium [Cod], Chromium [Cr], Lead [Pub], Mercury [Hg], Selenium [Se], and Silver [Ag]) via mass analysis. The following table lists the samples selected and their justification for selection. In addition, Table 2 summarizes the soil sample results.

	SOIL SAI	30-34 F	TIFICATION SUMMARY Ridge Street alls, New York
Boring	Depth (ft)	Sample Analysis	Justification
GF-6	2'-4'	8 RCRA Metals	Evaluate abandon tanks potential impact upon soils, and evaluate surficial soils for metals.
GF-6	12'-14'	STARS 8021B, 8270C	Evaluate abandon tanks potential impact upon soils, and define vertical extent of contamination.
GF-7	12'-14'	STARS 8021B, 8270C	Evaluate abandon tanks potential impact upon soils and define vertical extent of contamination.
GF-8	2'-4'	STARS 8021B, 8270C 8 RCRA Metals	Evaluate abandon tanks potential impact upon surficial soils, and define horizontal extent of contamination.

	SOILSA	30-34 f	TIFICATION SUMMARY Ridge Street alls, New York
Boring	Depth (ft)	Sample Analysis	Justification
GF-9	10'-12'	STARS 8021B, 8270C	Evaluate abandon tanks potential impact upon soils and define vertical extent of contamination.
GF-11	4'-6'	STARS 8021B, 8270C	Evaluate areas of GPR Survey anomaly.
GF-11	8-10'	STARS 8021B, 8270C	Evaluate areas of GPR Survey anomaly.
GF-12	6'-8'	STARS 8021B, 8270C	Evaluate areas of GPR Survey anomaly.

#### 2.1.5 Monitoring Well Installations

#### **Purpose**

To evaluate if the site's historical gasoline operations have adversely impacted the site's ground water, HRP installed four ground water-monitoring wells on-site to collect representative ground water samples and to determine the ground water flow direction at the site.

#### Methodology

On November 6, 2000, HRP installed four monitoring wells, designated MW-1, MW-2, MW-3, and MW-4 in areas of concern. The monitoring wells were installed approximately 8 to 10 feet into ground water, for a total well depth of 20 feet, utilizing vibratory push techniques. During the well installations, soil samples were collected and subjected to a headspace analysis, similarly to the methods used during soil boring installations (See Section 2.1.3).

Each well was constructed of one-inch diameter, Schedule 40-slotted PVC and solid riser pipe. The screened intervals were packed with clean, washed silica sand, and sealed with bentonite chips to prevent surface water infiltration. Each monitoring well was finished with a five-inch diameter, threaded brass cover, mounted flush with grade and cemented in place. The following table summarizes each monitoring wells' construction.

(a)	Monitoring Well Measurements			
Monitoring Well ID	Screened interval (0.01" slot screen)	Sand Pack interval (#2 Sand)	Bentonite Seal interval	Total Depth
MW-1	10.0'-20.0'	8.0'-20.0'	6.0'-8.0'	20.0'
MW-2	9.0'-19.0'	7.0'-19. 0'	6.0'-7. 0'	19.0'
MW-3	9.0'-19. 0'	7.0'-19. 0'	6.0'-7. 0'	19.0'
MW-4	12.0'-17. 0'	9.0'-17. 0'	7.0'-9. 0'	17.0'

The monitoring well locations are illustrated on Figure 4. Monitoring well construction diagrams are also included in the soil boring logs in Appendix E.

#### 2.1.6 Monitoring Well development

Mr. Christopher Bablin and Ms. Lauren Sufleta of HRP mobilized to the site on November 16, 2000 to develop the monitoring wells. Initially, water levels in each of the monitoring wells were measured in conformance with ASTM Method D 4750-87 (1993), "Test Method for Determining Subsurface Liquid Levels in a Borehole or Monitoring Well (Observation Well)." Once the monitoring well water level and volume were determined, the wells were developed in accordance with ASTM Standard D5092-90 "Standard Practice for Design and Installation of Ground water Monitoring Wells in In particular, HRP used new, clean, dedicated Aguifers". polyethylene bailers to remove (purge) ground water. During well development, field parameters (pH, temperature, turbidity and specific conductance) were measured with a Horiba U-22 multi-Well development continued until the field parameters stabilized (i.e., consecutive readings were within 5% of previous Each well was developed for a period of approximately 90 minutes. Well development logs are included in Appendix F.

# 2.1.7 Ground water Sampling and Elevation Survey

Mr. Christopher Bablin and Mr. Thomas Seguljic of HRP remobilized to the site on December 8, 2000 to survey, develop and sample each monitoring well. Initially, a clean dedicated bailer was lowered into each well and a ground water sample was collected and reviewed for odor, discoloration and floating product. Following

the initial review, six well volumes were removed from each well using using new, dedicated polyethylene micro (¾" diameter) bailers. When approximately six well volumes of ground water were removed, ground water samples were collected and placed into appropriate labeled containers, placed on ice and submitted to Schneider for analysis of STARS volatile organics via EPA Method 8021B, STARS semi-volatile organics via EPA Method 8270C and lead by mass analysis. In addition, HRP collected one field blank for QA/QC purposes, which was prepared from deionized water poured through a bailer and transported to the laboratory along with the ground water samples. The field blank and a trip blank were also analyzed for STARS volatile organics via EPA Method 8021B, STARS semi-volatile organics via EPA Method 8270C and lead. The results of the ground water sample analyses are included in Table 3.

In addition to the ground water sampling, HRP also conducted an elevation survey of the monitoring wells. Each well was surveyed to a relative benchmark, (concrete surface of adjacent brick building, east of site) whose elevation was arbitrarily assigned 100 feet. The elevation data was used to construct a ground water contour map to determine the direction of the ground water flow and the hydraulic gradient on the site. The ground water measurement data is presented in Table 4 and shallow ground water contour maps for December 2000 and April 2001 are depicted on Figures 5 and 6, respectively.

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#### 3.0 PHYSICAL CHARACTERISTICS OF THE STUDY AREA

The following section describes the site's physical setting, including the surface features, improvements, surface water, geology and hydrogeology.

#### 3.1 Physical Setting

As indicated previously, the  $0.1\pm$  acre site is located in a densely developed, downtown section of Glens Falls, New York. The site is abutted to the east by Glens Falls City Hall, to the south by Ridge Street, and to the north and west by multi-level commercial/residential buildings. The site is situated on a relatively level parcel located at 340 ft above mean sea level.

#### 3.2 Surface Features

The entire site is developed with either the building or asphalt pavement. No earthen areas were noted on the subject site.

#### 3.3 Improvements

The site is improved by an abandoned, 2,000-ft<sup>2</sup>± single-story, slab-ongrade building, located in the northwest comer of the site. The abandoned building was reportedly constructed in 1950.

#### 3.4 Surface Water Characteristics

No surface waters exist at the subject site. The nearest surface water body is the Hudson River, located approximately 2,000 feet south of the site.

3.4.1 Natural and Man-made Stormwater Drainage and Discharges, Drainage Restrictions, and Drainage Easements

No obvious man-made drainage discharges, drainage restrictions, or easements were noted or reported during HRP's review. Any stormwater generated on the site appears to discharge via sheetflow to catch basins located on Ridge Street. Catch basins on Ridge Street reportedly discharge to the City of Glens Falls storm sewers.

3.4.2 Upgradient Drainage Discharges within 1,000 Feet of the Site

No upgradient discharges were reported within 1,000 feet of the site.



# 3.4.3 Surface Water Quality

No information regarding the surface water quality of the Hudson River in the vicinity of the site was available.

#### 3.5 Geological Characteristics

#### 3.5.1 Soils

According to the Warren County Soil Conservation Service, the site's underlying soils are classified as Oakville Loamy fine sand, 0-3% slopes (OaA). This unit consists of a nearly level, deep, well-drained soil on outwash plains.

# 3.5.2 Surficial Geology

# 3.5.2.1 Regional

According to the Surficial Geologic Map (Hudson Sheet) of New York, the surficial geology of the site has been classified as Lacustrine sand (Ls). This classification is described as a well-stratified, well-sorted sand deposit near a large body of water and a sand source.

## 3.5.2.2 On-site Investigation(s)

Based on HRP's June 1999 and November 2000 investigations, the surficial geology at the subject site is described as a brown to brown-tan fine sand, with trace amounts of silt and fine gravel. The fine sand was typically encountered at depths between two and five feet below grade, below the pavement, gravel sub-base and fill material (concrete, coal, and glass) and continued to 12-14 feet, where coarse to medium sands, and small amounts of gravel were noted. The sands encountered during on-site investigations were generally varied and well sorted. These materials were generally consistent with the published literature.

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#### 3.5.3 Bedrock Geology

According to the Geologic Map (Hudson-Mohawk Sheet) of New York, the site is underlain by the Beekmantown Group (Obk). This is a group of Ordovician-aged limestones, dolostones, and shales. Although refusal was encountered in several on-site borings, bedrock was not encountered.

## 3.6 Regional Hydrogeology

3.6.1 Discussion of Available, Published Hydrogeologic Mapping in the Site area

No hydrogeologic mapping of the site was available during HRP's review of available municipal files.

3.6.2 Identification of Sole Sources, Primary Water Supply or Principal Aquifers Area

According to the map of Potential Yield of Wells in Unconsolidated Aquifers in Upstate New York, no primary aquifers (water supplies for major municipal water systems), principal aquifers (known to be productive but not intensely used as sources of water supply), or sole source aquifers [as defined by SWDA 42 USC 300h-3(e)] are located in the vicinity of the site. However, the site is located on an unconfined aquifer capable of yielding 10 to 100 gallons per minute. These aquifers consist of sand and gravel with a saturated zone generally less than ten feet thick.

3.6.3 Utilization, Consumption, and Quality of Ground Water within 0.5 Mile of the Site

According to the Atlas of Community Water System Sources for Warren County, no public or privately owned community water supply wells/sites are located within a 0.5-mile radius of the site. In addition, based on discussions with the City of Glens Falls Water Department, no known drinking water wells are located within 0.5 miles of the subject site.

# 3.7 Site Hydrogeologic Setting

3.7.1 Depth to Ground Water

During the site investigation, shallow ground water in the

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overburden was encountered at depths ranging from 11.5 feet in GF-8 to 14.5 feet below the surface in GF-10. The ground water encountered at the site is considered part of a shallow, unconfined, overburden aquifer.

#### 3.7.2 Ground Water Flow Direction/Hydraulic Gradient

HRP also conducted an elevation survey of the monitoring wells on December 8, 2000. Each well was surveyed to a relative benchmark, whose elevation was arbitrarily assigned 100 feet. The elevation data was used to construct a ground water contour map to determine the direction of the ground water flow and the hydraulic gradient on the site. The survey information is presented in Table 4, while the ground water contour map is illustrated on Figure 5. As indicated on Figure 5, ground water flow direction in the on-site overburden aquifer is west-northwest. The measured hydraulic gradient at the site is approximately 0.0166 ft/ft or 1.6 %.

It should be noted that HRP collected additional ground water level measurements on April 2, 2001. Based on the April 2, 2001 measurements, the ground water flow direction was similar to the December 8, 2000 measurements (i.e., west-northwest). The April 2001 survey information is also presented in Table 4, while the April 2001 ground water contour map is illustrated on Figure 6.

#### 4.0 Evaluation and Presentation of Results

Provided below is a discussion of the results of the site's subsurface conditions, as noted during the subsurface investigation, which includes the results of the underground tank removal, and the soil and ground water analytical results.

#### 4.1 Tank Removal

Once the tanks were removed, HRP examined the tanks, associated piping and tank grave for visible evidence of leaks (i.e. holes, cracks, staining, etc.). In addition, representative soil samples were subjected to a headspace analysis.

No obvious holes, cracks, or worn areas were noted during the visual inspection. However, based on HRP's review, it appeared that the western tank had not been completely backfilled from the 1991 tank abandonment activities, and that a small void was present at its underside. HRP noted elevated PID readings and odor exhibited by soils located beneath the western tank. Therefore, HRP supervised the removal of approximately 8 tons of soils in this area. Following the soil removal, the tanks' grave's walls and bottom were sampled. The analytical results are presented on Table 1 and the laboratory reports are included in Appendix C. In addition, photographs of the tank removal are included as Appendix G.

As seen in Table 1, HRP compared the laboratory results to the NYSDEC STARS MEMO #1 Cleanup Guidance Values. The confirmatory soil sample results indicated that no STARS VOCs were detected above the laboratory detection limits in any of the samples. However, several STARS semi-VOCs, (Benzo (a)-anthracene, Benzo (a) pyrene, Benzo (b) Fluoranthene, Benzo (g,h,i) perylene, Fluoranthene, Phenanthrene, and Pyrene) were detected in the UST-west sample above the STARS guidance values for these compounds. In addition, Benzo (a)-anthracene, Benzo (a) pyrene, Benzo (g,h,i) perylene were detected above the STARS guidance values for these compounds in the UST-North sample. Also, Benzo (b)-Fluoranthene, and Fluoranthene were detected in the UST-East sample above STARS guidance values for these compounds.

In addition to the STARS parameters, soil samples were also analyzed for

lead by mass analysis. The lead results indicated that one sample, UST-West, exhibited lead at 690 mg/kg, which slightly exceeds the site background threshold for lead in an urban setting (500 mg/kg.)

No petroleum hydrocarbons were detected in the stockpiled soil sample.

#### 4.2 Soils and Vadose Zone

The soil sample analytical results are summarized in Table 2, while the laboratory report forms are included in Appendix H. HRP compared the laboratory results to the NYSDEC STARS MEMO #1 Cleanup Guidance Values, which provides a basis for determining, soil cleanup levels.

As indicated in Table 2, no STARS VOCs were detected above STARS cleanup guidance values in any of the analyzed samples. However, trace levels of toluene was detected in each sample, ranging from 1.8 to 7.2 µg/kg. In addition, no STARS semi-VOCs were detected above STARS cleanup guidance values in seven of the eight samples analyzed for STARS semi-VOCs. However, four semi-VOC compounds were detected in GF-6, 12'-14', above the STARS cleanup guidance values, including Benzo (a) pyrene, Benzo (b) fluoranthene, Chrysene, and Fluoranthene. GF-6 is located at the southwestern perimeter of the former UST area onsite.

The source of the low levels of semi-VOC compounds is unknown, however, the site was reportedly a service station for many years, and likely utilized petroleum products that contained these compounds. In addition, fill was noted within the soil borings installed on-site. The fill or the historic site uses are the likely sources of the elevated semi-VOCs noted in GF-6.

The results of the two samples analyzed for the eight RCRA metals (GF-6, 2'-4', and GF-8, 2'-4') indicated that six metals (As, CD, Cr, Hg, Se, and Ag) were below the laboratory detection limits. The results of the two remaining metals, barium and lead, indicated that both metals were detected within Eastern US background levels for an urban setting.

#### 4.3 Ground water

The ground water sample analytical results are summarized in Table 3, while the laboratory report forms are included in Appendix I. HRP compared the laboratory results to the NYSDEC's Ground Water Quality Standards (GWQS).

As indicated in Table 3 each of the analyzed constituents was below the laboratory detection limits for both STARS 8021B and 8270C compounds.

In addition, the results of the lead analyses indicated that each sample was below the GWQS for lead. Therefore it appears that the site's historical operations have not adversely impacted the site's ground water.

# 5.0 Findings and Conclusions

#### 5.1 Findings

#### 5.1.1. Introduction/Purpose

HRP has completed this Site Investigation/Remedial Alternatives Report (SI/RAR) for the City of Glens Falls of the site located at 30-34 Ridge Street in Glens Falls, New York. The purpose of the investigation was to determine if the site's historical use as a gasoline filling station adversely impacted the site's soils and/or ground water.

#### 5.1.2. Tasks

The SI/RAR included conducting a ground penetrating radar survey (GPR), the removal of two 1,000-gallon underground storage tanks, the installation of eight (8) soil borings and four (4) Installation, and the collection and analysis of representative soil and ground water samples within identified areas of concern.

#### 5.1.3 UST/Soil Removal

During the removal of the on-site underground storage tanks, a gasoline odor was exhibited by the soils beneath the western tank. Therefore, HRP supervised the removal of approximately 8 cubic yards of soil from the tank grave. The soils were then hauled off-site for disposal.

# 5.1.4 Confirmatory Soil Sampling

The confirmatory soil sample results from the former UST area indicated that no STARS VOCs were detected above the laboratory detection limits in any of the samples. However, several STARS semi-VOCs were detected in the soil samples collected within the tank grave (UST-North, UST-East, and the UST-West) above STARS guidance cleanup values. The source of the semi-VOCs detected in the former tank grave is unknown, however, possible sources include noted fill materials and historic on-site operations. The degree and extent appears to be limited.

#### 5.1.5 Soil Sampling

The results of the soil sample analytical results indicated that no STARS VOCs were detected above STARS cleanup guidance values in any of the analyzed samples. However, four semi-VOC compounds were detected in GF-6, 12'-14', above the STARS cleanup guidance values. GF-6 is located at the southwestern perimeter of the former UST area on-site. The source of the low levels of semi-VOC compounds is unknown, however, the site was reportedly a service station for many years, and likely used petroleum products contained in these compounds. In addition, fill was noted within the soil borings installed on-site. It is possible that the fill or the historic site uses are the source of the semi-VOCs noted in GF-6.

#### 5.1.6 Ground Water Sampling

The results of the ground water sampling indicated that each of the analyzed constituents was below the laboratory detection limits for both STARS 8021B and 8270C compounds and lead. Therefore it appears that the site's historical operations have not adversely impacted the site's ground water.

#### 5.1.7 Ground Water Flow Direction

Based on HRP's ground water survey, conducted in December 2000 and April 2001, ground water flow direction in the on-site overburden aquifer is to the west-northwest. In addition, based on discussions with the City of Glens Falls Water Department, no known drinking water wells are located within 0.5 miles of the subject site.

#### 5.2 Conclusions

#### 5.2.1 Nature and Extent of Contamination

Based on HRP's review of the data collected to date, it appears that a limited amount of soil impacted with semi-volatiles remains onsite. The impacted soil is located in the vicinity of the former UST grave, and soil boring GF-6, at depths ranging from five feet (UST-W sample depth) to 14 feet (GF-6 sample depth). Since these compounds are typically immobile and were not detected in other soil borings or on-site ground water samples, HRP would expect that the extent of the soil contamination is limited to the vicinity of GF-6, and the western portion of the former tank grave.

#### 5.2.2 Recommended Remedial Action

Since the semi-volatile impacted soils noted on-site appear limited, and ground water does not appear to have been adversely impacted, HRP does not recommend any remedial action at this time. However, should future site use change (proposed use for paved parking lot), then remedial action may be warranted at that time.

# TABLE 1 Summary of Confirmatory Soil Sample Results Former USTs

30-34 Ridge Street Glens Falls, New York

										1 7
	Parameter			Soil Sa	imple ID			NYS DE	EC	]
		UST-B1	UST-B2	UST-S	UST-N	UST-W	UST-E	Guidano	ce Value	
		(5 ft bg)								
	PID Readings	0.4	0.2	0.2	1.0	0.2	0.2	NA		
٨	Benzo (a)-	<400	<400	<400	390	1000	<10,000	0.04		124
	anthracene						-			المستسل
_	Benzo(a)-	<400	<400	<400	500	1600	<10,000	0.04	V	1
•	pyrene		l							161
4	Benzo(b)-	<400	<400	<400	<2000	2000	1000	0.04	l.	
36°	Fluoranthene	•								Contraction (con-
	Benzo(g,h,l)	<400	<400	<400	470	1100	<10,000	0.04	V	1
	Perylene									130
	Fluoranthene X	<400	<400	<400	640	3500	1100	1,000	>~<	1
	Indeno(1,2,3-	<400	<400	<400	400	970	<10,000	1,000	104/	132
	cd)pyrene									Carlotte Comment
	Phenanthrene <	<400	<400	<400	400	2900	<10,000	1,000	hir.	150
	Pyrene 🔀	<400	<400	<400	520	2500	<10,000	1,000	tur.	50
	Toluene	5.6	BDL	2.0	3.1	BDL	BDL	100	V	]+15[
Ų,	Pb	<10	20	<10	250	690	190	SB*	(5 ppm)	15
	NI-1								-	V = 1

Notes

Exceedences in Bold

Bg-below grade

**BDL-Below Detection Limit** 

PID readings taken via headspace analysis using Hnu with 10 eV bulb, recorded in ppm. All other STARS VOCS and Semi-VOCS not reported on Table 1 were below detection limits STAR VOCs and Semi-VOCs reported in  $\mu g/kg$  (ppb).

Pb= Lead by Mass analysis, in mg/kg (ppm).

NA = Not Applicable

\* No cleanup objective established for lead. In Eastern US, urban setting, Site Background (SB) for lead ranges from 200-500 ppm.

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# TABLE 2 Summary of Soil Sample Results

30-34 Ridge Street Glens Falls, New York

	,			<u>-</u> , <u>-</u>						,
Parameter				Sc	oil Sample	ID				NYS DEC
	GF-6	GF-6	GF-6	GF-7	GF-8	GF-9	GF-11	GF-11	GF-12	Recommended
	(2'-4')	(4'-6')	(12'-14')	(12'-14')	(2'-4')	(10'-12')	(4'-6')	(8'-10')	(6'-8')	Guidance Value
Benzo(a)	NA	<400	420	<400	<400	<400	<400	<400	<400	0.04
pyrene										
Benzo(b) 🗸	NA	<400	610	<400	400	<400	<400	<400	<400	0.04
fluoranthene										
Chrysene	NA	<400	540	<400	<400	<400	<400	<400	<400	0.04
Fluoranthene /	NA	<400	1,100	<400	630	<400	<400	<400	<400	1,000
Phenanthrene \( \)	NA	<400	760	<400	410	<400	<400	<400	<400	1,000
Pyrene 🙏	NA	<400	870	<400	500	<400	<400	<400	<400	1,000
Benzene 😽	NA	BDL	BDL	BDL	6.3	BDL	5.6	BDL	BDL	14 ~
Ethylbenzene X	NA	5.8	BDL	BDL	BDL	BDL	BDL	BDL	BDL	100
Toluene ×	NA	1.8	1.6	2.1	7.2	2.7	3.4	BDL	1.8	100
Barium	30	NA	NA	NA	. 170	NA	NA	NA	NA	300 or SB*
Lead	10	NA	NA-	NA	420	NA	NA	NA	NA	SB**

224

1100

400 50000

STAR VOCs and Semi-VOCs reported in µg/kg, metals reported in mg/kg.

NA = Not analyzed.

BDL = Below Detection Limit

\* Recommended Soil Cleanup Objective, from Table 4, NYSDEC Technical Assistance Guidance Memorandum 4046 (January 1994), SB-site background for Barium in Eastern US is 15-600 ppm

\*\* No cleanup objective established for lead, in Eastern US, urban setting, SB for lead ranges from 200-500 ppm.

Associates,

# TABLE 3 **Summary of Ground water Sample Results**

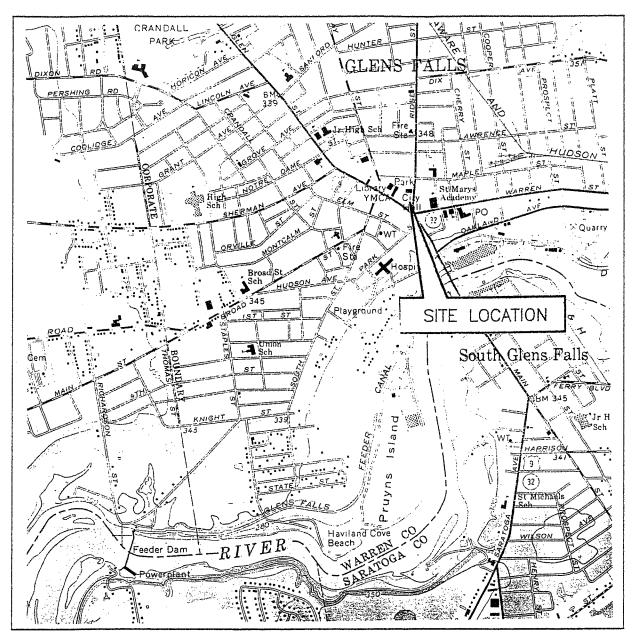
# 30-34 Ridge Street Glens Falls, New York

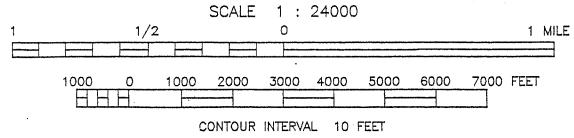
	<b>—</b> • • • • • • • • • • • • • • • • • • •	J. 10 . W. 1. U,			
Parameter	G	round wate	NYS Ground water		
	MW-1	MW-2	MW-3	MW-4	Quality Standard
STARS 8021B (all)	BDL	BDL	BDL	BDL	*
STARS 8270C (all)	<10	<10	<10	<10	**
Lead	1.2	0.2	0.3	0.8	25

All STARS results reported as μg/l (ppb)
Lead results reported in mg/l (ppm)
\* Standard for all compounds is 5 μg/l, except benzene, which is 0.7 μg/l.
\*\* Standard for these compounds vary from

# **TABLE 4** Summary of Ground water Elevation Survey 30-34 Ridge Street Glens Falls, New York

4/2/01 13.67	100 04	12/8/00	4/2/01
13.67	100.04	· · · · · · · · · · · · · · · · · · ·	
10.07	100.61	86.87	86.94
11.77	99.87	87.64	88.10
12.13	100.14	87.59	88.01
12.81	99.91	86.89	87.10
	12.81	12.81 99.91	





GLENS FALLS, N. Y. SW/4 CLENS FALLS 15' QUADRANGLE

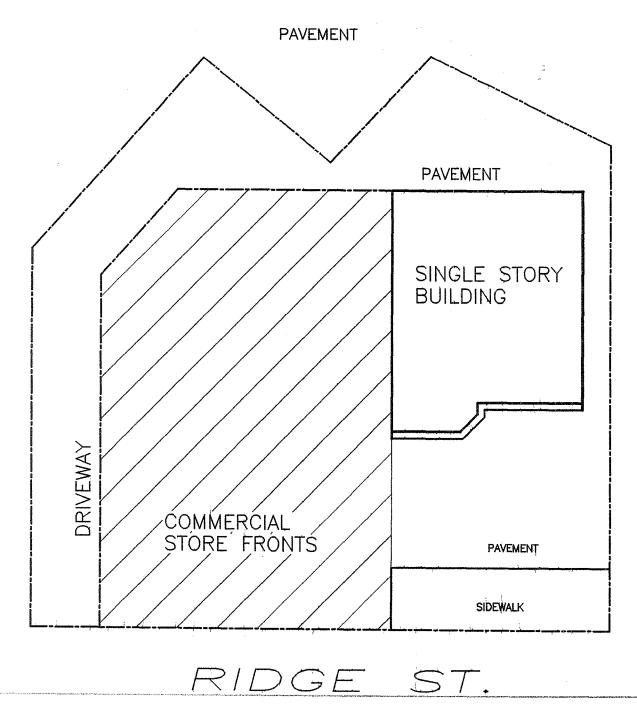
NEW YORK

FIGURE 1 SITE LOCATION 30-34 RIDGE STREET GLENS FALLS, NEW YORK

N4315---W7337.5/7.5 1966

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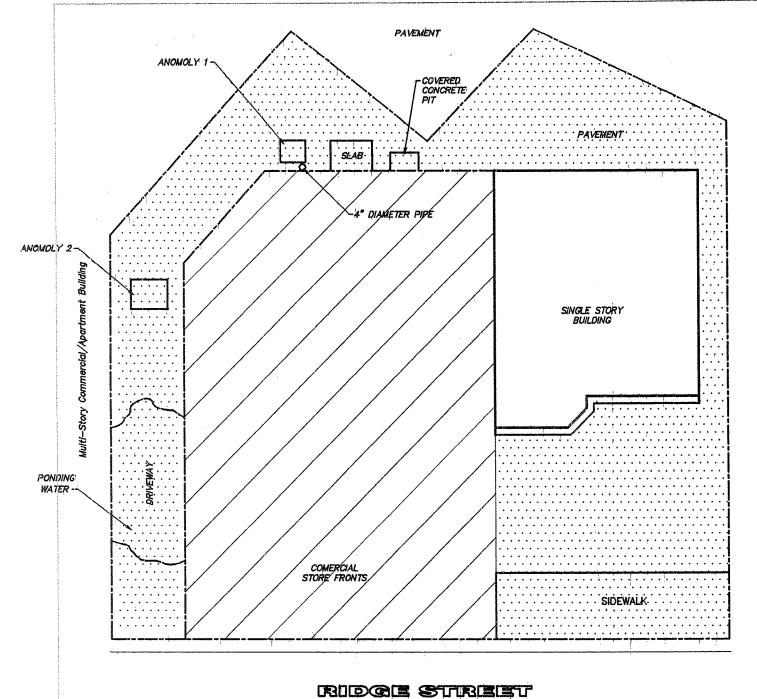
CITY HALL

#### **NOTES**

ALL SITE FEATURES
AND UTILITY LOCATIONS
ARE APPROXIMATE.
DRAWING NOT TO SCALE
HATCHED AREA NOT PART
OF PROPERTY.

FIGURE 2 SITE PLAN RIDGE STREET BROWNFIELD 30-34 RIDGE ST. GLENS FALLS, N.Y. HRP# GLE6000.P2

L:\DWG\GLE6000P2\FIGURE2





CITY HALL

NOTES

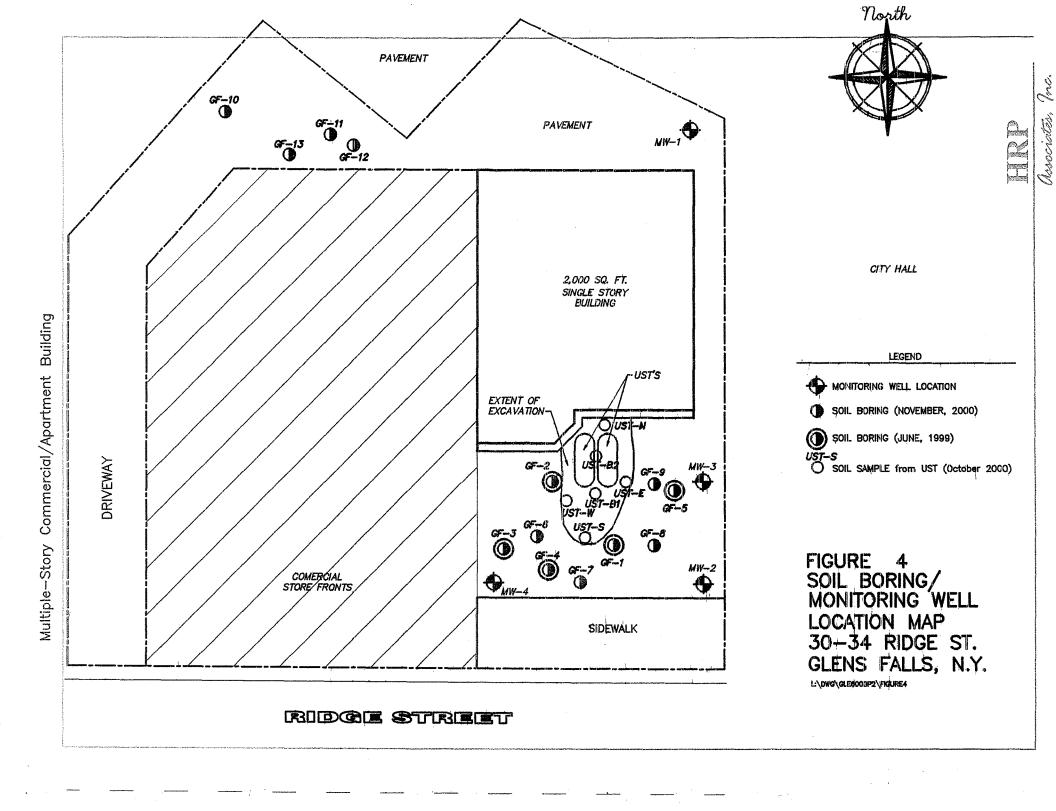
ALL SITE FEATURES
AND UTILITY LOCATIONS
ARE APPROXIMATE.
DRAWING NOT TO SCALE
HATCHED AREA NOT PART
OF PROPERTY.

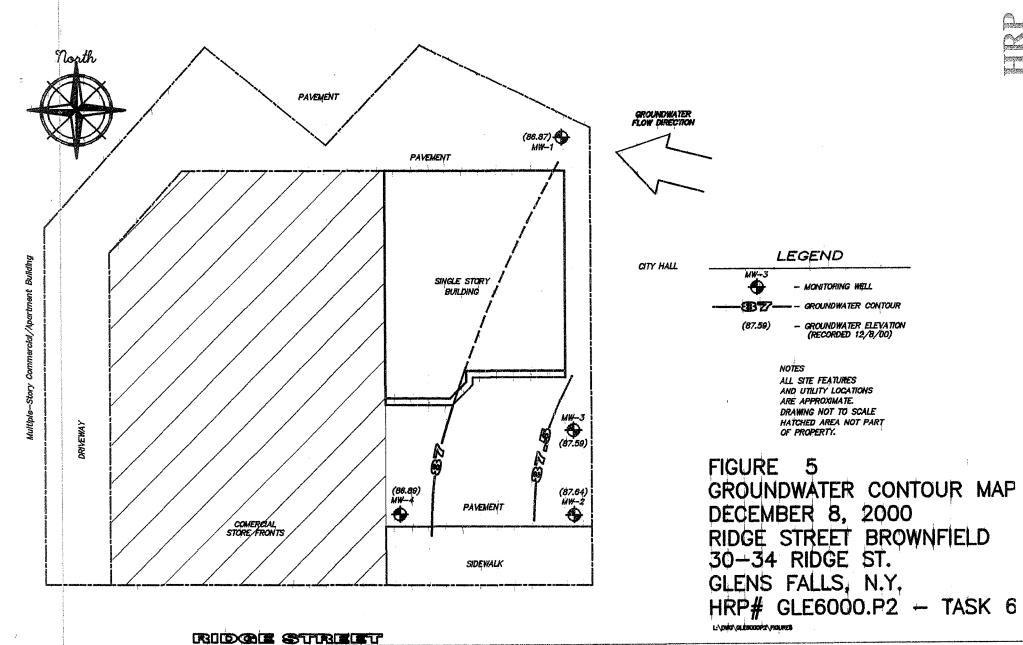
LEGEND

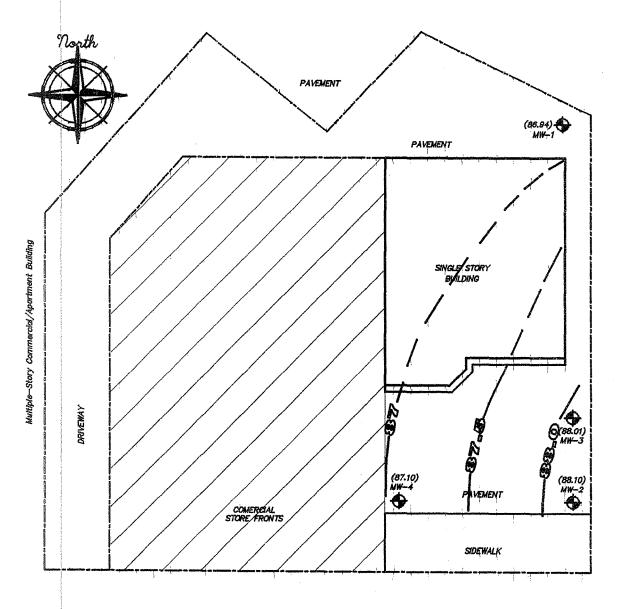
GPR SURVEY AREA

FIGURE 3
GPR SURVEY
LOCATION MAP
30-34 RIDGE ST.
GLENS FALLS, N.Y.

L'\DWG\DLESGOOP2\FIGURES







RIDOL STREET



NOTES
ALL SITE FEATURES
AND UTILITY LOCATIONS
ARE APPROXIMATE,
DRAWING NOT TO SCALE
HATCHED AREA NOT PART
OF PROPERTY.

FIGURE 6
GROUNDWATER CONTOUR MAP
APRIL 2, 2001
RIDGE STREET BROWNFIELD
30-34 RIDGE ST,
GLENS FALLS, N.Y.
HRP# GLE6000.P2 - TASK 6

L-DWO-QLEBCOOP2-FIGURES

APPENDIX A PREVIOUS INVESTIGATIONS

HRP Associates, Inc.

## ASSOCIATES, INC.

Environmental/Civil Engineering & Hydrogeology June 23,1999

Mr. James Thatcher Avalon Associates, Inc. P.O. Box 746 333 Glen Street Glens Falls, New York 12207

RE: LIMITED SUBSURFACE INVESTIGATION, 30-34 RIDGE STREET, GLENS FALLS, NEW YORK

Dear Mr. Thatcher

In June 1999 HRP Associates, Inc. completed a limited subsurface investigation of the property located a 30-34 Ridge Street, Glens Falls, New York. The purpose of the preliminary evaluation was to determine the potential impact of the site's historical activities upon the underlying soils and groundwater. The remainder of this letter details the site's history, the site investigation, analytical results, conclusions, and recommendations regarding 30-34 Ridge Street. The site location and layout are noted on Figures 1 and 2, respectively.

### Site Description

The 0.1 + acre site, located in a densely developed downtown section of Glens Falls, is currently occupied by an abandoned 2,000 ft<sup>2</sup> building. The site is bounded to the east by Glens Falls City Hall, to the south by Ridge Street, to the west by a multi-level commercial/residential building and to the north by a parking lot and several multi-level commercial/residential buildings. The entire site is developed with either the building or pavement.

### Site History

Currently, the site is occupied by an abandoned 2,000 ft<sup>2</sup>± building that was reportedly constructed in 1950. Historically, the site was developed in the late 1800s and was redeveloped several times throughout its history and occupied by a variety of tenants including:

- Ridge Street Engine House (1918-1935)
- Amoco Service Station (1935-1968)
- Vacant (1968-1975)
- Pizzeria (Omni & Pope) (1975-1993)

Of particular note, the 1961 Sanborn Fire Insurance Map indicated that two underground gasoline tanks were located immediately to the east of the on-site building. Further, according to the NYSDEC Spil Report #8906152, two 1,500-gallon underground gasoline tanks were cleaned and abandoned in place (filled with concrete) in May 1991. The Spill report also noted that during the tank's abandonmen "petro/chemical smells and a high reading were noted on a sniffer/explosimeter by the Glens Falls Fire Department." No further information was available regarding the potential presence of additional on-site

Mr. James Thatcher June 23, 1999 Page 2 of 4

tanks or the condition of the site's soils or groundwater. The Sanborn Map and Spill Report are included as Attachment #1.

#### Field Activities

In order to evaluate the potential impact of the underground tanks upon the site, HRP completed a limited subsurface investigation on June 18, 1999. The subsurface investigation consisted of the installation of five soil borings (referred to as GF-1 through GF-5) and the collection of two-grab groundwater samples using vibratory push techniques (Geoprobe®). The boring locations are shown on Figure 2.

During the boring installation, soil samples were collected continuously to a depth of 15 feet in four-foot intervals using a 1 ¾" I:D. stainless steel macrocore sampler. Each soil sample was collected in a new, dedicated acetate liner to ensure the sample's integrity.

The collected soil samples were reviewed in the field for physical evidence of contamination (i.e. odor and staining), placed in glass containers equipped with teflon-lined lids, labeled, and stored in a cooler for preservation. In addition, each soil sample was measured for the presence of total volatile organic compounds (VOCs) using an HNu® photoionization detector (PID) equipped with a 10.2 eV bulb by placing a portion of each sample in a separate jar. Upon opening the jar, the PID's sampling probe was placed directly over the freshly opened soil sample to evaluate the presence of VOCs in the sample. The results of PID readings are summarized on the boring logs, which are included in Attachment #2.

Based upon a review of the collected samples, HRP selected and submitted two soil samples to a state-certified laboratory for analysis of the presence of volatile organics via EPA Method 8021B (typical constituents of gasoline and solvents).

In addition to collecting soil samples, HRP also collected two grab groundwater samples from borings GF-2 and GF-5. The grab groundwater samples were collected by advancing a mill slot sampler, (a stainless steel screen within a stainless steel sleeve, that is attached to the head of the probe) into the groundwater. A length of dedicated, clean Tygon® tubing was lowered into the mill slot sampler, and attached to a peristaltic pump. After allowing the groundwater to pump for several minutes, groundwater samples were collected within appropriate sample containers, labeled and placed on ice in a cooler. The groundwater samples were analyzed for the presence of volatile organics via EPA Method 8021B. In addition, grab groundwater sample GF-5 was analyzed for the presence of lead.

Mr. James Thatcher June 23, 1999 Page 3 of 4

#### **Findings**

#### Lithology

In general below the pavement and gravel sub base, the site's lithology consisted of a tan to brown fine sand to a depth of 12 feet. Below 12 feet a dark brown coarse to medium sand was noted. The soil boring logs can be found in Attachment #2.

#### **Observations**

In general, during the installation of the borings no odors or elevated PID readings were noted within borings GF-1, GF-3 and GF-4. However, petroleum-like odors and elevated PID readings were observed in borings GF-2 and GF-5 at a depth of 12 feet below grade and deeper. Above 12 feet below grade no odors or PID readings were noted in borings GF-2 and GF-5.

During the collection of the grab groundwater samples, an odor and sheen was noted on the grab groundwater sample collected from boring GF-2. However, no odors or sheen was noted on the grab groundwater sample collected from GF-5.

#### Analytical Results

Based upon a field review HRP selected and submitted two soil samples (GF-2, 13.9'-14.4' and GF-5, 14') and two grab groundwater samples (GF-2 and GF-5) to a state certified laboratory for analysis of volatile organics via EPA Method 8021B. In addition, groundwater sample GF-5 was also analyzed for the presence of lead. The soil and grab groundwater sample analytical results are summarized in Table 1 and 2, respectively. The laboratory report forms are included as Attachment #3.

As indicated in Table 1, soil sample GF-2, 13.9′ – 14.4′, exhibited low levels of 1,2,4-Trimethylbenzene, isopropyltoulene and n-butylbenzene that exceeded the NYSDEC Clean-up Guidance Values published within the NYSDEC STARS Memo #1 Petroleum-Contaminated Soil Guidance Policy.

As indicated in Table 2, grab groundwater samples GF-2 and GF-5 exhibited low levels of Methyltertiary-butyl-ether (MTBE) that exceeded the NYSDEC Ambient Groundwater Quality Standards (AWQS). In addition, GF-5 exhibited trace levels of several other volatile organic compounds that exceeded the AWQS.

#### Conclusions

Based upon our Limited Phase II investigation at the site, HRP offers the following conclusions:

Mr. James Thatcher June 23, 1999 Page 4 of 4

- In May 1991, two 1,500-gallon underground gasoline tanks were abandoned in place. Reportedly, during the tank abandonment "petro/chemical smells and a high reading were noted on a sniffer/explosimeter by the Glens Falls Fire Department." No further information was available regarding the potential presence of additional on-site tanks or the condition of the site's soils or groundwater.
- On June 18,1999, HRP installed five soil borings and collected two grab groundwater samples from the borings. Based upon field review HRP selected two soil and two grab groundwater samples and submitted them to a state-certified laboratory for analysis of volatile organics via EPA Method 8021B. In addition, one of the groundwater samples was analyzed for the presence of lead.
- Based on the analytical results and HRP's observations, it appears that residual petroleum soil contamination which exceeds applicable NYSDEC guidance values remains in the vicinity of the abandoned underground tanks at a depth of 12 feet and greater. Additionally, based on the groundwater analytical results, it appears that limited groundwater contamination that exceeds NYSDEC standards exists in the vicinity of the abandoned tanks. However, the degree and extent of the soil and groundwater contamination at the site has not been defined at this time.

#### Recommendations

Since low levels of groundwater and soil contamination were detected in the vicinity of the abandoned underground gasoline tanks, HRP recommends that additional subsurface investigations be conducted to determine the degree and extent of soil and groundwater contamination.

If you have any questions regarding this proposal, please do not hesitate to contact HRP Associates, Inc. at (518) 399-1174.

Sincerely,

HRP ASSOCIATES, INC.

Thómas S. Seguljic, P.E.

Project Manager

TSS (p/glensfallslimited inv)

# Table 1 Summary of Soil Sample Results 30-34 Ridge Street Glens Falls, New York

	Soil Samp	le I.D.	NYS DEC Clean-up
Parameter	GF-2 13.9′-14.4′	GF-5 14′	Guidance Value*
MTBE .	ND	ND	1,000
Benzene .	ND	. ND	14
Toluene	ND	ND	100
Ethylbenzene	ND	7,180	100
Xylene M&P	ND	1,675	100
xylene 0	ND	310	100
n-Propylbenzene	ND	4,300	100
1,3,5-Trimethybenzene	ND	15,700	100
tert – Butylbenzene	ND	4,330	100
1,2,4 – Trimethylbenzene	1,575	34,575	100
sec – Betylbenzene	ND	1,080	100
4 – Isopyltoulene	2,700	4,075	100
n – Butylbenzene	1,750	ND	100

All results reported as ppb.

ND-Not Detected above laboratory detection limit.

<sup>\*</sup>Values as published within NYSDEC's STARS Memo #1 Petroleum-Contaminated Soil Guidance Policy

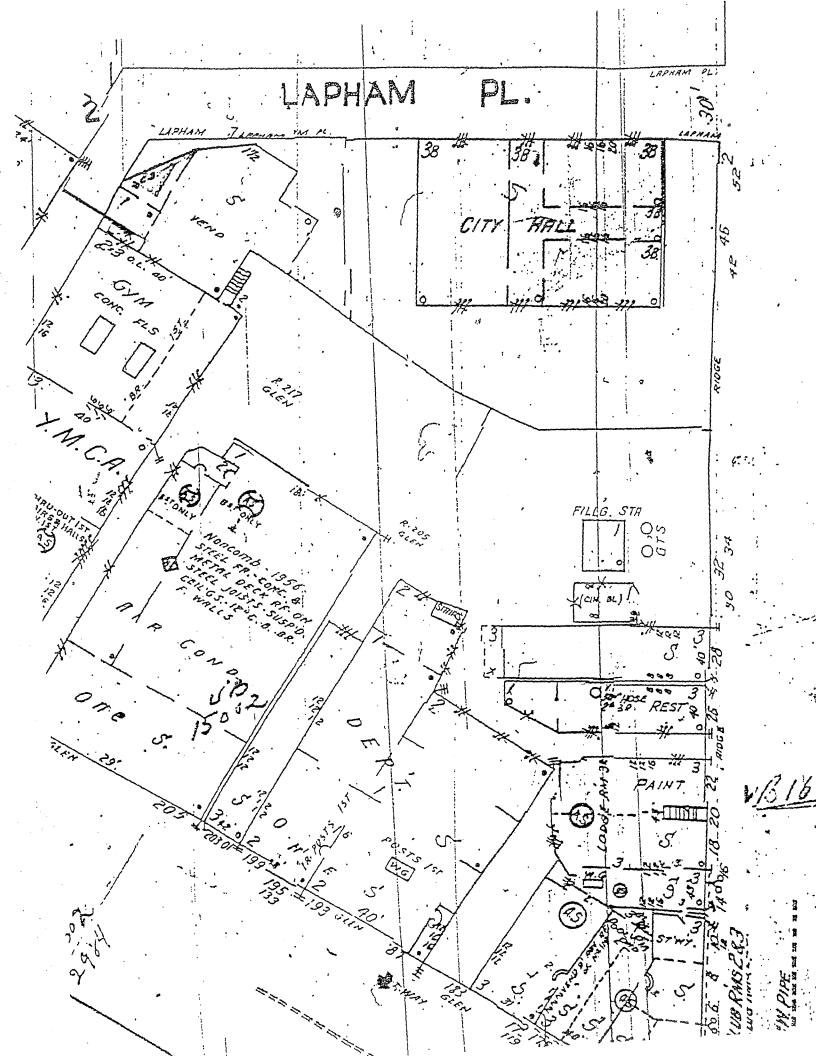
## Table 2 Summary of Grab Groundwater Sample Results 30-34 Ridge Street Glens Falls, New York

	Grab Grou Sample	,	NYSDEC Ambient
Parameter	GF-2	GF-5	Water Quality Standards
MTBE	1,096	146.0	50
BENZENE	·ND	< 0.5	0.7
TOLUENE	ND:	4.7	. 5
ETHYLBENZENE	ND	11	5
M&P XYLENE	ND	33	5
O XYLENE	ŊD	5.7	5
ISOPROPYLBENZENE	ND	20.0	5
n-propylbenzene	ND	56.0	5
1,3,5 – TRIMETHYLBENZENE	ND	270.0	5
TERT - BUTYLBENZENE	ND	74.0	5
SEC - BUTYLBENZENE	ND	18.0	5
4 - ISOPROPYLTOLUENE	ND	64.0	5
N - BUTYLBENZENE	ND	21.0	5
1,2,4 – TRIMETHYLBENZENE	ND	. 287	5
LEAD (mg/l)	TM	2.11	0.05

All results reported as ppb except lead. ND-Not Detected above laboratory detection limit.

NT- Not Tested

ATTACHMENT 1



5187980779 P.02 518 583 6871 P.02/03

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4)		Pel-Hab-C	Aber-Unit.		Gai - Lbe	
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Printed on: 03/23/99

#### DEC REXARES

09/21/89: DOMERMUETH PUMPED CUT APPROXIMATELY 1300 GALLONS.

09/22/89: POSSIBLY 2 UST, ORIGINAL BUILT AS GAS STATION 1938, PIZZA SINCE 1971. LETTER TO BE SENT TO DWIER OF RESPONSIBILITY.

10/15/89: BUILT 1978 AS GAS STATION. CONVERTED TO STORE 1964. PIZZA 1971, ADDITION TO BUILDING 1974. STORE MANAGER PAUL AMATO JR. 518-792-7531.

05/03/91: M. BUSONE HIRED BY P. AMATO, TO REMOVE TANKS AND CONTAMINATION. ONCE EXPOSED, TWO 1500-GALLONS TANKS FOUND, ONE FULL OF WATER, OTHER 1/2 FULL OF PRODUCT, SAND AND WATER.

05/03/91: JET LINE ON SITE WITH VAC TRUCK, LIQUID REMOVED AND TANKS ABANDONED IN PLACE, FILLED WITH CONCRETE AFTER BEING CLEANED. TEST PIT DUG BELOW BOTTOM OF TANK, NO ODORS IN GROUNDWATER EVIDENT.

05/03/31: TANKS WERE ABANDONED IN PLACE BECAUSE THEY WERE TOO CLOSE TO THE FOOTER OF THE ADDITION.

RFC: NO FURTHER ACTION NECESSARY AT THIS TIME.

ATTACHMENT 2

Projec HRP J	Project_Avalon-city of Gles Fall HRP Job #_ Contractor_Zebra				ENGINEERING & GEOLOGY   Sheet No.				
III .		ebra		DRILLING LOG				Sheet No. 1 Location infront o	f Build.
Type _	Casing Sample  Macr	o ·	el -	Hammer (wt/Fall) 140/30 300/24				Start 6/18. Finish Driller Javed	
I.D.	1.75	<b>4</b>	<del></del>	Rig Type	<u> </u>	operak		HRP Rep C. Bablis	
Depth (ft)	Sampler Blows per 6"	Sample Interval	Recovery (ft)	Density Consister Moistu	ncy/	Profile Change			
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30	GROUND W.	ATER OBSER	VATIONS			SAMPLE 140 lb. 'Wt	PENETRATION falling 30" or	N RESISTANCE n 2" O.D. Sampler	PROPORTION
Deoth	Date	Casing/Sc reen	Stabil. T		Cohesion Density D-4very D-9loose	loose	Cohesive Consider Con	onsistence t	trace0 to 10% little10 to 20% some20 to 35% and30 to 50%

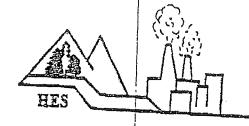
HRP J	t_Avelou ob #_ actor_Ze	,	f Gleg Fc	EN	GINEER	SOCIATE NNG & G LING L	EOLOGY	Hole # GF-2 Well # Sheet No.   Location		
Type _	Casing Sample <u>Macro</u> Core	<u> </u>	rel 	Hammer (wt/Fall) 1'40/30 300/24 Rig Type_ (100 pro pe_				Start 6/18 Finish 6/18 Driller Tared HRP Rep C. Reblin	/ Luta	
Depth (ft)	Sampler Blows per 6"	Sample Interval	Recovery (ft)	Den: Consis	sity or stency/ sture	or Profile Remarks ry/ Change (color, structure, grain size,		Remarks		PID (ppm)
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	GROUND W	ATER OBSER	VATIONS			SAMPLE 140 lb. Wt	PENETRATION	N RESISTANCE 1 2" O.D. Sampier	PROPO	RTIONS
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	Type _	Casing Sample <u>Macr</u> Care	- O	el -	Hammer (wt/Fall) 140/30 300/24 Rig Type (people)			30	Start 6/18/99 Finish 6/18/99 Driller Javad HRP Rep (JG/W		
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	Depth (ft)	Sampler Blows per 6"	Sample Interval	Recovery (ft)	Consist	Density or Profile Remarks nsistency/ Change (color, structure, grain size, staining, odor, PID Moisture				(ppm)	
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1 11 11 0	t_Av.lon lob #_ actor 2.		ills.	ENGINE	SSOCIATE ERING & G IILLING L	EOLOGY	Hole # GF-5 Well # - Sheet No. / Location	
Type _	Casing Sample  Mac  Cor	<u> </u>	el -	Hammer (w 300/24 Rig Type	rt/Fall) 140/ Geophi	_	Start 6/18/17 Finish 6/18/99 Driller Jwed HRP Report WC	J
Depth (ft)	Sampler Blows per 6"	Sample Interval	Recovery (ft)	Density or Consistency/ Moisture	Profile Change	(calor, struct	Remarks ture, grain size, staining, odo	PID
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ATTACHMENT 3



Mail: 22 Hudson Falls Rd., So. Glens Falls, NY 12803 Delivery: 211 Ferry Blvd., So. Glens Falls, NY 12803 Phone: 518/747-1060 Fax: 518/747-1062

CLIENT: HRP Associates, Inc.

SAMPLE DESCRIPTION: GF-2, (13,9'-14.4')

LOCATION: 32 Ridge St, Glens Falls, NY

H.E.S. #: 990618F01

DATE SAMPLED: 06/18/99

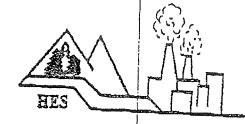
DATE SAMPLE RECD: 06/18/99

MATRIX: Soil

TYPE SAMPLE: Not Specified

SAMPLER: CB/HRP

PARAMETER Dichlorodifluoromethane	METHOD	RESULT	UNITS	TEST DATE
Chloromethane	SW846-80213	<500	ug/kg	06/18/99
Vinyl chloride	SW846-8021B	<500	ug/kg	06/18/99
Chloroethane	SW846-8021B	<500	ug/kg	06/18/99
	SW846-8021B	<500	ug/kg	06/18/99
Bromomethane	SW846-8021B	<500	ug/kg	06/18/99
Trichlorofluoromethane	SW846-8021B	<500	ug/kg	06/18/99
1,1-Dichloroethene	SW846-8021B	<500	ug/kg	06/18/99
Methylene chloride	SW846-80213	<500	ug/kg	06/18/99
trans-1,2-Dichlorcethene	SW846-8021B	<500	ug/kg	06/18/99
1,1-Dichlqroethane	SW846-8021B	<500	ug/kg	06/18/99
2,2-Dichloropropane	SW846-80215	<500	ug/kg	06/18/99
cis-1,2-Dichloroethene	SW846-8021B	<500	nā\ķā	06/18/99
Bromochloromethane	SW845-30213	<500	ug/kg	06/18/99
Chloroform	SW846-8021B	<500	ug/kg	06/18/99
1,1,1-Trighloroethane	SW845-8021B	<500	ug/kg	06/18/99
1,1-Dichlaropropene	SW846-3021B	<500	ug/kg	06/18/99
Carbon Tetrachloride	SW846-30213	<500	hā\ķà	06/18/99
Benzene	3W846-30213	<500	ug/kg	06/18/99
1,2-Dichloroethane	E1508-948WS	<500	ug/kg	06/18/99
Trichloroethene	SW846-80213	<500	ug/kg	06/18/99
1,2-Dichloropropane	SW845-80213	<500	ug/kg	06/18/99
Dibromomethane	SW846-80213	<500	ug/kg	06/18/99
3romodich1cromethane	SW846-8021B	<500	ug/kg	06/18/99
cis-1,3-Dichloropropens	SW846-80213	<500	ug/kg	06/18/99
Toluene	SW846-80213	<500	ug/kg	06/18/99
trans-1,3-Dichloropropens	SW846-80213	<500	ug/kg	06/18/99
1,1,2-Trichloroethane	SW846-8021B	<500	ug/kg	05/18/99
Tetrachlorcethene	SW846-80213	<500	ug/kg	06/18/99
1,3-Dichloropropane	SW846-8021B	<500	ug/kg	06/18/99
Dibromochloromerhane	SW845-80213	<50Ö	ug/kg	06/18/99
1,2-Dibromoethane	SW846-8021B	<500	ug/kg	06/18/99
Chlorobenzene	SW846-80213	<b>&lt;</b> 500	ug/kg	06/18/99
1,1,1,2-Tetrachloroethane	SW846-80213	<500	ug/kg	06/18/99
Ethylbenzene	SW846-80213	<500	ug/kg	06/18/99
m-Xylene/p-Xylene	SW846-8021B	<500	ug/kg	06/18/99
o-Xylene	SW846-8021B	<500	ug/kg	06/18/99
Styrene	SW846-8021R	<500	ug/kg	06/18/99
Bromoform	SW845-80213	٠ حقمه .	ug/kg.	06/18/99
Isopropylbenzene	SW866-30213	<500	<i>n</i> g∕kā	06/18/99



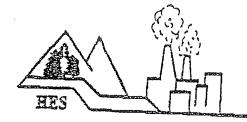
Mail: 22 Hudson Falls Rd., So. Glens Falls, NY 12803 Delivery: 211 Ferry Blvd., So. Glens Falls, NY 12803 Phone: 518/747-1060 Fax: 518/747-1062

CLIENT: HRP Associates, Inc.

SAMPLE DESCRIPTION: GF-2, (13.9'-14.4')

H.E.S. #: 990618F01 (Continued)

PARAMETER	METHOD	RESULT	UNITS	TEST DATE
<u>i</u>				
Bromobenzene	SW846-8021B	<500	ug/kg	06/18/99
1,1,2,2-Tetrachlorcethane	SW846-8021B	<500	ug/kg	06/18/99
1,2,3-Trichloropropane	SW846-80213	<500	ug/kg	06/18/99
n-Propylbenzene	SW846-8021B	<500	ug/kg	06/18/99
2-Chlorotdluene	SW846-8021B	<500	ug/kg	06/18/99
4-Chlorotdluene	SW846-8021B	<500	ug/kg	06/18/99
1,3,5-Tridethylbenzene	SW846-8021B	<500	ug/kg	06/18/99
4-Isopropyltoluene	SW846-8021B	2,700	ug/kg	06/13/99
1,2,4-Trimethylbenzene	SW846-8021B	1,575	ug/kg	06/18/99
sec-Butylbenzene	SW846-8021B	<500	ug/kg	06/18/99
1,3-Dichlorobenzene	SW845-80213	<500	nd/ka	06/18/99
tert-Butylbenzene	SW846-8021B	<500	nā\ķā	06/18/99
1,4-Dichldrobenzene	SW846-8021B	<500	ug/kg	06/18/99
1,2-Dichlorobenzene	SW846-3021B	<500	ug/kg	06/18/99
n-Butylbenzene	SW846-80213	1,750	ug/kg	.06/18/99
1,2-Dibromo-3-chloropropane	SW846-8021B	<500	ug/kg	06/18/99
1,2,4-Trichlorobenzene	SW846-80213	<500	ug/kg	05/18/99
Hexachlorobutadiene	SW846-8021B	<500	ug/kg	06/18/99
Naphthalene	SW846-3021B	<500	ug/kg	06/18/99
1,2,3-Trichlorobenzene	SW846-3021B	<500	ug/kg	06/18/99
MTBE	SW846-8021B	<500	ug/kg	06/18/99
Non-Target Peaks		Positive		



Mail: 22 Hudson Falls Rd., So. Glens Falls, NY 12803 Delivery: 211 Ferry Blvd., So. Glens Falls, NY 12803 Phone: 518/747-1060 Fax: 518/747-1062

CLIENT: HRP Associates, Inc.

SAMPLE DESCRIPTION: GF-5, (14')

LOCATION: 32 Ridge St, Glens Falls, NY

H.5.5. #: 990613F02

DATE SAMPLED: 06/18/99

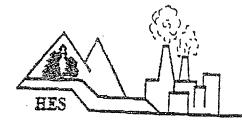
DATE SAMPLE RECD: 06/18/99

MATRIX: Soil

TYPE SAMPLE: Not Specified

SAMPLER: CB/HRP

PARAMETER	METHOD	RESULT	UNITS	TEST DATE
Dichlorodifluoromethane	SW846-3021B	<500	ug/kg	06/18/99
Chloromethane	SW846-8021B	<500	ug/kg	06/18/99
Vinyl chloride	SW846-8021B	<500	ug/kg	06/18/99
Chloroethane	SW846-8021B	<500	ug/kg	06/18/99
Bromomethane	SW846-8021B	<500	ug/kg	06/18/99
Trichlorofluoromethane	SW846-3021B	<500	ug/kg	06/18/99
1,1-Dichloroethene	SW846-8021B	<500	ug/kg	06/18/99
Methylene chloride	SW846-30213	<500	ug/kg	06/18/99
trans-1,2-Dichloroethene	SW846-8021B	<500	ug/kg	06/18/9 <del>9</del>
1,1-Dichloroethane	SW846-80213	<500	ug/kg	06/18/99
2,2-Dichloropropane	SW846-8021B	<500	ug/kg	06/18/99
cis-1,2-Dichlorcethene	SW846-8021B	<500	ug/kg	06/18/99
Bromochloromethane	SW846-8021B	<500	ug/kg	06/18/99
Chloroform	SW846-8021B	<500	ug/kg	06/18/99
1,1,1-Trichloroethane	SW846-80213	<500	ug/kg	06/18/99
1,1-Dichloropropene	SW846-3021B	<500	na/ka	08/18/99
Carbon Tetrachloride	SW846-80213	<500	ug/kg	06/18/99
Benzene	SW846-80213	<500	ug/kg	06/18/99
1,2-Dichloroethane	SW846-8021B	<500	ug/kg	06/18/99
Trichlorcethene	\$W846-80213	<500	ug/kg	06/18/99
1,2-Dichloropropane	SW846-8021B	<500	ug/kg	06/18/99
Dibromomethane	SW846-8021B	<500	ug/kg	06/18/99
Bromodichloromethane	SW846-80213	<500	ug/kg	06/18/99
cis-1,3-Dichloropropene	SW845-8021B	<500	ug/kg	06/18/99
Toluene	SW846-30213	<500	ug/kg	05/18/99
trans-1,3-Dichloropropens	SW845-8021B	<500	ug/kg	06/18/99
1,1,2-Trichlorcethane.	SW846-80213	<500	ug/kg	06/18/99
Tetrachloroethene	SW846-8021B	<500	na\;ka	06/18/99
1,3-Dichloroprogane	SW846-80713	<500	ug/kg	06/18/99
Dibromochloromethane	SW846-2021B	<500	ug/kg	06/18/99
1,2-Dibromoethene.	SW8 <del>46-803</del> 13	<500	ug/kg	06/18/99
Chlorobenzene	SW846-80213	<500	nd\%d	06/18/99
1,1,1,2-Tetrachloroethane	SW846-80213	<500	na\xa	06/18/99
Ethylbenzene	SW846-80213	<500	ug/kg	06/18/99
m-Xylene/p-Xylana	SW846-80213	1,675	ug/kg	06/18/99
o-Xylene .	S <del>W046 00</del> 213	<500	ug/kg	06/18/99
Styrene	5 <del>4946 363</del> 13	<500	ಣಿಡಿ ಜಡೆ	06/19/99
3romoform	61508-918HB	<del>&lt;300</del> −	<u>68/ya</u>	06/18/99
Isopropylbenzana	-5 <del>4046-0431</del> 3	<500	ug/kg	06/18/99



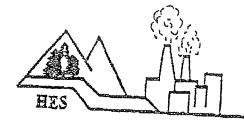
Mail: 22 Hudson Falls Rd., So. Glens Falls, NY 12803 Delivery: 211 Ferry Blvd., So. Glens Falls, NY 12803 Phone: 518/747-1060 Fax: 518/747-1062

CLIENT: HRP Associates, Inc.

SAMPLE DESCRIPTION: GF-5, (14')

H.3.5. #: 990618F02 (Continued)

PARAMETER	METHOD	RESULT	<u>ettinu</u>	TEST DATE
Bromobenzene	SW845-8021B	<500	ug/kg	06/18/99
1,1,2,2-Tetrachloroethane	SW846-8021B	<500	ug/kg	06/18/99
1,2,3-Trichloropropane	SW846-8021B	<500	ug/kg	06/18/99
n-Propylbenzene	SW846-8021B	3,550	ug/kg	06/18/99
2-Chlorotoluene	SW846-80219	<500	ug/kg	06/13/99
4-Chlorotoluene	SW846-80213	<500	ug/kg	06/18/99
1,3,5-Trimethylbenzene	SW846-8021B	15,700	ug/kg	06/18/99
4-Isopropyltoluene	SW846-8021B	4,375	ug/kg	06/18/99
1,2,4-Trimethylbenzene	SW846-90213	34,375	ug/kg	06/18/99
sec-Butylbenzene	SW846-80213	<500	ug/kg	06/18/99
1,3-Dichlorobenzene	SW846-3021B	<500	ug/kg	06/13/99
tert-Butylbenzene	SW846-3021B	4,300	ug/kg	06/18/99
1,4-Dichlorobenzene	SW846-8021B	<500	ug/kg	06/18/99
1,2-Dichlorobenzene	SW846-80219	<500	ug/kg	06/18/99
n-Butylbenzere	SW846-80213	<500	ug/kg	36/18/99
1,2-Dibromo-3-chloropropane	SW846-8021B	<500	ug/kg	06/18/99
1,2,4-Trichlorobenzene	SW846-8021B	<500	ug/kg	06/18/99
Hexachlorobutadiene	SW846-3021B	<500	ug/kg	06/18/99
Naphthalene	SW845-30213	<500	ug/kg	05/18/99
1,2,3-Trichlorobenzene	SW846-8021B	<500	ug/kg	06/18/99
MTBE	SW845-3021B	<500	ug/kg	06/18/99
Non-Target Peaks		Positive		



Mail: 22 Hudson Falls Rd., So. Glens Falls, NY 12803 Delivery: 211 Ferry Blvd., So. Glens Falls, NY 12803 Phone: 518/747-1060 Fax: 513/747-1062

CLIENT: HRP Associates, Inc. SAMPLE DESCRIPTION: GF-2

LOCATION: 32 Ridge St, Glens Falls, NY

H.E.S. #: 990618F03

DATE SAMPLED: 06/18/99

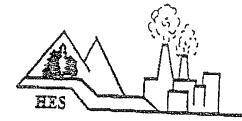
DATE SAMPLE RECD: 06/18/99

MATRIX: Water

TYPE SAMPLE: Not Specified

SAMPLER: CB/HRP

<u>PARAMETER</u> Dichlorodifluoromethane	<u>METHOD</u> SW846-8021B	RESULT	<u>UNITS</u> ug/l	TEST DATE 06/18/99
Chloromethane	SW846-3021B	<50	ug/l	06/18/99
Vinyl chloride	SW846-30213	<50	ug/I	06/18/99
Chloroethane	SW846-80213	<50	ug/l	06/18/99
Bromomethane	SW846-80213	<50	ug/1	06/18/99
Trichlorofluoromethane	SW846-80213	<50	ug/l	06/18/99
1,1-Dichloroethene	SW846-8021B	<50	ug/l	06/18/99
Methylene chloride	SW845-3021B	<50	ug/1	06/18/99
trans-1,2-Dichlorcethene	\$W846-3021B	<50	ug/1	06/18/99
1,1-Dichloroethane	SW846-8021B	<50	ug/l	06/18/99
2,2-Dichloropropane	SW846-8021B	<50	ug/l	06/18/99
cis-1,2-Dichloroethene	SW846-8021B	<50	ug/l	06/18/99
Bromochloromethane	SW846-80213	<50	ug/l	06/18/99
Chloroform	SW846-8021B	<50	ug/l	06/18/99
1,1,1-Trichloroethane	SW846-80219	<50	ug/1	06/18/99
1,1-Dichloropropens	SW846-30213	<50 ·	ug/l	06/18/99
Carbon Tetrachloride	SW846-3021B	<50	ug/1	06/18/99
Benzene	5W846-30213	<50	ug/1	06/13/99
1,2-Dichloroethane	SW846-30213	<50	ug/l	06/18/99
Trichlorcethene	SW846-30219	<50	ug/I	06/18/99
1,2-Dichloropropane	SW846-30213	<50	ug/l	06/18/99
Dibromomethane	SW846-80213	<50	·ug/1	06/18/99
Bromodichloromethane	SW846-8021B	<50	ug/l	06/18/99
cis-1,3-Dichloropropene	SW846-8021B	<\$0	<i>ug/</i> 1	06/18/99
Toluene	SW846-80219	<50	nā/J	06/18/99
trans-1,3-Dichloropropene	SW846-80213	<50	ug/1	06/18/99
1,1,2-Trichloroethane	SW846-80213	<50	ug/l	06/18/99
Tetrachlorcethene	SW846-80213	<50	ug/l	06/13/99
1,3-Dichloropropane	SW846-80213	<50	ug/l	06/18/99
Dibromochloromethane	SW846-8021B	<50	ug/I	06/18/99
1,2-Dibromoethana	SW846-80213	<50	ug/l	06/18/99
Chlorobenzene	SW846-30213	<50	na\I	06/18/99
1,1,1,2-Tetrachloroethane	SW846-80213	<50	ug/I	06/18/99
Ethylbenzene	SW846-90218	< \$ 0	ug/l	06/18/99
m-Xylene/p-Xylene	SW846-8021B	<50	ug/l	06/18/99
o-Xylene	SW846-3021B	<50	ug/l	06/18/99
Styrene	SW846-30213	<50	<i>ug/</i> 1	08/18/99
Bromoform	SW845-80213	<b>∠</b> 50		06/18/99
Isopropylbenzene	SW846-20113	<50.	ug/l	06/18/99



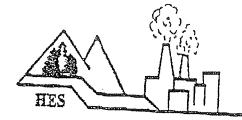
Mail: 22 Hudson Falls Rd., So. Glens Falls, NY 12803 Delivery: 211 Ferry Blvd., So. Glens Falls, NY 12803 Phone: 518/747-1060 Fax: 518/747-1062

CLIENT: HRP Associates, Inc.

SAMPLE DESCRIPTION: GF-2

H.E.S. #: 990618F03 (Continued)

			•	
PARAMETER	METHOD	RESULT	UNITS	TEST DATE
Bromobenzene	SW846-8021B	<50	ug/l	06/18/99
1,1,2,2-Tetrachloroethane	SW846-8021B	<50	ug/1	06/18/99
1,2,3-Trichloropropane	SW846-80213	<50	ug/l	06/18/99
n-Propylbenzene	SW846-8021B	<50	ug/1	06/18/99
2-Chlorotoluene	SW846-80213	<50	ug/l	06/18/99
4-Chlorotoluene	SW846-8021B	<50	ug/l	06/18/99
1,1,5-Trimethylbenzene	SW846-8021B	<50	ug/1	06/18/99
4-Isopropyltoluene	SW846-3021B	<50	ug/l	06/18/99
1,2,4-Trimethylbenzene	SW846-8021B	<50	ug/l	06/18/99
sec-Butylbenzene	SW846-80215	<50	ug/l	06/18/99
1,3-Dichlorobenzene	SW846-8021B	<50	ug/l	06/18/99
tert-Butylbenzene	SW846-80213	<50	ug/l	06/18/99
1,4-Dichlorobenzene	SW846-8021B	<50	ug/l	06/18/99
1,2-Dichlorobenzene	SW845-8021B	<50	ug/l	76/18/99
n-Bucylbenzene	SW846-90215	<50	ug/l	06/18/99
1,2-Dibromo-3-chloropropane	5W846-8021B	<50	ug/l	06/18/99
1,2,4-Trichlorobenzene	SW846-80213	<50	ug/1	06/18/99
Hexachlorobutadiene	SW846-8021B	<50	ug/l	06/18/99
Naphthalene	SW846-8021B	<50	ug/1	06/18/99
1,2,3-Trichlorobenzene	SW846-30213	<50	ug/l	06/18/99
MTBE	SW846-8021B	1,096	ug/l	06/18/99
Non-Target Peaks		Positive		



Mail: 22 Hudson Falls Rd., So. Glens Falls, NY 12803 Delivery: 211 Ferry Blvd., So. Glens Falls, NY 12803 Phone: 518/747-1060 Fax: 518/747-1062

CLIENT: HRP Associates, Inc.

SAMPLE DESCRIPTION: GF-5

LOCATION: 32 Ridge St, Glens Falls, NY

H.E.S. #: 990618F04

DATE SAMPLED: 06/18/99

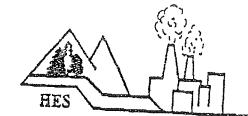
DATE SAMPLE RECD: 06/18/99

MATRIX: Water

TYPE SAMPLE: Not Specified

SAMPLER: CB/HRP

PARAMETER Dichlorodifluoromethane	<u>METHOD</u> SW845-8021B	RESULT <5.0	<u>INITS</u> ug/l	TEST DATE 06/18/99
Chloromethane	SW846-80213	<5.0	ug/l	06/18/99
Vinyl chloride	SW846-80213	<5.0	ug/l	06/18/99
Chloroethane	SW846-8021B	<5.0	ug/l	06/18/99
Bromomethane	SW846-8021B	<5.0	ug/1	06/18/99
Trichlorofluoromethane	SW846-8021B	<5.0	ug/l	06/18/99
1,1-Dichloroethene	SW845-8021B	<5.0	ug/l	06/18/99
Methylene chloride	SW846-8021B	<5.0	ug/l	06/18/99
trans-1,2-Dichloroethene	3W846-80213	<5.0	ug/l	06/13/99
1,1-Dichloroethane	SW846-8021B	<5.0	ug/l	08/13/99
2,2-Dichloropropane	SW846-80213	<5.0 °	ug/l	06/18/99
cis-1,2-Dichloroethene	SW846-8021B	<5.0	ug/l	06/18/99
Bromochloromethane	SW846-8021B	<5.0	ug/l	06/18/99
Chloroform	SW846-8021B	<5.0	ug/l	06/18/99
1,1,1-Trichlorcethane	SW846-8021B	<5.0	ug/l	06/18/99
1,1-Dichloropropene	SW846-8021B	<5.3	ug/l	06/18/99
Carbon Tetrachioride	SW846-90213	<5.0	ug/1	06/18/99
Benzene	SW846-30213	<5.0	ug/l	06/18/99
1,2-Dichloroethane	SW846-80218	<5.0	ug/l	06/18/99
Trichloroethene	SW846-80213	<5.0	na\j	06/18/99
1,2-Dichloropropane	SW846-8021B	<5.0	ug/l	06/18/99
Dibromomethane	SW846-8021B	<5.0	ug/l	06/18/99
Bromodichloromethane	SW846-8021B	<5.0	ug/1	06/18/99
cis-1,3-Dichloropropene	SW846-8021B	<5.0	ug/1	06/13/99
Toluene	SW846-30213	<5.0	ug/l	06/18/99
trans-1,3-Dichloropropene	SW846-80213	<5.0	ug/1	06/18/99
1,1,2-Trichloroethane	SW846-8021B	<5.0	ug/l	06/18/99
Tetrachloroethene	\$W846-80213	<5.0	ug/l	06/18/99
1,3-Dichloropropane	SW846-80213	<5.0	ug/l	06/18/99
Dibromochloromethane	SW846-30213	<5.0	ug/l	06/18/99
1,2-Dibromosthane	SW846-8021B	<5.0	ug/l	06/18/99
Chlorobenzene	SW846-80213	<5.0	ug/l	06/18/99
1,1,1,2-Tetrachloroethane	SW846-80213	<5.0	ug/l	06/18/99
Ethylbenzene	SW846-30213	<5.0	ug/I	06/18/99
m-Xylene/p-Xy <u>lene</u> .	SW846-8021B	33	ug/1	06/18/99
o-Xylene	SW846-80219	5.7	ug/l	06/18/99
Styrene	SW845-80213	<5.0	ug/l	06/18/39
Bromoform	SW846_80213	< 5 Q	<u>-::er/:</u> -	06/18/99
Isopropylbenzene	SW845-80213	20	ug/1	06/13/99



Mail: 22 Hudson Falla Rd., So. Glens Falls, NY 12803 Delivery: 211 Ferry Blvd., So. Glens Falls, NY 12803 Phone: 518/747-1060 Fax: 518/747-1062

CLIENT: HRP Associates, Inc.

SAMPLE DESCRIPTION: GF-5

H.E.S. #: 990613F04 (Continued)

PARAMETER	METHOD	RESULT	UNITS	TEST DATE
Bromobenzene	SW846-8021B	<5.0	ug/l	06/18/99
1,1,2,2-Tetrachloroethane	SW846-8021B	<5.0	ug/L	06/18/99
1,2,3-Trichloropropane	SW845-8021B	<5.0	ug/l	06/18/99
n-Propylbenzene	SW846-3021B	56	ug/l	06/18/99
2-Chlorotoluene	SW846-8021B	<5,0	ug/1	06/18/99
4-Chlorotoluene	SW846-3021B	<5.0	ug/l	05/18/99
1,3,5-Trimethylbenzene	SW846-8021B	270	ug/l	06/13/99
4-Tsopropyltoluene	SW846-8021B	54	ug/l	06/18/99
1,2,4-Trimethylbenzene	SW846-8021B	599	ug/l	06/18/99
sec-Butylbenzene	SW846-8021B	13	ug/l	06/18/99
1,3-Dichloropenzene	3W846-30213	<5.0	ug/1	06/13/99
tert-Butylbenzene	SW846-80213	74	ug/1	06/13/99
1,4-Dichlorobenzene	SW846-8021B	<5.)	ug/l	06/18/99
1,2-Dichlorobenzene	SW846-8021B	<5.0	ug/l	06/18/99
n-Butylbenzene	SW846-8021B	21	ug/l	06/18/99
1,2-Dibromo-3-chloropropane	SW846-8021B	<5.0	ug/l	06/18/99
1,2,4-Trichlorobenzene	SW846-8021B	<5.0	ug/l	06/13/99
Hexachlorobutadiene	SW846-8021B	<5.0	ug/l	06/18/99
Naphthalene	SW846-80213	<5.0	ug/l	06/18/99
1.2,3-Trichlorobenzene	SW846-8021B	<5.0	ug/l	06/18/99
MTBE	SW846-8021B	146	ug/l	06/18/99
Non-Target Peaks		Positive		
Lead	SW846-7421	2.1	mg/l	06/22/99

Approval By: Millough

All samples were analyzed within EDA prescribed holding times.

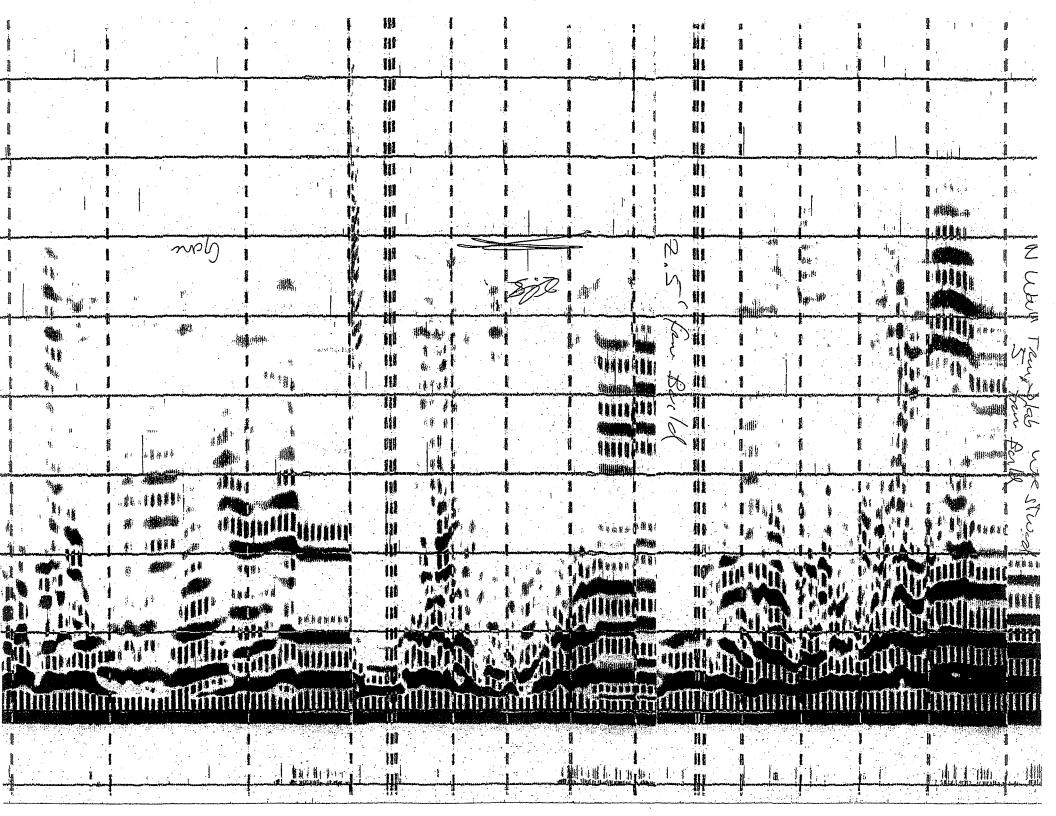
N.Y.S.D.O.H. Lab ID #11149

APPENDIX B GPR PRINTOUTS/FIELD NOTES

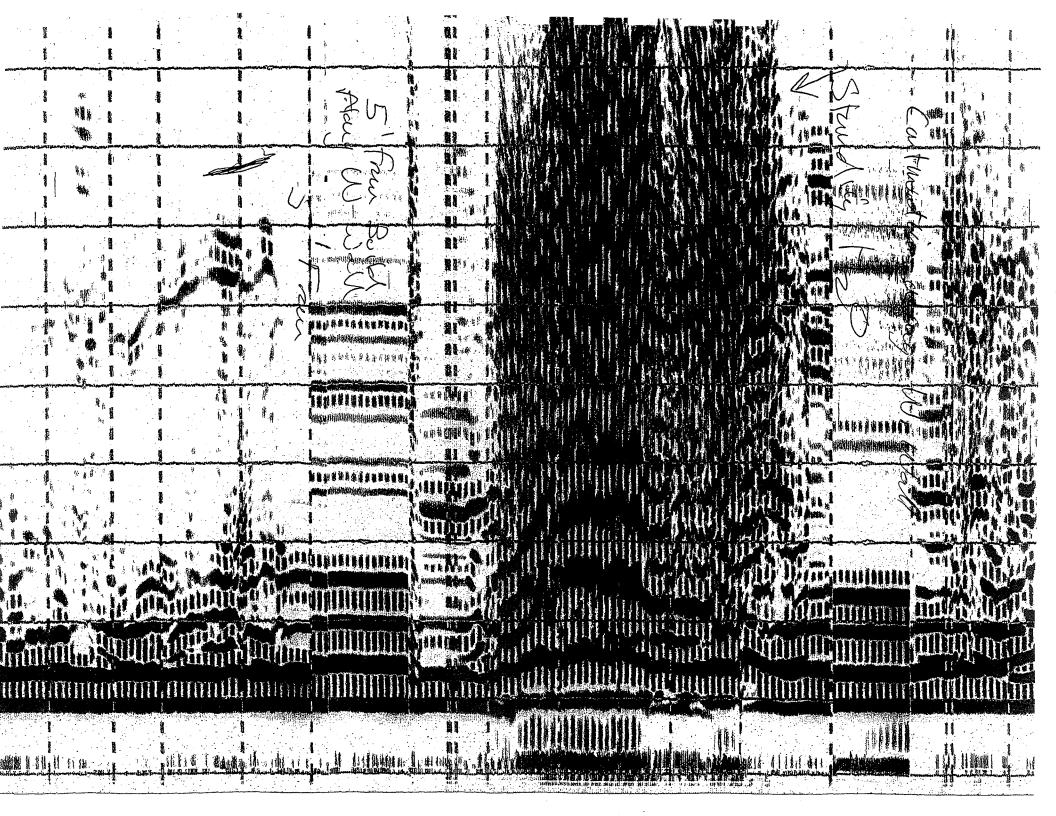
HRP

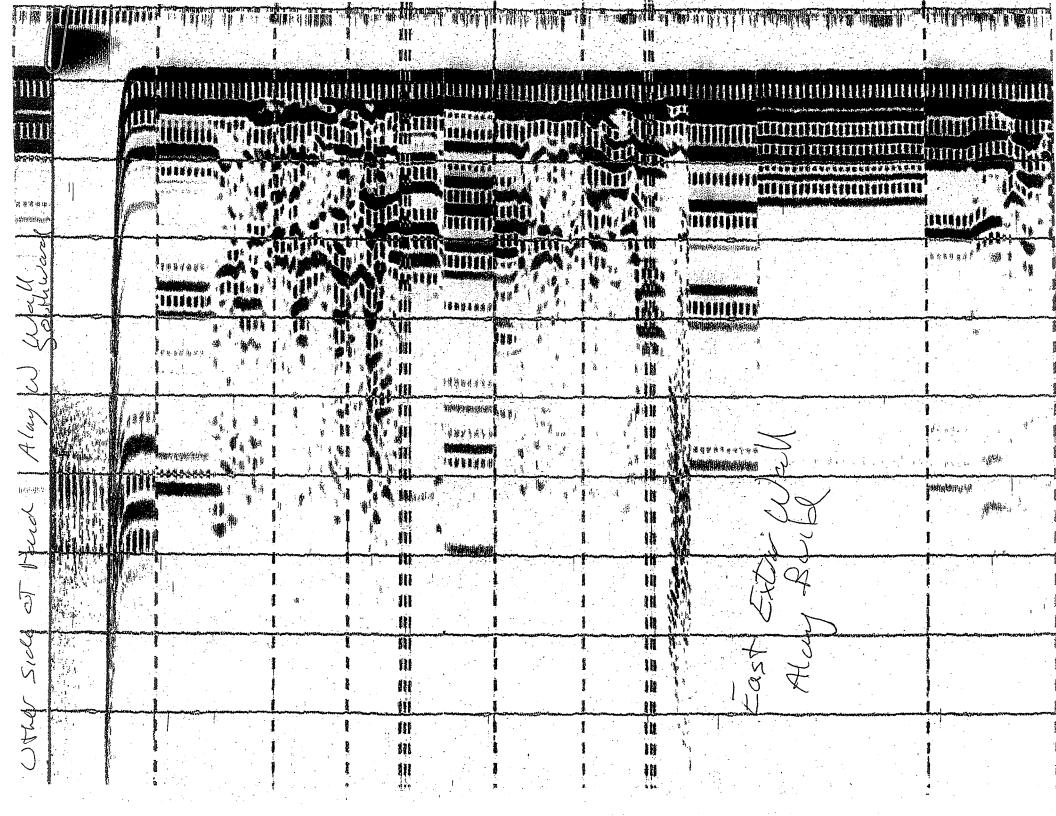
Associates, Inc.

STOCK Along Wall N-site -34 Ridge Str Glens Falls Not Worther aut of Comm Tex ? Alan Wall Consider RK

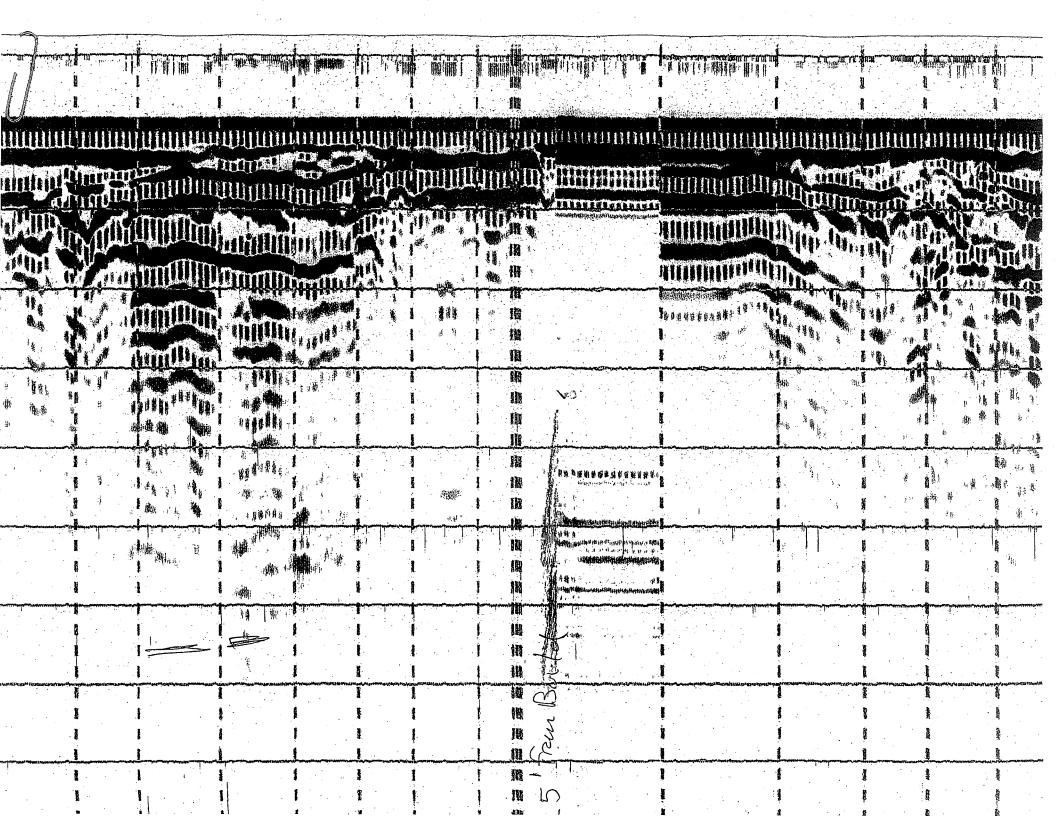


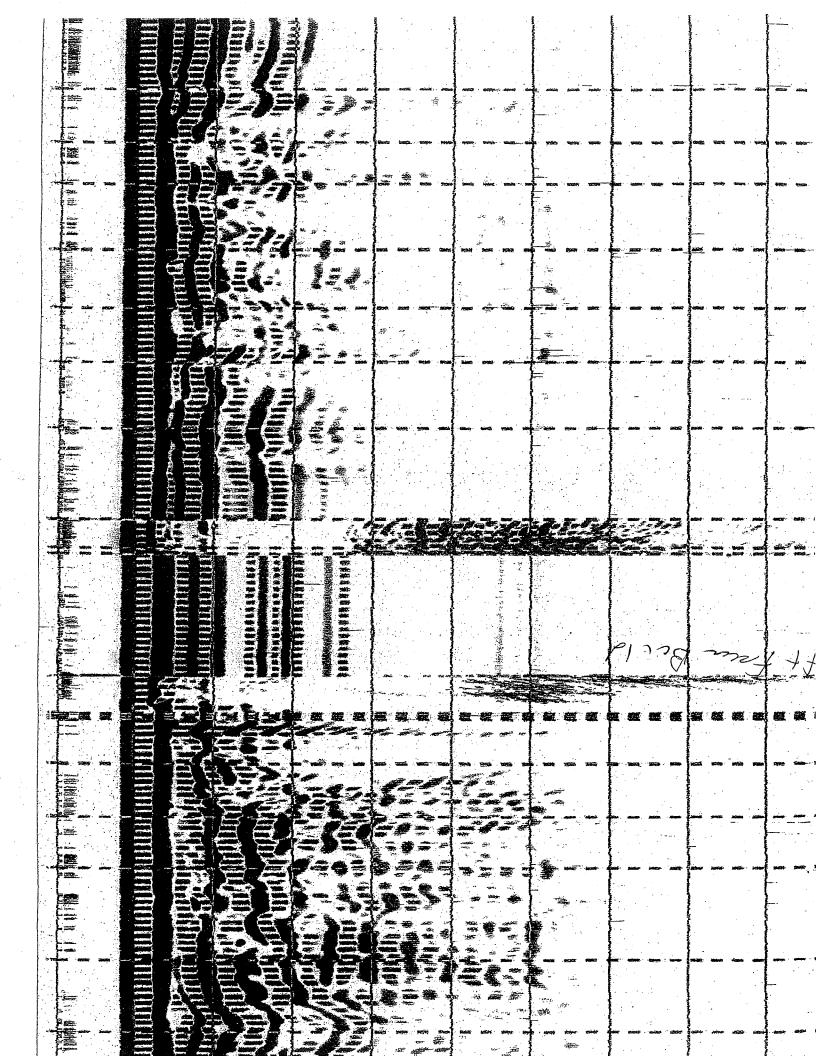
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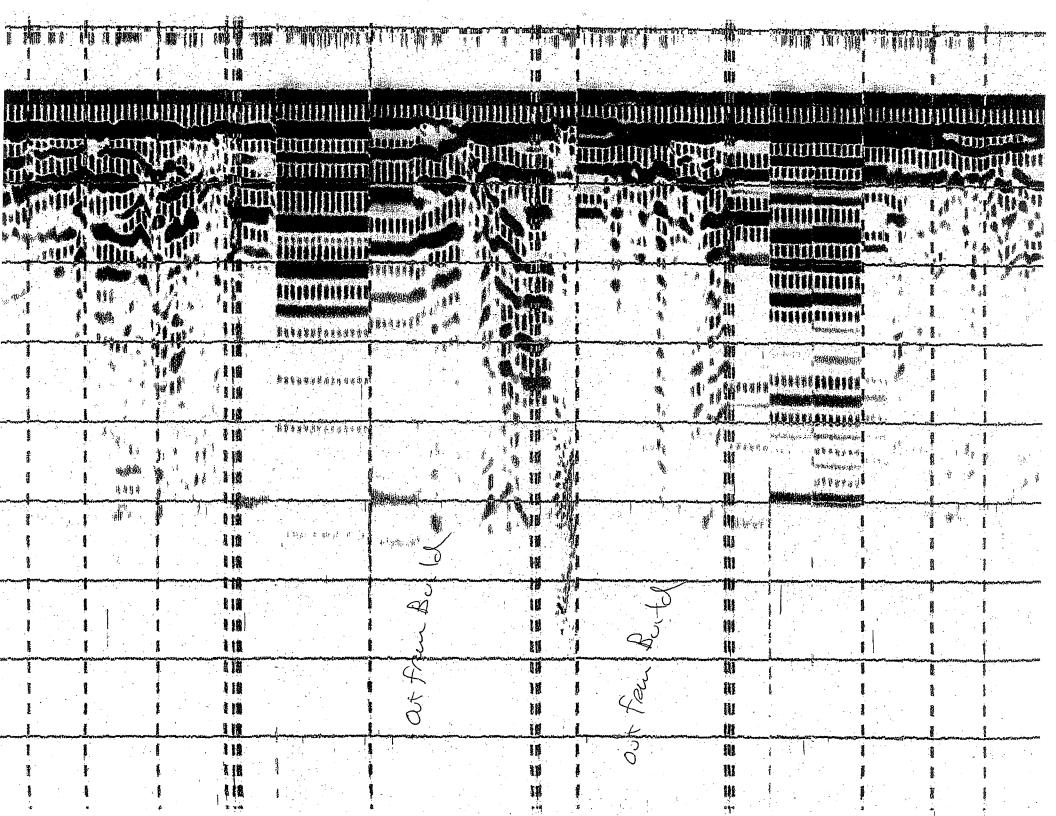


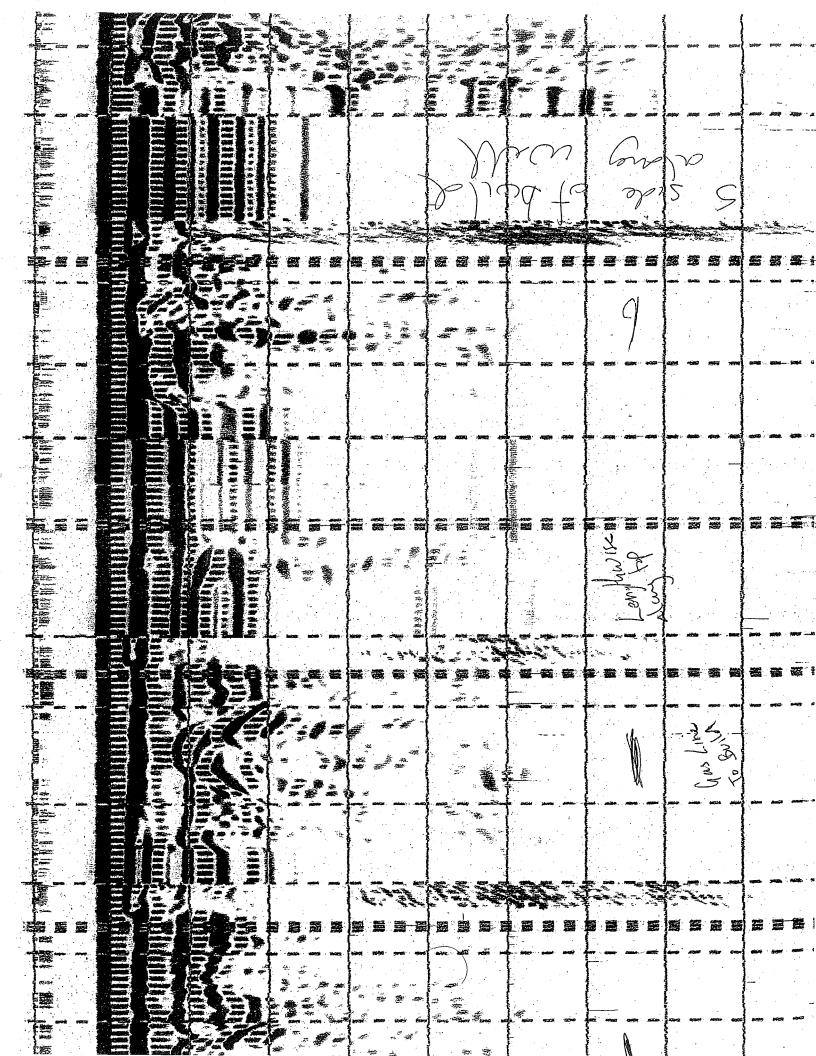


Cong Build 99214

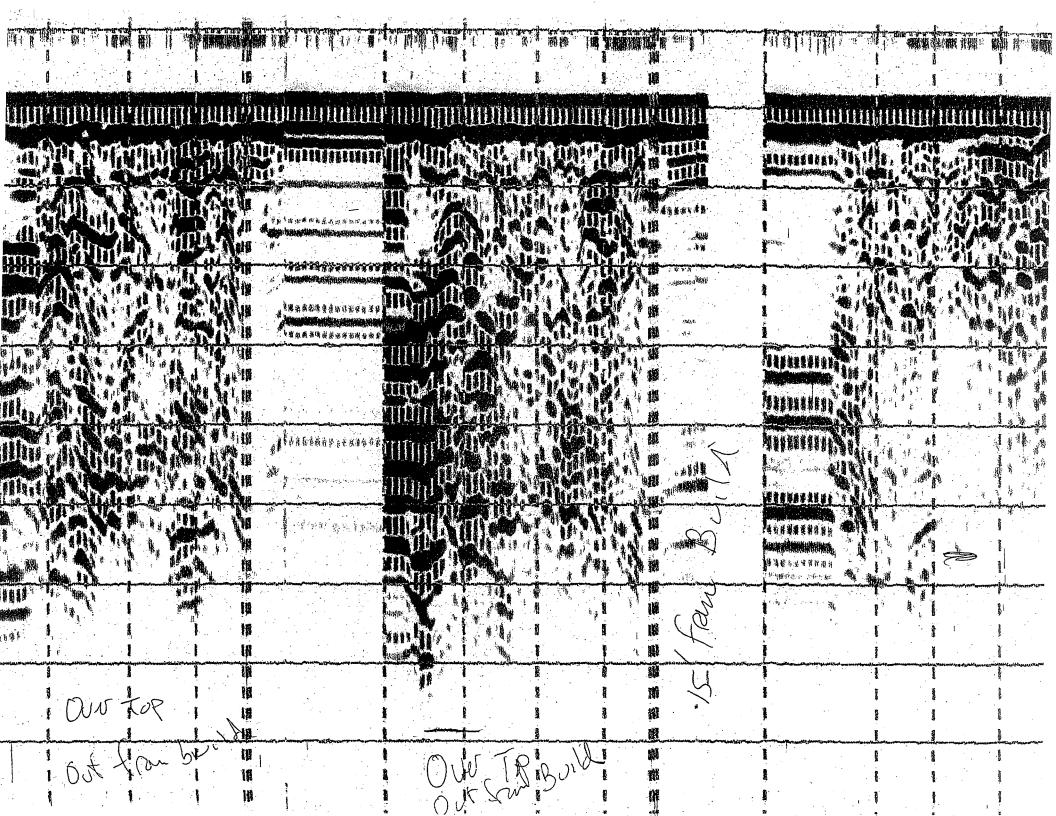


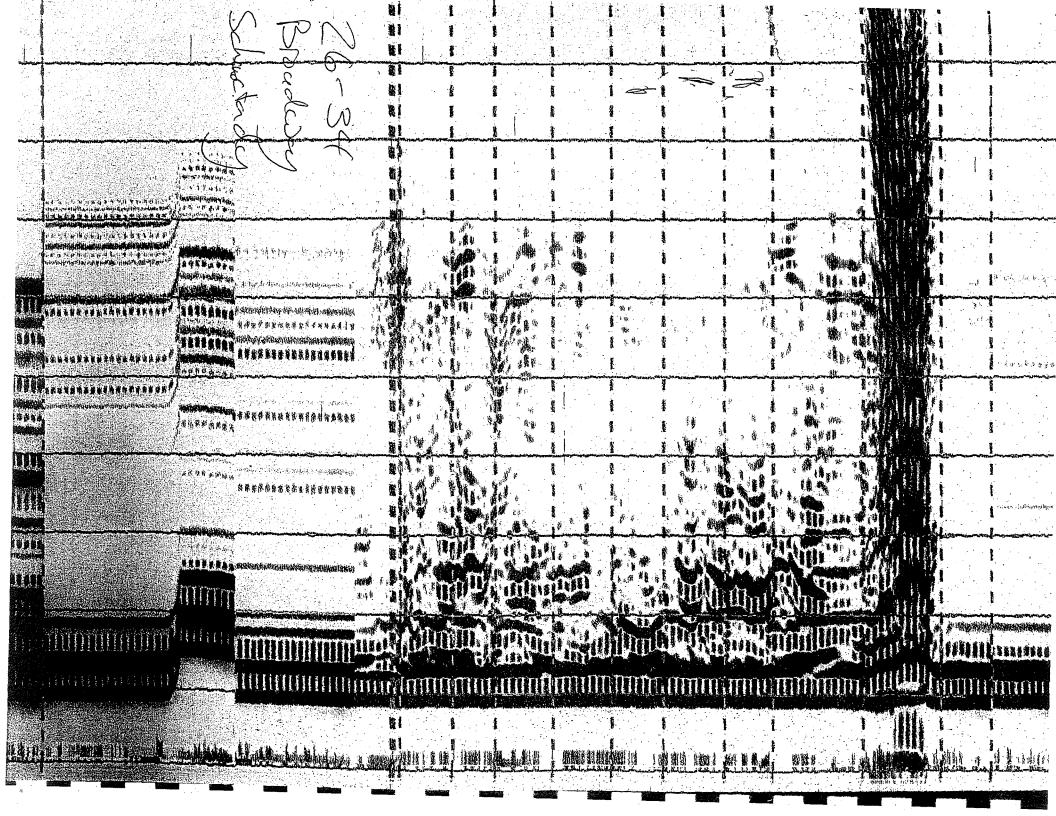






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## APPENDIX C TANK GRAVE ANALYTICAL RESULTS

#### INCORPORATED

2512 W. Cary Street • Richmond, Virginia • 23220-5117 804-353-6778 • 800-785-LABS (5227) • (FAX) 804-353-6928

#### Excellence in Service and Technology AIHA 8936, ELLAP 8936, NVLAP 1150, NYELAP 11413, CAELAP 2078 LABORATORY ANALYSIS REPORT

POLYNUCLEAR AROMATIC HYDROCARBONS ANALYSIS BY GC/MS PAHs by EPA SW-846 8270C

ACCOUNT: 2110-00-1

DATE COLLECTED: 10/24/00

**CLIENT: HRP Associates** 

DATE RECEIVED: 10/26/00

ADDRESS: 105 Lakehill Road

DATE ANALYZED: 10/27/00

Burnt Hills, NY 12027

DATE REPORTED: 10/31/00

PO NO.:

PROJECT NAME:

PROJECT NO.: GLE 2000.P2 (T-3)

JOB LOCATION: 42 Ridge St. Glenn Falls, NY

1786568 UST-B1 1786569 UST-B2 1786572 UST-S

SLI Sample No.: Client Sample No.: Sample Matrix:

Soil

Soil

Soil

	Concentration	Concentration	Concentration	**PQL
Compound	µg/Kg	μg/Kg	μg/Kg	μg/Kg
Acenaphthene	<400	<400	<400	400
Acenaphthylene	<400	<400	<400	400
Anthracene	<400	<400	<400	400
Benzo(a)anthracene	<400	<400	<400	400
Benzo(a)pyrene	<400	<400	<400	400
Benzo(b)fluoranthene	<400	<400	<400	400
Benzo(k)fluoranthene	<400	<400	<400	400
Benzo(g,h,i)perylene	<400	<400	<400	400
Chrysene	<400	<400	<400	400
Dibenzo(a,h)anthracene	<400	<400	<400	400
Fluoranthene	<400	<400	<400	400
Fluorene	<400	<400	<400	400
Indeno(1,2,3-cd)pyrene	<400	<400	<400	400
Naphthalene	<400	<400	<400	400
Phenanthrene	<400	<400	<400	400
Pyrene	<400	<400	<400	400

Analyst: CHRIS B. MCFARLANE

Reviewed By: Homiyar N. Choksi

\*\*PQL: Practical Quantitation Limit is defined as the minimum reporting limit for the sample, as determined by instrument sensitivity,

#### INCORPORATED

2512 W. Cary Street • Richmond, Virginia • 23220-5117 804-353-6778 • 800-785-LABS (5227) • (FAX) 804-353-6928

## Excellence in Service and Technology AIHA 8936, ELLAP 8936, NVLAP 1150, NYELAP 11413, CAELAP 2078 LABORATORY ANALYSIS REPORT

POLYNUCLEAR AROMATIC HYDROCARBONS ANALYSIS BY GC/MS PAHs by EPA SW-846 8270C

ACCOUNT: 2110-00-1

**CLIENT:** HRP Associates

ADDRESS: 105 Lakehill Road

Burnt Hills, NY 12027

PO NO.:

PROJECT NAME:

PROJECT NO.: GLE 2000.P2 (T-3)

JOB LOCATION: 42 Ridge St. Glenn Falls, NY

SLI Sample No.:

1786570 UST-N 1786573

Client Sample No.: Sample Matrix:

Soil

UST-W Soil

	Concentration	Concentration	**PQL
Compound	μg/Kg	μg/Kg	μg/Kg
Acenaphthene	< 2000	< 2000	2000
Acenaphthylene	< 2000	< 2000	2000
Anthracene	< 2000	< 2000	2000
Benzo(a)anthracene	390 J	1000 J	2000
Benzo(a)pyrene	500 J	1600 J	2000
Benzo(b)fluoranthene	< 2000	2000	2000
Benzo(k)fluoranthene	< 2000	< 2000	2000
Benzo(g,h,i)perylene	470 J	1100 J	2000
Chrysene	< 2000	< 2000	2000
Dibenzo(a,h)anthracene	< 2000	< 2000	2000
Fluoranthene	640 J	. 3500	2000
Fluorene	< 2000	< 2000	2000
Indeno(1,2,3-cd)pyrene	400 J	970 J	2000
Naphthalene	< 2000	< 2000	2000
Phenanthrene	400 J	2900	2000
Pyrene	520 J	2500	2000

Analyst: CHRIS B. MCFARLANE

Reviewed By: Homiyar N. Choksi

Maksi

DATE COLLECTED: 10/24/00

DATE RECEIVED: 10/26/00

DATE ANALYZED: 10/27/00

DATE REPORTED: 10/31/00

\*\*PQL: Practical Quantitation Limit is defined as the minimum reporting limit for the sample, as determined by instrument sensitivity,

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#### Excellence in Service and Technology AIHA 8936, ELLAP 8936, NVLAP 1150, NYELAP 11413, CAELAP 2078 LABORATORY ANALYSIS REPORT

POLYNUCLEAR AROMATIC HYDROCARBONS ANALYSIS BY GC/MS PAHs by EPA SW-846 8270C

ACCOUNT: 2110-00-1

CLIENT: HRP Associates

ADDRESS: 105 Lakehill Road

Burnt Hills, NY 12027

PO NO.:

PROJECT NAME:

PROJECT NO.: GLE 2000.P2 (T-3)

JOB LOCATION: 42 Ridge St. Glenn Falls, NY

SLI Sample No.:

1786571

Client Sample No.:

UST-E

Sample Matrix:

Soil

	Concentration	**PQL
Compound	μg/Kg	µg/Kg
Acenaphthene	< 10000	< 10000
Acenaphthylene	< 10000	< 10000
Anthracene	< 10000	< 10000
Benzo(a)anthracene	< 10000	< 10000
Benzo(a)pyrene	< 10000	< 10000
Benzo(b)fluoranthene	1000 J	< 10000
Benzo(k)fluoranthene	< 10000	< 10000
Benzo(g,h,i)perylene	< 10000	< 10000
Chrysene	< 10000	< 10000
Dibenzo(a,h)anthracene	< 10000	< 10000
Fluoranthene	1100 J	< 10000
Fluorene	< 10000	< 10000
Indeno(1,2,3-cd)pyrene	< 10000	< 10000
Naphthalene	< 10000	< 10000
Phenanthrene	< 10000	< 10000
Pyrene	< 10000	< 10000

Analyst: CHRIS B. MCFARLANE

DATE COLLECTED: 10/24/00

DATE RECEIVED: 10/26/00

DATE ANALYZED: 10/27/00

DATE REPORTED: 10/31/00

Reviewed By: Homiyar N. Choksi

\*\*PQL: Practical Quantitation Limit is defined as the minimum reporting limit for the sample, as determined by instrument sensitivity,

dilution factor and methods used to extract the sample to isolate target compounds

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## Excellence in Service and Technology AIHA 8936, ELLAP 8936, NVLAP 1150, NYELAP 11413, CAELAP 2078, NC 593, SC 93003 LABORATORY ANALYSIS REPORT

VOLATILE ORGANICS ANALYSIS EPA SW-846 Method 8260B

ACCOUNT:

2110-00-1

Date Collected:

10/24/00

CLIENT:

HRP Associates

Date Received:

10/26/00

ADDRESS:

105 Lakehill Road

Burnt Hills NY 12027

Date Reported:

11/1/00

PO NO.:

PROJECT NAME:

GLE 2000.P2 (T-3)

PROJECT NO.: JOB LOCATION:

42 Ridge St. Glenns Falls, NY

SLI Sample No.:

1786568

1786569

1786570

1786571

Client Sample No.:

1

2 Solid 3 Solid

Solid

Sample Type: Sample Analysis Date: Solid 10/27/00

10/27/00 10/27/00

10/27/00

Compound	Concentration (µg/kg)	Concentration (µg/kg)	Concentration (µg/kg)	Concentration (µg/kg)	PQL* (µg/kg)
Compania	(149/119)	(Haus)	(pg/kg)	(μg/κg)	(pg/kg)
Benzene	BDL	BDL	BDL	BDL	1.0
n-Butylbenzene	BDL	BDL	BDL	BDL	1.0
sec-Butylbenzene	BDL	BDL	BDL	BDL	1.0
tert-Butylbenzene	BDL	BDL	BDL	BDL	1.0
Ethylbenzene	BDL	BDL	BDL	BDL	1.0
Isopropylbenzene	BDL	BDL	BDL	BDL	1.0
p-Isopropyltoluene	BDL	BDL	BDL	BDL	1.0
Naphthalene	BDL	BDL	BDL	BDL	1.0
n-Propylbenzene	BDL	BDL	BDL	BDL	1.0
Toluene	5.6	BDL	3.1	BDL	1.0
1,2,4-Trimethylbenzene	BDL	BDL	BDL	BDL	1.0
1,3,5-Trimethylbenzene	BDL	BDL	BDL	BDL	1.0
m-,p-Xylene	BDL	BDL	BDL	BDL	4.0
o-Xylene	BDL	BDL	BDL.	BDL	2.0

Surrogate Compounds for Quality Control, Expressed as Percent Recovery

carregate compounds for quanty con	a on marpi occora ac . or o			
Dibromofluoromethane	96 %	99 %	94 %	92 %
1,2-Dichloroethane d-4	79 %	86 %	74 %	70 %
Toluene d-8	102 %	103 %	105 %	107 %
4-Bromofluorobenzene	102 %	103 %	104 %	105 %

Analyst: MELINDA B. LEWIS

Reviewed By HOMIYAR N. CHOKSI

All testing is done in strict accordance with Schneider Laboratories, Inc. protocol. The PQL (Practical Quantitation Limit) is defined as the minimum reporting limit as determined by instrument sensitivity, dilution factor, and method.

BDL (Below Detection Limit) refers to analysis results less than the PQL indicated.

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#### Excellence in Service and Technology AIHA 8936, ELLAP 8936, NVLAP 1150, NYELAP 11413, CAELAP 2078, NC 593, SC 93003 LABORATORY ANALYSIS REPORT

**VOLATILE ORGANICS ANALYSIS** EPA SW-846 Method 8260B

ACCOUNT:

2110-00-1

Date Collected:

10/24/00

CLIENT:

HRP Associates

Date Received:

10/26/00

ADDRESS:

105 Lakehill Road

Burnt Hills NY 12027

Date Reported:

11/1/00

PO NO.:

PROJECT NAME:

PROJECT NO .:

GLE 2000.P2 (T-3)

JOB LOCATION:

42 Ridge St. Glenns Falls, NY

SLI Sample No.:

1786572

1786573

Client Sample No.:

5 Solid

6 Solid

Sample Type: Sample Analysis Date:

10/27/00

10/27/00

Compound	Concentration (µg/kg)	Concentration (µg/kg)	PQL* (µg/kg)
Benzene	BDL	BDL	1.0
n-Butylbenzene	BDL	BDL	1.0
sec-Butylbenzene	BDL	BDL	1.0
tert-Butylbenzene	BDL	BDL	1.0
Ethylbenzene	BDL	BDL	1.0
Isopropylbenzene	BDL	BDL	1.0
p-Isopropyltoluene	BDL -	BDL	1.0
Naphthalene	BDL	BDL	1.0
n-Propylbenzene	BDL	BDL	1.0
Toluene	2.0	BDL	1.0
1,2,4-Trimethylbenzene	BDL	BDL	1.0
1,3,5-Trimethylbenzene	BDL	BDL	1.0
m-,p-Xylene	BDL	BDL	4.0
o-Xylene	BDL	BDL	2.0

Surrogate Compounds for Quality Control, Expressed as Percent Recovery

Dibromofluoromethane	93 %	98 %
1,2-Dichloroethane d-4	73 %	83 %
Toluene d-8	105 %	106 %
4-Bromofluorobenzene	103 %	105 %

Analyst: MELINDA B. LEWIS

Reviewed By HOMIYAR N. CHOKSI

All testing is done in strict accordance with Schneider Laboratories, Inc. protocol. The PQL (Practical Quantitation Limit) is defined as the minimum reporting limit as determined by instrument sensitivity, dilution factor, and method.

BDL (Below Detection Limit) refers to analysis results less than the PQL indicated.

HRP Associates, Inc. 105 Lake Hill Road

## HRP

Sheet / of 2

Job Number 6/e 2000. 7 (T-3)

(518) 399-117 Fax: (518) 39			CHA	IN OF	CUSTO	YQC	Project Manager JPS				9)	
Place and Address		Am					Project I	Manage	17k2		01	
i		*/Z##*/9/				Sampler's Na	ame (Signat	ure) 🛭	houly	C-Ku	the	
			5 Fa 11.	5 , N'	<u>Y</u>	Assistant (wit	ness) (Sign	ature)				
Sample Number	Sample Location	Total Volume	Preservative	Date	Time	Water	Sample Soil		Mosts		Rema	гks
1	UST-BI	-	(001	10/24	3:55	VValei	× ×	Air	Waste			
2	UST-BZ		Cool	10/24	4:00	1	×			<u> </u>		
3	U57 - N		cool	10/24	3:30		×					<del></del> :
Ч	UST-E		Cool	10/24	3:45		4					
5	UST-S		(00)	10/24	3:40		L					
Relinguished By (S			Fuld	Received By	<del></del>				Date	L	Time	
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Name and Add	ress of Lab	oratory S.	chneider	Lab. In	c. 25	12 West	CARBY :	<b>Ś</b> τ. ,	Richn	· · · J	VA. 2	3220
·			LABORA	TORY SAI	MPLE PR	EPARATIO	N REQUI	RED'				
	Regime		Filter			Adjust pH t	<u> </u>				Other D	<u> </u>
Priority 🗆 24 h	ours 4	8 hours 1	∃ 3 days □	5 days	LVOCOD	FOLUDED						,
	· · · · · · · · · · · · · · · · · · ·	Sa	imple Number		LISES K	EQUIRED			S	ample N	lumber	
Parameters	/	2 1	3	4	5	Parameters /		2	3.	4	5	
pН						EPA 1664					<del></del>	•
Ag						TPH					1	
As						TPH 8015 MO	D (Diesel)					
Ва		i i			· · · · · · · · · · · · · · · · · · ·	TPH 8015 MO				<del></del>		
Cd						Oil & Grease	_ \					
Cr	1					8021B (Haloge	enated)					
Hg .		· · · · · · · · · · · · · · · · · · ·				8021B (STAR		*	X	χ	X	X
pb Mass and	X	*	*	×	Х	8021B (comple		Ì	-/			
Se						8360B VOCS						
BRCRA metals					<del>,                                    </del>	524.2 VOCs						
Cu						8270C (STAR:	S)	X	X.	X	X	X
Ni						8100						
Zn										****		
rss												
TDS											·	
Phosphorous												
NO <sub>3</sub>												
Coliform												
Hardness												
Sulfate										سوويات اسمان اسمعامار		
PCBs				·								
Remarks	1									· · · · · · · · · · · · · · · · · · ·		

1Z F02 46X 22 1000 052 8

HRP Associates, Inc. 105 Lake Hill Road (518) 399-1174

## HRP

Sheet <u>62</u> of 2

(518) 399-117 Fax: (518) 39	9-2939		1	AIN OF	CUST	YDC		Project Manager 3RS				
Place and Addres	s of Collection	Whom!	Bilder		······································	7			7		1) 1 n	
47 Didee	St G	المدويون	-115 , 1	114		Sampler's N			art	you s	told.	1
Sample	Sample	Total	1	·	7	Assistant (wi						
Number	Location		Preservative	Date	Time	Water	Sample Soil	Type Air	Waste		Rema	rks
6	UST-W	602	Cool	10/24	3:50		×	<del>                                     </del>	- Waste			
						1		1	<del> </del>	<del> </del>		
								<del> </del>	<del>                                     </del>	<del> </del>		
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					<u> </u>				1	<del> </del>		
Relinquished By (S	ignature)CL	untal Be	th_	Received By	(Signature)	· I	L	L	Date		Time	
Relinquished By (S Re <del>riounced</del> By (Sig	nature)			Received By				******	Date Time			
Name and Add	ress of Lab	oratory 🎆	SCHNEIDE	R CAB.	INC.	2512 WE	ST CAR	157.	RICH	MOND	<del> </del>	23220
			LABORA	TORY SAI	MPLE PR	EPARATIO	N REQU	RED				
None   As	reguir	ed	Filter			Adjust pH t	to	Other 🗆				 
Priority 🗆 24 h	ours U 4	B nours [	3 days 🛛	5 days	VCCCD	COLUDED						
		Sa	ımple Number		LISESK	EQUIRED Sample Number					umber	
Parameters	6					Parame	eters	6			1	T
рН						EPA 1664		<u> </u>		<del></del>		
Ag						ТРН		<del></del>				
As						TPH 8015 MO	D (Diesel)					<u> </u>
Ва						TPH 8015 MO						<b></b>
Cd						Oil & Grease	= /1557			······································	<u> </u>	
Cr					***************************************	8021B (Haloge	enated)					
Hg						8021B (STAR:		*	_			
Pb (mass)	×					8021B (comple						
Se						8360B VOCS						
8RCRA metals						524.2 VOCs						
Cu						8270C (STAR	S)	×				
Ni						8100			-			
Zn												
TSS												
TDS				-								
Phosphorous												
NO <sub>3</sub>		<u> </u>										
Coliform												
Hardness												
Sulfate												
PCBs						······································						
Remarks	l	<u></u>				<del></del>						

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AIHA 8936, ELLAP 8936, NVLAP 1150, NYELAP 11413, CAELAP 2078, NC 593, SC 93003

#### LABORATORY ANALYSIS REPORT

Lead Analysis by EPA 3050B/7420 Method

DATE COLLECTED:

DATE RECEIVED:

DATE ANALYZED:

DATE REPORTED:

10/24/2000

10/26/2000

10/28/2000

10/30/2000

ACCOUNT #:

2110-00-2

CLIENT:

**HRP** Associates

ADDRESS:

105 Lakehill Road

Burnt Hills, NY 12027

PO NO .:

PROJECT NAME: 42 Ridge St. PROJECT NO:

GLE2000-P2(T-3)

JOB LOCATION: Glenn Falls NY SAMPLE TYPE: SOIL

SLI Sample No.	Client Sample No.	Sample Description	Sample Wt (mg)	Dilution Factor	Total Lead (μg)*	Lead Conc (% by wt)	Lead Conc PPM
1786650	1	UST-B1	1,698	1	< 20.0	< 0.001	< 10
1786651	2	UST-B2	1,779	. 1	43.7	0.002	20
1786652	3	UST-N	1,014	1	250.9	0.025	250
1786653	4	UST-E	1,317	1	250.9	0.019	190
1786654	5	UST-S	1,435	1	< 20.0	< 0.001	< 10
1786655	6	UST-W	1,125	1	779.0	0.069	690
	QC - 15626	10.0 ppm Calibration Std			1,016.4	101.6%	
	QC - 15626	200 µg spike			200.8	100.4%	
	QC - 15626	5.0 ppm Calibration Std			504.9	101.0%	
	QC - 15626	Blank			< 20.0		
	QC - 15626	NIST 2710 Standard			561.8	101.5%	

ANALYST: AMY J. COLOSIMO Total no. of pages in report =

REVIEWED BY

Minimum Reporting Limit: 20 µg Total Lead. EPA Recommendations for Pb-Contaminated Bare Soil: abatement, permanent barriers, and public notice for Pb conc >5000 ppm; barriers and interim controls to change use patterns for Pb conc 400-5000 ppm (areas with expected child contact) or for Pb conc 2000-5000 ppm (areas where child contact is infrequent). The EPA has not established specific soil clearance criteria for industrial lead paint removal projects; limits are typically established per project. \*For true values, assume two (2) significant figures.

HRP Asso	•	ο.		HI	₹P		Sheet _ / _ of _ 2					
105 Lake Hill (518) 399-117				بالدبناد بالد	· %&.		Job Nur	nber <u>(</u>	5/e20	200.	PL(T-	. 3)
Fax: (518) 39			CH/	AIN OF	CUSTO	YDC	1		er <u>JRS</u>			,
Place and Address		42200 AV	Mentes		<del></del>	Sampler's Na	me (Signat	ure) (	houly	R. Ru	//_	
42 Rids	e St.,	Glenn	s Fall	s, N'	4	Assistant (wit			70 00 3017			
Sample	Sample	Total	Preservative	7	Time		Sample				Remar	-140
Number	Location	· <del> </del>	<del> </del>		<u> </u>	Water	Soil	Air	Waste		Kelliai	KS
1 2	UST-B1	·   · · · · · · · · · · · · · · · · · ·	(001	10/24	3:55		ベ			<u></u>		-
	UST-BZ		Cool	10/24	4:00		×	ļ				
3	U57 - N		cost	10/24	3:30		*					
4	UST - E		Cool	10/24	3:45		~	· .	ļ <u>.</u>	·	<del></del>	
<u> </u>	UST-S	618 02	2001	10/24	3:40	<u> </u>	L			<u> </u>		
Relinquished By (S Relief By (Sig	ignature)	visla@E	Folk_	Received By			<del></del>		Date		Time	
Re <del>ligitations of the Religious Reli</del>	nature)	oroton, S	1	Received By		17 11	1.000	<u></u>	Date :	·	Time	27 7 ~
Name and Add	iess ui Lac	oratory 3	LABORA	TORY SAI	MPLE PR	EPARATIO	N REQUI	RED	Rich	nond	<u>VA. 2</u>	3220
None □ 🐼	Regions	1	Filter			Adjust pH t	<del></del>				Other 🗆	***************************************
Priority 🗆 24 h	ours 🗆 4	8 hours	□ 3 days □	] 5 days		<u> </u>			· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·		
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рН						EPA 1664						-
Ag						TPH				<del></del>	<u> </u>	-
As ·						TPH 8015 MO		·				-
Ba						TPH 8015 MO	D (Gas)					-
Cd					***************************************	Oil & Grease						
Cr				·		8021B (Haloge		*			文	
Pb Massanal	X	~	J		×	8021B (STAR			X	χ	<del>  ^</del>	<u> </u>
	_^`	*	<u> </u>	<u> </u>	<del></del>	8021B (comple	ete)				<u> </u>	
Se						8360B VOCS					<del> </del>	<u> </u>
8RCRA metals						524.2 VOCs		X		<u> </u>	×	<u> </u>
Cu						8270C (STAR	S)	<u> </u>	X		/	<del>  ^</del>
Ni Zn						8100						
TSS										····		-
TDS											<del>                                     </del>	
Phosphorous											<u> </u>	
NO <sub>3</sub>												
Coliform												
Hardness												
Sulfate			·									
PCBs												
Remarks		<u></u>			L	L		<u> </u>	<u> </u>	<u> </u>		
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Dha	2000	Hae	<u>v 1013</u>	zo lac	2103	ZOA W		1Z F02 4	6X 22 100	00 052 8		ANTENNA ANTENN

HRP Associates, Inc. 105 Lake Hill Road (518) 399-1174 Fax: (518) 399-2939

### HRP

## CHAIN OF CUSTODY

Sheet <u>62</u> of 2

Job Number <u>61e2000</u>. P2(T-3)

Project Manager <u>JRS</u>

me (Signature) Gurton Pills

			f				1	_					
Place and Address	of Collection	Masae	BL BOOD			Sampler's Na	ame (Signati	ле)	Cloud	ph 4	Poll		
42 Ridge				VY		Assistant (wi			0000	<del>) -                                   </del>	Z ( )		
Sample	Sample	Total	1	1	T:	Troolotant (Wi	Sample						
Number	Location		Preservative	Date	Time	Water	Soil	Air	Waste	1	Rem	arks	
6	UST-W	602	000	10/24	3:50		×						
							_		-				
			1.0									÷	
Relinquished By (S	ignature)CL	rotol Bo	bh_	Received By	(Signature)				Date		Time	•	
Renounced By (Sig	nature)	<del></del>	1	Received By	/ (Signature)				Date		Time		
Name and Add		oratory 🎉	SCHNEIDE	R CAB.	INC.	2512 WE	ST CARY	157.	, RICH	NOND	VA	23220	
			LABORA <sup>*</sup>	TORY SA	MPLE PR	EPARATIO	N REQUI	RED					
None □ As	require	el l	Filter □			Adjust pH	to				Other		
Priority 🛮 24 h	ours $^{\prime}$ $\square$ 48		□ 3 days □	5 days									
					LYSES F	EQUIRED							
Parameters		Sa	ample Number	•		T Parameters				ample N	mple Number		
	6				ļ			<u>(</u>			<u> </u>		
рН						EPA 1664							
Ag ·					<u></u>	TPH							
As						TPH 8015 MC	D (Diesel)						
Ва						TPH 8015 MC	D (Gas)		•				
Cd						Oil & Grease		<del></del>					
Cr						8021B (Halog	enated)	<del> </del>					
Hg						8021B (STAR	S)	メ	/				
Pb (mass)	Х					8021B (compl	ete)						
Se						8360B VOCS							
8RCRA metals						524.2 VOCs							
Cu						8270C (STAR	.S)	X					
Ni						8100					<u> </u>		
Zn													
TSS								·					
TDS													
Phosphorous													
NO <sub>3</sub>													
Coliform						<u> </u>							
Hardness											<u> </u>		
Sulfate													
PCBs													
Remarks													

APPENDIX D

CONCRETE/SOIL MANIFESTS

HRP

Associatés, Inc.



ESMI of NEW YORK

#### Environmental Soil Management of New York Profile Sheet

ESMI Customer: Albany Tank Services
Customer Address: P.O. Box 331 City: Ravena State: NY Zip: 12143
Contact: <u>Dale Hitchcock</u> Telephone: [1] 5187566527 Fax: [1] 5187566527
Site Contact: DALE HITCh(OCK Telephone/Cell:(518) 365-8868 Pager:( )  Loading Contractor(optional) — Phone:(518) 756-6527  FORMEN
A Site Name: AT1010 1 ICE 31 AUNGNT Property Owner Phone (370) 161-3867
X Site Address: 34 RIDGE ST City: GLEAUFALU State: NY Zip: 12801
History of Site Use: Residential A Commercial Dindustrial  If commercial or Industrial, please describe History of Site: GAS STATION
Event/process generating waste: Leaking UST
Waste Material Description: Soil/Media contaminated with: the below described material is (initial one)  NON-HAZARDOUS VIRGIN PETROLEUM CONTAMINATED SOIL (check below)  □#2, #4, or #6 Fuel Oil □Diesel AGasoline □ Motor oil □Hydraulic Oil □Mixed (gas/fuels) □Kerosene  NON-HAZARDOUS NON-VIRGIN PETROLEUM CONTAMINATED SOIL (check below)  □ Mixed Fuels □ Used Motor Oil □Waste Oil/UST □Metal Cutting/Cooling Oils □Hydraulic Oil
NON-HAZARDOUS COAL TAR/ PCB's CONTAMINATED SOIL (check below)  Coal Tar   PCB's <   ppm
Approximate Tonnage S Are there any known or suspected past releases of contaminants other than the above listed? NO YES If YES, Specify
Are there any known or suspected presence of Pesticides, Herbicides, PCB's, Lead or Arsenic? NOYES
I hereby certify, That I am a responsible official of the generator of the material being disposed of and, that the transport, treatment and recycling of the contaminated materials do not violate any laws or regulations of the state of origin and, that the information within is complete and accurate.  Signature:  Date: // 6 2000
Signature: Dale MMMUCR Date: 1/6/2000  Typed/Printed Name: DALE Hitchcock Company: AIBANY TANK Services
Check One: Owner Generator Contractor Consultant Other (explain)
Acceptance of all projects are predicated on the review of this form and the analytical results of the material to be received.

## TANK SERVICES, INC.

## **NON-HAZARDOUS WASTE MANIFEST**

P.O. Box 331 • Ravena, NY 12143 (518) 756-6527

JOB NUMBER PICH	K-UP NUMBER				
	GENERATOR				
Generator Name AMA+0'S Res Address SHAME SHAME  SHAME FAMS  Phone No. 5 / 3 - 3 9 9 1	Address			27 E8	
Description of Waste		Check	Containers No. Type	Total Quantity	Unit Wt/Vol
Waste Flammable Liquid N.O.S. (	) NA 1993 III		0011	31101115 131.9 C	
Transporter Name Albany Tank Services, Inc.  Address P.O. Box 331  Ravena, NY 12143  Phone No. 5 1 8 7 5 6 6  Driver Signature S	Vehicle L Vehicle In case o  N Shipment Date	icense No./S	state // // /, call 1-518-756 ermit# 4A - 330	6-6527	<u>`</u> ac`k
Site Name <u>ESM i OF New</u> Address <u>304 TowPath</u> Re	DESTINATION  York Phone No.	,	3-71 <i>4</i> 1	7550	7 0

## <u>ALBANY</u>

## **NON-HAZARDOUS WASTE MANIFEST**

TANK

SĘRVICES, INC.

P.O. Box 331 • Ravena, NY 12143 (518) 756-6527

JOB NUMBER	PICK-UP NUMBER					
	GENERA					
Generator Name AMATO Address 30 34 Ridge Clous Falls Phone No. 51 3 9	S RESTAURAGE AC		cation			
Description of	Waste		Check	Containers No. Type	Total Quantity	Unit Wt/Vol
Waste Flammable Liquid N.O.S. (	) UN 199	93 11			1 1 1 1	
Waste Combustible Liquid N.O.S. (	) NA 19	93 111				
Oil Soaked Dirt/Debris						
Gasoline Soaked Dirt/Debris			San San Land Maria	2011 L	SIZIOMI	
Other - Explain				The second second	1/67/41	10
				111	The state of the s	
Generator Authorized Agent N	lame TRANSPO	· ········· = · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	Mari	Jam	Qa
Transporter Name Albany Tank Servi	ces. Inc.	Driver Nan	ne (print)		Acheec.	
Address P.O. Box 331	· · · · · · · · · · · · · · · · · · ·				7010	
Ravena, NY 12143		Vehicle	95 2	MA 50	4	
Phone No. 5 1 8 — 7 5	6 6 5 2 7		٧٠	, call 1-518-75	6-6527	
Driver Signature	Shipment Date	الأنه	S D.E.C. Po A# NYR000	ermit# 4A - 33 0060087	0	
	DESTINA	TION				
Site Name <u>EM</u> 0 F	1PW York 6	Phone No.	ă.	<u> </u>	255	0 0

# ALBANY TANK SERVICES, INC.

## **NON-HAZARDOUS WASTE MANIFEST**

P.O. Box 331 • Ravena, NY 12143 (518) 756-6527

JOB NUMBER P	PICK-UP NUMBER				
	GENERATOR				
Generator Name 1999 10 5 Readdress 30-3 Ringer  Phone No. 5 8 3 7 9 11		ocation		Enri-	
Description of Waste		Check	Containers No. Type	Total Quantity	Unit <b>Wt</b> /Vol
Waste Flammable Liquid N.O.S. (	) NA 1993 III	E TO THE STATE OF	3/21	310000 131 J3P	
Transporter Name Albany Tank Services, Inc. Address P.O. Box 331  Ravena, NY 12143  Phone No. 5 1 8 7 5 6 6  Driver Signature	Vehicle Lie Vehicle In case of	cense No./S	state // // // // // // // // // // // // //	20/0 //ON/ 6-6527	
Site Name 5 10 10 10 10 10 10 10 10 10 10 10 10 10	Phone No			jö 3 5 k	<u> </u>

#### ESMI OF NEW YORK 304 Towpath Rd. Fort Edward NY 12828 (518) 747 - 5500

Transaction No. 025313

Time In

Time Out 09:44 Date 11-17-00

Customer Name: Albany Tank Services

P.O. Box 331

Ravena. NY

13960 lb Gross:

7260 lb ST0 Tare:

and the second the sec

3.35

6700 lb

Truck No.: AT-1

Hauler :

ALBANY TANK

Product No.: 10

Description : VIRGIN FUELS

Metals/NonMetals:

Notes:

Job No. : 4135

Net Tons :

Job Site : FORMER AMOTO'S REST.

Job Address: 34 RIDGE STREET Job City : GLENS FALLS.NY

Job State : NY

Weigh Master #:

Weight This Ticket: 3.35

Cum Job Weight

7.25

TPH

0.000

Est. Total Joh 150.00

#### ESMI OF NEW YORK 304 Towpath Rd. Fort Edward NY 12828 (518) 747 - 5500

Transaction No. 025310

Time In

Time Out 08:56 Date 11-17-00

Customer Name: Albany Tank Services

P.O. Box 331

Ravena. Ni

15060 lb Gross:

7260 lb ST0

7800 lb

Truck No.: AT-1

Hauler

ALBANY TANK

Product No.: 10

Description: VIRGIN FUELS

Metals/NonMetals:

Notes:

Job No. : 413

Net Tons : 3.40

Job Site : FORNER AMOTO'S REST.

Job Address: 34 RIDGE STREET

Job City : GLENS FALLS.NY

Job State : WY

layam Bandoriver: L

Weigh Master #:

Weight This Ticket: 3.90

Cum Job Weight

3.90

TPH

0.000

Est. Total Job 150.00

#### ESMI OF NEW YORK 304 Towpath Rd. Fort Edward NY 12828 (518) 747 - 5500

Transaction No. 025315

Time In

Time Out 10:50 Date 11-17-00

Customer Name: Albany Tank Services

P.O. Box 331

Ravena. Ni

10740 lb Gross:

7260 lb STO Tare:

per real total construction and all the right for the first total first and the right for the total total construction and the right for the first total construction and the right for the right for

Net : 3480 th

Truck No.: AT-1

Hauler :

ALBANY TANK

Product No. : 10

Description: VIRGIN FUELS

Metals/NonMetals:

Notes:

Net Tons: 1.7-

Job No. : 4133 Job Site : FORMER AMOTO'S REST.

Job Address: 34 KIDGE STREET

Job City : GLENS FALLS.NY

Job State : NY

: Mary am Band Driver #: 530004 Weis

Weight This Ticket: 1.74

Weigh Master #:

Cum Job Weight

TPH

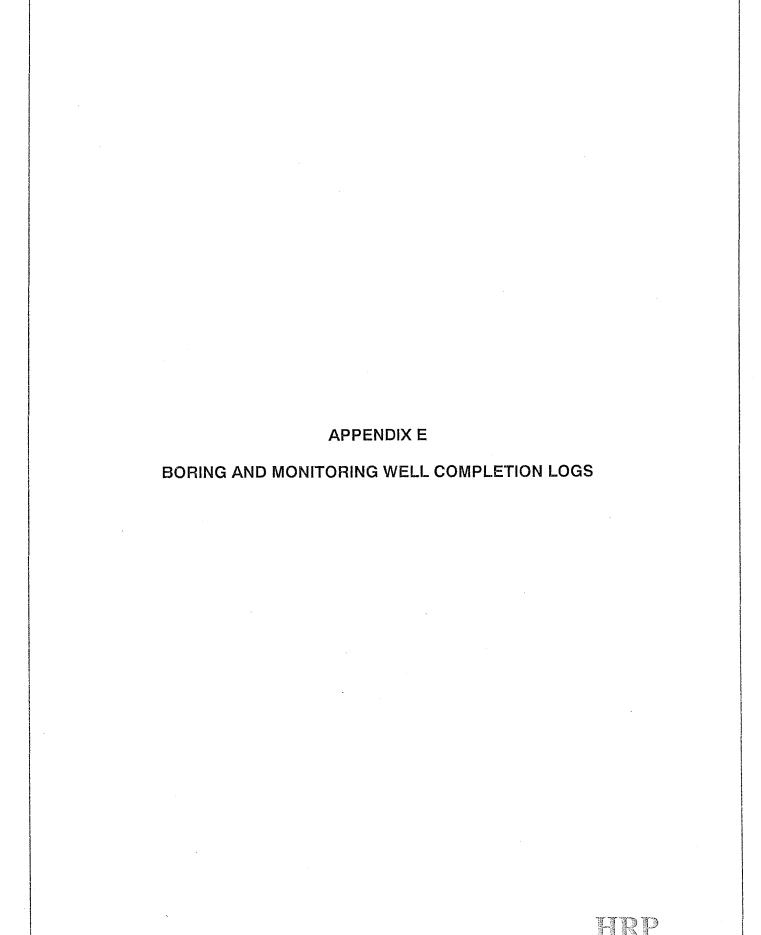
0.000

Est. Total Job 150.00

## L. HARRIS CO. INC.

Box 219 Pickle Hill Road Queensbury, NY 12804 (518) 639-8331

Address	CASH C.O.D. CHARGE	ON ACCT.	
QTY	DESCRIPTION	1 4	MOUNT
(	ert. 10 uds.	Q	WOON
	concrete	8	
	vecycling	•	
	v 9		
!			
	name daga gagayan <del>an an a</del>		



酢								
1	•	Glens Falls	•	et	HRP ASSOCIA	ATES, INC.	Hole #	
	HRP Job #:				ENGINEERING &		Well #	1
	Contractor:	North Star I	Drilling		1		Sheet No.	1
I	Type	MacroCore			DRILLING	i LOG	· Start·	11/07/2000
		1.75"			Hammer (wt/Fall):	N/A		11/07/2000
		Southwest	of formor un	dararaund		Geoprobe		Steve Laramie
ı	2004110111	storage tan		iderground	ing type.	Gooprobo	HRP Rep:	
₽			NO	I				OOD/LO
1	Depth (6"	Mircro-	Sample	Recovery	Density or		Remarks	PID
_	intervals)	core	Interval	(ft)	Consistency/	Profile Change	(color, structure, grain size, stating,	(ppm)
	· · · · · · · · · · · · · · · · · · ·	Samples		` '	Moisture		odor, PID)	
۱	0			1			Dark Grey-Black Pavement, Gravel	(0-2')
1						ĺ	subbase; No Odor	
	1						(Fill Material)	6 (HS)
ı	'	<del> </del>					(i iii ivictoricily	
1								1 (SS)
١	2		0 - 4'	2.3'	med/dry	2'	Brown fine SAND, little fine gravel;	
ď							No Odor	(2-4')
H	3						(Sand)	1.7 (HS)
1	_						·	1 (ss)
	,	<b>*</b>						. (55)
	4	<b> </b>						
		$oxed{oxed}$	-					(4-6')
	5							2.8 (HS)
			,					10 (SS)
I	6		4' - 8'	3.1'	low/dry		Brown/Tan fine SAND;	
ı	Ŭ			J	13.1, 2		Slight Petroleum Oder	(6-8')
į							_	
	7						(Sand)	1.8 (HS)
							·	0 (SS)
H	8	₩						
i							Dark Brown-Grey crs. to med GRAVEL,	(8-10')
#	_						some fine sand; No Odor	5.8 (HS)
	9	$\vdash$					I	
#1							(Sand and Gravel)	5 (SS)
	10		8' - 12'	4'	med/dry	10'	Brown/Tan fine SAND, varved; No Odor	
8							(Sand)	(10-12')
ı	11				,		` '	2.8 (HS)
_	• •							0 (SS)
:		<del></del>						0 (00)
10	12	<b>V</b>						
							Dark Grey-Brown fine SAND, some	(12-14')
	13						med-fine gravel, fill, shale, rubble;	5.8 (HS)
**							No Odor	1 (SS)
	14		12' - 15.5'	3.5'	med/moist to wet		(Sand)	
Ħ	'*		,0.0	0.0	GW=14'	14'	Brown med-fine SAND, No Odor	(14-15.5')
					GVV=14	14		
#	15						(Sand)	2.5 (HS)
I	į	<b>V</b>						1 (SS)
į.	16							
:	l						End of Boring	HS - Head Space
4	17						Refusal at 15.5'	SS - Soil Sample
	17							OC DOM CAMPIO
-		L					T.D.=15.5'	
	GRO	UNDWATER O	BSERVATION	S		SAMPLE PENETRA® 140 lb. Wt. Falling 30		
۲			Continue			140 ID. VVI. FAIRING 30	one o.b. dampler	Proportions
Ī	Depth	Date	Casing/ Screen	Stability Time	Cohesionless Density		Cohesive Consistence	
-			Octobell		0 - 4 very loose		0 - 2 very soft	trace 0-10%
	-				5 - 9 loose		3 - 4 soft	little 10-20%
					10 - 29 med. dense		5 - 8 m/stiff	some 20-35%
					30 - 49 dense		9 - 15 stiff	and 30-50%
					50+ very dense		16 - 30 v/stiff	
	and the same of th						31+ hard	
ij.								

HRP Job #:	Glens Falls GLE6000.P North Star I	2(T-3)	et	HRP ASSOCIA ENGINEERING O	& GEOLOGY	Hole # GF-7 Well # N/A Sheet No. 1 Start: 11/07/2000 Finish: 11/07/2000 Driller: Steve Laramie HRP Rep: CJB		
I.D.:	MacroCore 1.75" Immediately undergroun	south of fo	ormer	Hammer (wt/Fall):				
Depth (6" intervals)	Sampler Blows per 6"	Sample Interval	Recovery (ft)	Density or Consistency/ Moisture	Profile Change	Remarks (color, structure, grain size, stating, odor, PID)	PID (ppm)	
0					1'	Dark Grey-Black Pavement, Gravel subbase; Slight Odor, (petroleum?)  Dark Brown fine SAND;	(0-2') 7.2 (HS) 4 (SS)	
3		0 - 4'	2.4'	med/dry		fill noted (cinders, etc.)	(2-4')	
4	<b>+</b>				4.5'	Same; slight odor (petroleum?)  Brown/Tan fine sand, varved, No Odor	1.4 (HS) 0 (SS) (4-4.5')	
5 6 7		4' - 8'	2.8'	low/dry			0 (HS) 10 (SS) (4-6') 3.8 (HS) 0 (SS)	
8	<b>+</b>					Same; No Odor	(6-8') 2.4 (HS) 0 (SS) (8-8.5') 0 (HS)	
10 11 12		8' - 12'	3.1'	med/moist	10'-10.5'	Brown/Tan fine SAND, trace silt, varved; No Odor, iron staining	1 (SS) (8-10') 5 (HS) 0 (SS) (10-12')	
13						Same: Slight Odor	1.6 (HS) 0 (SS) (12-14')	
14 15	<b>T</b>	12' - 15'	3.0'	med/moist to wet GW=14'	14'	Brown med-fine SAND, trace fine gravel; No Odor	3.4 (HS) 2 (SS) (14-15')	
16						End of Boring	2.6 (HS) 0 (SS)	
17					SAMPLE PENETRA	Refusal at 15.0' T.D.=15.0'		
GR0 Depth	DUNDWATER O	Casing/		Cohesionless Density	140 lb. Wt. Falling 30		Proportions	
		Screen				0 - 2 very soft 3 - 4 soft 5 - 8 m/stiff 9 - 15 stiff 16 - 30 v/stiff	trace 0-10% little 10-20% some 20-35% and 30-50%	

Hole # GF-8 Project: Glens Falls-Ridge Street HRP ASSOCIATES, INC. Well # N/A HRP Job #: GLE6000.P2(T-3) **ENGINEERING & GEOLOGY** Sheet No. 1 Contractor: North Star Drilling **DRILLING LOG** Start: 11/07/2000 Type: MacroCore Finish: 11/07/2000 N/A Hammer (wt/Fall): I.D.: 1.75" Driller: Steve Laramie Location: Southeast of former underground Rig Type: Geoprobe HRP Rep: CJB tanks Macro-Density or Remarks PID Depth (6" Sample Recovery Consistency/ **Profile Change** (color, structure, grain size, stating, core intervals) Interval (ft) (ppm) Samples Moisture odor, PID) Dark Grey-Black Pavement, Gravel (0-2')0 4.4 (HS) subbase; 0 (SS) 1 11 Dark Brown fine SAND; trace silt, trace 0 - 4' fine gravel; No Odor (2-4')2.5 med/dry 2 (Fill) 2.6 (HS) 0 (SS) 3 (4-6')5.0 (HS) 0 (SS) 5 (6-8')4' - 8' 2.5' med/dry Brown-grey-red Fill (brick, ash, shale, 6 rubble, cinders, etc.); No Odor 1.8 (HS) (Fill) 0 (SS) 7 (8-10') 8 4.6 (HS) 8.5 Brown-tan fine SAND; No Odor (Sand) 0 (SS) 9 (10-12)8' - 12' 3.21 med/moist to wet 10 3.0 (HS) GW=11.51 0 (SS) 11' Brown-orange med-fine SAND; 11 No Odor 12 End Of Boring T.D.=12<sup>t</sup> 13 14 15 16 17 SAMPLE PENETRATION RESISTANCE GROUNDWATER OBSERVATIONS 140 lb. Wt. Falling 30" on 2" O.D. Sampler Proportions Casing/ Cohesive Consistence Cohesionless Density Depth Date Stability Time Screen 0 - 2 very soft trace 0-10% 0 - 4 very loose 3 - 4 soft little 10-20% 5 - 9 loose 10 - 29 med, dense 5 - 8 m/stiff some 20-35% and 30-50% 9 - 15 stiff 30 - 49 dense 16 - 30 v/stiff 50+ very dense 31+ hard

Project: HRP Job #: Contractor:		2(T-3)	et	HRP ASSOCIA ENGINEERING DRILLING	& GEOLOGY	Hole # GF-9 Well # N/A Sheet No. 1 Start: 11/07/2000 Finish: 11/07/2000 Driller: Steve Laramie HRP Rep: CJB		
			ound Tanks	Hammer (wt/Fall):				
Depth (6" intervals)	Macro- Core Samples	Sample Interval	Recovery (ft)	Density or Consistency/ Moisture	Profile Change	Remarks	DID	
0					1'	Dark Grey-Black Pavement, Gravel subbase; Brown fine SAND; some Fill (brick,	(0-2') 2.6 (HS) 0 (SS)	
2		0 - 4'	2.9'	med/dry		shale, rubble, cinders); NO Odor (Fill)	(2-4') 0.4 (HS) 0 (SS)	
4 5	<b>V</b>					Same; No Odor ( <u>Fill)</u>	(4-6') 1.8 (HS) 3 (SS)	
6 7		4' - 8'	2.9'	med/dry	6'	Brown-grey-red Fill (brick, ash, shale, rubble, cinders, etc.); No Odor (Fill)	(6-8') 0.2 (HS) 2 (SS)	
8 9						Same, some Fill noted; (8'-10')	(8-10') 0.2 (HS) 2 (SS)	
10		8' - 12'	NA	med/moist to wet GW=12.0'		Dark Brown-grey, crs gavel, some fine	(10-12') 0 (HS) 0 (SS)	
12 13	<b>+</b>				13'	Sand; fill (brick, shale, rubble); No Odor (Fill)  Brown med-fine SAND; No Odor (Sand)	(12-14') 0.6 (HS) 0 (SS)	
14 15	•	12' - 15'	<b>3</b> '	med/wet			(14-15') 0.2 (HS) 0 (SS)	
16 						End of Boring Refused at 15' T.D.=15'		
	UNDWATER O	BSERVATION	s		SAMPLE PENETRA 140 lb. Wt. Falling 30			
Depth	Date	Casing/ Screen	Stability Time	Cohesionless Density  0 - 4 very loose		Cohesive Consistence 0 - 2 very soft	trace 0-10%	
				5 - 9 loose 10 - 29 med. dense 30 - 49 dense 50+ very dense		3 - 4 soft 5 - 8 m/stiff 9 - 15 stiff 16 - 30 v/stiff	little 10-20% some 20-35% and 30-50%	

RP Job #: ontractor:	Glens Falls GLE6000.P North Star I	P2(T-3) Orilling	et	HRP ASSOCI ENGINEERING DRILLING	& GEOLOGY	Hole # GF-10 Well # N/A Sheet No. 1			
I.D.:	MacroCore 1.75" Noorthwest Anomly		y,, Near		: N/A : Geoprobe	Start: 11/07/2000 Finish: 11/07/2000 Driller: Steve Laramie HRP Rep: CJB			
Depth (6" intervals)	Sampler Blows per 6"	Sample Interval	Recovery (ft)	Density or Consistency/ Moisture	Profile Change	Remarks (color, structure, grain size, stating, odor, PID)	Depth (ppm)		
0						Gravel Surface	(0-2')		
						Grey to black med-fine SAND, trace silt,	4.4 (HS)		
1						little fine gravel (fill); No Odor (Fill)	0 (SS)		
2		0 - 4'	3.1'	low/dry	2'	Brown fine SAND: minor amount of fill	(2-4')		
				}		(brick); No Odor	2.4 (HS)		
3			*				0 (SS)		
4	•						(4-6')		
5							2.2 (HS) 0 (SS)		
		4' - 8'	3,3'	low/da.		Sama Na Odor			
6		4' - 8'	3.3	low/dry		Same, No Odor	(6-8')		
7							2 (HS) 0 (SS)		
7									
8	<b>V</b>					Same; No Odor	(8-10')		
							2.4 (HS)		
9							0 (SS)		
10		8' - 12'	4'	low/dry		•	(10-12')		
							2 (HS)		
11				·			0 (SS)		
12	<b>  ★</b>						(12-14')		
							4.4 (HS)		
13						Same; No Odor	0 (SS)		
14		12' - 16'	3.8'	low/moist to wet	14.1'-14.7'	Brown-tan fine SAND, little silt; No Odor	(14-16')		
			, 	GW=14.6'	14.7'	Brown med - fine SAND, trace fine	3 (HS)		
15			 			<u>Gravel;</u> No Odor	0 (SS)		
16	<b>—</b>					End of Boring			
17			-			T.D.=16'			
• •									
GRO	OUNDWATER OF	· · · · · · · · · · · · · · · · · · ·	s		SAMPLE PENETRA 140 lb. Wt. Falling 30		Proportions		
Depth	Date	Casing/ Screen		Cohesionless Density		Cohesive Consistence			
				0 - 4 very loose 5 - 9 loose		0 - 2 very soft 3 - 4 soft	trace 0-10% little 10-20%		
				5 - 9 loose 10 - 29 med. dense		3 - 4 soπ 5 - 8 m/stiff	some 20-35%		
				30 - 49 dense		9 - 15 stiff	and 30-50%		
	1			50+ very dense		16 - 30 v/stiff			

HRP Job #: Contractor: Type:	Glens Falls GLE6000.P North Star I	2(T-3) Orilling	et	HRP ASSOC ENGINEERING DRILLIN	& GEOLOGY G LOG	Hole # GF-11 Well # N/A Sheet No. 1 Start: 11/07/2000 Finish: 11/07/2000 Driller: Steve Laramie HRP Rep: CJB		
I.D.: Location:	1.75" Alley			Hammer (wt/Fall Rig Type	): N/A <b>::</b> Geoprobe			
Depth (6" intervals)	Sampler Blows per 6"	Sample Interval	Recovery (ft)	Density or Consistency/ Moisture	Profile Change	Remarks (color, structure, grain size, stating, odor, PID)	PID (ppm)	
0		***************************************				Gravel Surface, Fill (brick, coal, cinders,	(0-2')	
						ash, brown fine	8 (HS)	
1						(Fill)	1 (SS)	
2		0 - 4'	3.1'	med/dry			(2-4')	
							2.8 (HS)	
3			*				1 (SS)	
4	₩					Same; mild petroleum odor	(4-6')	
							6 (HS)	
5				,	5'	Brown med-fine SAND; No Odor (Sand)	4.0 (SS)	
6		4' - 8'	3.3'	med/dry			(6-8')	
							2.4 (HS)	
7							0 (SS)	
8	<del></del>			-	8'-8.5'	Dark grey med-fine SAND, varved;	(8-10')	
	1			•		No Odor	3 (HS)	
9						(Sand)	5 (SS)	
10		8' - 12'	3.4'	med/moist		Brown-tan fine SAND, varved; No Odor	(10-12')	
						(Sand)	3.4 (HS)	
11					,		0 (SS)	
12	<b>+</b>						(12-13')	
13							2 (SS)	
10							(12-14')	
14		12' - 16'	3.5'	low/wet GW=14.0'		·	4.8 (HS)	
15				GVV=14.U	15.2'	Tan-grey fine SAND, trace silt; No Odor	(14-16')	
							2.8 (HS)	
16	▼	·				End of Davis	0 (SS)	
						End of Boring T.D.=16'	HS- Head Spa	
17						1.U.=10	SS_Soil Samp	
GRO	UNDWATER O	BSERVATION	S		SAMPLE PENETRA 140 lb. Wt. Falling 30		Proportions	
Depth	Date	Casing/ Screen	Stability Time	1		Cohesive Consistence	FTOPORTIONS	
				0 - 4 very loose		0 - 2 very soft	trace 0-10%	
				5 - 9 loose		3 - 4 soft	little 10-20%	
				10 - 29 med. dense 30 - 49 dense		5 - 8 m/stiff 9 - 15 stiff	some 20-35% and 30-50%	
				50 - 49 dense 50+ very dense		16 - 30 v/stiff	anu 30-3070	
				OUT VOLY GOLISO		31+ hard	1	

HRP Job #: Contractor:	Glens Falls GLE6000.P North Star I MacroCore	22(T-3) Drilling	et	HRP ASSOC ENGINEERING DRILLIN	& GEOLOGY	Hole # GF-12 Well # N/A Sheet No. 1 Start: 11/07/2000 Finish: 11/07/2000 Driller: Steve Laramie HRP Rep: CJB		
I.D.:	1.75"		e,Alley, 6' E of	Hammer (wt/Fall Rig Type	): N/A :: Geoprobe			
Depth (6" intervals)	Macro- Core Samples	Sample Interval	Recovery (ft)	Density or Consistency/ Moisture	Profile Change	Remarks (color, structure, grain size, stating, odor, PID)	PID (ppm)	
0							(0-2')	
1	-						2 (HS) 0 (SS)	
2		0 - 4'	3.0'	low/dry		<u>Dark Brown Fill;</u> No Odor (Fill)	(2-4')	
3							2.8 (HS)	
4	<b>—</b>				4'	Brown fine SAND; No Odor (Sand)	0 (SS)	
5							(4-6')	
6		4' - 8'	3.5'	low/dry			2.3 (HS) 0 (SS)	
7								
.8	<b></b>	1				End of Boring	(6-8')	
9						T.D.=8'	2.6 (HS) 0 (SS)	
10								
11								
12								
13								
14								
15								
16								
17								
GRC	UNDWATER O	BSERVATION	s		SAMPLE PENETRA 140 lb. Wt. Falling 30		Proportions	
Depth	Date	Casing/ Screen	Stability Time	Cohesionless Density		Cohesive Consistence		
-				0 - 4 very loose 5 - 9 loose 10 - 29 med. dense 30 - 49 dense 50+ very dense		0 - 2 very soft 3 - 4 soft 5 - 8 m/stiff 9 - 15 stiff 16 - 30 v/stiff	trace 0-10% little 10-20% some 20-35% and 30-50%	

.

#### HRP ASSOCIATES, INC.

**Engineering & Geology** 

## **DRILLING LOG**

Hole # MW-1 Well # MW-1

Location: rear (north) end of site

Contractor: North Star Drilling

Driller: Steve Laramie

Hammer (Wt/Fall):

Rig Type: Geoprobe

Type: Macro Core

Sheet No.: \_\_1\_ of \_\_1\_

Project: Glens Falls HRP Job #: Gle6000.P2(T-3)

Site Name: Brownfield

Site Address: 30-34 Ridge St.

Start: 11/06/2000

Finish: 11/06/2000 HRP Rep: CJB

15

•		Type: Ma		Site Address:	30-34 Ridge St.		LS	
Depth (6" intervals)	Macro-core Samples	Well	Sample Interval (ft)	Recovery (ft)	Density or Consistency/ Moisture	Profile Change (ft)	Remarks (color, structure, grain size, staining, odor)	(Depth)/PID (ppm)
0		Surface						
		tentenan managan					Pavement, Gravel subbase	(0-2')
"1							,	
							Dark Grey to Black,	0.8 (HS)
2			0 - 4'	2.6'	low/dry		medfine SAND, little fine gravel;	0 (SS)
11							No Odor, some fill (coal, glass)	(2-4')
3					·		Same	[ (2-4)
4	<b>V</b>						Carne	1.2 (HS)
l <del></del>	1							0 (SS)
5								(55)
1						5'	Brown fine SAND; No Odor	(4-6')
6			4' - 8'	2.4'	- low/dry			1 (HS)
								0 (SS)
7								
							Same	(6-8')
"8	<b>V</b>						·	0.8 (HS)
								0 (SS)
9								
1.			01 401	0.51	to of the c		D. M. CAND	
10		<b></b>	8' - 12'	3.5'	low/dry	•	Brown/Tan-fine SAND; No Odor	(8-10')
11		<b>⋙</b> ≡⋙					NO Odor	(6-10) 0.6 (HS)
<del> </del>		<b>⋙≡</b> ⋙						0.0 (FIS) 0 (SS)
. 12	<b>V</b>	<b>⋙</b> ≣⋙						0 (00)
li	1	<b>⋙</b> ≡⋙					Brown fine SAND; No Odor	(10-12')
13		<b>∭</b> ≣₩				•		1.6 (HS)
		<b>⋙</b> ≡⋙				14' - 14.5'	Brown fine SAND, some varved	0 (SS)
14			12' - 16'	4'	low/moist to wet		SILT; No Odor	(12-14')
					GW = 13'			1.4 (HS)
" <u>15</u>		<b>⋙≡</b> ⋙				14.5'	Brown med-fine SAND; No Odor	0 (SS)
		<b>⋙</b> ≣⋙						(14-16')
16	<b>*</b>	<b>∞</b> 目∞						1 (HS)
11		<b>∭</b> ≡∭					Same	0 (SS) (16-18')
17		<b>∭≣</b> ∭			,			1 (HS)
18		<b>⋙</b> ≡₩	16' - 20'	4'	low/wet	19.1'	Brown fine SAND, trace varved	0 (SS)
l			.5 25		1011/1101	10.1	SILT; No Odor	(18-20')
19		<b>∭</b> ≣∭					End of Boring	1.6 (HS)
	<b>V</b>	<b>∭</b> ≣∭	]				T.D. = 20'	0 (SS)
GROUND	WATER OBSERV	'ATIONS				E PENETRATIO	N RESISTANCE	
						Wt. Falling 30" on		Proportions
Dep		Date	Casing/ Screen	Stability Time	Cohesionless Density		Cohesive Consistence	
13.5	55'	11/06/2000	PCV Mark		0 - 4 very loose		0 - 2 very soft	trace 0-10%
13.5	57'	11/07/2000			5 - 9 loose 10 - 29 med. dense		3 - 4 soft 5 - 8 m/stiff	little 10-20% some 20-35%
13.5	59'	11/10/2000			30 - 49 dense		9 - 15 stiff	and 30-50%
13.5	52'	12/08/2000			50+ very dense		16 - 30 v/stiff	ļ
1			[200000]	877773			31+ hard	L
	Concrete		Sand Pack		Bentonite		Screen	Native

#### HRP ASSOCIATES, INC.

**Engineering & Geology** 

## **DRILLING LOG**

Hole # MW-2

Well # MW-2

Start: 11/06/2000

Finish: 11/06/2000

Location: Southeast corner of site,

adjacent to sidewalk of City Hall

Contractor: North Star Drilling

Driller: Steve Laramie

Hammer (Wt/Fall): N/A Rig Type: Geoprobe

Type: Macro Core

Site Name: Brownfield

Sheet No.: \_ 1 \_ of \_ 1 \_

Project: Glens Falls

HRP Job #: Gle6000.P2(T-3)

HRP Rep: CJB

Site Address: 30-34 Ridge St. LS I.D.: 1.75" Remarks Depth (6" Macro-core Sample Interval Density or Consistency/ **Profile** Depth/PID Well Recovery (ft) (color, structure, grain size, intervals) Samples Change (ft) (ft) Moisture (ppm) staining, odor)

00	Surface						
						Dark Grey Pavement, Gravel	(0-2')
11						Subbase	
							0.8 (HS)
1 2		0 - 4'	3.1'	med/dry	1'	Dark Brown fine SAND;	0 (SS)
						No Odor, fill noted	
3		e.				(cinders, ash, etc.)	(2-4')
11							
4	<u> </u>					Same	0.4 (HS)
ŧI							0 (SS)
5					5'	Brown fine SAND; No Odor	
		•					(4-6')
6		4' - 8'	3.3'	low/dry			1 (HS)
1						Same	0 (SS)
7							
1							(6-8')
88	▼ ※※						0.6 (HS)
						,	0 (SS)
9							(8-10')
							1.2 (HS)

10	1		: 8'-12'	4	iow/moist	1	Brown/ran-line varved SAINU;	0 (55)
	1 1						No Odor	(10-12')
11			:					0.8 (HS)
				,				0 (SS)
12	•							(12-14')
							Brown med-fine SAND; No Odor	12 (HS)
13	1 1	1						0 (SS)
14			101 161	4'	low/wet		Same	(14-16')

14		J::::::		12 - 10	<b>.</b> .	1044/4401	į joaine	(17.10)
						GW = 13'		1.8 (HS)
15			∄‱					0 (SS)
	-		≣:::::					
16	•		≣‱				Same	
	1		∄‱					(16-18')
17							Brown med-fine SAND, trace	1.2 (HS)

low/wet

L_	18					liner, removed w/ hammer)	
11						End of Boring	(18-19')
	19					T.D., + 19'	1.6 (HS)
L						Install 1" dia. Monitoring well	0 (ss)
_	GROUNDWATER OBSERVATIONS				SAMPLE 140 lb. W	Proportions	
11	Depth	Date	Casing/ Screen	Stability Time	Cohesionless Density	Cohesive Consistence	
	11.88'	11/06/2000	PVC Mark		0 - 4 very loose	0 - 2 very soft	
11	11.89"	11/17/2000			5 - 9 loose	3 - 4 soft	little 10-20%
	44.00	14/40/0000					

some 20-35% 11/16/2000 10 - 29 med. dense 5 - 8 m/stiff 12.03 12/08/2000 30 - 49 dense 9 - 15 stiff and 30-50% 16 - 30 v/stiff 50+ very dense 31+ hard

Sand Pack Concrete







0 (SS)

varved SILT; No Odor (jammed in

#### HRP ASSOCIATES, INC.

**Engineering & Geology** 

## **DRILLING LOG**

Hole # MW-3 Well # MW-3

Location: In driveway, east of

former underground tanks

Contractor: North Star Drilling

Driller: Steve Laramie

Hammer (Wt/Fall):
Rig Type: Geoprobe

Type: Macro Core

Sheet No.: \_ 1 \_ of \_ 1 \_

Project: Glens Falls HRP Job #: Gle6000.P2(T-3)

Site Name: Brownfield Site Address: 30-34 Ridge St. **Start:** 11/06/2000 **Finish:** 11/06/2000

HRP Rep: CJB

<b>Type:</b> Macro <b>I.D.:</b> 1.75"				: 30-34 Ridge St.				
Depth (6" intervals)	Macro- cove Sample	Well	Sample Interval (ft)	Recovery (ft)	Density or Consistency/ Moisture	Profile Change (ft)	Remarks (color, structure, grain size, staining, odor)	Depth/PID (ppm)
0		Surface						
1							Dark Grey-black Pavement, Gravel Subbase	(0-2')
								1 (HS)
2			0 - 4'	2.9'	med/dry	0.9'	Fill Material (Red brick, Pottery, some fine sand), No Odor	0 (SS)
3								(2-4')
								1.2 (HS)
4							Same; No Odor	0 (SS)
5						4.5¹	Brown med-fine SAND; trace	(4-6')
							gravel; No Odor	1.2 (HS)
6			4' - 8'	3.2'	low/dry			0 (SS)
` .						٠		(2.0)
7								(6-8')
							Same	1.4 (HS)
8								0 (SS)
						8'-8.5'	Brown med-fine SAND; No Odor,	(8-10')
9							some fill (brick)	0.9 (HS)
								0 (SS)
10			8' - 12'	3.3'	low/dry	8.5'	Brown/Tan fine SAND, varved;	ļ
		<b>⋙</b> ≡					No Odor	(1.0-12')
11		▓≡∭						1.8 (HS)
12								0 (SS)
								(12-14')
13								4 41110
			101 101	41	1(		Brown med-fine SAND, little fine	1.4' HS
14			12' - 16'	4'	low/moist-wet GW = 12.6'		gravel; No Odor	0 (SS)
15		<b>∭</b> ≡₩						(14-16')
								1.6 (HS)
16						,		0 (SS)
							Same	(16-18')
17								0.8 (HS)
40			16' 10'		low/wot		Sama: No Odor	0.8 (113) 0 (SS)
18			16' - 18'	2'	low/wet		Same; No Odor	0 (33)
40							End of Boring	
19							Refused at 19'	
GROUND	WATER OBSER	/ATIONS				LE PENETRATION Wt. Falling 30" on		Proportions
Dep	Depth Date		Casing/ Screen	Stability Time	Cohesionless Density		Cohesive Consistence	1 TOPORTORS
12.2		11/07/2000	Black PVC Mark		0 - 4 very loose		0 - 2 very soft	trace 0-10%
12.2		11/16/2000			5 - 9 loose		3 - 4 soft	little 10-20%
12.4	11	12/08/2000			10 - 29 med, dense		5 - 8 m/stiff	some 20-35%
			1		30 - 49 dense 50+ very dense		9 - 15 stiff 16 - 30 v/stiff	and 30-50%
							31+ hard	
100000 10000 1000 1000 1000 1000 1000	Concrete		Sand Pack		Bentonite		Screen	Native

#### HRP ASSOCIATES, INC.

**Engineering & Geology** 

## **DRILLING LOG**

Hole # MW-4 Well # MW-4

Location: Southwest of former

underground storage tanks

Contractor: North Star Drilling Driller: Steve Laramie

Hammer (Wt/Fall):

Rig Type: Geoprobe

Project: Glens Falls HRP Job #: Gle6000.P2(T-3) Site Name: Brownfield

Sheet No.: \_\_1\_ of \_\_1\_

Start: 11/06/2000 Finish: 11/06/2000

HRP Rep: CJB

		Type: Mad		Site Address:	30-34 Ridge St.			
Depth (6" intervals)	Macro-core Sample	I.D.: 1.79	Sample Interval (ft)	Recovery (ft)	Density or Consistency/ Moisture	Profile Change (ft)	Remarks (color, structure, grain size, staining, odor)	PID (ppm)
0		Surface						
1							<u>Dark Grey Pavement, Gravel</u> <u>Subbase</u> , fill (cinders, ash),	(0-2')
2			0 - 4'	2.0'	med/dry		No Odor	1 (HS) 0 (SS)
3								(2-4') 1 (HS)
4	<b>V</b>							0 (SS)
5			·			4.0'	Brown med-fine SAND; No Odor	(4-6') 0.9 (HS)
6			4' - 8'	2.9'	low/dry			0 (SS)
7							Same; No Odor	(6-8') 0.9 (HS)
88						8.7'-9.1'	Dark Grey Crs-med SAND.	0 (SS)
9			8' - 12'	3.8'	low/moist	9.1'	some fine Gravel; No Odor  Brown/Tan fine SAND, varved;	(8-10') 1 (HS) 0 (SS)
11			0 - 12	3.0	iowinoist	5.1	No Odor	(10-12')
12	+							1 (HS) 0 (SS)
13								(12-14)
14			12' - 16'	3.3'	low/moist-wet		Same; No Odor	1.4 (HS) 0 (SS)
15					GW = 14.0'		,	(14-16') 1.4 (HS)
16	<b></b>					·		0 (SS) (16-18')
17							Same; No Odor	1.8 (HS) 0 (SS)
18			16' - 19'	3'	low/wet		Same; No Odor End of Boring	(18-20') 1.5 (HS)
19	<u> </u>		·				Refused at 19'	0 (SS)
GROUND	WATER OBSER\	/ATIONS				LE PENETRATION Wt. Falling 30" on		Proportions
Dep		Date	Casing/ Screen	Stability Time	Cohesionless Density		Cohesive Consistence	
12.			Black PVC Mark		0 - 4 very loose		0 - 2 very soft	trace 0-10%
12.		11/16/2000			5 - 9 loose		3 - 4 soft	little 10-20%
12.	ÖI	12/08/2000			10 - 29 med. dense 30 - 49 dense		5 - 8 m/stiff 9 - 15 stiff	some 20-35% and 30-50%
					50+ very dense		16 - 30 v/stiff	
	Concrete		Sand Pack		Bentonite		31+ hard Screen	Native

APPENDIX F
WELL DEVELOPMENT LOGS

HRP

Associates, Inc.

HRP Associates, Inc. Monitoring Well 105 Lake Hill Road Field Data Sheet Burnt Hills, NY 12027 Phone: 518-399-1174 Fax: 518-399-2939 Client Name: Glens Falls Brown field Job #: 61e 6000. P2 (T-4) WELL ID Site Location: Ridge St. Glans Fells NY MW-1 Elevation Data Date: 1/16/00 Time: Well Diameter (inches): Depth (leet) . +Correction ≖ True Water Column Height: (feet) Depth 0.041 0.25gQ(IWell.Vol.) gal/foot x 3 factor: x 13.59 Water Level Volume to be Purged: (gal) Bottom of Well Sampler: CJB . TPS/PVC Measuring Point: Solins+ Measuring Device: Weather: cloudy 40 " 6 Comments: Well Condition Checklist General Condition: Good/ Needs Repair Is well plumb? @ N leaking / bent / loose / none Lock: Good / Broken (None) Protective Steel: Good / Damaged / None Well # Visible? NICE PVC Riser: Well Cap: Concrete Collar: OK /Cracked /Leaking /None Good Broken / None Evidence of rain water between steel and PVC? Evidence of ponding around well? Holes around collar? Purge Data 12:49 Start Time: Stop Time: Purge Device type: Bailer / Peristaltic / Submersible Total Time Purged: Comments: Volume Purged: (gallons) Containers Quantity Preservative Sample Data Approx. sample depth: Sampling method: Bailer / Peristaltic / Bladder SS, PVC. Bailer type: Bailer cord: Dedicated / Nondedicated Filtered in Field?: No / @ Well / @ Veinicle Method of Filtration: Pressure / Vacuum / Syringe Field Decon: Bailer / Filter / Tubing / Other Appearance: Odor: Field Parameters ameT ime pН Spec. Cond. 1:19 ha in +590 1 ŧ١ S. 21

Monitoring Well HRP Associates, Inc. 105 Lake Hill Road Field Data Sheet HRP Burnt Hills, NY 12027 Phone: 518-399-1174 Fax: 518-399-2939 Client Name: Glens Falls Brownfield Job #: Gle6000, PZ (T-4) WELL ID MW-Z Site Location: Ridge St. Glens Falls MY Elevation Data Date: 11/15/00 Time: Well Diameter (inches): ≖ True Depth (feet) Water Column Height: (feet) . +Correction O. O'\\
gaViool x 3 factor: x Depth 79al (Indii vau 11.93 Water Level Volume to be Purged: Bottom of Well -18.47 +0.27 Sampler: 453 Measuring Point: Solivist Measuring Device: Weather: Cloud Comments: Well Condition Checklist General Condition: Good Needs Repair Is well plumb? M N OK leaking / bent / loose / none Good Broken / None Good / Broken / None Good / Damaged / None Protective Steel: Well # Visible? PVC Riser: Concrete Collar: OK /Cracked /Leaking /None Well Cap: Evidence of rain water between steel and PVC? Evidence of ponding around well? Holes around collar? Purge Data 10:35 Start Time: Stop Time: Purge Device type: Bailer / Peristaltic / Submersible Total Time Purged: Comments: Volume Purged: (aallons) Preservative Containers Quantity Sample Data Approx. sample depth: Sampling method: Bailer / Peristaltic / Bladder Bailer type: SS. PVC. Bailer ∞rd: Dedicated / Nondedicated Filtered in Field?: No / @ Well / @ Vehicle Method of Filtration: Pressure / Vacuum / Syringe Field Decon: Bailer / Filter / Tubing / Other Appearance: Odor: Field Parameters Turb emiT Temp Spec. Cond. +990 Ntu 6,34 bailed 2.6 ms/cm 10:44 2,8 2,872 4990 11:55 690 1 600

HRP Associates, Inc. 105 Lake Hill Road Burnt Hills, NY 12027 Phone: 518-399-1174 Fax: 518-399-2939		3		oring Well Data Sheet			
Client Name: 6/2/15 Fall 5	Job #: 404.5 40 45.66	#4	WELL ID				
Site Location: (State Sant Sant Sant Sant Sant Sant Sant Sant	<u>. S </u>		MW	3			
Elevation Data							
Date: \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\	ime: 9:50	Well Diame	eter (inches):_				
Depth (feet) .+Correction	a True	Water Column	Height: _	5.7 (leet)			
Water Level 18,80 +	= 12.26	O. OHI galfoot x	3 lactor: x	0.23000 (1 W)			
Bottom of Well 7,70 + 67	· [4] [4]	Volume to be	Purged: _	(gal)			
Measuring Point: Measuring Device: Comments:		pler: (UB) ther: (May)(C)	4 MOST				
Well Condition Checklist							
General Condition: Good / Needs Repair  Protective Steel: OK / leaking / bent / loose / none  Well # Visible?  Well Cap: Good / Broken / None  Evidence of rain water between steel and PVC? Y / N  Evidence of ponding around well? Y / N  Holes around collar?  Is well plumb? Y N  Lock: Good / Broken / None  PVC Riser: Good / Damaged / None  Concrete Collar: OK / Cracked / Leaking / None)							
Purge Data	1						
Start Time: 10:15 Stop Time: 11\50 Total Time Purged: 1:35 mic Volume Purged: 4 (9	Purge De Comment (allons)		iler / Peristaltic	/ Submersible			
Sample Data		Containers	Quantity	Preservative			
Approx. sample depth:(ft) Sampling method: Bailer / Peristaltic / Blado Bailer type: SS, PVC,	der						
Bailer cord: Dedicated / Nondedicated Filtered in Field?: No / @ Well / @ Vehicle Method of Filtration: Pressure / Vacuum / Sy Field Decon: Bailer / Filter / Tubing / Appearance: Odor:	ringe						
Field Parameters							
Time PH Temp	Turb			Spec. Cond.			
10:30 6.19 12.6°C	, ,,	la baile	24+1.5 cf	1.6/1.6 ms/cm			
10.55 16.77 1248	1720 + 1/2 GC	infryn >	4	1.7/			
1.10/17/10/10/50	100		t/antter	1.7			
1351014 11.09	IRO	7 \					

HRP Associates, Inc. 105 Lake Hill Road Burnt Hills, NY 12027 Phone: 518-399-1174 Fax: 518-399-2939		<u></u>		oring Well Data Sheet
	:GLE WOOD PR		WELL ID	
Site Location:			L MW L	
Elevation Data	. , 1	T		
Date: WILDO Time:		<del> </del>	ter (inches):	0 (1)
Depth (feet) .+Correction = Tru Depth		Water Column		3.84 (leet)
	2,77	yolume to be		, 9 L (gal)
Bottom of Well   10.54 + 0.37   ≈ 16  Measuring Point: 6 TPS/PVC	. 6 \	plan C VD		
Measuring Device: <u>Shinted</u> 2010	Wea	pler: <u>CSA</u> ther: <u>AAAA</u>		
Well Condition Checklist				
General Condition: Good/ Needs Repair Protective Steel: OK / leaking / bent / loose / no Well # Visible? Good/ Broken / None Evidence of rain water between steel and PVC? Evidence of ponding around well? Holes around collar?	one Lock PVC		ood / Broken / N ood / Damaged /	
Purge Data				
Start Time: Stop Time: Total Time Purged: Volume Purged: (gallons	Comment		iler / Peristaltic	/ Submersible
Sample Data		Containers	Quantity	Preservative
Approx. sample depth:(ft) Sampling method: Bailer / Peristaltic / Bladder Bailer type: SS, PVC,	·			
Bailer cord: Dedicated / Nondedicated Filtered in Field?: No / @ Well / @ Vehicle Method of Filtration: Pressure / Vacuum / Syringe Field Decon: Bailer / Filter / Tubing / Other Appearance: Odor:	1			
Field Parameters				·
Time pH Temp	00			Spec. Cond.
1250 6.82:12.091990		Lina,	+   4   4   4   4   4   4   4   4   4	2.9m5/.0
1310 610 12 140	70 H V 2 10		13 racil	13.4

APPENDIX G SITE PHOTOGRAPHS, UST REMOVAL

HRP

Associates, Inc.



## Photograph #1

Uncovering UST's.



## Photograph #2

Tank grave area, from of 30-34 Ridge Street, camera facing northeast.



### Photograph #3

UST being uncovered.

HRP

Associates, Inc.





## Photograph #4

Concrete within UST.

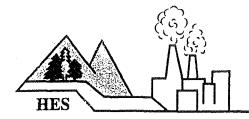
## Photograph #5

Excavation near completion, note boring GF-6 in lower central portion of picture.

# APPENDIX H SOIL SAMPLE ANALYTICAL RESULTS

HRP

Associates, Inc.



#### HUDSON ENVIRONMENTAL SERVICES, INC.

Mail: 22 Hudson Falls Rd., So. Glens Falls, NY 12803 Delivery: 211 Ferry Blvd., So. Glens Falls, NY 12803 Phone: 518/747-1060 Fax: 518/747-1062

## ANALYTICAL TEST RESULTS N.Y.S.D.O.H. LAB ID#11140

CLIENT: HRP Associates, Imc.

SAMPLE DESCRIPTION: Soil Pile

MATRIX: Soil

LOCATION: 30-34 Ridge St, Glens Falls

HES #: 001027P01

DATE SAMPLED: 10/24/00

DATE SAMPLE RECD: 10/27/00

TIME SAMPLED: 4:05 pm

TYPE SAMPLE:

SAMPLER: C.Bablin/HRP

PARAMETER	METHOD	RESULT	UNITS	TEST DATE
TPH	SW846-8015 (Modified)	5.8	mg/kg	11/02/00
Total Benzene	SW846-8021B	16	ug/kg	11/02/00

#### TOXICITY CHARACTERISTICS LEACHING PROCEDURE

#### (TCLP)

#### S2-846 METHOD 1311

			<del></del>	•	TCLP
PARAMETER	METHOD	RESULT	UNITS	TEST DATE	REGULATORY LEVELS (mg/l)
Lead	SW846-7420	0.302	mg/l	11/03/00	5.0

Approval By: MLHange

Date: 11 3 00

Hudson Environmental Services, Inc. (HES) certifies that the above tests were performed in accordance with the methods listed, and with a QA/QC program that meets the requirements of the test methods listed. HES, Inc. total liability for any work performed is limited to the amount billed to the customer for work leading to the claim of the customer.

RP Associates, Inc. HRP Job Number <u>G/e 2000</u>, P2 (T-3) . 105 Lake Hill Road (518) 399-1174 CHAIN OF CUSTODY Fax: (518) 399-2939 Project Manager \_\_\_\_\_\_\_\_ Place and Address of Collection 30-3,4 Ritse St. Sampler's Name (Signature) Assistant (witness) (Signature) Sample Total Sample Sample Type Preservative Date Time Remarks Location Volume Number Water Soil Waste 802 4:05 (001 1027701 Relinquished By (Signature) Received By (Signature) Time 24 \$ Renounced By (Signature) Received By (Signature) Name and Address of Laboratory LABORATORY SAMPLE PREPARATION REQUIRED None □ Filter Other 🗆 Adjust pH to Priority 24 hours 48 hours ☐ 3 days ☐ 5 days **ANALYSES REQUIRED** Sample Number Sample Number **Parameters Parameters** рΗ EPA 1664 Αg TPH As TPH 8015 MOD (Diesel) Ва TPH 8015 MOD (Gas) Cd Oil & Grease 8021B (Halogenated) Cr Benjare Ha 8021B (STARS) Pb 8021B (complete) Se 8360B VOCS 8RCRA metals 524.2 VOCs Cu 8270C (STARS) Ni 8100 Zn TSS TDS Phosphorous NO<sub>3</sub> Coliform Hardness Sulfate PCBs Remarks

#### INCORPORATED

2512 W. Cary Street • Richmond, Virginia • 23220-5117 804-353-6778 • 800-785-LABS (5227) • (FAX) 804-353-6928

#### Excellence in Service and Technology AIHA 8936, ELLAP 8936, NVLAP 1150, NYELAP 11413, CAELAP 2078, NC 593, SC 93003 LABORATORY ANALYSIS REPORT

**VOLATILE ORGANICS ANALYSIS** EPA SW-846 8260B

ACCOUNT:

2110-00-3

Date Collected:

11/7/00

CLIENT:

HRP Associates

Date Received:

11/13/00

ADDRESS:

105 Lakehill Road

Burnt Hills NY 12027

Date Reported:

11/17/00

PO NO.:

PROJECT NAME:

Gle6000.P2 (T,4)

PROJECT NO .:

JOB LOCATION:

SLI Sample No.:

Glen Falls NY

1799696

1799697

1799698

Client Sample No.: Sample Type:

Sample Analysis Date:

Solid 11/15/00

1799695

Solid 11/15/00

3

Solid 11/15/00

Solid 11/15/00

Compound	Concentration (µg/kg)	Concentration (µg/kg)	Concentration (µg/kg)	Concentration (µg/kg)	PQL* (µg/kg)
Benzene	BDL	BDL	BDL	6.3	1.0
n-Butylbenzene	BDL	BDL	BDL	BDL	1.0
sec-Butylbenzene	BDL	BDL	BDL	BDL	1.0
tert-Butylbenzene	BDL	BDL	BDL	BDL	1.0
Ethylbenzene	5.8	BDL	BDL	BDL	1.0
Isopropylbenzene	BDL	BDL	BDL	BDL	1.0
p-Isopropyltoluene	BDL	BDL	BDL	BDL	1.0
Naphthalene	BDL	BDL	BDL	BDL	1.0
n-Propylbenzene	BDL	BDL	BDL	BDL.	1.0
Toluene	1.8(B)	1.6(B)	2.1(B)	7.2(B)	1.0
1,2,4-Trimethylbenzene	BDL	BDL	BDL	BDL	1.0
1,3,5-Trimethylbenzene	BDL	BDL	BDL	BDL	1.0
m-,p-Xylene	BDL	BDL	BDL	BDL	4.0
o-Xylene	11.5	BDL	BDL	BDL	2.0

Surrogate Compounds for Quality Control, Expressed as Percent Recovery

96 %	97 %	98 %	97 %
75 %	78 %	79 %	80 %
102 %	105 %	102 %	103 %
103 %	103 %	103 %	101 %
	75 % 102 %	75 % 78 % 102 % 105 %	75 % 78 % 79 % 102 % 105 % 102 %

(B) denotes laboratory blank level of 2.7 μg/kg

Analyst: MELINDA B. LEWIS

Reviewed By HOMIYAR N. CHOKSI

All testing is done in strict accordance with Schneider Laboratories, Inc. protocol. The PQL (Practical Quantitation Limit) is defined as the minimum reporting limit as determined by instrument sensitivity, dilution factor, and method. BDL (Below Detection Limit) refers to analysis results less than the PQL indicated.

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#### Excellence in Service and Technology AIHA 8936, ELLAP 8936, NVLAP 1150, NYELAP 11413, CAELAP 2078, NC 593, SC 93003 LABORATORY ANALYSIS REPORT

**VOLATILE ORGANICS ANALYSIS** EPA SW-846 8260B

ACCOUNT:

2110-00-3

Date Collected:

11/7/00

CLIENT:

HRP Associates

Date Received:

11/13/00

Date Reported:

11/17/00

ADDRESS:

105 Lakehill Road

Burnt Hills NY 12027

PO NO.:

PROJECT NAME:

Gle6000.P2 (T,4)

PROJECT NO .:

JOB LOCATION:

Glen Falls NY

SLI Sample No.:

1799699

1799700 Solid 1799701 8 1799702

Client Sample No.: Sample Type:

Sample Analysis Date:

Solid 11/15/00

11/15/00

Solid 11/15/00

Solid 11/15/00

	•				
	Concentration	Concentration	Concentration	Concentration	PQL*
Compound	(µg/kg)	(μg/kg)	(µg/kg)	(µg/kg)	(µg/kg)
			<b>DD</b> 1	201	
Benzene	BDL	5.6	BDL	BDL	1.0
n-Butylbenzene	BDL	BDL	BDL	BDL	1.0
sec-Butylbenzene	BDL	BDL	BDL	BDL	1.0
tert-Butylbenzene	BDL	BDL	BDL	BDL	1.0
Ethylbenzene	BDL.	BDL	BDL	BDL	1.0
Isopropylbenzene	BDL	BDL	BDL	BDL	1.0
p-Isopropyltoluene	BDL	BDL	BDL	BDL	1.0
Naphthalene	BDL	BDL.	BDL	BDL	1.0
n-Propylbenzene	BDL	BDL	BDL	BDL	1.0
Toluene	2.7(B)	3.4(B)	BDL	1.8(B)	1.0
1,2,4-Trimethylbenzene	BDL	BDL	BDL	BDL	1.0
1,3,5-Trimethylbenzene	BDL	BDL	BDL	BDL	1.0
m-,p-Xylene	BDL	BDL	BDL	BDL	4.0
o-Xylene	BDL	BDL	BDL	BDL	2.0

Surrogate Compounds for Quality Control, Expressed as Percent Recovery

Dibromofluoromethane	96 %	96 %	93 %	96 %
1,2-Dichloroethane d-4	76 %	72 %	70 %	72 %
Toluene d-8	103 %	105 %	104 %	104 %
4-Bromofluorobenzene	102 %	105 %	101 %	101 %

Analyst: MELINDA B. LEWIS

(B) denotes laboratory blank level of 2.7 µg/kg

Reviewed By HOMIYAR N. CHOKSI

All testing is done in strict accordance with Schneider Laboratories, Inc. protocol. The PQL (Practical Quantitation Limit) is defined as the minimum reporting limit as determined by instrument sensitivity, dilution factor, and method.

BDL (Below Detection Limit) refers to analysis results less than the PQL indicated.

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#### Excellence in Service and Technology AIHA 8936, ELLAP 8936, NVLAP 1150, NYELAP 11413, CAELAP 2078 LABORATORY ANALYSIS REPORT

POLYNUCLEAR AROMATIC HYDROCARBONS ANALYSIS BY GC/MS PAHs by EPA SW-846 8270C

ACCOUNT: 2110-00-3

DATE COLLECTED: 11/7/00

**CLIENT: HRP Associates** 

DATE RECEIVED: 11/13/00

ADDRESS: 105 Lakehill Road

DATE ANALYZED: 11/16/00

Burnt Hills NY 12027

PO NO.:

PROJECT NAME: Gle6000.P2 (T,4)

DATE REPORTED: 11/17/00

PROJECT NO .:

JOB LOCATION: Glen Falls, NY

1799696

1799697

1799698

SLI Sample No.: Client Sample No.:

1799695

5

Sample Matrix:

Soil

Soil

Soil

	Concentration	Concentration	Concentration	Concentration	**PQL
Compound	μg/Kg	μg/Kg	μg/Kg	μg/Kg	μg/Kg
Acenaphthene	<400	<400	<400	<400	400
Acenaphthylene	<400	<400	<400	<400	400
Anthracene	<400	<400	<400	<400	400
Benzo(a)anthracene	<400	<400	<400	<400	400
Benzo(a)pyrene	<400	420	<400	<400	400
Benzo(b)fluoranthene	<400	610	<400	400	400
Benzo(k)fluoranthene	<400	<400	<400	<400	400
Benzo(g,h,i)perylene	<400	<400	<400	<400	400
Chrysene	<400	540	<400	<400	400
Dibenzo(a,h)anthracene	<400	<400	<400	<400	400
Fluoranthene	<400	1,100	<400	630	400
Fluorene	<400	<400	<400	<400	400
Indeno(1,2,3-cd)pyrene	<400	<400	<400	<400	400
Naphthalene	<400	<400	<400	<400	400
Phenanthrene	<400	760	<400	410	400
Pyrene	<400	870	<400	500	400

Analyst: CHRIS B. MCFARLANE

Reviewed By

\*\*PQL: Practical Quantitation Limit is defined as the minimum reporting limit for the sample, as determined by instrument sensitivity, dilution factor and methods used to extract the sample to isolate target compounds

#### INCORPORATED

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#### Excellence in Service and Technology AIHA 8936, ELLAP 8936, NVLAP 1150, NYELAP 11413, CAELAP 2078 LABORATORY ANALYSIS REPORT

POLYNUCLEAR AROMATIC HYDROCARBONS ANALYSIS BY GC/MS PAHs by EPA SW-846 8270C

ACCOUNT: 2110-00-3

DATE COLLECTED: 11/7/00

**CLIENT: HRP Associates** 

DATE RECEIVED: 11/13/00

ADDRESS: 105 Lakehill Road

DATE ANALYZED: 11/16/00

Burnt Hills NY 12027

PO NO .:

PROJECT NAME: Gle6000.P2 (T,4)

DATE REPORTED: 11/17/00

PROJECT NO .:

JOB LOCATION: Glen Falls, NY

SLI Sample No.:

1799699

1799700 1799701 1799702

Client Sample No.: Sample Matrix:

Soil

Soil

Soil

9 Soil

	Concentration	Concentration	Concentration	Concentration	**PQL
Compound	μg/Kg	 μg/Kg	μg/Kg	μg/Kg	μg/Kg
Acenaphthene	<400	<400	<400	<400	400
Acenaphthylene	<400	<400	<400	<400	400
Anthracene	<400	<400	<400	<400	400
Benzo(a)anthracene	<400	<400	<400	<400	400
Benzo(a)pyrene	<400	<400	<400	<400	400
Benzo(b)fluoranthene	<400	<400	<400	<400	400
Benzo(k)fluoranthene	<400	<400	<400	<400	400
Benzo(g,h,i)perylene	<400	<400	<400	<400	400
Chrysene	<400	<400	<400	<400	400
Dibenzo(a,h)anthracene	<400	<400	<400	<400	400
Fluoranthene	<400	<400	<400	<400	400
Fluorene	<400	<400	<400	<400	400
Indeno(1,2,3-cd)pyrene	<400	<400	<400	<400	400
Naphthalene	<400	<400	<400	<400	400
Phenanthrene	<400	<400	<400	<400	400
Pyrene	<400	<400	<400	<400	400

Analyst: CHRIS B. MCFARLANE

Reviewed By

<sup>\*\*</sup>PQL: Practical Quantitation Limit is defined as the minimum reporting limit for the sample, as determined by instrument sensitivity, dilution factor and methods used to extract the sample to isolate target compounds

of 2HRP Associates, Inc. HRP Job Number <u>G1e6000</u>, P2 (T,4) 105 Lake Hill Road (518) 399-1174 CHAIN OF CUSTODY Project Manager Jeff Solek Fax: (518) 399-2939 Place and Address of Collection 30-34 Ridge St. Sampler's Name (Signature) Assistant (witness) (Signature) Sample Sample Type Preservative Date Time Remarks Location Number Volume Water Soil Waste 402. 2-41 Const 60z Received By (Signature) Time Date Renounced By (Signature) Received By (Signature) Time Name and Address of Laboratory LABORATORY SAMPLE PREPARATION REQUIRED None Adjust pH to Filter 🗆 Other 🗆 Morniel Priority 24 hours ☐ 48 hours ☐ 3 days □ 5 days **ANALYSES REQUIRED** Sample Number Sample Number **Parameters Parameters** 2 2 рΗ EPA 1664 Ag TPH As TPH 8015 MOD (Diesel) Ва TPH 8015 MOD (Gas) Cd Oil & Grease C٢ 8021B (Halogenated) Hg 8021B (STARS) Pb 8021B (complete) Se 8360B VOCS 8RCRA metals 524.2 VOCs 8270C (STARS) Cu Ni 8100 Zn TSS TDS Phosphorous NO<sub>3</sub> Coliform Hardness Sulfate **PCBs** Remarks



11/11

11:10am UB 0

HRP Associates, Inc. 105 Lake Hill Road (518) 399-1174 Fax: (518) 399-2939

Place and Address of Collection 30-34 Ridge St.

Glens Falls, NY

### HRP

. CHAIN OF CUSTODY

Sheet 2 of 2

Job Number <u>G1e6000</u>. P2 (T-4)

Project Manager <u>Teff Solck</u>

Sampler's Name (Signature) Assistant (witness) (Signature)

	Sample	Jampie		Ulai	Pres	ervative	lr	Date	Time	L	Sample	lype			Dansada	_
<u> </u>	Number	Location	Vol	ume	1.00	CI VALIVO		)	111110	Water	Soil	Air	Waste	1	Remark	S
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9	GF-12	6-8'	6	02.	7	/		<b>√</b>			V	,				
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Ag ·										TPH						
As_										TPH 8015 MC						
<u>Ba</u>										TPH 8015 MC	D (Gas)			<del></del>		
Cd			<u> </u>		····					Oil & Grease				······································		
Cr			<del></del>		· · · · · · · · · · · · · · · · · · ·					8021B (Halog	enated)					
Hg										8021B (STAR	S)	V	V			
Pb								]		8021B (compl	ete)					
Se										8360B VOCS						
8RC	RA metals									524.2 VOCs						
Cu										8270C (STAR	S)	<u></u>				
Ni										8100						
Zn																
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PCB																
Rem					<del></del>					·			·		· ·	

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11/11

11:10 am

#### INCORPORATED

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Excellence in Service and Technology AIHA 8936, ELLAP 8936, NVLAP 1150, NYELAP 11413, CAELAP 2078, NC 593, SC 93003

#### LABORATORY ANALYSIS REPORT

DATE COLLECTED:

DATE RECEIVED:

DATE ANALYZED:

DATE REPORTED:

11/7/2000

11/13/2000

11/17/2000

11/20/2000

ACCOUNT #:

2110-00-4

CLIENT:

**HRP** Associates

ADDRESS:

105 Lakehill Road

Burnt Hills NY 12027

PO NO .:

PROJECT NAME: 30-34 Ridge St.

PROJECT NO .:

JOB LOCATION: Glen Falls NY

SLI Sample No.		180	0390			180	0391			•
Client Sample No.			1				5			
Sample Description		GF-6	5 <b>2-4</b> '			GF-	8 2-4'			
Sample Type		sc	DIL			S	OIL			
	Sample	Total	Analyte	Analyte	Sample	Total	Analyte	Analyte	Analysis	Minimum
	Weight	Analyte	Conc.	Conc.	Weight	Analyte	Conc.	Conc.	Method	Reporting
Analyte	(mg)	(µg)*	(% by wt)*	(PPM)*	(mg)	(µg)*	(% by wt)*	(PPM)*		Limit (μg)
Arsenic (As)	1375	< 4.0	< 0.001	< 10	1299	< 4.0	< 0.001	< 10	EPA 3050B/6010B	4.0
Barium (Ba)	1375	40.0	0.003	30	1299	219.0	0.017	170	EPA 3050B/6010B	4.0
Cadmium (Cd)	1375	< 4.0	< 0.001	< 10	1299	< 4.0	< 0.001	< 10	EPA 3050B/6010B	4.0
Chromium (Cr)	1375	< 4.0	< 0.001	< 10	1299	4.0	< 0.001	< 10	EPA 3050B/6010B	4.0
Lead (Pb)	1375	14.0	0.001	10	1299	540.0	0.042	420	EPA 3050B/6010B	4.0
Mercury (Hg)	207	< 0.3	< 0.001	< 10	203	< 0.3	< 0.001	< 10	EPA 7471A	0.3
Selenium (Se)	1375	< 4.0	< 0.001	< 10	1299	< 4.0	< 0.001	< 10	EPA 3050B/6010B	4.0
Silver (Ag)	1375	< 4.0	< 0.001	< 10	1299	< 4.0	< 0.001	< 10	EPA 6010B	4.0
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ANALYST: MATTHEW D. ASBURY

**REVIEWED BY JAMES M.VESCIO** 

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HRP Assoc	ciates, Inc	<b>3</b> .		and an arrangement	2 P		7		of <u>2</u>		AND	plante and other party and the party of the	
105 Lake Hill				# 3 1	<u>,                                    </u>		Job Nun	nber 💪	'le600	0.01	(T4)		
(518) 399-117 Fax: (518) 39			· CHA	IN OF	CUSTO	YDC	ş		oer <u>Gle6000</u> , P2 (T,4) anager <u>Jeff Sotek</u>				
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Number	Location	Volume	1	Date	Time	Water	Soil	- Air	Waste		Remark	S	
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3 6f-6	12-14	602.				ļ	-	4			,		
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Name and Add		oratory	Schneide	TODY CA	io coo	EPARATIO	N DEALL	<del>DE</del> N				*****	
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Ва						TPH 8015 MC	)D (Gas)						
Çd						Oil & Grease							
Cr						8021B (Halog	enated)			<u> </u>			
Hg	. , , , , , , , , , , , , , , , , , , ,					8021B (STAR	(5)		1	مسمعا		3	
Pb						8021B (comp	lete)						
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NI						8100							
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Coliform									<del> </del>		<del> </del>	1	
Hardness							g gair is a ballach and the state of the sta	1	-		<del></del>	-	
Sulfate	-								<u> </u>			-	
PCBs	†									1			
Remarks	.1	1	.1										

17 F02 46X 22 1000 058 2

## APPENDIX I GROUND WATER ANALYTICAL RESULTS

#### INCORPORATED

2512 W. Cary Street • Richmond, Virginia • 23220-5117 804-353-6778 • 800-785-LABS (5227) • (FAX) 804-353-6928

## Excellence in Service and Technology AIHA 8936, ELLAP 8936, NVLAP 1150, NYELAP 11413, CAELAP 2078, NC 593, SC 93003 LABORATORY ANALYSIS REPORT

VOLATILE ORGANICS ANALYSIS SW-846 8260A

ACCOUNT:

2110-00-6

Date Collected: 12/8/2000

CLIENT:

HRP Associates

Burnt Hills NY 12027

Date Received: 12/11/2000

ADDRESS:

P.O. Box 8

Date Reported: 12/13/2000

PO NO.:

PROJECT NAME:

30-34 Ridge St

PROJECT NO .:

JOB LOCATION:

Glens Falls, NY

Work Order 2110-00-6

SLI Sample No.:

1817483

1817484

Client Sample No.:

5

6

Sample Type: Sample Analysis Date: Aqueous 12/12/2000

Aqueous 12/12/2000

	Concentration	Concentration	PQL*
Compound	(µg/L)	(µg/L)	(μg/L)
Benzene	BDL	BDL	1.0
n-Butylbenzene	BDL.	BDL	1.0
sec-Butylbenzene	BDL	BDL	1.0
tert-Butylbenzene	BDL	BDL	1,0
Ethylbenzene	BDL	BDL	1.0
Isopropylbenzene	BDL.	BDL	1.0
p-Isopropyltoluene	BDL	BDL	1.0
Naphthalene	BDL	BDL	1.0
n-Propylbenzene	BDL	BDL	1.0
Toluene	BDL	BDL	1.0
1,2,4-Trimethylbenzene	BDL	BDL	1.0
1,3,5-Trimethylbenzene	BDL	BDL	1.0
m-,p-Xylene	BDL	BDL	4.0
o-Xylene	BDL	BDL	2.0

Surrogate Compounds for Quality Control, Expressed as Percent Recovery

Dibromofluoromethane	101 %	100 %
1,2-Dichloroethane d-4	100 %	99 %
Toluene d-8	97 %	96 %
4-Bromofluorobenzene	100 %	100 %

Analyst: MELINDA B. LEWIS

Reviewed By CHRIS B. MCFARLANE

All testing is done in strict accordance with Schneider Laboratories, Inc. protocol. The PQL (Practical Quantitation Limit) is defined as the minimum reporting limit as determined by instrument sensitivity, dilution factor, and method.

BDL (Below Detection Limit) refers to analysis results less than the PQL indicated.

Sheet 2 of 2HRP Associates, Inc. HRP Job Number <u>G1e 6000</u>. P2 105 Lake Hill Road (518) 399-1174 Project Manager <u>Jeff So</u>tek CHAIN OF CUSTODY Fax: (518) 399-2939 Place and Address of Collection 30-34 Kidse St. Sampler's Name (Signature) Clas Falls Assistant (witness) (Signature) Sample Sample Sample Type Time Remarks Number Location Water Soil Waste Air б Soul 12/8 HC! 12:00 Bell Relinquished By (Signature) Received By (Signature) Time Date Renounced By (Signature) Received By (Signature) Date Time Schneider Name and Address of Laboratory LABORATORY SAMPLE PREPARATION REQUIRED Filter Adjust pH to Other 🗆 Normal Priority 

24 hours ☐ 48 hours ☐ 3 days ☐ 5 days **ANALYSES REQUIRED** Sample Number Sample Number Parameters **Parameters** 6 рΗ EPA 1664 Ag ' TPH As. TPH 8015 MOD (Diesel) Ba TPH 8015 MOD (Gas) Cd Oil & Grease Сг 8021B (Halogenated) Hg · 8021B (STARS) Рb 8021B (complete) Se 8360B VOCS 8RCRA metals 524.2 VOCs Cu 8270C (STARS) Ni Zn **TSS** TDS Phosphorous NO<sub>3</sub> Coliform Hardness Sulfate PCBs Remarks

HRP Associates, Inc. 105 Lake Hill Road (518) 399-1174 Fax: (518) 399-2939

## HRP

Sheet 2 of 2

Job Number <u>Gle 6000</u>. P2

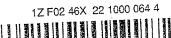
(518) 399-117 Fax: (518) 39					CUSTO	ODY Project Manager <u>Jeff Sofek</u>						
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Pb						8021B (comp	lete)					
Se						8360B VOCS						
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		Gles	Falls		14		Assistant (wi	tness) (Sign	ature)	TSS			
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