GLENN SPRINGS HOLDINGS, INC.
MILLER SPRINGS REMEDIATION MANAGEMENT INC.

INDOOR AIR QUALITY MONITORING REPORT

HYDE PARK LANDFILL
NIAGARA FALLS, NEW YORK

SEPTEMBER 2002
REF. NO. 1069 (313)

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1.0 INTRODUCTION

A Hyde Park Landfill project review meeting was held on July 6, 2000. Participants in the meeting included representatives of Glenn Springs Holdings, Inc. (GSHI), Miller Springs Remediation Management, Inc. (MSRM), Conestoga-Rovers & Associates, Inc. (CRA), the United States Environmental Protection Agency (USEPA), the New York State Department of Environmental Conservation (NYSDEC), and the New York State Department of Health (NYSDOH). During the meeting, the NYSDOH expressed concerns regarding the possible migration of organic vapors from the non-aqueous phase liquid (NAPL) detected in the bedrock at monitoring well CD2U into the subsurface soils at the depth of the basement of the apartments located at 4824 Hyde Park Boulevard. Access to the property at 4824 Hyde Park Boulevard for the installation of monitoring wells had previously been denied; therefore, NYSDOH suggested that soil vapor probes be installed on City of Niagara Falls (City) property and New York Power Authority (NYPA) property adjacent to 4824 Hyde Park Boulevard. These soil vapor probes would be constructed such that the screened interval would be set at a depth of approximately 2 feet below the depth of the apartment basement. Following installation, the soil vapor probes would be used for periodic screening of organic vapors using a photoionization detector (PID).

GSHI submitted a Work Plan for the installation and screening of soil vapor probes in the vicinity of 4824 Hyde Park Boulevard on March 20, 2001. Comments were received from the Agencies (NYSDEC, USEPA, and NYSDOH) on April 7 and responses were returned on May 31. The Work Plan was subsequently approved. Field activities associated with the Work Plan commenced on September 6, 2001.

This report describes the work performed pursuant to the Work Plan, presents the soil vapor screening results, and presents recommendations for further action with regards to the soil vapor monitoring program. The report was prepared by Conestoga-Rovers and Associates, Inc. (CRA) on behalf of GSHI and MSRM.

2.0 CONSTRUCTION OF SOIL VAPOR PROBES

On September 6, 2001, four soil vapor probes (SVP-1, SVP-2, SVP-3, and SVP-4) were installed, two to the north and two to the east of the northeast corner of 4824 Hyde Park Boulevard. The location of each of the soil vapor probes is shown on Figure 1.

The soil vapor probes were installed using direct-push (geoprobe) methods as described in the Work Plan and summarized as follows:

> A 2-inch diameter borehole was advanced to a depth of 7 feet below ground surface (BGS). This installation depth was based on the estimated depth of the basements of the adjacent buildings. A continuous soil core sample was collected during the advancement of the borehole. The soil core was examined and a description of the soils was recorded.
>
> Following the collection of the soil core, the soil vapor probe was installed through the geoprobe rods. The soil vapor probe consisted of a 6-inch long, 1-inch diameter, stainless steel, number 6 slot screen attached to 1-inch diameter stainless steel riser. Once the soil vapor probe was in place at the correct depth the geoprobe rods were removed from the borehole. The annular space between the borehole wall and the soil vapor probe was then backfilled with glass beads to a depth of 6 inches above the top of the screen (approximately 6 feet BGS). Bentonite pellets were added above the glass beads to a depth of approximately 1 foot BGS. The installation was completed by cutting the stainless steel riser below grade and installing a protective manhole cover.

Stratigraphic and instrumentation logs for each of the four soil vapor probes are presented in Appendix A of this report.

Following installation of the soil vapor probes, tubing was installed in order to facilitate vapor screening. A 1-inch diameter cap for the top of the probe riser was tapped and a compression fitting installed. From the compression fitting, a length of ½-inch diameter teflon tubing was suspended into the screened interval of the soil vapor probe. A length of ½-inch diameter teflon tubing with a shutoff valve was left in the protective manhole and was attached to the riser cap for the collection of vapor samples.

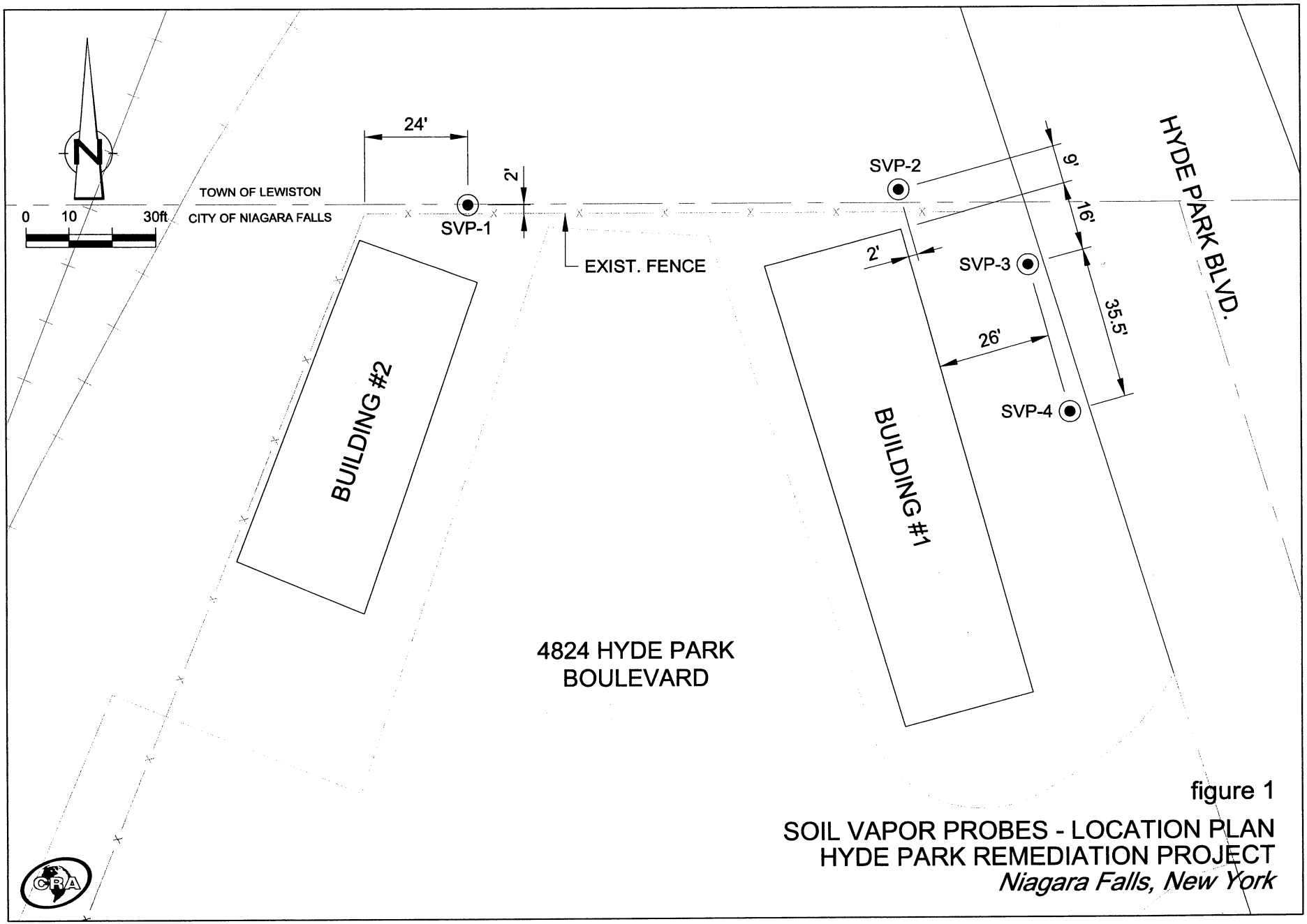


figure 1

SOIL VAPOR PROBES - LOCATION PLAN
HYDE PARK REMEDIATION PROJECT
Niagara Falls, New York

01069-00(313)GN-NF001 JUL 29/2002

3.0 SOIL VAPOR SCREENING RESULTS

The screening of the soil vapor probes was performed by CRA with oversight by the NYSDOH. Screening was initiated two weeks following the completion of the installation of the soil vapor probes and was performed weekly for four weeks and monthly for two months thereafter (the total period of the screening program was 3 months). Vapor screening was conducted by attaching a calibrated PID to the teflon tubing at each location and opening the shutoff valve. The PID was allowed to run for 10 minutes at each location and the minimum, peak, and sustained readings from the observed were recorded.

As a basis for comparison, two overburden Community Monitoring Wells (CMW-7OB and CMW-8OB) were also monitored during the first screening event. Each of these monitoring wells are sampled quarterly as part of the Community Monitoring Program and have never had detections of any of the Community Monitoring Program Early Warning Parameters. The screening values from the Community Monitoring Wells were considered to be representative of background levels.

Table 1 presents a summary of the soil vapor probe screening results and background screening levels from the Community Monitoring Wells. It is noted that vapor screening results were provided to the Agencies during project update meetings.

As can be seen from Table 1, no organic vapors were detected at any of the soil vapor probe locations. The absence of organic vapors in the soil probe samples indicates that organic vapors are not present in the vadose zone at the base of surrounding structures.

TABLE 1

SOIL VAPOR SCREENING RESULTS
RESIDENTIAL COMMUNITY MONITORING PROGRAM
HYDE PARK RRT PROGRAM

Location:	*SVP-1*	*SVP-2*	*SVP-3*	*SVP-4*	*CMW-7OB*	*CMW-8OB*
Date						
09/18/01	0 ppm	0 ppm	0 ppm	0 ppm	0 ppm	0 ppm
09/27/01	0 ppm	0 ppm	0 ppm	0 ppm	-	-
10/04/01	0 ppm	0 ppm	0 ppm	0 ppm	-	-
10/12/01	0 ppm	0 ppm	0 ppm	0 ppm	-	-
11/16/01	0 ppm	0 ppm	0 ppm	0 ppm	-	-
12/18/01	0 ppm	0 ppm	0 ppm	0 ppm	-	-

Notes:
- Not applicable.
ppm Parts Per Million.

4.0 CONCLUSIONS AND RECOMMENDATIONS

Organic vapors were not detected during the soil vapor screening. The absence of soil vapors indicates that migration to the basements of adjacent structures is not occurring.

Even with these results, MSRM proposes that soil vapor screening continue to be performed on a quarterly basis for a period of one year. The screening will be performed in conjunction with soil vapor sampling at community monitoring wells CMW-7OB and CMW-8OB. Results of the soil vapor screening will be included in the Hyde Park Quarterly Monitoring Reports.

In the event that detectable levels of organic vapors are present in any of the soil vapor probes, further action will be proposed. If, over the one year monitoring period, organic vapors are not detected the soil vapor probes will be decommissioned. Monitoring at the nearby CMW-12 cluster will be continued as required under the Community Monitoring Program to remain protective of the vicinity.

APPENDIX A

SOIL VAPOR PROBES

STRATIGRAPHIC AND INSTRUMENTATION LOG
(OVERBURDEN)

PROJECT NAME: Hyde Park RRT
PROJECT NUMBER: 01069-30
CLIENT: MSRM
LOCATION: Niagara Falls, NY

HOLE DESIGNATION: SVP-1
DATE COMPLETED: September 6, 2001
DRILLING METHOD: Geoprobe/Direct Push
FIELD PERSONNEL: J. Raby

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE
	ML-SILT (TOPSOIL), some roots, brown, moist	0.5	CAP with quick-connect and shut-off valve 8"Ø CURB BOX BENTONITE 1"Ø SS RISER 2"Ø borehole GLASS BEADS WELL SCREEN				
	FILL	3					
	CL-CLAY, some silt, red-brown, moist	7					
	END OF BOREHOLE @ 7.0ft BGS						

WELL DETAILS
Screened interval:
6.5 to 7ft BGS
Length: 0.5ft
Diameter: 1in
Slot Size: #6
Seal:
1 to 6ft BGS
Material: Bentonite
Sand Pack:
6 to 7ft BGS
Material: Glass Beads

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

OVERBURDEN LOG 01069-30.GPJ CRA_CORP.GDT 10/4/01

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Hyde Park RRT
PROJECT NUMBER: 01069-30
CLIENT: MSRM
LOCATION: Niagara Falls, NY

HOLE DESIGNATION: SVP-2
DATE COMPLETED: September 6, 2001
DRILLING METHOD: Geoprobe/Direct Push
FIELD PERSONNEL: J. Raby

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE
	ML-SILT (TOPSOIL), some roots, brown, moist	0.5	CAP with quick-connect and shut-off valve 8"ø CURB BOX BENTONITE 1"ø SS RISER 2"ø borehole GLASS BEADS WELL SCREEN				
	FILL	3					
	CL-CLAY, some silt, red-brown, moist	7					
	END OF BOREHOLE @ 7.0ft BGS						

WELL DETAILS
Screened interval:
6.5 to 7ft BGS
Length: 0.5ft
Diameter: 1in
Slot Size: #6
Seal:
1 to 6ft BGS
Material: Bentonite
Sand Pack:
6 to 7ft BGS
Material: Glass Beads

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

OVERBURDEN LOG 01069-30.GPJ CRA_CORP.GDT 10/4/01

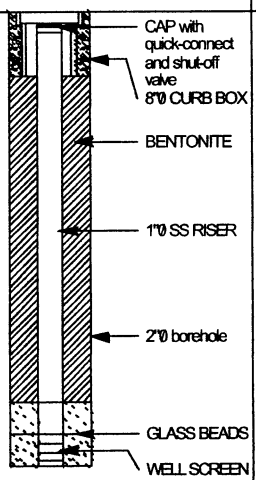
STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Hyde Park RRT
PROJECT NUMBER: 01069-30
CLIENT: MSRM
LOCATION: Niagara Falls, NY

HOLE DESIGNATION: SVP-3
DATE COMPLETED: September 6, 2001
DRILLING METHOD: Geoprobe/Direct Push
FIELD PERSONNEL: J. Raby

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS
	ML-SILT (TOPSOIL), some roots, brown, moist	0.5
	CL-CLAY, medium-brown, dry	1
	FILL, slag and gravel, red, dry	1.5
	CL-CLAY, medium-brown, moist	
	- very moist at 3.5ft BGS	
	END OF BOREHOLE @ 7.0ft BGS	7

MONITOR INSTALLATION



WELL DETAILS
Screened interval:
6.5 to 7ft BGS
Length: 0.5ft
Diameter: 1in
Slot Size: #6
Seal:
1 to 6ft BGS
Material: Bentonite
Sand Pack:
6 to 7ft BGS
Material: Glass Beads

SAMPLE NUMBER	INTERVAL	REC (ft)	'N' VALUE

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

OVERBURDEN LOG 01069-30.GPJ CRA_CORP.GDT 10/4/01

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Hyde Park RRT
PROJECT NUMBER: 01069-30
CLIENT: MSRM
LOCATION: Niagara Falls, NY

HOLE DESIGNATION: SVP-4
DATE COMPLETED: September 6, 2001
DRILLING METHOD: Geoprobe/Direct Push
FIELD PERSONNEL: J. Raby

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE
0	ML-SILT, some roots, brown, moist	1.1	CAP with quick-connect and shut-off valve 8"Ø CURB BOX				
	MU/CL-SILT and CLAY, brown, dry	2	BENTONITE				
2	CL-CLAY, some silt, medium-brown, moist		1"Ø SS RISER				
4							
			2"Ø borehole				
6			GLASS BEADS				
		7	WELL SCREEN				
	END OF BOREHOLE @ 7.0ft BGS						
8			WELL DETAILS Screened interval: 6.5 to 7ft BGS Length: 0.5ft Diameter: 1in Slot Size: #6 Seal: 1 to 6ft BGS Material: Bentonite Sand Pack: 6 to 7ft BGS Material: Glass Beads				
10							
12							
14							
16							
18							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

OVERBURDEN LOG 01069-30.GPJ CRA_CORP.GDT 10/4/01