Final Engineering Report

Brownfield Cleanup Program
7503 Niagara Falls Blvd. Site

Niagara Falls, New York
BCP Site No. C932126

November 2007 0101-002-500

Prepared For:

GLR Holdings, LLC

Prepared By:

BENCHMARK
ENVIRONMENTAL
ENGINEERING &
SCIENCE, PLLC

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FINAL ENGINEERING REPORT
7503 NIAGARA FALLS BOULEVARD SITE

CERTIFICATION:

I, Paul H. Werthman, residing in Boston, New York, certify that at all pertinent times hereinafter mentioned, was a currently registered professional engineer; was the individual who had primary engineering responsibility for the implementation of the subject remedial program; and that all requirements of the remedial program have been complied with.

The data submitted to the NYSDEC demonstrates that the remediation requirements set forth in the work plans and any other relevant provisions of ECL 27-1419 have been or will be achieved in accordance with the time frames, if any, established in the work plan.

Any use restrictions, institutional controls, engineering controls, and/or any operation and maintenance requirements applicable to the Site are contained in an environmental easement that was created and has been recorded pursuant to ECL 71-3605, and that any affected local governments, as defined in ECL 71-3606, have been notified that such easement has been recorded.

A Site Management Plan has been submitted by the applicant for the continual and proper operation, maintenance, and monitoring of any engineering controls employed at the Site including the proper maintenance of any remaining monitoring wells.

STATE OF NEW YORK
PAUL H. WERTHMAN
57626

Paul H. Werthman, P.E.
Principal Engineer
License No. 57626

BROWNFIELDS CLEANUP PROGRAM

FINAL ENGINEERING REPORT

for

7503 NIAGARA FALLS BOULEVARD SITE
NIAGARA FALLS, NEW YORK
SITE NO. C932126

November 2007 0101-002-500

Prepared for:

GLR Holdings, LLC

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1.0 INTRODUCTION

This Final Engineering Report (FER) has been prepared on behalf of GLR Holdings, LLC (GLR) for the 7503 Niagara Falls Boulevard Site in Niagara Falls, New York (see Figure 1).

In January 2006, GLR Holdings submitted a BCP application concurrently with a Remedial Investigation (RI) Work Plan (Ref. 1). Based on previous investigations, two discrete areas were identified in which groundwater and saturated soils were impacted by chlorinated VOCs at concentrations above NYSDEC Class GA Groundwater Quality Standards/ Guidance Values (GWQS/GV) per 6NYCRR Part 703.

The RI Work Plan was approved by the NYSDEC in May 2006, and a Brownfield Cleanup Agreement (BCA) was executed between GLR Holdings, LLC and the NYSDEC on May 11, 2006 (BCP No. C932126). Benchmark implemented RI activities at the Site starting in June 2006. Based on the RI findings and findings of previous investigations, an Interim Remedial Measures (IRM) Work Plan (Ref. 2) was submitted in October 2006 and approved November 1, 2006 (included as Electronic Attachment 1). NYSDEC also required on-site soil gas sampling as part of the RI activities. The IRM field work was completed in November 2006, and the soil gas sampling was completed in January 2007. Based on the findings of the on-site soil gas sampling, the NYSDEC and NYSDOH required off-site soil gas sampling at residential properties south of the Site, which was conducted in June/July 2006. GLR initiated commercial redevelopment of the Site in September 2007. The Remedial Investigation/Alternatives Analysis Report (AAR)/IRM Report (included as Electronic Attachment 2) was submitted to the NYSDEC in October 2007 (Ref. 3).

1.1 Background

GLR is redeveloping the 7503 Niagara Falls Boulevard Site and the east adjacent parcel at 7543-7555 Niagara Falls Boulevard as a fast food restaurant. 7503 Niagara Falls Boulevard is subject to the BCP, while 7543-7555 Niagara Falls Blvd is not. For purposes of this FER, reference to the Site from this point forward refers only to the 7503 Niagara Falls Boulevard parcel.

The Site encompasses approximately 0.89 acres of vacant land along Niagara Falls Boulevard in the City of Niagara Falls, New York (see Figure 1). The property is generally bounded by Niagara Falls Boulevard to the north, a vacant lot and apartment buildings to the east (i.e., 7543-7555 Niagara Falls Blvd owned by GLR), private residences to the south, and commercial (fast-food restaurant) property to the west (i.e., 7403 Niagara Falls Blvd.). A concrete slab remnant from a former building foundation was present across the majority of the western portion of the property. The remainder of the Site was generally covered by asphalt.

Beginning in the late 1960s and continuing through the mid-1990s, the Site was occupied by several commercial establishments. These included various restaurants, auto parts sales and auto repair facilities. The contamination consists of volatile organic compounds which are believed to have been released during the property's previous use as an auto repair facility.

1.2 Purpose and Scope

This FER documents remedial construction performed at the property and related materials treatment, program performance, and monitoring and sampling activities executed under the BCA. More specifically, this FER documents IRM activities performed in accordance with the IRM Work Plan, as approved by the NYSDEC.

1.3 Report Organization

This report is organized by remedial task and includes the following:

- A description of the interim remedial activities completed at the Site.
- Identification of soil cleanup objectives.
- A description of deviations or corrective measures taken.
- Figures and record drawings.
- Analytical data verifying cleanup objectives were met.

2.0 CLEANUP OBJECTIVES

2.1 General

Cleanup objectives for the Site include implementing remedial measures that are protective of human health and the environment, and mitigate potential short-term impact to Site construction workers and the surrounding community during the remedial construction and redevelopment period.

A Soil/Fill Management Plan (SFMP), incorporated into the Site Management Plan (included as Electronic Attachment 3), addresses potentially contaminated soil/fill that may be encountered or handled subsequent to the Brownfield Cleanup during infrastructure construction or other redevelopment activities.

Integral to the cleanup and redevelopment activities at the Site will be the following objectives to protect the public health:

- Control of surface erosion and run-off during brownfield clean-up, infrastructure and redevelopment construction activities.
- Surface stabilization to mitigate potential wind or water-borne migration of surficial soil/fill constituents in disturbed areas of the property that are not undergoing immediate redevelopment (i.e., areas outside redeveloped parcels where remedial construction or utility installation has take place).

Specific objectives of the BCP to protect the environment were to:

- Remove, treat, or contain surface and subsurface impacted soil/fill that would potentially: leach volatile organic, semi-volatile organic, and/or inorganic constituents in sufficient concentrations to degrade on-site groundwater quality; degrade off-site shallow groundwater quality; adversely impact the surface water quality, or impact the surrounding community.
- Prevent degradation of off-site groundwater quality potentially resulting from the Site.

2.2 Groundwater Cleanup Objectives

The cleanup objectives for Site groundwater were the NYSDEC Class GA Groundwater Quality Standards/Guidance Values (GWQS/GV) per 6NYCRR Part 703. Based on the nature and extent of contamination as indicated by the RI and prior investigations, the most applicable remedial measure was in-situ enhanced bioremediation of impacted groundwater and saturated soils via direct injection of hydrogen releasing compounds (HRC®) into the impacted zones as described in Section 3.2.3.

3.0 SUMMARY & DOCUMENTATION OF INTERIM REMEDIAL ACTIVITIES

3.1 General

In accordance with the October 2006 IRM Work Plan for the BCP, the following interim remedial activities were completed in or adjacent to the property, and can be generally categorized as:

- **Hydrogen Release Compounds (HRC) Injection –** *In-situ enhanced bioremediation of chlorinated volatile organic compounds (cVOCs) in groundwater and saturated soils was accomplished via direct injection of hydrogen releasing compounds (HRC®) into the impacted zones.*

- **Groundwater Monitoring Program –** *A groundwater sampling program was implemented to evaluate the effectiveness of the in-situ groundwater treatment program. To monitor the effectiveness of the in-situ treatment, the groundwater sampling program consists of post-treatment monitoring for constituents of potential concern (COPCs) in MW-14 and MW-19.*

- **On-Site Soil Gas Sampling** – *Two soil gas samples collected in January 2007 from beneath the asphalt in the southeastern portion of the Site contained elevated concentrations of VOCs.*

- **Off-Site Soil Gas Sampling –** *Off-site soil gas sampling was performed in the residential properties located south of the Site to evaluate whether VOCs in soil gas had migrated off-site toward the adjacent residential homes.*

Appendix A includes representative photographs of the IRM activities.

3.2 Chlorinated VOCs and Groundwater Treatment

3.2.1 *General*

The IRM Work Plan called for in-situ enhanced bioremediation of impacted groundwater and saturated soils via direct injection of HRC® into the impacted zones. The impacted zones were defined based on the results of the RI data and previous investigations.

It was determined that groundwater and saturated soils were impacted by chlorinated VOCs in two discrete areas as depicted in Figure 2. This FER documents the HRC injection, groundwater sampling, and long-term groundwater monitoring.

3.2.2 *Pre-Treatment Characterization*

Sampling focused on collecting soil samples proximate the area of known impact to delineate the extent of contamination. Based on findings of the RI and previous investigations, primary COPCs were comprised of certain chlorinated VOCs. Specifically, the site-specific COPCs were identified as: tetrachloroethene (PCE); trichloroethene (TCE); cis-1,2-dichloroethene (cis-1,2-DCE); trans-1,2-dichloroethene (trans-1,2-DCE); vinyl chloride (VC); and 1,1,2-trichloroethane (1,1,2-TCA).

3.2.3 *HRC Injection and Groundwater Sampling Program*

Site remediation consisting entirely of HRC injection was completed in November 2006. Remedial activities included the following:

- *HRC Injection:* In November 2006, Regenesis Corporation performed HRC injection into the two discrete areas impacted by chlorinated VOCs. This remedial program involved directly injecting approximately 1,200 pounds of HRC® into the contaminated groundwater. Using 10-foot by 10-foot grid treatment spacing, 18 delivery points were treated with approximately 600 pounds of HRC®. Direct-push delivery probes were advanced to approximately 12 fbgs and HRC® was injected continuously at a rate of approximately 4 pounds/foot until the delivery probe was retracted to approximately 4 fbgs.

- *Groundwater Sampling Program:* A groundwater sampling program was implemented to evaluate the effectiveness of the in-situ groundwater treatment program. The groundwater sampling program included post-treatment monitoring for COPCs in MW-14 and MW-19. As shown in Table 1, the chlorinated VOCs in MW-19 were reduced from the June 2006 baseline concentration of approximately 91 ug/L total chlorinated VOCs to approximately 53 ug/L total chlorinated VOCs in June 2007. At MW-14, total chlorinated VOCs were reduced from the June 2006 baseline concentration of approximately 4,575 ug/L total chlorinated VOCs to approximately 3,315 ug/L total chlorinated VOCs in June 2007. Although the concentrations of VOCs have indicated a rebound effect since the January 2007 sampling event, it should be noted that PCE, the parent compound of TCE, cis-1,2-DCE, trans-1,2-DCE and VC, continues to degrade.

As PCE degrades (i.e., undergoes reductive dechlorination), its daughter products are formed, resulting in an increase in their respective concentrations. Over time, the daughter products will also degrade. The continued degradation of PCE and its daughter products will continue to be monitored subsequent to Site redevelopment. A long-term groundwater monitoring plan has been included with the Site Management Plan discussed in Section 5.0. Appendix B contains the groundwater analytical data.

3.3 On-Site and Off-Site Soil Gas Sampling

Two soil gas samples collected in January 2007 from beneath the asphalt in the southeastern portion of the Site contained elevated concentrations of VOCs. As such, the building design will incorporate a sub-slab vapor mitigation system into the proposed building structure. At the request of the NYSDEC and the NYSDOH, off-site soil gas samples were collected adjacent to and south of the Site to evaluate whether VOCs in soil gas migrated off-site toward the adjacent residential homes and to satisfy the off-site exposure assessment requirement.

Soil gas samples were collected in accordance with the June 2007 Off-Site Soil Gas Sampling Plan (Ref. 5), which was approved by the NYSDEC and NYSDOH. A total of four off-site soil gas samples were collected at two sampling locations (i.e., 658 75th Street and 668 75th Street). The results of the off-site soil gas sampling were summarized in a letter to the NYSDEC dated July 30, 2007 (Ref. 5). At 2 of the 4 sampling locations, only PCE was detected at concentrations below the NYSDOH indoor air guideline. Figure 3 depicts the off-site soil gas sampling locations.

Tables 4 and 5 of the RI/AAR/IRM Report present a summary of the on-site and off-site soil gas sampling results.

3.4 Site Restoration

Any soil/fill used on-site followed the guidelines and procedures as outlined in the Soil/Fill Management Plan (Ref. 6). No significant Site restoration activities were necessary and existing Site conditions were maintained during remedial activities.

4.0 REDEVELOPMENT ACTIVITIES

During Site redevelopment activities on October 23 and 24, 2007, potentially impacted soil was encountered while excavating for building footers. Approximately 120 cubic yards of impacted soil was excavated and transported to Allied Waste Landfill. Appendix D contains a copy of the waste disposal receipts. Following excavation of the soil for the building footer, confirmatory soil samples were collected for analysis of VOCs and SVOCs. Figure 4 shows the location and dimensions of the footer excavation as well as the location of the confirmatory samples. Appendix A includes representative photographs of the soil excavation.

As shown on Table 2, all confirmatory sample concentrations were well below 6NYCRR Part 375 restricted-commercial soil cleanup objectives (SCOs). Appendix C contains the confirmatory analytical data package.

5.0 SITE MANAGEMENT PLAN

The Site Management Plan (refer to Electronic Attachment 3) documents the institutional and engineering controls; and operation, monitoring, and maintenance plans that will be implemented for protection of the environment and human health going forward. In accordance with the BCA, these measures are incorporated into an Environmental Easement (Part III of the Site Management Plan) as legal obligations that run with the land (Site survey included in Appendix E) and are binding on GLR Holdings, LLC and any subsequent success or owner of the Site.

6.0 DECLARATION/LIMITATIONS

Benchmark Environmental Engineering & Science, PLLC personnel monitored all intrusive activities associated with Interim Remedial Measures at the 7503 Niagara Falls Boulevard Site in Niagara Falls, New York according to generally accepted engineering practices. Based on the field observations made by Benchmark personnel, as well as field and laboratory test data, the investigation performed at the Site complied with the scope of work provided to GLR Holdings, LLC by Benchmark.

This report has been prepared for the exclusive use of GLR Holdings, LLC. The contents of this report are limited to information available at the time of the Site investigation activities and to data referenced herein. No warranty, expressed or implied, is made. The findings herein may be relied upon only at the discretion of GLR Holdings, LLC. Use of or reliance upon this report or its findings by any other person or entity is prohibited without written permission of Benchmark Environmental Engineering & Science, PLLC.

7.0 REFERENCES

1. *Remedial Investigation (RI) Work Plan, 7503 Niagara Falls Boulevard Site*, *Niagara Falls, New York*, prepared by Benchmark Environmental Engineering & Science, PLLC, January 2006.
2. *Interim Remedial Measures (IRM) Work Plan for Brownfield Cleanup Program, 7503 Niagara Falls Boulevard Site*, *Niagara Falls, New York*, prepared by Benchmark Environmental Engineering & Science, PLLC, October 2006.
3. *Remedial Investigation/Alternatives Analysis Report/Interim Remedial Measures (RI/AAR/IRM) Report, 7503 Niagara Falls Boulevard Site*, *Niagara Falls, New York*, prepared by Benchmark Environmental Engineering & Science, PLLC, October 2007.
4. *Off-Site Soil Gas Sampling Plan, 7503 Niagara Falls Boulevard Site*, *Niagara Falls, New York*, prepared by Benchmark Environmental Engineering & Science, PLLC, June 15, 2007.
5. *Off-Site Soil Gas Sampling letter, 7503 Niagara Falls Boulevard Site*, *Niagara Falls, New York*, prepared by Benchmark Environmental Engineering & Science, PLLC, July 30, 2007.
6. *Soil/Fill Management Plan, 7503 Niagara Falls Boulevard Site*, *Niagara Falls, New York*, prepared by Benchmark Environmental Engineering & Science, PLLC, July 2007.

TABLES

TABLE 1

SUMMARY OF GROUNDWATER ANALYTICAL DATA FOLLOWING HRC INJECTION

IRM Groundwater Monitoring
7503 Niagara Falls Boulevard Site

Parameter [1]	MW-14					MW-19					GWQS/GV [3]
	Baseline [2]	Dec-06	Jan-07	Mar-07	Jun-07	Baseline [2]	Dec-06	Jan-07	Mar-07	Jun-07	
Vinyl chloride	910 D	380	150	320	540	58	24	22	24	15	2
1,1-Dichloroethene	85 D	140	21 J	21 J	60 J	1 J	ND	ND	ND	ND	5
Trichloroethene	540 D	1500	300	150	330	1 J	2 J	2 J	ND	ND	5
Tetrachloroethene	640	480	120	98	35	1 J	ND	ND	ND	ND	5
trans-1,2-Dichloroethene	1300 D	520	240	500	1500	ND	ND	ND	ND	ND	5
cis-1,2-Dichloroethene	1100 D	570	220	370	850	30	28	26	12	38	5
Total cVOCs	4575	3590	1051	1459	3315	91	54	50	36	53	NA

Notes:
1. Only chlorinated volatile organic compounds (cVOCs) are shown.
2. Baseline concentrations were collected in June 2006. Hydrogen Release Compound (HRC) injection was completed in November 2006.
3. NYSDEC Class "GA" Groundwater Quality Standards/Guidance Values (GWQS/GV), 6 NYCRR Part 703.

Definitions:

J = Estimated value; result is less than the sample quantitation limit but greater than zero.
D = Diluted sample result.
ND = parameter not detected above laboratory detection limit.
NA = Not Applicable

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TABLE 2

SUMMARY OF CONFIRMATORY SOIL SAMPLING DATA

Final Engineering Report
7503 Niagara Falls Boulevard Site

Parameter [1]	Sample Location				Restricted-Commercial SCOs [2]
	ESW	NSW	WSW	FLOOR	
Volatile Organic Compounds (ppm)					
Acetone	0.0044 JB	0.043	0.011 JB	0.0085 JB	500
Benzene	ND	ND	0.0032 J	ND	44
2-Butanone (MEK)	ND	0.0054 J	0.0022 J	ND	500
Carbon disulfide	0.00041 J	0.0013 J	0.0022 J	0.00048 J	--
1,3-Dichlorobenzene	ND	0.00092 J	ND	ND	280
1,4-Dichlorobenzene	ND	0.00063 J	ND	ND	130
1,1-dichloroethene	ND	0.0026 J	0.028	0.00092 J	500
cis-1,2-dichloroethene	0.011	0.068	0.100	0.015	500
trans-1,2-dichloroethene	0.00092 J	0.022	0.078	0.0073	500
Ethylbenzene	ND	0.0045 J	ND	ND	390
Isopropylbenzene	ND	0.0012 J	ND	ND	--
Methylcyclohexane	ND	0.00053 J	ND	ND	--
Methylene chloride	0.00057 J	0.00061 JB	0.00091 JB	0.00074 J	500
Tetrachloroethene	0.021	0.0062	0.59 D	0.025	150
Toluene	0.00075 J	0.00093 J	0.0021 J	ND	500
1,2,4-Trichlorobenzene	ND	0.0013 J	ND	ND	--
Trichloroethene	0.036	0.0066	1.3 D	0.034	200
Vinyl chloride	ND	0.013	0.0029 J	0.007	13
o-Xylene	ND	0.010	ND	ND	500
m+p-Xylene	ND	0.029	ND	ND	500
Semi-Volatile Organic Compounds (ppm)					
Fluoranthene	ND	ND	ND	0.073 J	500
Hexachlorobutadiene	ND	ND	ND	0.05 J	--
Phenanthrene	ND	ND	0.024 J	0.035 J	500
Pyrene	ND	ND	ND	0.057 J	500

Notes:
1. Only those parameters detected at a minimum of one sample location are presented in table; all other compounds reported as
2. Values per NYSDEC Part 375 Soil Cleanup Objectives (December 2006).

Definitions:
J = Estimated value; result is less than the sample quantitation limit but greater than zero.
B = Analyte found in the associated blank as well as in sample.
D = Diluted sample result.
ND = parameter not detected above laboratory detection limit.
--' = SCO not available for compound.

FIGURES

FIGURE 1

FILEPATH:F:\CAD\Benchmark\GLR Holdings - Wendy's\Final Engineering Report\figure 1; site location and vicinity map.dwg

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726 EXCHANGE STREET
SUITE 624
BUFFALO, NEW YORK 14210
(716) 856-0599

PROJECT NO.: 0101-002-500

DATE: OCTOBER 2007

DRAFTED BY: AJZ

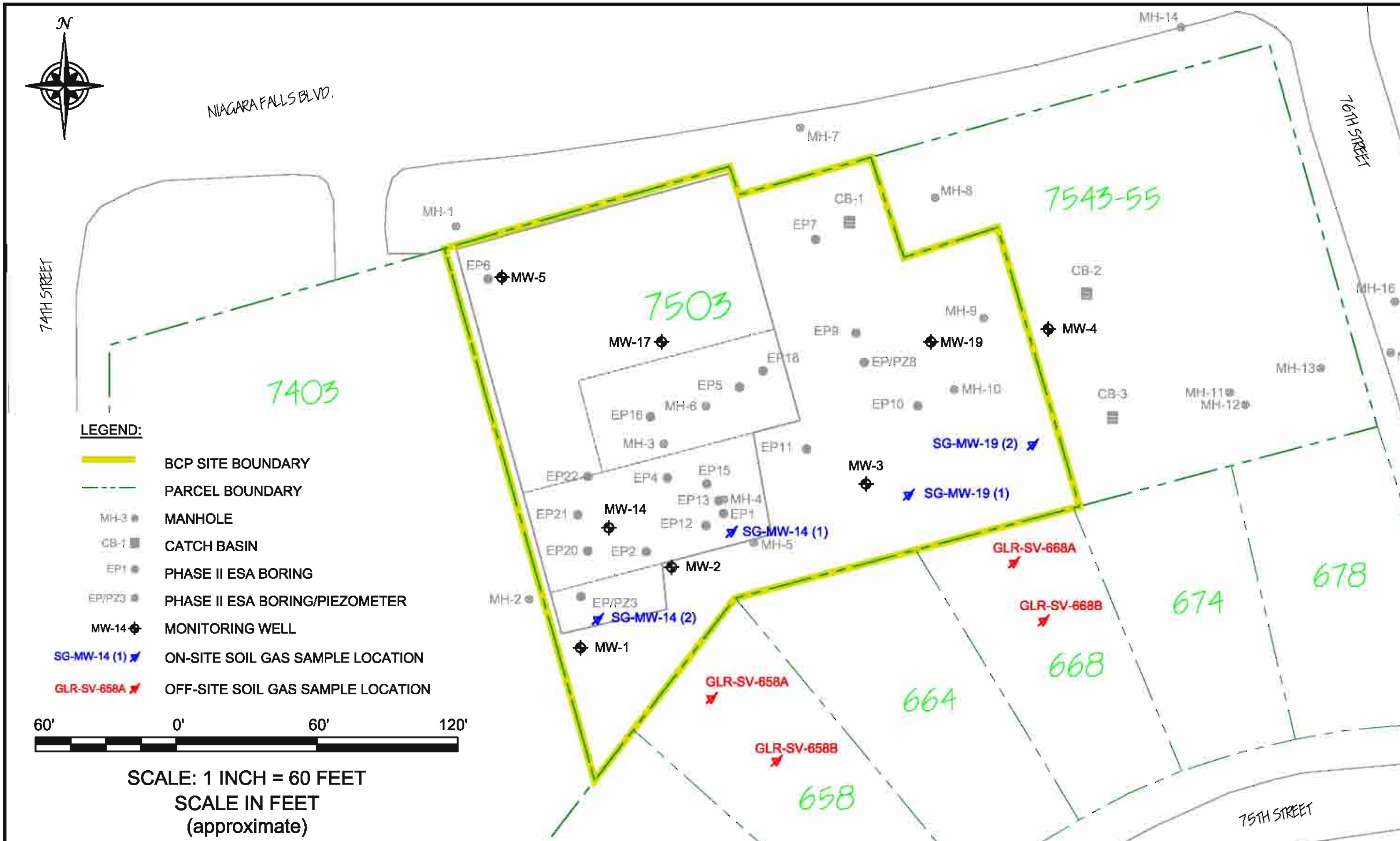
SITE LOCATION AND VICINITY MAP

FINAL ENGINEERING REPORT

7503 NIAGARA FALLS BOULEVARD SITE
NIAGARA FALLS, NEW YORK

PREPARED FOR

GLR HOLDINGS, LLC



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PROJECT NO.: 0101-002-500

DATE: OCTOBER 2007

DRAFTED BY: AJZ

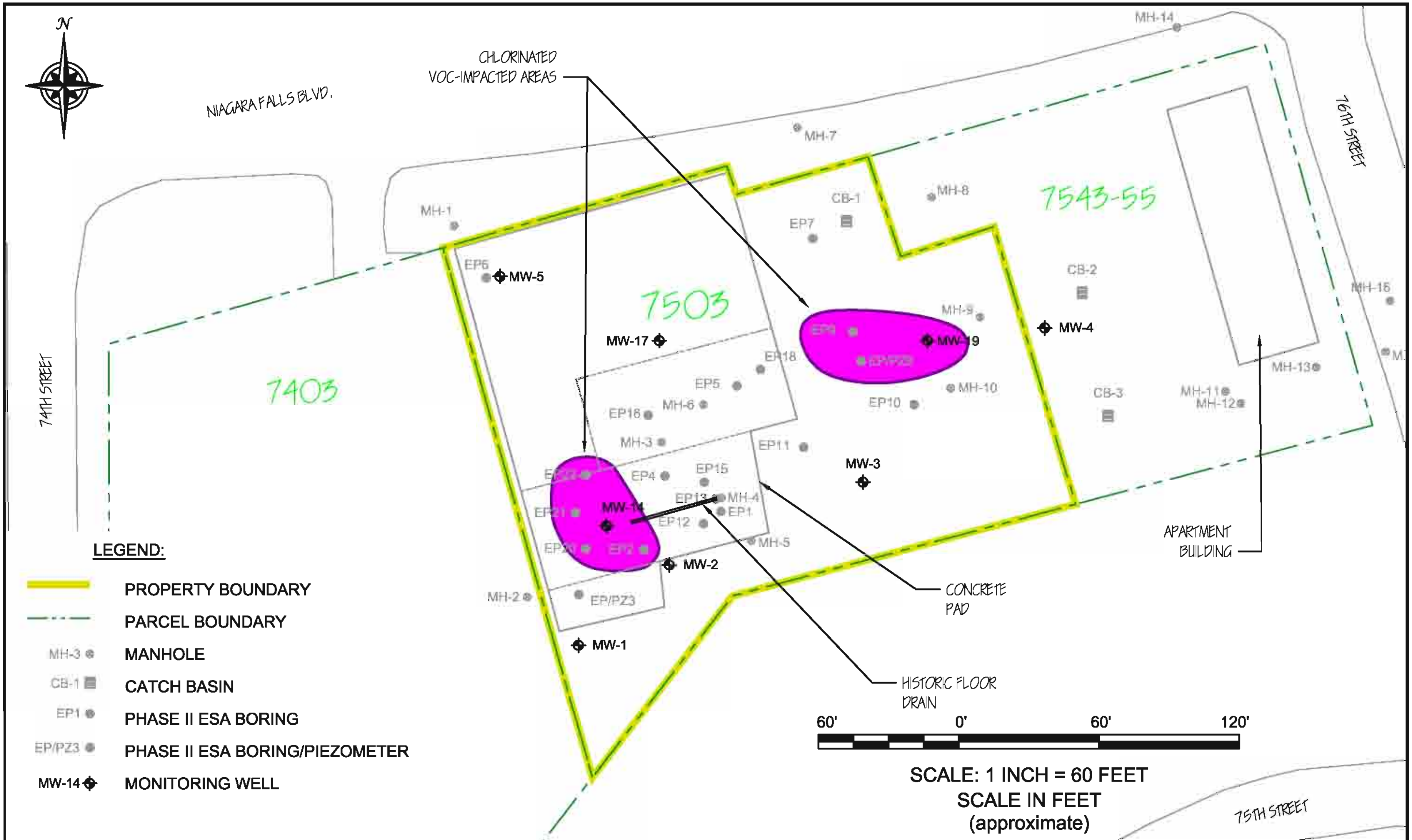
SITE PLAN

FINAL ENGINEERING REPORT

7503 NIAGARA FALLS BOULEVARD SITE
NIAGARA FALLS, NEW YORK

PREPARED FOR
GLR HOLDINGS, LLC

FIGURE 2



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PROJECT NO.: 0101-002-500

DATE: OCTOBER 2007

DRAFTED BY: AJZ

CHLORINATED VOCs IN GROUNDWATER

FINAL ENGINEERING REPORT

7503 NIAGARA FALLS BOULEVARD SITE
NIAGARA FALLS, NEW YORK

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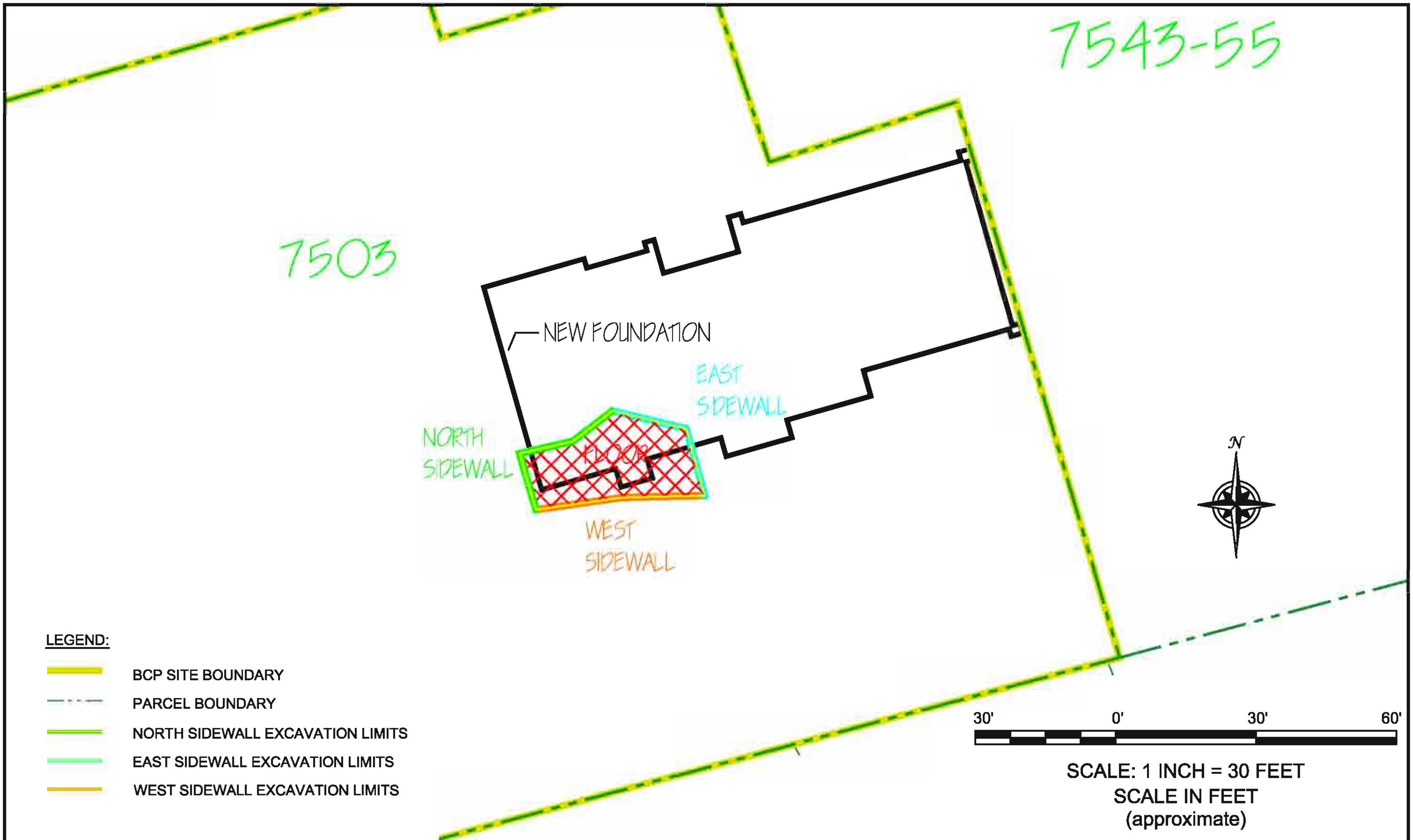
FIGURE 3



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PROJECT NO.: 0101-002-500

DATE: OCTOBER 2007

DRAFTED BY: NTM

CONFIRMATION SOIL SAMPLING LOCATIONS FOLLOWING FOOTER EXCAVATION

FINAL ENGINEERING REPORT

7503 NIAGARA FALLS BOULEVARD SITE
NIAGARA FALLS, NEW YORK

PREPARED FOR
GLR HOLDINGS, LLC

FIGURE 4

APPENDIX A

REPRESENTATIVE SITE PHOTOGRAPHS

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PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.:
GLR Holdings, LLC	7503 Niagara Falls Boulevard Site	0101-002-500

Photo No.	Date
1	11/07/06

Direction Photo Taken:

Description:
Filling Geoprobe Injection System with HRC.

Photo No.	Date
2	11/07/06

Direction Photo Taken:

Description:
Injection of HRC.

Prepared By: AJZ

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.:
GLR Holdings, LLC	7503 Niagara Falls Boulevard Site	0101-002-500

Photo No.	Date
3	11/08/06

Direction Photo Taken:

Description:
Locations of HRC injection.

Photo No.	Date
4	11/07/06

Direction Photo Taken:

Description:
Typical location of HRC injection.

Prepared By: AJZ

BENCHMARK
ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

PHOTOGRAPHIC LOG

Client Name: GLR Holdings, LLC	**Site Location:** 7503 Niagara Falls Boulevard Site	**Project No.:** 0101-002-500

Photo No.	**Date**
5	06/22/07

Direction Photo Taken:

Description:
Off-site soil-gas sampling.

Photo No.	**Date**
6	06/24/07

Direction Photo Taken:

Description:
Off-site soil-gas sampling.

Prepared By: *AJZ*

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PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.:
GLR Holdings, LLC	7503 Niagara Falls Boulevard Site	0101-002-500

Photo No.	Date
7	10/23/07

Direction Photo Taken:

Description:
Site Redevelopment Activities - Excavation for footer.

Photo No.	Date
8	10/24/07

Direction Photo Taken:

Description:
Site Redevelopment Activities - Suspect soil encountered during footer excavation.

Prepared By: AJZ

APPENDIX B

GROUNDWATER ANALYTICAL DATA

ANALYTICAL REPORT

Job#: A06-7205

STL Project#: NY7A9603
Site Name: Benchmark - 7503 Niagara Falls Blvd. Site
Task: Benchmark - 7503 Niagara Falls Blvd. site-water

Mr. Tom Forbes
Benchmark Environmental
726 Exchange St., Ste 624
Buffalo, NY 14210

STL Buffalo

Brian J. Fischer
Project Manager

07/17/2006

NON-CONFORMANCE SUMMARY

Job#: A06-7205

STL Project#: NY7A9603
Site Name: Benchmark - 7503 Niagara Falls Blvd. Site

General Comments

The enclosed data may or may not have been reported utilizing data qualifiers (Q) as defined on the Data Comment Page.

Soil, sediment and sludge sample results are reported on "dry weight" basis unless otherwise noted in this data package.

According to 40CFR Part 136.3, pH, Chlorine Residual, Dissolved Oxygen, Sulfite, and Temperature analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. pH-Field), they were not analyzed immediately, but as soon as possible after laboratory receipt.

Sample dilutions were performed as indicated on the attached Dilution Log. The rationale for dilution is specified by the 3-digit code and definition.

Sample Receipt Comments

A06-7205
Sample Cooler(s) were received at the following temperature(s); 2.0 °C
All samples were received in good condition.

GC/MS Volatile Data

The spike recovery of the analyte Trichloroethene in the Matrix Spike of sample MW-14 DL exceeded quality control limits. The Matrix Spike Blank recoveries were compliant, so no corrective action was performed.

As a result of low volume, the sample Volatile Holding Blk (VHB) was analyzed from a vial containing headspace. The volatile organic results may be biased low and all positive detections and non-detections should be considered estimated.

All samples were preserved to a pH less than 2.

The analytes Acetone and Toluene were detected in the Trip Blank at a level below the project established reporting limit.

Metals Data

No deviations from protocol were encountered during the analytical procedures.

Wet Chemistry Data

No deviations from protocol were encountered during the analytical procedures.

****

The results presented in this report relate only to the analytical testing and condition of the sample at receipt. This report pertains to only those samples actually tested. All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.

"I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or his designee, as verified by the following signature."

Brian J. Fischer
Project Manager

7-17-06
Date

EPA ASP 2000 - VOLATILES
ANALYSIS DATA SHEET

Client No.

MW-14

Lab Name: STL Buffalo Contract: ___________

Lab Code: RECNY Case No.: _____ SAS No.: ______ SDG No.: ______

Matrix: (soil/water) WATER Lab Sample ID: A6720505

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: Q3371.RR

Level: (low/med) LOW Date Samp/Recv: 06/23/2006 06/23/2006

% Moisture: not dec. ______ Heated Purge: N Date Analyzed: 06/28/2006

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.00

Soil Extract Volume: ______ (uL) Soil Aliquot Volume: ________ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl chloride	850	E
75-00-3	Chloroethane	10	U
75-09-2	Methylene chloride	10	U
67-64-1	Acetone	2	J
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	83	
75-34-3	1,1-Dichloroethane	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	510	E
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	9	J
71-43-2	Benzene	1	J
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	600	E
108-88-3	Toluene	1	J
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Total Xylenes	10	U
75-71-8	Dichlorodifluoromethane	10	U
75-69-4	Trichlorofluoromethane	10	U

EPA ASP 2000 - VOLATILES
ANALYSIS DATA SHEET

Client No.

MW-14

Lab Name: STL Buffalo Contract: ____________

Lab Code: RECNY Case No.: _____ SAS No.: ______ SDG No.: ______

Matrix: (soil/water) WATER Lab Sample ID: A6720505

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: Q3371.RR

Level: (low/med) LOW Date Samp/Recv: 06/23/2006 06/23/2006

% Moisture: not dec. ______ Heated Purge: N Date Analyzed: 06/28/2006

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.00

Soil Extract Volume: ______ (uL) Soil Aliquot Volume: ________ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND	UG/L	Q
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	10	U
156-60-5	trans-1,2-Dichloroethene	960	E
1634-04-4	Methyl-t-Butyl Ether (MTBE)	10	U
156-59-2	cis-1,2-Dichloroethene	860	E
110-82-7	Cyclohexane	10	U
108-87-2	Methylcyclohexane	10	U
106-93-4	1,2-Dibromoethane	10	U
98-82-8	Isopropylbenzene	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
96-12-8	1,2-Dibromo-3-chloropropane	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
79-20-9	Methyl acetate	10	U

EPA ASP 2000 - VOLATILES
TENTATIVELY IDENTIFIED COMPOUNDS

Client No.

MW-14

Lab Name: STL Buffalo Contract: ___________

Lab Code: RECNY Case No.: _____ SAS No.: ______ SDG No.: ______

Matrix: (soil/water) WATER

Lab Sample ID: A6720505

Sample wt/vol: 5.00 (g/mL) ML

Lab File ID: Q3371.RR

Level: (low/med) LOW

Date Samp/Recv: 06/23/2006 06/23/2006

% Moisture: not dec. ______

Date Analyzed: 06/28/2006

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.00

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: ________ (uL)

Number TICs found: 10

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NO.	Compound Name	RT	Est. Conc.	Q
1.	CHLORINATED HYDROCARBON	7.82	25	J
2.	CHLORINATED HYDROCARBON	8.26	54	J
3.	UNKNOWN	9.56	57	J
4.	UNKNOWN	9.87	16	J
5.	UNKNOWN	10.17	45	J
6.	UNKNOWN	10.36	76	J
7.	CHLORINATED HYDROCARBON	10.79	50	J
8.	UNKNOWN	10.88	13	J
9.	CHLORINATED HYDROCARBON	11.03	13	J
10.	CHLORINATED HYDROCARBON	11.44	38	J

EPA ASP 2000 - VOLATILES
ANALYSIS DATA SHEET

Client No.

MW-14 DL

Lab Name: STL Buffalo Contract: ____________

Lab Code: RECNY Case No.: _____ SAS No.: ______ SDG No.: ______

Matrix: (soil/water) WATER Lab Sample ID: A6720505DL

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: Q3394.RR

Level: (low/med) LOW Date Samp/Recv: 06/23/2006 06/23/2006

% Moisture: not dec. ______ Heated Purge: N Date Analyzed: 06/29/2006

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 8.00

Soil Extract Volume: ______ (uL) Soil Aliquot Volume: ________ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	80	U
74-83-9	Bromomethane	80	U
75-01-4	Vinyl chloride	910	D
75-00-3	Chloroethane	80	U
75-09-2	Methylene chloride	80	U
67-64-1	Acetone	8	DJ
75-15-0	Carbon Disulfide	80	U
75-35-4	1,1-Dichloroethene	85	D
75-34-3	1,1-Dichloroethane	80	U
67-66-3	Chloroform	80	U
107-06-2	1,2-Dichloroethane	80	U
78-93-3	2-Butanone	80	U
71-55-6	1,1,1-Trichloroethane	80	U
56-23-5	Carbon Tetrachloride	80	U
75-27-4	Bromodichloromethane	80	U
78-87-5	1,2-Dichloropropane	80	U
10061-01-5	cis-1,3-Dichloropropene	80	U
79-01-6	Trichloroethene	540	D
124-48-1	Dibromochloromethane	80	U
79-00-5	1,1,2-Trichloroethane	9	DJ
71-43-2	Benzene	80	U
10061-02-6	trans-1,3-Dichloropropene	80	U
75-25-2	Bromoform	80	U
108-10-1	4-Methyl-2-pentanone	80	U
591-78-6	2-Hexanone	80	U
127-18-4	Tetrachloroethene	640	D
108-88-3	Toluene	80	U
79-34-5	1,1,2,2-Tetrachloroethane	80	U
108-90-7	Chlorobenzene	80	U
100-41-4	Ethylbenzene	80	U
100-42-5	Styrene	80	U
1330-20-7	Total Xylenes	80	U
75-71-8	Dichlorodifluoromethane	80	U
75-69-4	Trichlorofluoromethane	80	U

EPA ASP 2000 - VOLATILES
ANALYSIS DATA SHEET

Client No.

MW-14 DL

Lab Name: STL Buffalo Contract: ___________

Lab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: A6720505DL

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: Q3394.RR

Level: (low/med) LOW Date Samp/Recv: 06/23/2006 06/23/2006

% Moisture: not dec. ______ Heated Purge: N Date Analyzed: 06/29/2006

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 8.00

Soil Extract Volume: ______ (uL) Soil Aliquot Volume: ________ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND	UG/L	Q
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	80	U
156-60-5	trans-1,2-Dichloroethene	1300	D
1634-04-4	Methyl-t-Butyl Ether (MTBE)	80	U
156-59-2	cis-1,2-Dichloroethene	1100	D
110-82-7	Cyclohexane	80	U
108-87-2	Methylcyclohexane	80	U
106-93-4	1,2-Dibromoethane	80	U
98-82-8	Isopropylbenzene	80	U
541-73-1	1,3-Dichlorobenzene	80	U
106-46-7	1,4-Dichlorobenzene	80	U
95-50-1	1,2-Dichlorobenzene	80	U
96-12-8	1,2-Dibromo-3-chloropropane	80	U
120-82-1	1,2,4-Trichlorobenzene	80	U
79-20-9	Methyl acetate	80	U

EPA ASP 2000 - VOLATILES
TENTATIVELY IDENTIFIED COMPOUNDS

Client No.

MW-14 DL

Lab Name: STL Buffalo Contract: ___________

Lab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: A6720505DL

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: Q3394.RR

Level: (low/med) LOW Date Samp/Recv: 06/23/2006 06/23/2006

% Moisture: not dec. ______ Date Analyzed: 06/29/2006

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 8.00

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: ________ (uL)

CONCENTRATION UNITS:
Number TICs found: 5 (ug/L or ug/Kg) UG/L

CAS NO.	Compound Name	RT	Est. Conc.	Q
1.	CHLORINATED HYDROCARBON	8.26	52	J
2.	UNKNOWN	9.55	53	J
3.	UNKNOWN	10.17	44	J
4.	UNKNOWN	10.36	69	J
5.	CHLORINATED HYDROCARBON	10.79	45	J

EPA ASP 2000 - VOLATILES
ANALYSIS DATA SHEET

Client No.

MW-19

Lab Name: STL Buffalo Contract: ____________

Lab Code: RECNY Case No.: _____ SAS No.: ______ SDG No.: ______

Matrix: (soil/water) WATER Lab Sample ID: A6720507

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: Q3375.RR

Level: (low/med) LOW Date Samp/Recv: 06/23/2006 06/23/2006

% Moisture: not dec. ______ Heated Purge: N Date Analyzed: 06/28/2006

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.00

Soil Extract Volume: ______ (uL) Soil Aliquot Volume: ________ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND	UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl chloride	58	
75-00-3	Chloroethane	10	U
75-09-2	Methylene chloride	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	1	J
75-34-3	1,1-Dichloroethane	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	1	J
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	1	J
108-88-3	Toluene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Total Xylenes	10	U
75-71-8	Dichlorodifluoromethane	10	U
75-69-4	Trichlorofluoromethane	10	U

EPA ASP 2000 - VOLATILES
ANALYSIS DATA SHEET

Client No.

MW-19

Lab Name: STL Buffalo Contract: ____________

Lab Code: RECNY Case No.: _____ SAS No.: ______ SDG No.: ______

Matrix: (soil/water) WATER Lab Sample ID: A6720507

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: Q3375.RR

Level: (low/med) LOW Date Samp/Recv: 06/23/2006 06/23/2006

% Moisture: not dec. ______ Heated Purge: N Date Analyzed: 06/28/2006

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.00

Soil Extract Volume: ______ (uL) Soil Aliquot Volume: ________ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND	UG/L	Q
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	10	U
156-60-5	trans-1,2-Dichloroethene	10	U
1634-04-4	Methyl-t-Butyl Ether (MTBE)	10	U
156-59-2	cis-1,2-Dichloroethene	30	
110-82-7	Cyclohexane	10	U
108-87-2	Methylcyclohexane	10	U
106-93-4	1,2-Dibromoethane	10	U
98-82-8	Isopropylbenzene	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
96-12-8	1,2-Dibromo-3-chloropropane	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
79-20-9	Methyl acetate	10	U

EPA ASP 2000 - VOLATILES
TENTATIVELY IDENTIFIED COMPOUNDS

Client No.

MW-19

Lab Name: STL Buffalo   Contract: ________

Lab Code: RECNY   Case No.: ____   SAS No.: ____   SDG No.: ____

Matrix: (soil/water) WATER   Lab Sample ID: A6720507

Sample wt/vol: 5.00 (g/mL) ML   Lab File ID: Q3375.RR

Level: (low/med) LOW   Date Samp/Recv: 06/23/2006 06/23/2006

% Moisture: not dec. ____   Date Analyzed: 06/28/2006

GC Column: DB-624   ID: 0.25 (mm)   Dilution Factor: 1.00

Soil Extract Volume: ____ (uL)   Soil Aliquot Volume: ______ (uL)

CONCENTRATION UNITS:
Number TICs found: 0   (ug/L or ug/Kg) UG/L

CAS NO.	Compound Name	RT	Est. Conc.	Q

ANALYTICAL REPORT

Job#: A06-E857

STL Project#: NY7A9603
Site Name: Benchmark - 7503 Niagara Falls Blvd. Site
Task: Benchmark - 7503 Niagara Falls Blvd. site-water

Mr. Mike Lesakowski
Benchmark Environmental
726 Exchange St., Ste 624
Buffalo, NY 14210

STL Buffalo

Brian J. Fischer
Project Manager

12/29/2006

NON-CONFORMANCE SUMMARY

Job#: A06-E857

STL Project#: NY7A9603
Site Name: Benchmark - 7503 Niagara Falls Blvd. Site

General Comments

The enclosed data may or may not have been reported utilizing data qualifiers (Q) as defined on the Data Comment Page.

Soil, sediment and sludge sample results are reported on "dry weight" basis unless otherwise noted in this data package.

According to 40CFR Part 136.3, pH, Chlorine Residual, Dissolved Oxygen, Sulfite, and Temperature analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. pH-Field), they were not analyzed immediately, but as soon as possible after laboratory receipt.

Sample dilutions were performed as indicated on the attached Dilution Log. The rationale for dilution is specified by the 3-digit code and definition.

Sample Receipt Comments

A06-E857
Sample Cooler(s) were received at the following temperature(s); 2.0 °C
Strict internal chain of custody required.

GC/MS Volatile Data

The spike recovery of the analytes 1,1-Dichloroethene, Benzene, Toluene, and Trichloroethene in the Matrix Spike and in the Matrix Spike Duplicate of sample MW-14 exceeded quality control limits. The Relative Percent Difference (RPD) between the Matrix Spike and the Matrix Spike Duplicate of sample MW-14 also exceeded quality control limits for the analyte Trichloroethene. The Matrix Spike Blank recoveries were compliant, so no corrective action was performed.

All samples were preserved to a pH less than 2.

****

The results presented in this report relate only to the analytical testing and condition of the sample at receipt. This report pertains to only those samples actually tested. All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.

"I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or his designee, as verified by the following signature."

Brian J. Fischer
Project Manager

12-29-06
Date

EPA ASP 2000 - VOLATILES
ANALYSIS DATA SHEET

Client No.

MW-14

Lab Name: STL Buffalo Contract: ________

Lab Code: RECNY Case No.: ____ SAS No.: ____ SDG No.: ____

Matrix: (soil/water) WATER Lab Sample ID: A6E85701

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: Q7333.RR

Level: (low/med) LOW Date Samp/Recv: 12/11/2006 12/11/2006

% Moisture: not dec. ____ Heated Purge: N Date Analyzed: 12/12/2006

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 8.00

Soil Extract Volume: ____ (uL) Soil Aliquot Volume: ____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	80	U
74-83-9	Bromomethane	80	U
75-01-4	Vinyl chloride	380	
75-00-3	Chloroethane	80	U
75-09-2	Methylene chloride	80	U
67-64-1	Acetone	80	U
75-15-0	Carbon Disulfide	80	U
75-35-4	1,1-Dichloroethene	140	
75-34-3	1,1-Dichloroethane	80	U
67-66-3	Chloroform	80	U
107-06-2	1,2-Dichloroethane	80	U
78-93-3	2-Butanone	80	U
71-55-6	1,1,1-Trichloroethane	80	U
56-23-5	Carbon Tetrachloride	80	U
75-27-4	Bromodichloromethane	80	U
78-87-5	1,2-Dichloropropane	80	U
10061-01-5	cis-1,3-Dichloropropene	80	U
79-01-6	Trichloroethene	1500	
124-48-1	Dibromochloromethane	80	U
79-00-5	1,1,2-Trichloroethane	80	U
71-43-2	Benzene	80	U
10061-02-6	trans-1,3-Dichloropropene	80	U
75-25-2	Bromoform	80	U
108-10-1	4-Methyl-2-pentanone	80	U
591-78-6	2-Hexanone	80	U
127-18-4	Tetrachloroethene	480	
108-88-3	Toluene	80	U
79-34-5	1,1,2,2-Tetrachloroethane	80	U
108-90-7	Chlorobenzene	80	U
100-41-4	Ethylbenzene	80	U
100-42-5	Styrene	80	U
1330-20-7	Total Xylenes	80	U
75-71-8	Dichlorodifluoromethane	80	U
75-69-4	Trichlorofluoromethane	80	U

EPA ASP 2000 - VOLATILES
ANALYSIS DATA SHEET

Client No.

MW-14

Lab Name: STL Buffalo Contract: ____________

Lab Code: RECNY Case No.: _____ SAS No.: ______ SDG No.: ______

Matrix: (soil/water) WATER Lab Sample ID: A6E85701

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: Q7333.RR

Level: (low/med) LOW Date Samp/Recv: 12/11/2006 12/11/2006

% Moisture: not dec. ______ Heated Purge: N Date Analyzed: 12/12/2006

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 8.00

Soil Extract Volume: ______ (uL) Soil Aliquot Volume: ________ (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND	UG/L	Q
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	80	U
156-60-5	trans-1,2-Dichloroethene	520	
1634-04-4	Methyl-t-Butyl Ether (MTBE)	80	U
156-59-2	cis-1,2-Dichloroethene	570	
110-82-7	Cyclohexane	80	U
108-87-2	Methylcyclohexane	80	U
106-93-4	1,2-Dibromoethane	80	U
98-82-8	Isopropylbenzene	80	U
541-73-1	1,3-Dichlorobenzene	80	U
106-46-7	1,4-Dichlorobenzene	80	U
95-50-1	1,2-Dichlorobenzene	80	U
96-12-8	1,2-Dibromo-3-chloropropane	80	U
120-82-1	1,2,4-Trichlorobenzene	80	U
79-20-9	Methyl acetate	80	U

EPA ASP 2000 - VOLATILES
TENTATIVELY IDENTIFIED COMPOUNDS

Client No.

MW-14

Lab Name: STL Buffalo Contract: ____________

Lab Code: RECNY Case No.: _____ SAS No.: ______ SDG No.: ______

Matrix: (soil/water) WATER Lab Sample ID: A6E85701

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: Q7333.RR

Level: (low/med) LOW Date Samp/Recv: 12/11/2006 12/11/2006

% Moisture: not dec. ______ Date Analyzed: 12/12/2006

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 8.00

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: ________ (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 2

CAS NO.	Compound Name	RT	Est. Conc.	Q
1. 000420-56-4	SILANE, FLUOROTRIMETHYL-	1.83	54	JN
2.	UNKNOWN	9.89	49	J

EPA ASP 2000 - VOLATILES
ANALYSIS DATA SHEET

Client No.

MW-19

Lab Name: STL Buffalo Contract: ____________

Lab Code: RECNY Case No.: _____ SAS No.: ______ SDG No.: ______

Matrix: (soil/water) WATER Lab Sample ID: A6E85702

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: Q7336.RR

Level: (low/med) LOW Date Samp/Recv: 12/11/2006 12/11/2006

% Moisture: not dec. ______ Heated Purge: N Date Analyzed: 12/12/2006

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.00

Soil Extract Volume: ______ (uL) Soil Aliquot Volume: ________ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl chloride	24	
75-00-3	Chloroethane	10	U
75-09-2	Methylene chloride	10	U
67-64-1	Acetone	10	
75-15-0	Carbon Disulfide	1	J
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	95	
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	2	J
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
108-88-3	Toluene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Total Xylenes	10	U
75-71-8	Dichlorodifluoromethane	10	U
75-69-4	Trichlorofluoromethane	10	U

EPA ASP 2000 - VOLATILES
ANALYSIS DATA SHEET

Client No.

MW-19

Lab Name: STL Buffalo Contract: ____________

Lab Code: RECNY Case No.: _____ SAS No.: ______ SDG No.: ______

Matrix: (soil/water) WATER Lab Sample ID: A6E85702

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: Q7336.RR

Level: (low/med) LOW Date Samp/Recv: 12/11/2006 12/11/2006

% Moisture: not dec. ______ Heated Purge: N Date Analyzed: 12/12/2006

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.00

Soil Extract Volume: ______ (uL) Soil Aliquot Volume: ________ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	10	U
156-60-5	trans-1,2-Dichloroethene	10	U
1634-04-4	Methyl-t-Butyl Ether (MTBE)	10	U
156-59-2	cis-1,2-Dichloroethene	28	
110-82-7	Cyclohexane	10	U
108-87-2	Methylcyclohexane	10	U
106-93-4	1,2-Dibromoethane	10	U
98-82-8	Isopropylbenzene	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
96-12-8	1,2-Dibromo-3-chloropropane	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
79-20-9	Methyl acetate	10	U

EPA ASP 2000 - VOLATILES
TENTATIVELY IDENTIFIED COMPOUNDS

Client No.

MW-19

Lab Name: STL Buffalo Contract: ______

Lab Code: RECNY Case No.: ____ SAS No.: ____ SDG No.: ____

Matrix: (soil/water) WATER Lab Sample ID: A6E85702

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: Q7336.RR

Level: (low/med) LOW Date Samp/Recv: 12/11/2006 12/11/2006

% Moisture: not dec. ____ Date Analyzed: 12/12/2006

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.00

Soil Extract Volume: ____ (uL) Soil Aliquot Volume: ____ (uL)

Number TICs found: 2

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NO.	Compound Name	RT	Est. Conc.	Q
1.	UNKNOWN	2.50	12	J
2.	UNKNOWN	3.88	61	J

ANALYTICAL REPORT

Job#: A07-0668

STL Project#: NY7A9603
Site Name: Benchmark - 7503 Niagara Falls Blvd. Site
Task: Benchmark - 7503 Niagara Falls Blvd. site-water

Mr. Mike Lesakowski
Benchmark Environmental
726 Exchange St., Ste 624
Buffalo, NY 14210

STL Buffalo

Brian J. Fischer
Project Manager

02/09/2007

NON-CONFORMANCE SUMMARY

Job#: A07-0668

STL Project#: NY7A9603
Site Name: Benchmark - 7503 Niagara Falls Blvd. Site

General Comments

The enclosed data may or may not have been reported utilizing data qualifiers (Q) as defined on the Data Comment Page.

Soil, sediment and sludge sample results are reported on "dry weight" basis unless otherwise noted in this data package.

According to 40CFR Part 136.3, pH, Chlorine Residual, Dissolved Oxygen, Sulfite, and Temperature analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. pH-Field), they were not analyzed immediately, but as soon as possible after laboratory receipt.

Sample dilutions were performed as indicated on the attached Dilution Log. The rationale for dilution is specified by the 3-digit code and definition.

Sample Receipt Comments

A07-0668
Sample Cooler(s) were received at the following temperature(s); 4.2 °C
All samples were received in good condition.

GC/MS Volatile Data

The Volatile Holding Blank was analyzed prior to the samples in this job.

All samples were preserved to a pH less than 2.

****

The results presented in this report relate only to the analytical testing and condition of the sample at receipt. This report pertains to only those samples actually tested. All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.

"I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or his designee, as verified by the following signature."

Brian J. Fischer
Project Manager

2-12-07
Date

EPA ASP 2000 - VOLATILES
ANALYSIS DATA SHEET

Client No.

MW-14

Lab Name: STL Buffalo Contract: ___________

Lab Code: RECNY Case No.: _____ SAS No.: ______ SDG No.: ______

Matrix: (soil/water) WATER Lab Sample ID: A7066801

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: Q8479.RR

Level: (low/med) LOW Date Samp/Recv: 01/22/2007 01/22/2007

% Moisture: not dec. ______ Heated Purge: N Date Analyzed: 01/28/2007

GC Column: ZB-624 ID: 0.25 (mm) Dilution Factor: 8.00

Soil Extract Volume: ______ (uL) Soil Aliquot Volume: ________ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND	UG/L	Q
74-87-3	Chloromethane	80	U
74-83-9	Bromomethane	80	U
75-01-4	Vinyl chloride	150	
75-00-3	Chloroethane	80	U
75-09-2	Methylene chloride	80	U
67-64-1	Acetone	80	U
75-15-0	Carbon Disulfide	80	U
75-35-4	1,1-Dichloroethene	21	J
75-34-3	1,1-Dichloroethane	80	U
67-66-3	Chloroform	80	U
107-06-2	1,2-Dichloroethane	80	U
78-93-3	2-Butanone	80	U
71-55-6	1,1,1-Trichloroethane	80	U
56-23-5	Carbon Tetrachloride	80	U
75-27-4	Bromodichloromethane	80	U
78-87-5	1,2-Dichloropropane	80	U
10061-01-5	cis-1,3-Dichloropropene	80	U
79-01-6	Trichloroethene	300	
124-48-1	Dibromochloromethane	80	U
79-00-5	1,1,2-Trichloroethane	80	U
71-43-2	Benzene	80	U
10061-02-6	trans-1,3-Dichloropropene	80	U
75-25-2	Bromoform	80	U
108-10-1	4-Methyl-2-pentanone	80	U
591-78-6	2-Hexanone	80	U
127-18-4	Tetrachloroethene	120	
108-88-3	Toluene	80	U
79-34-5	1,1,2,2-Tetrachloroethane	80	U
108-90-7	Chlorobenzene	80	U
100-41-4	Ethylbenzene	80	U
100-42-5	Styrene	80	U
1330-20-7	Total Xylenes	80	U
75-71-8	Dichlorodifluoromethane	80	U
75-69-4	Trichlorofluoromethane	80	U

EPA ASP 2000 - VOLATILES
ANALYSIS DATA SHEET

Client No.

MW-14

Lab Name: STL Buffalo Contract: ________

Lab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: A7066801

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: Q8479.RR

Level: (low/med) LOW Date Samp/Recv: 01/22/2007 01/22/2007

% Moisture: not dec. _____ Heated Purge: N Date Analyzed: 01/28/2007

GC Column: ZB-624 ID: 0.25 (mm) Dilution Factor: 8.00

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND	UG/L	Q
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	80	U
156-60-5	trans-1,2-Dichloroethene	240	
1634-04-4	Methyl-t-Butyl Ether (MTBE)	80	U
156-59-2	cis-1,2-Dichloroethene	220	
110-82-7	Cyclohexane	80	U
108-87-2	Methylcyclohexane	80	U
106-93-4	1,2-Dibromoethane	80	U
98-82-8	Isopropylbenzene	80	U
541-73-1	1,3-Dichlorobenzene	80	U
106-46-7	1,4-Dichlorobenzene	80	U
95-50-1	1,2-Dichlorobenzene	80	U
96-12-8	1,2-Dibromo-3-chloropropane	80	U
120-82-1	1,2,4-Trichlorobenzene	80	U
79-20-9	Methyl acetate	80	U

EPA ASP 2000 - VOLATILES
TENTATIVELY IDENTIFIED COMPOUNDS

Client No.

MW-14

Lab Name: STL Buffalo Contract: ____________

Lab Code: RECNY Case No.: _____ SAS No.: ______ SDG No.: ______

Matrix: (soil/water) WATER Lab Sample ID: A7066801

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: Q8479.RR

Level: (low/med) LOW Date Samp/Recv: 01/22/2007 01/22/2007

% Moisture: not dec. ______ Date Analyzed: 01/28/2007

GC Column: ZB-624 ID: 0.25 (mm) Dilution Factor: 8.00

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: ________ (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 1

CAS NO.	Compound Name	RT	Est. Conc.	Q
1. 7446-09-5	SULFUR DIOXIDE	1.52	68	JN

EPA ASP 2000 - VOLATILES
ANALYSIS DATA SHEET

Client No.

MW-19

Lab Name: STL Buffalo Contract: ____

Lab Code: RECNY Case No.: ____ SAS No.: ____ SDG No.: ____

Matrix: (soil/water) WATER Lab Sample ID: A7066802

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: Q8478.RR

Level: (low/med) LOW Date Samp/Recv: 01/22/2007 01/22/2007

% Moisture: not dec. ____ Heated Purge: N Date Analyzed: 01/28/2007

GC Column: ZB-624 ID: 0.25 (mm) Dilution Factor: 1.00

Soil Extract Volume: ____ (uL) Soil Aliquot Volume: ____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl chloride	22	
75-00-3	Chloroethane	10	U
75-09-2	Methylene chloride	10	U
67-64-1	Acetone	31	
75-15-0	Carbon Disulfide	2	J
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	62	
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	2	J
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
108-88-3	Toluene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Total Xylenes	10	U
75-71-8	Dichlorodifluoromethane	10	U
75-69-4	Trichlorofluoromethane	10	U

EPA ASP 2000 - VOLATILES
ANALYSIS DATA SHEET

Client No.

MW-19

Lab Name: STL Buffalo Contract: ________

Lab Code: RECNY Case No.: ____ SAS No.: ____ SDG No.: ____

Matrix: (soil/water) WATER Lab Sample ID: A7066802

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: Q8478.RR

Level: (low/med) LOW Date Samp/Recv: 01/22/2007 01/22/2007

% Moisture: not dec. ____ Heated Purge: N Date Analyzed: 01/28/2007

GC Column: ZB-624 ID: 0.25 (mm) Dilution Factor: 1.00

Soil Extract Volume: ____ (uL) Soil Aliquot Volume: ____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	10	U
156-60-5	trans-1,2-Dichloroethene	10	U
1634-04-4	Methyl-t-Butyl Ether (MTBE)	10	U
156-59-2	cis-1,2-Dichloroethene	26	
110-82-7	Cyclohexane	10	U
108-87-2	Methylcyclohexane	10	U
106-93-4	1,2-Dibromoethane	10	U
98-82-8	Isopropylbenzene	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
96-12-8	1,2-Dibromo-3-chloropropane	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
79-20-9	Methyl acetate	10	U

EPA ASP 2000 - VOLATILES
TENTATIVELY IDENTIFIED COMPOUNDS

Client No.

MW-19

Lab Name: STL Buffalo Contract: ___________

Lab Code: RECNY Case No.: _____ SAS No.: ______ SDG No.: ______

Matrix: (soil/water) WATER Lab Sample ID: A7066802

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: Q8478.RR

Level: (low/med) LOW Date Samp/Recv: 01/22/2007 01/22/2007

% Moisture: not dec. ______ Date Analyzed: 01/28/2007

GC Column: ZB-624 ID: 0.25 (mm) Dilution Factor: 1.00

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: ________ (uL)

CONCENTRATION UNITS:
Number TICs found: 4 (ug/L or ug/Kg) UG/L

CAS NO.	Compound Name	RT	Est. Conc.	Q
1.	UNKNOWN	1.51	5	J
2.	UNKNOWN	1.76	13	J
3.	UNKNOWN	2.46	8	J
4.	UNKNOWN	3.84	39	J

SEVERN TRENT STL

STL Buffalo
10 Hazelwood Drive, Suite 106
Amherst, NY 14228

Tel: 716 691 2600 Fax: 716 691 7991
www.stl-inc.com

ANALYTICAL REPORT

Job#: A07-1926

STL Project#: NY7A9603
Site Name: Benchmark - 7503 Niagara Falls Blvd. Site
Task: Benchmark - 7503 Niagara Falls Blvd. site-water

Mr. Mike Lesakowski
Benchmark Environmental
726 Exchange St., Ste 624
Buffalo, NY 14210

STL Buffalo

Brian J. Fischer
Project Manager

03/08/2007

NON-CONFORMANCE SUMMARY

Job#: A07-1926

STL Project#: NY7A9603
Site Name: Benchmark - 7503 Niagara Falls Blvd. Site

General Comments

The enclosed data may or may not have been reported utilizing data qualifiers (Q) as defined on the Data Comment Page.

Soil, sediment and sludge sample results are reported on "dry weight" basis unless otherwise noted in this data package.

According to 40CFR Part 136.3, pH, Chlorine Residual, Dissolved Oxygen, Sulfite, and Temperature analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. pH-Field), they were not analyzed immediately, but as soon as possible after laboratory receipt.

Sample dilutions were performed as indicated on the attached Dilution Log. The rationale for dilution is specified by the 3-digit code and definition.

Sample Receipt Comments

A07-1926
Sample Cooler(s) were received at the following temperature(s); 2.0 °C
All samples were received in good condition.

GC/MS Volatile Data

All samples were preserved to a pH less than 2.

The analyte Methylene Chloride was detected in the Volatile Holding Blk (VHB) at a level below the project established reporting limit. Methylene Chloride was not detected in any of the associated samples, therefore there is no impact on data usability.

****

The results presented in this report relate only to the analytical testing and condition of the sample at receipt. This report pertains to only those samples actually tested. All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.

"I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or his designee, as verified by the following signature."

Brian J. Fischer
Project Manager

3-13-07
Date

EPA ASP 2000 - VOLATILES
ANALYSIS DATA SHEET

Client No.

MW-14

Lab Name: STL Buffalo   Contract: ________

Lab Code: RECNY   Case No.: ____   SAS No.: ____   SDG No.: ____

Matrix: (soil/water) WATER   Lab Sample ID: A7192601

Sample wt/vol: 5.00 (g/mL) ML   Lab File ID: Q8999.RR

Level: (low/med) LOW   Date Samp/Recv: 03/01/2007 03/01/2007

% Moisture: not dec. ____ Heated Purge: N   Date Analyzed: 03/05/2007

GC Column: ZB-624 ID: 0.25 (mm)   Dilution Factor: 5.00

Soil Extract Volume: ____ (uL)   Soil Aliquot Volume: ____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	50	U
74-83-9	Bromomethane	50	U
75-01-4	Vinyl chloride	320	
75-00-3	Chloroethane	50	U
75-09-2	Methylene chloride	50	U
67-64-1	Acetone	16	J
75-15-0	Carbon Disulfide	50	U
75-35-4	1,1-Dichloroethene	21	J
75-34-3	1,1-Dichloroethane	50	U
67-66-3	Chloroform	50	U
107-06-2	1,2-Dichloroethane	50	U
78-93-3	2-Butanone	19	J
71-55-6	1,1,1-Trichloroethane	50	U
56-23-5	Carbon Tetrachloride	50	U
75-27-4	Bromodichloromethane	50	U
78-87-5	1,2-Dichloropropane	50	U
10061-01-5	cis-1,3-Dichloropropene	50	U
79-01-6	Trichloroethene	150	
124-48-1	Dibromochloromethane	50	U
79-00-5	1,1,2-Trichloroethane	50	U
71-43-2	Benzene	50	U
10061-02-6	trans-1,3-Dichloropropene	50	U
75-25-2	Bromoform	50	U
108-10-1	4-Methyl-2-pentanone	50	U
591-78-6	2-Hexanone	50	U
127-18-4	Tetrachloroethene	98	
108-88-3	Toluene	50	U
79-34-5	1,1,2,2-Tetrachloroethane	50	U
108-90-7	Chlorobenzene	50	U
100-41-4	Ethylbenzene	50	U
100-42-5	Styrene	50	U
1330-20-7	Total Xylenes	19	J
75-71-8	Dichlorodifluoromethane	50	U
75-69-4	Trichlorofluoromethane	50	U

EPA ASP 2000 - VOLATILES
ANALYSIS DATA SHEET

Client No.

MW-14

Lab Name: STL Buffalo   Contract: ________

Lab Code: RECNY   Case No.: ____   SAS No.: ____   SDG No.: ____

Matrix: (soil/water) WATER   Lab Sample ID: A7192601

Sample wt/vol: 5.00 (g/mL) ML   Lab File ID: Q8999.RR

Level: (low/med) LOW   Date Samp/Recv: 03/01/2007 03/01/2007

% Moisture: not dec. ____   Heated Purge: N   Date Analyzed: 03/05/2007

GC Column: ZB-624   ID: 0.25 (mm)   Dilution Factor: 5.00

Soil Extract Volume: ____ (uL)   Soil Aliquot Volume: ____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND	UG/L	Q
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	50	U
156-60-5	trans-1,2-Dichloroethene	500	
1634-04-4	Methyl-t-Butyl Ether (MTBE)	50	U
156-59-2	cis-1,2-Dichloroethene	370	
110-82-7	Cyclohexane	50	U
108-87-2	Methylcyclohexane	50	U
106-93-4	1,2-Dibromoethane	50	U
98-82-8	Isopropylbenzene	50	U
541-73-1	1,3-Dichlorobenzene	50	U
106-46-7	1,4-Dichlorobenzene	50	U
95-50-1	1,2-Dichlorobenzene	50	U
96-12-8	1,2-Dibromo-3-chloropropane	50	U
120-82-1	1,2,4-Trichlorobenzene	50	U
79-20-9	Methyl acetate	50	U

EPA ASP 2000 - VOLATILES
TENTATIVELY IDENTIFIED COMPOUNDS

Client No.

MW-14

Lab Name: STL Buffalo Contract: ____________

Lab Code: RECNY Case No.: _____ SAS No.: ______ SDG No.: ______

Matrix: (soil/water) WATER Lab Sample ID: A7192601

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: Q8999.RR

Level: (low/med) LOW Date Samp/Recv: 03/01/2007 03/01/2007

% Moisture: not dec. ______ Date Analyzed: 03/05/2007

GC Column: ZB-624 ID: 0.25 (mm) Dilution Factor: 5.00

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: ________ (uL)

Number TICs found: 2

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NO.	Compound Name	RT	Est. Conc.	Q
1.	CHLORINATED HYDROCARBON	7.88	26	J
2.	UNKNOWN	10.00	36	J

EPA ASP 2000 - VOLATILES
ANALYSIS DATA SHEET

Client No.

MW-19

Lab Name: STL Buffalo Contract: ____________

Lab Code: RECNY Case No.: _____ SAS No.: ______ SDG No.: ______

Matrix: (soil/water) WATER Lab Sample ID: A7192602

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: Q8994.RR

Level: (low/med) LOW Date Samp/Recv: 03/01/2007 03/01/2007

% Moisture: not dec. ______ Heated Purge: N Date Analyzed: 03/05/2007

GC Column: ZB-624 ID: 0.25 (mm) Dilution Factor: 2.00

Soil Extract Volume: ______ (uL) Soil Aliquot Volume: ________ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND	UG/L	Q
74-87-3	Chloromethane	20	U
74-83-9	Bromomethane	20	U
75-01-4	Vinyl chloride	24	
75-00-3	Chloroethane	20	U
75-09-2	Methylene chloride	20	U
67-64-1	Acetone	10	J
75-15-0	Carbon Disulfide	20	U
75-35-4	1,1-Dichloroethene	20	U
75-34-3	1,1-Dichloroethane	20	U
67-66-3	Chloroform	20	U
107-06-2	1,2-Dichloroethane	20	U
78-93-3	2-Butanone	25	
71-55-6	1,1,1-Trichloroethane	20	U
56-23-5	Carbon Tetrachloride	20	U
75-27-4	Bromodichloromethane	20	U
78-87-5	1,2-Dichloropropane	20	U
10061-01-5	cis-1,3-Dichloropropene	20	U
79-01-6	Trichloroethene	20	U
124-48-1	Dibromochloromethane	20	U
79-00-5	1,1,2-Trichloroethane	20	U
71-43-2	Benzene	20	U
10061-02-6	trans-1,3-Dichloropropene	20	U
75-25-2	Bromoform	20	U
108-10-1	4-Methyl-2-pentanone	20	U
591-78-6	2-Hexanone	20	U
127-18-4	Tetrachloroethene	20	U
108-88-3	Toluene	20	U
79-34-5	1,1,2,2-Tetrachloroethane	20	U
108-90-7	Chlorobenzene	20	U
100-41-4	Ethylbenzene	20	U
100-42-5	Styrene	20	U
1330-20-7	Total Xylenes	20	U
75-71-8	Dichlorodifluoromethane	20	U
75-69-4	Trichlorofluoromethane	20	U

EPA ASP 2000 - VOLATILES
ANALYSIS DATA SHEET

Client No.

MW-19

Lab Name: STL Buffalo Contract: ___________

Lab Code: RECNY Case No.: _____ SAS No.: ______ SDG No.: ______

Matrix: (soil/water) WATER Lab Sample ID: A7192602

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: Q8994.RR

Level: (low/med) LOW Date Samp/Recv: 03/01/2007 03/01/2007

% Moisture: not dec. ______ Heated Purge: N Date Analyzed: 03/05/2007

GC Column: ZB-624 ID: 0.25 (mm) Dilution Factor: 2.00

Soil Extract Volume: ______ (uL) Soil Aliquot Volume: ________ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND	UG/L	Q
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	20	U
156-60-5	trans-1,2-Dichloroethene	20	U
1634-04-4	Methyl-t-Butyl Ether (MTBE)	20	U
156-59-2	cis-1,2-Dichloroethene	12	J
110-82-7	Cyclohexane	20	U
108-87-2	Methylcyclohexane	20	U
106-93-4	1,2-Dibromoethane	20	U
98-82-8	Isopropylbenzene	20	U
541-73-1	1,3-Dichlorobenzene	20	U
106-46-7	1,4-Dichlorobenzene	20	U
95-50-1	1,2-Dichlorobenzene	20	U
96-12-8	1,2-Dibromo-3-chloropropane	20	U
120-82-1	1,2,4-Trichlorobenzene	20	U
79-20-9	Methyl acetate	20	U

EPA ASP 2000 - VOLATILES
TENTATIVELY IDENTIFIED COMPOUNDS

Client No.

MW-19

Lab Name: STL Buffalo Contract: ______

Lab Code: RECNY Case No.: ____ SAS No.: ____ SDG No.: ____

Matrix: (soil/water) WATER Lab Sample ID: A7192602

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: Q8994.RR

Level: (low/med) LOW Date Samp/Recv: 03/01/2007 03/01/2007

% Moisture: not dec. ____ Date Analyzed: 03/05/2007

GC Column: ZB-624 ID: 0.25 (mm) Dilution Factor: 2.00

Soil Extract Volume: ____ (uL) Soil Aliquot Volume: ____ (uL)

CONCENTRATION UNITS:
Number TICs found: 3 (ug/L or ug/Kg) UG/L

CAS NO.	Compound Name	RT	Est. Conc.	Q
1.	UNKNOWN	1.80	28	J
2.	UNKNOWN	3.96	12	J
3.	UNKNOWN	5.44	67	J

ANALYTICAL REPORT

Job#: A07-7030

STL Project#: NY7A9603
Site Name: Benchmark - 7503 Niagara Falls Blvd. Site
Task: Level 2 - 7503 Niagara Falls Blvd.

Mr. Mike Lesakowski
Benchmark Environmental
726 Exchange St., Ste 624
Buffalo, NY 14210

STL Buffalo

Brian J. Fischer
Project Manager

06/29/2007

SDG NARRATIVE

Job#: A07-7030

STL Project#: NY7A9603
Site Name: Benchmark - 7503 Niagara Falls Blvd. Site

General Comments

The enclosed data may or may not have been reported utilizing data qualifiers (Q) as defined on the Data Comment Page.

Soil, sediment and sludge sample results are reported on "dry weight" basis unless otherwise noted in this data package.

According to 40CFR Part 136.3, pH, Chlorine Residual, Dissolved Oxygen, Sulfite, and Temperature analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. pH-Field), they were not analyzed immediately, but as soon as possible after laboratory receipt.

Sample dilutions were performed as indicated on the attached Dilution Log. The rationale for dilution is specified by the 3-digit code and definition.

Sample Receipt Comments

A07-7030
Sample Cooler(s) were received at the following temperature(s); 4.0 °C
All samples were received in good condition.

GC/MS Volatile Data

The analyte methylene chloride was detected in the dilution for sample MW-14. The dilution process involves additional manipulation of the sample, therefore, the sample detection for methylene chloride in the dilution may potentially be due to laboratory contamination and should be evaluated accordingly.

****

The results presented in this report relate only to the analytical testing and condition of the sample at receipt. This report pertains to only those samples actually tested. All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.

"I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this Sample Data package and in the electronic data deliverables has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature."

Brian J. Fischer
Project Manager

Date

Benchmark - 7503 Niagara Falls Blvd. Site
Level 2 - (GLR) 7503 Niagara Falls Blvd. site
AQUEOUS-METHOD 8260 - TCL VOLATILE ORGANICS

Client ID / Job No / Sample Date	Lab ID	MW-14 A07-7030 06/22/2007	A7703002	MW-14 A07-7030 06/22/2007	A7703002DL	MW-19 A07-7030 06/22/2007	A7703001		
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Acetone	UG/L	49	20	41 DJ	100	47	20	NA	
Benzene	UG/L	ND	4.0	ND	20	ND	4.0	NA	
Bromodichloromethane	UG/L	ND	4.0	ND	20	ND	4.0	NA	
Bromoform	UG/L	ND	4.0	ND	20	ND	4.0	NA	
Bromomethane	UG/L	ND	4.0	ND	20	ND	4.0	NA	
2-Butanone	UG/L	85	20	87 DJ	100	170	20	NA	
Carbon Disulfide	UG/L	1.6 J	4.0	ND	20	2.0 J	4.0	NA	
Carbon Tetrachloride	UG/L	ND	4.0	ND	20	ND	4.0	NA	
Chlorobenzene	UG/L	ND	4.0	ND	20	ND	4.0	NA	
Chloroethane	UG/L	ND	4.0	ND	20	ND	4.0	NA	
Chloroform	UG/L	ND	4.0	ND	20	ND	4.0	NA	
Chloromethane	UG/L	ND	4.0	ND	20	ND	4.0	NA	
Cyclohexane	UG/L	ND	4.0	ND	20	ND	4.0	NA	
1,2-Dibromo-3-chloropropane	UG/L	ND	4.0	ND	20	ND	4.0	NA	
Dibromochloromethane	UG/L	ND	4.0	ND	20	ND	4.0	NA	
Dichlorodifluoromethane	UG/L	ND	4.0	ND	20	ND	4.0	NA	
1,2-Dibromoethane	UG/L	ND	4.0	ND	20	ND	4.0	NA	
1,2-Dichlorobenzene	UG/L	ND	4.0	ND	20	ND	4.0	NA	
1,3-Dichlorobenzene	UG/L	ND	4.0	ND	20	ND	4.0	NA	
1,4-Dichlorobenzene	UG/L	ND	4.0	ND	20	ND	4.0	NA	
1,1-Dichloroethane	UG/L	ND	4.0	ND	20	ND	4.0	NA	
1,2-Dichloroethane	UG/L	ND	4.0	ND	20	ND	4.0	NA	
1,1-Dichloroethene	UG/L	44	4.0	60 D	20	ND	4.0	NA	
cis-1,2-Dichloroethene	UG/L	850 E	4.0	950 D	20	38	4.0	NA	
trans-1,2-Dichloroethene	UG/L	1500 E	4.0	1900 D	20	ND	4.0	NA	
1,2-Dichloropropane	UG/L	ND	4.0	ND	20	ND	4.0	NA	
cis-1,3-Dichloropropene	UG/L	ND	4.0	ND	20	ND	4.0	NA	
trans-1,3-Dichloropropene	UG/L	ND	4.0	ND	20	ND	4.0	NA	
Ethylbenzene	UG/L	6.3	4.0	ND	20	ND	4.0	NA	
2-Hexanone	UG/L	ND	20	ND	100	ND	20	NA	
Isopropylbenzene	UG/L	ND	4.0	ND	20	ND	4.0	NA	
Methyl acetate	UG/L	ND	4.0	ND	20	ND	4.0	NA	
Methylene chloride	UG/L	ND	4.0	21 D	20	ND	4.0	NA	
Methyl-t-Butyl Ether (MTBE)	UG/L	ND	4.0	ND	20	ND	4.0	NA	
4-Methyl-2-pentanone	UG/L	ND	20	ND	100	ND	20	NA	
Methylcyclohexane	UG/L	ND	4.0	ND	20	ND	4.0	NA	
Styrene	UG/L	ND	4.0	ND	20	ND	4.0	NA	
1,1,2,2-Tetrachloroethane	UG/L	ND	4.0	ND	20	ND	4.0	NA	
Tetrachloroethene	UG/L	35	4.0	40 D	20	ND	4.0	NA	
Toluene	UG/L	ND	4.0	ND	20	ND	4.0	NA	
1,2,4-Trichlorobenzene	UG/L	ND	4.0	ND	20	ND	4.0	NA	
1,1,1-Trichloroethane	UG/L	ND	4.0	ND	20	ND	4.0	NA	
1,1,2-Trichloroethane	UG/L	ND	4.0	ND	20	ND	4.0	NA	

NA = Not Applicable ND = Not Detected

Client ID / Job No / Lab ID / Sample Date		MW-14 A07-7030 06/22/2007	A7703002	MW-14 A07-7030 06/22/2007	A7703002DL	MW-19 A07-7030 06/22/2007	A7703001		
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
1,1,2-Trichloro-1,2,2-trifluor	UG/L	ND	4.0	ND	20	ND	4.0	NA	
Trichloroethene	UG/L	330	4.0	400 D	20	ND	4.0	NA	
Trichlorofluoromethane	UG/L	ND	4.0	ND	20	ND	4.0	NA	
Vinyl chloride	UG/L	540 E	4.0	880 D	20	15	4.0	NA	
Total Xylenes	UG/L	ND	12	ND	60	ND	12	NA	
IS/SURROGATE(S)									
Chlorobenzene-D5	%	102	50-200	85	50-200	102	50-200	NA	
1,4-Difluorobenzene	%	102	50-200	86	50-200	103	50-200	NA	
1,4-Dichlorobenzene-D4	%	100	50-200	74	50-200	99	50-200	NA	
Toluene-D8	%	101	71-126	100	71-126	102	71-126	NA	
p-Bromofluorobenzene	%	95	73-120	95	73-120	96	73-120	NA	
1,2-Dichloroethane-D4	%	90	66-137	110	66-137	91	66-137	NA	

10/21

NA = Not Applicable   ND = Not Detected

APPENDIX C

CONFIRMATORY SOIL ANALYTICAL DATA

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8260B
Reported: 10/30/07

Benchmark Environmental Eng.
Project Reference: 7503 NIAGARA FALLS BLVD
Client Sample ID : ESW

Date Sampled : 10/24/07 10:30 **Order #:** 1049009 **Sample Matrix:** SOIL/SEDIMENT
Date Received: 10/25/07 **Submission #:** R2740502 **Percent Solid:** 82.5

DATE ANALYZED : 10/29/07
ANALYTICAL DILUTION: 1.00

ANALYTE	PQL	RESULT	UNITS
			Dry Weight
ACETONE	20	4.4 JB	UG/KG
BENZENE	5.0	6.1 U	UG/KG
BROMODICHLOROMETHANE	5.0	6.1 U	UG/KG
BROMOFORM	5.0	6.1 U	UG/KG
BROMOMETHANE	5.0	6.1 U	UG/KG
2-BUTANONE (MEK)	10	12 U	UG/KG
METHYL-TERT-BUTYL ETHER	5.0	6.1 U	UG/KG
CARBON DISULFIDE	10	0.41 J	UG/KG
CARBON TETRACHLORIDE	5.0	6.1 U	UG/KG
CHLOROBENZENE	5.0	6.1 U	UG/KG
CHLOROETHANE	10	12 U	UG/KG
CHLOROFORM	5.0	6.1 U	UG/KG
CHLOROMETHANE	5.0	6.1 U	UG/KG
1,2-DIBROMO-3-CHLOROPROPANE	5.0	6.1 U	UG/KG
CYCLOHEXANE	5.0	6.1 U	UG/KG
DIBROMOCHLOROMETHANE	5.0	6.1 U	UG/KG
1,2-DIBROMOETHANE	5.0	6.1 U	UG/KG
1,3-DICHLOROBENZENE	5.0	6.1 U	UG/KG
1,4-DICHLOROBENZENE	5.0	6.1 U	UG/KG
1,2-DICHLOROBENZENE	5.0	6.1 U	UG/KG
DICHLORODIFLUOROMETHANE	5.0	6.1 U	UG/KG
1,1-DICHLOROETHANE	5.0	6.1 U	UG/KG
1,2-DICHLOROETHANE	5.0	6.1 U	UG/KG
1,1-DICHLOROETHENE	5.0	6.1 U	UG/KG
CIS-1,2-DICHLOROETHENE	5.0	11	UG/KG
TRANS-1,2-DICHLOROETHENE	5.0	0.92 J	UG/KG
1,2-DICHLOROPROPANE	5.0	6.1 U	UG/KG
CIS-1,3-DICHLOROPROPENE	5.0	6.1 U	UG/KG
TRANS-1,3-DICHLOROPROPENE	5.0	6.1 U	UG/KG
ETHYLBENZENE	5.0	6.1 U	UG/KG
2-HEXANONE	10	12 U	UG/KG
ISOPROPYLBENZENE	5.0	6.1 U	UG/KG
METHYL ACETATE	10	12 U	UG/KG
METHYLCYCLOHEXANE	5.0	6.1 U	UG/KG
METHYLENE CHLORIDE	5.0	0.57 J	UG/KG
4-METHYL-2-PENTANONE (MIBK)	10	12 U	UG/KG
STYRENE	5.0	6.1 U	UG/KG
1,1,2,2-TETRACHLOROETHANE	5.0	6.1 U	UG/KG
TETRACHLOROETHENE	5.0	21	UG/KG
TOLUENE	5.0	0.75 J	UG/KG
1,2,4-TRICHLOROBENZENE	5.0	6.1 U	UG/KG
1,1,1-TRICHLOROETHANE	5.0	6.1 U	UG/KG
1,1,2-TRICHLOROETHANE	5.0	6.1 U	UG/KG
TRICHLOROETHENE	5.0	36	UG/KG

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8260B
Reported: 10/30/07

Benchmark Environmental Eng.
Project Reference: 7503 NIAGARA FALLS BLVD
Client Sample ID : ESW

Date Sampled : 10/24/07 10:30 **Order #:** 1049009 **Sample Matrix:** SOIL/SEDIMENT
Date Received: 10/25/07 **Submission #:** R2740502 **Percent Solid:** 82.5

ANALYTE		PQL	RESULT	UNITS
DATE ANALYZED : 10/29/07				
ANALYTICAL DILUTION: 1.00				Dry Weight
TRICHLOROFLUOROMETHANE		5.0	6.1 U	UG/KG
1,1,2-TRICHLORO1,2,2-TRIFLUOROETHA		5.0	6.1 U	UG/KG
VINYL CHLORIDE		5.0	6.1 U	UG/KG
O-XYLENE		5.0	6.1 U	UG/KG
M+P-XYLENE		5.0	6.1 U	UG/KG
SURROGATE RECOVERIES	QC LIMITS			
4-BROMOFLUOROBENZENE	(50 - 135 %)		85	%
TOLUENE-D8	(75 - 128 %)		93	%
DIBROMOFLUOROMETHANE	(58 - 133 %)		94	%

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8260B
Reported: 10/30/07

Benchmark Environmental Eng.
Project Reference: 7503 NIAGARA FALLS BLVD
Client Sample ID : NSW

Date Sampled : 10/24/07 11:10 **Order #:** 1049012 **Sample Matrix:** SOIL/SEDIMENT
Date Received: 10/25/07 **Submission #:** R2740502 **Percent Solid:** 83.6

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 10/26/07			
ANALYTICAL DILUTION: 1.00			Dry Weight
ACETONE	20	43	UG/KG
BENZENE	5.0	6.0 U	UG/KG
BROMODICHLOROMETHANE	5.0	6.0 U	UG/KG
BROMOFORM	5.0	6.0 U	UG/KG
BROMOMETHANE	5.0	6.0 U	UG/KG
2-BUTANONE (MEK)	10	5.4 J	UG/KG
METHYL-TERT-BUTYL ETHER	5.0	6.0 U	UG/KG
CARBON DISULFIDE	10	1.3 J	UG/KG
CARBON TETRACHLORIDE	5.0	6.0 U	UG/KG
CHLOROBENZENE	5.0	6.0 U	UG/KG
CHLOROETHANE	10	12 U	UG/KG
CHLOROFORM	5.0	6.0 U	UG/KG
CHLOROMETHANE	5.0	6.0 U	UG/KG
1,2-DIBROMO-3-CHLOROPROPANE	5.0	6.0 U	UG/KG
CYCLOHEXANE	5.0	6.0 U	UG/KG
DIBROMOCHLOROMETHANE	5.0	6.0 U	UG/KG
1,2-DIBROMOETHANE	5.0	6.0 U	UG/KG
1,3-DICHLOROBENZENE	5.0	0.92 J	UG/KG
1,4-DICHLOROBENZENE	5.0	0.63 J	UG/KG
1,2-DICHLOROBENZENE	5.0	6.0 U	UG/KG
DICHLORODIFLUOROMETHANE	5.0	6.0 U	UG/KG
1,1-DICHLOROETHANE	5.0	6.0 U	UG/KG
1,2-DICHLOROETHANE	5.0	6.0 U	UG/KG
1,1-DICHLOROETHENE	5.0	2.6 J	UG/KG
CIS-1,2-DICHLOROETHENE	5.0	68	UG/KG
TRANS-1,2-DICHLOROETHENE	5.0	22	UG/KG
1,2-DICHLOROPROPANE	5.0	6.0 U	UG/KG
CIS-1,3-DICHLOROPROPENE	5.0	6.0 U	UG/KG
TRANS-1,3-DICHLOROPROPENE	5.0	6.0 U	UG/KG
ETHYLBENZENE	5.0	4.5 J	UG/KG
2-HEXANONE	10	12 U	UG/KG
ISOPROPYLBENZENE	5.0	1.2 J	UG/KG
METHYL ACETATE	10	12 U	UG/KG
METHYLCYCLOHEXANE	5.0	0.53 J	UG/KG
METHYLENE CHLORIDE	5.0	0.61 JB	UG/KG
4-METHYL-2-PENTANONE (MIBK)	10	12 U	UG/KG
STYRENE	5.0	6.0 U	UG/KG
1,1,2,2-TETRACHLOROETHANE	5.0	6.0 U	UG/KG
TETRACHLOROETHENE	5.0	6.2	UG/KG
TOLUENE	5.0	0.93 J	UG/KG
1,2,4-TRICHLOROBENZENE	5.0	1.3 J	UG/KG
1,1,1-TRICHLOROETHANE	5.0	6.0 U	UG/KG
1,1,2-TRICHLOROETHANE	5.0	6.0 U	UG/KG
TRICHLOROETHENE	5.0	6.6	UG/KG

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8260B
Reported: 10/30/07

Benchmark Environmental Eng.
Project Reference: 7503 NIAGARA FALLS BLVD
Client Sample ID : NSW

Date Sampled : 10/24/07 11:10 **Order #:** 1049012 **Sample Matrix:** SOIL/SEDIMENT
Date Received: 10/25/07 **Submission #:** R2740502 **Percent Solid:** 83.6

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 10/26/07			
ANALYTICAL DILUTION: 1.00			Dry Weight
TRICHLOROFLUOROMETHANE	5.0	6.0 U	UG/KG
1,1,2-TRICHLORO1,2,2-TRIFLUOROETHA	5.0	6.0 U	UG/KG
VINYL CHLORIDE	5.0	13	UG/KG
O-XYLENE	5.0	10	UG/KG
M+P-XYLENE	5.0	29	UG/KG

SURROGATE RECOVERIES	QC LIMITS		
4-BROMOFLUOROBENZENE	(50 - 135 %)	90	%
TOLUENE-D8	(75 - 128 %)	92	%
DIBROMOFLUOROMETHANE	(58 - 133 %)	91	%

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8260B
Reported: 10/30/07

Benchmark Environmental Eng.
Project Reference: 7503 NIAGARA FALLS BLVD
Client Sample ID : WSW

Date Sampled : 10/24/07 13:30 **Order #:** 1049015 **Sample Matrix:** SOIL/SEDIMENT
Date Received: 10/25/07 **Submission #:** R2740502 **Percent Solid:** 75.8

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 10/26/07			
ANALYTICAL DILUTION: 1.00			Dry Weight
ACETONE	20	11 JB	UG/KG
BENZENE	5.0	3.2 J	UG/KG
BROMODICHLOROMETHANE	5.0	6.6 U	UG/KG
BROMOFORM	5.0	6.6 U	UG/KG
BROMOMETHANE	5.0	6.6 U	UG/KG
2-BUTANONE (MEK)	10	2.2 J	UG/KG
METHYL-TERT-BUTYL ETHER	5.0	6.6 U	UG/KG
CARBON DISULFIDE	10	2.2 J	UG/KG
CARBON TETRACHLORIDE	5.0	6.6 U	UG/KG
CHLOROBENZENE	5.0	6.6 U	UG/KG
CHLOROETHANE	10	13 U	UG/KG
CHLOROFORM	5.0	6.6 U	UG/KG
CHLOROMETHANE	5.0	6.6 U	UG/KG
1,2-DIBROMO-3-CHLOROPROPANE	5.0	6.6 U	UG/KG
CYCLOHEXANE	5.0	6.6 U	UG/KG
DIBROMOCHLOROMETHANE	5.0	6.6 U	UG/KG
1,2-DIBROMOETHANE	5.0	6.6 U	UG/KG
1,3-DICHLOROBENZENE	5.0	6.6 U	UG/KG
1,4-DICHLOROBENZENE	5.0	6.6 U	UG/KG
1,2-DICHLOROBENZENE	5.0	6.6 U	UG/KG
DICHLORODIFLUOROMETHANE	5.0	6.6 U	UG/KG
1,1-DICHLOROETHANE	5.0	6.6 U	UG/KG
1,2-DICHLOROETHANE	5.0	6.6 U	UG/KG
1,1-DICHLOROETHENE	5.0	28	UG/KG
CIS-1,2-DICHLOROETHENE	5.0	100	UG/KG
TRANS-1,2-DICHLOROETHENE	5.0	78	UG/KG
1,2-DICHLOROPROPANE	5.0	6.6 U	UG/KG
CIS-1,3-DICHLOROPROPENE	5.0	6.6 U	UG/KG
TRANS-1,3-DICHLOROPROPENE	5.0	6.6 U	UG/KG
ETHYLBENZENE	5.0	6.6 U	UG/KG
2-HEXANONE	10	13 U	UG/KG
ISOPROPYLBENZENE	5.0	6.6 U	UG/KG
METHYL ACETATE	10	13 U	UG/KG
METHYLCYCLOHEXANE	5.0	6.6 U	UG/KG
METHYLENE CHLORIDE	5.0	0.91 JB	UG/KG
4-METHYL-2-PENTANONE (MIBK)	10	13 U	UG/KG
STYRENE	5.0	6.6 U	UG/KG
1,1,2,2-TETRACHLOROETHANE	5.0	6.6 U	UG/KG
TETRACHLOROETHENE	5.0	650 E	UG/KG
TOLUENE	5.0	2.1 J	UG/KG
1,2,4-TRICHLOROBENZENE	5.0	6.6 U	UG/KG
1,1,1-TRICHLOROETHANE	5.0	6.6 U	UG/KG
1,1,2-TRICHLOROETHANE	5.0	6.6 U	UG/KG
TRICHLOROETHENE	5.0	1000 E	UG/KG

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8260B
Reported: 10/30/07

Benchmark Environmental Eng.
Project Reference: 7503 NIAGARA FALLS BLVD
Client Sample ID : WSW

Date Sampled : 10/24/07 13:30 **Order #:** 1049015 **Sample Matrix:** SOIL/SEDIMENT
Date Received: 10/25/07 **Submission #:** R2740502 **Percent Solid:** 75.8

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 10/26/07			
ANALYTICAL DILUTION: 1.00			Dry Weight
TRICHLOROFLUOROMETHANE	5.0	6.6 U	UG/KG
1,1,2-TRICHLORO1,2,2-TRIFLUOROETHA	5.0	6.6 U	UG/KG
VINYL CHLORIDE	5.0	2.9 J	UG/KG
O-XYLENE	5.0	6.6 U	UG/KG
M+P-XYLENE	5.0	6.6 U	UG/KG

SURROGATE RECOVERIES	QC LIMITS		
4-BROMOFLUOROBENZENE	(50 - 135 %)	67	%
TOLUENE-D8	(75 - 128 %)	115	%
DIBROMOFLUOROMETHANE	(58 - 133 %)	97	%

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8260B
Reported: 10/30/07

Benchmark Environmental Eng.
Project Reference: 7503 NIAGARA FALLS BLVD
Client Sample ID : WSW

Date Sampled : 10/24/07 13:30 **Order #:** 1049015 **Sample Matrix:** SOIL/SEDIMENT
Date Received: 10/25/07 **Submission #:** R2740502 **Percent Solid:** 75.8

DATE ANALYZED : 10/29/07
ANALYTICAL DILUTION: 5.00 Dry Weight

ANALYTE	PQL	RESULT	UNITS
ACETONE	20	26 JB	UG/KG
BENZENE	5.0	33 U	UG/KG
BROMODICHLOROMETHANE	5.0	33 U	UG/KG
BROMOFORM	5.0	33 U	UG/KG
BROMOMETHANE	5.0	33 U	UG/KG
2-BUTANONE (MEK)	10	66 U	UG/KG
METHYL-TERT-BUTYL ETHER	5.0	33 U	UG/KG
CARBON DISULFIDE	10	2.1 J	UG/KG
CARBON TETRACHLORIDE	5.0	33 U	UG/KG
CHLOROBENZENE	5.0	33 U	UG/KG
CHLOROETHANE	10	66 U	UG/KG
CHLOROFORM	5.0	33 U	UG/KG
CHLOROMETHANE	5.0	33 U	UG/KG
1,2-DIBROMO-3-CHLOROPROPANE	5.0	33 U	UG/KG
CYCLOHEXANE	5.0	33 U	UG/KG
DIBROMOCHLOROMETHANE	5.0	33 U	UG/KG
1,2-DIBROMOETHANE	5.0	33 U	UG/KG
1,3-DICHLOROBENZENE	5.0	33 U	UG/KG
1,4-DICHLOROBENZENE	5.0	33 U	UG/KG
1,2-DICHLOROBENZENE	5.0	33 U	UG/KG
DICHLORODIFLUOROMETHANE	5.0	33 U	UG/KG
1,1-DICHLOROETHANE	5.0	33 U	UG/KG
1,2-DICHLOROETHANE	5.0	33 U	UG/KG
1,1-DICHLOROETHENE	5.0	24 J	UG/KG
CIS-1,2-DICHLOROETHENE	5.0	88	UG/KG
TRANS-1,2-DICHLOROETHENE	5.0	100	UG/KG
1,2-DICHLOROPROPANE	5.0	33 U	UG/KG
CIS-1,3-DICHLOROPROPENE	5.0	33 U	UG/KG
TRANS-1,3-DICHLOROPROPENE	5.0	33 U	UG/KG
ETHYLBENZENE	5.0	33 U	UG/KG
2-HEXANONE	10	66 U	UG/KG
ISOPROPYLBENZENE	5.0	33 U	UG/KG
METHYL ACETATE	10	66 U	UG/KG
METHYLCYCLOHEXANE	5.0	33 U	UG/KG
METHYLENE CHLORIDE	5.0	2.4 J	UG/KG
4-METHYL-2-PENTANONE (MIBK)	10	66 U	UG/KG
STYRENE	5.0	33 U	UG/KG
1,1,2,2-TETRACHLOROETHANE	5.0	33 U	UG/KG
TETRACHLOROETHENE	5.0	590 D	UG/KG
TOLUENE	5.0	2.4 J	UG/KG
1,2,4-TRICHLOROBENZENE	5.0	33 U	UG/KG
1,1,1-TRICHLOROETHANE	5.0	33 U	UG/KG
1,1,2-TRICHLOROETHANE	5.0	33 U	UG/KG
TRICHLOROETHENE	5.0	1300 D	UG/KG

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8260B
Reported: 10/30/07

Benchmark Environmental Eng.
Project Reference: 7503 NIAGARA FALLS BLVD
Client Sample ID : WSW

Date Sampled : 10/24/07 13:30 **Order #:** 1049015 **Sample Matrix:** SOIL/SEDIMENT
Date Received: 10/25/07 **Submission #:** R2740502 **Percent Solid:** 75.8

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 10/29/07			
ANALYTICAL DILUTION: 5.00			Dry Weight
TRICHLOROFLUOROMETHANE	5.0	33 U	UG/KG
1,1,2-TRICHLORO1,2,2-TRIFLUOROETHA	5.0	33 U	UG/KG
VINYL CHLORIDE	5.0	33 U	UG/KG
O-XYLENE	5.0	33 U	UG/KG
M+P-XYLENE	5.0	33 U	UG/KG

SURROGATE RECOVERIES	QC LIMITS		
4-BROMOFLUOROBENZENE	(50 - 135 %)	83	%
TOLUENE-D8	(75 - 128 %)	101	%
DIBROMOFLUOROMETHANE	(58 - 133 %)	98	%

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8260B
Reported: 10/30/07

Benchmark Environmental Eng.
Project Reference: 7503 NIAGARA FALLS BLVD
Client Sample ID : FLOOR

Date Sampled : 10/24/07 13:50 **Order #:** 1049019 **Sample Matrix:** SOIL/SEDIMENT
Date Received: 10/25/07 **Submission #:** R2740503 **Percent Solid:** 82.5

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 10/29/07			
ANALYTICAL DILUTION: 1.00			Dry Weight
ACETONE	20	8.5 JB	UG/KG
BENZENE	5.0	6.1 U	UG/KG
BROMODICHLOROMETHANE	5.0	6.1 U	UG/KG
BROMOFORM	5.0	6.1 U	UG/KG
BROMOMETHANE	5.0	6.1 U	UG/KG
2-BUTANONE (MEK)	10	12 U	UG/KG
METHYL-TERT-BUTYL ETHER	5.0	6.1 U	UG/KG
CARBON DISULFIDE	10	0.48 J	UG/KG
CARBON TETRACHLORIDE	5.0	6.1 U	UG/KG
CHLOROBENZENE	5.0	6.1 U	UG/KG
CHLOROETHANE	10	12 U	UG/KG
CHLOROFORM	5.0	6.1 U	UG/KG
CHLOROMETHANE	5.0	6.1 U	UG/KG
1,2-DIBROMO-3-CHLOROPROPANE	5.0	6.1 U	UG/KG
CYCLOHEXANE	5.0	6.1 U	UG/KG
DIBROMOCHLOROMETHANE	5.0	6.1 U	UG/KG
1,2-DIBROMOETHANE	5.0	6.1 U	UG/KG
1,3-DICHLOROBENZENE	5.0	6.1 U	UG/KG
1,4-DICHLOROBENZENE	5.0	6.1 U	UG/KG
1,2-DICHLOROBENZENE	5.0	6.1 U	UG/KG
DICHLORODIFLUOROMETHANE	5.0	6.1 U	UG/KG
1,1-DICHLOROETHANE	5.0	6.1 U	UG/KG
1,2-DICHLOROETHANE	5.0	6.1 U	UG/KG
1,1-DICHLOROETHENE	5.0	0.92 J	UG/KG
CIS-1,2-DICHLOROETHENE	5.0	15	UG/KG
TRANS-1,2-DICHLOROETHENE	5.0	7.3	UG/KG
1,2-DICHLOROPROPANE	5.0	6.1 U	UG/KG
CIS-1,3-DICHLOROPROPENE	5.0	6.1 U	UG/KG
TRANS-1,3-DICHLOROPROPENE	5.0	6.1 U	UG/KG
ETHYLBENZENE	5.0	6.1 U	UG/KG
2-HEXANONE	10	12 U	UG/KG
ISOPROPYLBENZENE	5.0	6.1 U	UG/KG
METHYL ACETATE	10	12 U	UG/KG
METHYLCYCLOHEXANE	5.0	6.1 U	UG/KG
METHYLENE CHLORIDE	5.0	0.74 J	UG/KG
4-METHYL-2-PENTANONE (MIBK)	10	12 U	UG/KG
STYRENE	5.0	6.1 U	UG/KG
1,1,2,2-TETRACHLOROETHANE	5.0	6.1 U	UG/KG
TETRACHLOROETHENE	5.0	25	UG/KG
TOLUENE	5.0	6.1 U	UG/KG
1,2,4-TRICHLOROBENZENE	5.0	6.1 U	UG/KG
1,1,1-TRICHLOROETHANE	5.0	6.1 U	UG/KG
1,1,2-TRICHLOROETHANE	5.0	6.1 U	UG/KG
TRICHLOROETHENE	5.0	34	UG/KG

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8260B
Reported: 10/30/07

Benchmark Environmental Eng.
Project Reference: 7503 NIAGARA FALLS BLVD
Client Sample ID : FLOOR

Date Sampled : 10/24/07 13:50 **Order #:** 1049019 **Sample Matrix:** SOIL/SEDIMENT
Date Received: 10/25/07 **Submission #:** R2740503 **Percent Solid:** 82.5

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 10/29/07			
ANALYTICAL DILUTION: 1.00			Dry Weight
TRICHLOROFLUOROMETHANE	5.0	6.1 U	UG/KG
1,1,2-TRICHLORO1,2,2-TRIFLUOROETHA	5.0	6.1 U	UG/KG
VINYL CHLORIDE	5.0	7.0	UG/KG
O-XYLENE	5.0	6.1 U	UG/KG
M+P-XYLENE	5.0	6.1 U	UG/KG

SURROGATE RECOVERIES	QC LIMITS	RESULT	UNITS
4-BROMOFLUOROBENZENE	(50 - 135 %)	88	%
TOLUENE-D8	(75 - 128 %)	91	%
DIBROMOFLUOROMETHANE	(58 - 133 %)	94	%

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 10/29/07

Benchmark Environmental Eng.
Project Reference: 7503 NIAGARA FALLS BLVD
Client Sample ID : ESW

Date Sampled : 10/24/07 10:30 **Order #:** 1049009 **Sample Matrix:** SOIL/SEDIMENT
Date Received: 10/25/07 **Submission #:** R2740502 **Percent Solid:** 82.5

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 10/25/07			
DATE ANALYZED : 10/26/07			
ANALYTICAL DILUTION: 1.00			Dry Weight
ACENAPHTHENE	330	400 U	UG/KG
ACENAPHTHYLENE	330	400 U	UG/KG
ACETOPHENONE	330	400 U	UG/KG
ANTHRACENE	330	400 U	UG/KG
ATRAZINE	330	400 U	UG/KG
BENZALDEHYDE	330	400 U	UG/KG
BENZO(A)ANTHRACENE	330	400 U	UG/KG
BENZO(A)PYRENE	330	400 U	UG/KG
BENZO(B)FLUORANTHENE	330	400 U	UG/KG
BENZO(G,H,I)PERYLENE	330	400 U	UG/KG
BENZO(K)FLUORANTHENE	330	400 U	UG/KG
1,1'-BIPHENYL	330	400 U	UG/KG
BUTYL BENZYL PHTHALATE	330	400 U	UG/KG
DI-N-BUTYLPHTHALATE	330	400 U	UG/KG
CAPROLACTAM	330	400 U	UG/KG
CARBAZOLE	330	400 U	UG/KG
INDENO(1,2,3-CD)PYRENE	330	400 U	UG/KG
4-CHLOROANILINE	330	400 U	UG/KG
BIS(-2-CHLOROETHOXY)METHANE	330	400 U	UG/KG
BIS(2-CHLOROETHYL)ETHER	330	400 U	UG/KG
2-CHLORONAPHTHALENE	330	400 U	UG/KG
2-CHLOROPHENOL	330	400 U	UG/KG
2,2'-OXYBIS(1-CHLOROPROPANE)	330	400 U	UG/KG
CHRYSENE	330	400 U	UG/KG
DIBENZO(A,H)ANTHRACENE	330	400 U	UG/KG
DIBENZOFURAN	330	400 U	UG/KG
3,3'-DICHLOROBENZIDINE	330	400 U	UG/KG
2,4-DICHLOROPHENOL	330	400 U	UG/KG
DIETHYLPHTHALATE	330	400 U	UG/KG
DIMETHYL PHTHALATE	330	400 U	UG/KG
2,4-DIMETHYLPHENOL	330	400 U	UG/KG
2,4-DINITROPHENOL	1700	2100 U	UG/KG
2,4-DINITROTOLUENE	330	400 U	UG/KG
2,6-DINITROTOLUENE	330	400 U	UG/KG
BIS(2-ETHYLHEXYL)PHTHALATE	330	400 U	UG/KG
FLUORANTHENE	330	400 U	UG/KG
FLUORENE	330	400 U	UG/KG
HEXACHLOROBENZENE	330	400 U	UG/KG
HEXACHLOROBUTADIENE	330	400 U	UG/KG
HEXACHLOROCYCLOPENTADIENE	330	400 U	UG/KG
HEXACHLOROETHANE	330	400 U	UG/KG
ISOPHORONE	330	400 U	UG/KG
2-METHYLNAPHTHALENE	330	400 U	UG/KG

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 10/29/07

Benchmark Environmental Eng.
Project Reference: 7503 NIAGARA FALLS BLVD
Client Sample ID : ESW

Date Sampled : 10/24/07 10:30 **Order #:** 1049009 **Sample Matrix:** SOIL/SEDIMENT
Date Received: 10/25/07 **Submission #:** R2740502 **Percent Solid:** 82.5

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 10/25/07			
DATE ANALYZED : 10/26/07			
ANALYTICAL DILUTION: 1.00			Dry Weight
4,6-DINITRO-2-METHYLPHENOL	1700	2100 U	UG/KG
4-CHLORO-3-METHYLPHENOL	330	400 U	UG/KG
2-METHYLPHENOL	330	400 U	UG/KG
4-METHYLPHENOL	330	400 U	UG/KG
NAPHTHALENE	330	400 U	UG/KG
2-NITROANILINE	1700	2100 U	UG/KG
3-NITROANILINE	1700	2100 U	UG/KG
4-NITROANILINE	1700	2100 U	UG/KG
NITROBENZENE	330	400 U	UG/KG
2-NITROPHENOL	330	400 U	UG/KG
4-NITROPHENOL	1700	2100 U	UG/KG
N-NITROSODIPHENYLAMINE	330	400 U	UG/KG
DI-N-OCTYL PHTHALATE	330	400 U	UG/KG
PENTACHLOROPHENOL	1700	2100 U	UG/KG
PHENANTHRENE	330	400 U	UG/KG
PHENOL	330	400 U	UG/KG
4-BROMOPHENYL-PHENYLETHER	330	400 U	UG/KG
4-CHLOROPHENYL-PHENYLETHER	330	400 U	UG/KG
N-NITROSO-DI-N-PROPYLAMINE	330	400 U	UG/KG
PYRENE	330	400 U	UG/KG
2,4,6-TRICHLOROPHENOL	330	400 U	UG/KG
2,4,5-TRICHLOROPHENOL	330	400 U	UG/KG

SURROGATE RECOVERIES	QC LIMITS		
TERPHENYL-d14	(48 - 131 %)	82	%
NITROBENZENE-d5	(27 - 130 %)	75	%
PHENOL-d6	(10 - 133 %)	72	%
2-FLUOROBIPHENYL	(32 - 130 %)	80	%
2-FLUOROPHENOL	(10 - 130 %)	71	%
2,4,6-TRIBROMOPHENOL	(33 - 139 %)	98	%

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 10/29/07

Benchmark Environmental Eng.
Project Reference: 7503 NIAGARA FALLS BLVD
Client Sample ID : NSW

Date Sampled : 10/24/07 11:10 **Order #:** 1049012 **Sample Matrix:** SOIL/SEDIMENT
Date Received: 10/25/07 **Submission #:** R2740502 **Percent Solid:** 83.6

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 10/25/07			
DATE ANALYZED : 10/26/07			
ANALYTICAL DILUTION: 1.00			Dry Weight
ACENAPHTHENE	330	390 U	UG/KG
ACENAPHTHYLENE	330	390 U	UG/KG
ACETOPHENONE	330	390 U	UG/KG
ANTHRACENE	330	390 U	UG/KG
ATRAZINE	330	390 U	UG/KG
BENZALDEHYDE	330	390 U	UG/KG
BENZO(A)ANTHRACENE	330	390 U	UG/KG
BENZO(A)PYRENE	330	390 U	UG/KG
BENZO(B)FLUORANTHENE	330	390 U	UG/KG
BENZO(G,H,I)PERYLENE	330	390 U	UG/KG
BENZO(K)FLUORANTHENE	330	390 U	UG/KG
1,1'-BIPHENYL	330	390 U	UG/KG
BUTYL BENZYL PHTHALATE	330	390 U	UG/KG
DI-N-BUTYLPHTHALATE	330	390 U	UG/KG
CAPROLACTAM	330	390 U	UG/KG
CARBAZOLE	330	390 U	UG/KG
INDENO(1,2,3-CD)PYRENE	330	390 U	UG/KG
4-CHLOROANILINE	330	390 U	UG/KG
BIS(-2-CHLOROETHOXY)METHANE	330	390 U	UG/KG
BIS(2-CHLOROETHYL)ETHER	330	390 U	UG/KG
2-CHLORONAPHTHALENE	330	390 U	UG/KG
2-CHLOROPHENOL	330	390 U	UG/KG
2,2'-OXYBIS(1-CHLOROPROPANE)	330	390 U	UG/KG
CHRYSENE	330	390 U	UG/KG
DIBENZO(A,H)ANTHRACENE	330	390 U	UG/KG
DIBENZOFURAN	330	390 U	UG/KG
3,3'-DICHLOROBENZIDINE	330	390 U	UG/KG
2,4-DICHLOROPHENOL	330	390 U	UG/KG
DIETHYLPHTHALATE	330	390 U	UG/KG
DIMETHYL PHTHALATE	330	390 U	UG/KG
2,4-DIMETHYLPHENOL	330	390 U	UG/KG
2,4-DINITROPHENOL	1700	2000 U	UG/KG
2,4-DINITROTOLUENE	330	390 U	UG/KG
2,6-DINITROTOLUENE	330	390 U	UG/KG
BIS(2-ETHYLHEXYL)PHTHALATE	330	390 U	UG/KG
FLUORANTHENE	330	390 U	UG/KG
FLUORENE	330	390 U	UG/KG
HEXACHLOROBENZENE	330	390 U	UG/KG
HEXACHLOROBUTADIENE	330	390 U	UG/KG
HEXACHLOROCYCLOPENTADIENE	330	390 U	UG/KG
HEXACHLOROETHANE	330	390 U	UG/KG
ISOPHORONE	330	390 U	UG/KG
2-METHYLNAPHTHALENE	330	390 U	UG/KG

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 10/29/07

Benchmark Environmental Eng.
Project Reference: 7503 NIAGARA FALLS BLVD
Client Sample ID : NSW

Date Sampled : 10/24/07 11:10 **Order #:** 1049012 **Sample Matrix:** SOIL/SEDIMENT
Date Received: 10/25/07 **Submission #:** R2740502 **Percent Solid:** 83.6

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 10/25/07			
DATE ANALYZED : 10/26/07			
ANALYTICAL DILUTION: 1.00			Dry Weight
4,6-DINITRO-2-METHYLPHENOL	1700	2000 U	UG/KG
4-CHLORO-3-METHYLPHENOL	330	390 U	UG/KG
2-METHYLPHENOL	330	390 U	UG/KG
4-METHYLPHENOL	330	390 U	UG/KG
NAPHTHALENE	330	390 U	UG/KG
2-NITROANILINE	1700	2000 U	UG/KG
3-NITROANILINE	1700	2000 U	UG/KG
4-NITROANILINE	1700	2000 U	UG/KG
NITROBENZENE	330	390 U	UG/KG
2-NITROPHENOL	330	390 U	UG/KG
4-NITROPHENOL	1700	2000 U	UG/KG
N-NITROSODIPHENYLAMINE	330	390 U	UG/KG
DI-N-OCTYL PHTHALATE	330	390 U	UG/KG
PENTACHLOROPHENOL	1700	2000 U	UG/KG
PHENANTHRENE	330	390 U	UG/KG
PHENOL	330	390 U	UG/KG
4-BROMOPHENYL-PHENYLETHER	330	390 U	UG/KG
4-CHLOROPHENYL-PHENYLETHER	330	390 U	UG/KG
N-NITROSO-DI-N-PROPYLAMINE	330	390 U	UG/KG
PYRENE	330	390 U	UG/KG
2,4,6-TRICHLOROPHENOL	330	390 U	UG/KG
2,4,5-TRICHLOROPHENOL	330	390 U	UG/KG

SURROGATE RECOVERIES	QC LIMITS		
TERPHENYL-d14	(48 - 131 %)	83	%
NITROBENZENE-d5	(27 - 130 %)	77	%
PHENOL-d6	(10 - 133 %)	75	%
2-FLUOROBIPHENYL	(32 - 130 %)	79	%
2-FLUOROPHENOL	(10 - 130 %)	74	%
2,4,6-TRIBROMOPHENOL	(33 - 139 %)	96	%

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 10/29/07

Benchmark Environmental Eng.
Project Reference: 7503 NIAGARA FALLS BLVD
Client Sample ID : WSW

Date Sampled : 10/24/07 13:30 **Order #:** 1049015 **Sample Matrix:** SOIL/SEDIMENT
Date Received: 10/25/07 **Submission #:** R2740502 **Percent Solid:** 75.8

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 10/25/07			
DATE ANALYZED : 10/26/07			
ANALYTICAL DILUTION: 1.00			Dry Weight
ACENAPHTHENE	330	440 U	UG/KG
ACENAPHTHYLENE	330	440 U	UG/KG
ACETOPHENONE	330	440 U	UG/KG
ANTHRACENE	330	440 U	UG/KG
ATRAZINE	330	440 U	UG/KG
BENZALDEHYDE	330	440 U	UG/KG
BENZO(A)ANTHRACENE	330	440 U	UG/KG
BENZO(A)PYRENE	330	440 U	UG/KG
BENZO(B)FLUORANTHENE	330	440 U	UG/KG
BENZO(G,H,I)PERYLENE	330	440 U	UG/KG
BENZO(K)FLUORANTHENE	330	440 U	UG/KG
1,1'-BIPHENYL	330	440 U	UG/KG
BUTYL BENZYL PHTHALATE	330	440 U	UG/KG
DI-N-BUTYLPHTHALATE	330	440 U	UG/KG
CAPROLACTAM	330	440 U	UG/KG
CARBAZOLE	330	440 U	UG/KG
INDENO(1,2,3-CD)PYRENE	330	440 U	UG/KG
4-CHLOROANILINE	330	440 U	UG/KG
BIS(-2-CHLOROETHOXY)METHANE	330	440 U	UG/KG
BIS(2-CHLOROETHYL)ETHER	330	440 U	UG/KG
2-CHLORONAPHTHALENE	330	440 U	UG/KG
2-CHLOROPHENOL	330	440 U	UG/KG
2,2'-OXYBIS(1-CHLOROPROPANE)	330	440 U	UG/KG
CHRYSENE	330	440 U	UG/KG
DIBENZO(A,H)ANTHRACENE	330	440 U	UG/KG
DIBENZOFURAN	330	440 U	UG/KG
3,3'-DICHLOROBENZIDINE	330	440 U	UG/KG
2,4-DICHLOROPHENOL	330	440 U	UG/KG
DIETHYLPHTHALATE	330	440 U	UG/KG
DIMETHYL PHTHALATE	330	440 U	UG/KG
2,4-DIMETHYLPHENOL	330	440 U	UG/KG
2,4-DINITROPHENOL	1700	2200 U	UG/KG
2,4-DINITROTOLUENE	330	440 U	UG/KG
2,6-DINITROTOLUENE	330	440 U	UG/KG
BIS(2-ETHYLHEXYL)PHTHALATE	330	440 U	UG/KG
FLUORANTHENE	330	440 U	UG/KG
FLUORENE	330	440 U	UG/KG
HEXACHLOROBENZENE	330	440 U	UG/KG
HEXACHLOROBUTADIENE	330	440 U	UG/KG
HEXACHLOROCYCLOPENTADIENE	330	440 U	UG/KG
HEXACHLOROETHANE	330	440 U	UG/KG
ISOPHORONE	330	440 U	UG/KG
2-METHYLNAPHTHALENE	330	440 U	UG/KG

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 10/29/07

Benchmark Environmental Eng.
Project Reference: 7503 NIAGARA FALLS BLVD
Client Sample ID : WSW

Date Sampled : 10/24/07 13:30 **Order #:** 1049015 **Sample Matrix:** SOIL/SEDIMENT
Date Received: 10/25/07 **Submission #:** R2740502 **Percent Solid:** 75.8

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 10/25/07			
DATE ANALYZED : 10/26/07			
ANALYTICAL DILUTION: 1.00			Dry Weight
4,6-DINITRO-2-METHYLPHENOL	1700	2200 U	UG/KG
4-CHLORO-3-METHYLPHENOL	330	440 U	UG/KG
2-METHYLPHENOL	330	440 U	UG/KG
4-METHYLPHENOL	330	440 U	UG/KG
NAPHTHALENE	330	440 U	UG/KG
2-NITROANILINE	1700	2200 U	UG/KG
3-NITROANILINE	1700	2200 U	UG/KG
4-NITROANILINE	1700	2200 U	UG/KG
NITROBENZENE	330	440 U	UG/KG
2-NITROPHENOL	330	440 U	UG/KG
4-NITROPHENOL	1700	2200 U	UG/KG
N-NITROSODIPHENYLAMINE	330	440 U	UG/KG
DI-N-OCTYL PHTHALATE	330	440 U	UG/KG
PENTACHLOROPHENOL	1700	2200 U	UG/KG
PHENANTHRENE	330	24 J	UG/KG
PHENOL	330	440 U	UG/KG
4-BROMOPHENYL-PHENYLETHER	330	440 U	UG/KG
4-CHLOROPHENYL-PHENYLETHER	330	440 U	UG/KG
N-NITROSO-DI-N-PROPYLAMINE	330	440 U	UG/KG
PYRENE	330	440 U	UG/KG
2,4,6-TRICHLOROPHENOL	330	440 U	UG/KG
2,4,5-TRICHLOROPHENOL	330	440 U	UG/KG

SURROGATE RECOVERIES	QC LIMITS		
TERPHENYL-d14	(48 - 131 %)	78	%
NITROBENZENE-d5	(27 - 130 %)	74	%
PHENOL-d6	(10 - 133 %)	70	%
2-FLUOROBIPHENYL	(32 - 130 %)	73	%
2-FLUOROPHENOL	(10 - 130 %)	69	%
2,4,6-TRIBROMOPHENOL	(33 - 139 %)	84	%

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 10/29/07

Benchmark Environmental Eng.
Project Reference: 7503 NIAGARA FALLS BLVD
Client Sample ID : FLOOR

Date Sampled : 10/24/07 13:50 **Order #:** 1049019 **Sample Matrix:** SOIL/SEDIMENT
Date Received: 10/25/07 **Submission #:** R2740503 **Percent Solid:** 82.5

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 10/25/07			
DATE ANALYZED : 10/26/07			
ANALYTICAL DILUTION: 1.00			Dry Weight
ACENAPHTHENE	330	400 U	UG/KG
ACENAPHTHYLENE	330	400 U	UG/KG
ACETOPHENONE	330	400 U	UG/KG
ANTHRACENE	330	400 U	UG/KG
ATRAZINE	330	400 U	UG/KG
BENZALDEHYDE	330	400 U	UG/KG
BENZO(A)ANTHRACENE	330	400 U	UG/KG
BENZO(A)PYRENE	330	400 U	UG/KG
BENZO(B)FLUORANTHENE	330	400 U	UG/KG
BENZO(G,H,I)PERYLENE	330	400 U	UG/KG
BENZO(K)FLUORANTHENE	330	400 U	UG/KG
1,1'-BIPHENYL	330	400 U	UG/KG
BUTYL BENZYL PHTHALATE	330	400 U	UG/KG
DI-N-BUTYLPHTHALATE	330	400 U	UG/KG
CAPROLACTAM	330	400 U	UG/KG
CARBAZOLE	330	400 U	UG/KG
INDENO(1,2,3-CD)PYRENE	330	400 U	UG/KG
4-CHLOROANILINE	330	400 U	UG/KG
BIS(-2-CHLOROETHOXY)METHANE	330	400 U	UG/KG
BIS(2-CHLOROETHYL)ETHER	330	400 U	UG/KG
2-CHLORONAPHTHALENE	330	400 U	UG/KG
2-CHLOROPHENOL	330	400 U	UG/KG
2,2'-OXYBIS(1-CHLOROPROPANE)	330	400 U	UG/KG
CHRYSENE	330	400 U	UG/KG
DIBENZO(A,H)ANTHRACENE	330	400 U	UG/KG
DIBENZOFURAN	330	400 U	UG/KG
3,3'-DICHLOROBENZIDINE	330	400 U	UG/KG
2,4-DICHLOROPHENOL	330	400 U	UG/KG
DIETHYLPHTHALATE	330	400 U	UG/KG
DIMETHYL PHTHALATE	330	400 U	UG/KG
2,4-DIMETHYLPHENOL	330	400 U	UG/KG
2,4-DINITROPHENOL	1700	2100 U	UG/KG
2,4-DINITROTOLUENE	330	400 U	UG/KG
2,6-DINITROTOLUENE	330	400 U	UG/KG
BIS(2-ETHYLHEXYL)PHTHALATE	330	400 U	UG/KG
FLUORANTHENE	330	73 J	UG/KG
FLUORENE	330	400 U	UG/KG
HEXACHLOROBENZENE	330	400 U	UG/KG
HEXACHLOROBUTADIENE	330	50 J	UG/KG
HEXACHLOROCYCLOPENTADIENE	330	400 U	UG/KG
HEXACHLOROETHANE	330	400 U	UG/KG
ISOPHORONE	330	400 U	UG/KG
2-METHYLNAPHTHALENE	330	400 U	UG/KG

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8270C SEMIVOLATILES
Reported: 10/29/07

Benchmark Environmental Eng.
Project Reference: 7503 NIAGARA FALLS BLVD
Client Sample ID : FLOOR

Date Sampled : 10/24/07 13:50 **Order #:** 1049019 **Sample Matrix:** SOIL/SEDIMENT
Date Received: 10/25/07 **Submission #:** R2740503 **Percent Solid:** 82.5

DATE EXTRACTED : 10/25/07
DATE ANALYZED : 10/26/07
ANALYTICAL DILUTION: 1.00

ANALYTE	PQL	RESULT	UNITS
			Dry Weight
4,6-DINITRO-2-METHYLPHENOL	1700	2100 U	UG/KG
4-CHLORO-3-METHYLPHENOL	330	400 U	UG/KG
2-METHYLPHENOL	330	400 U	UG/KG
4-METHYLPHENOL	330	400 U	UG/KG
NAPHTHALENE	330	400 U	UG/KG
2-NITROANILINE	1700	2100 U	UG/KG
3-NITROANILINE	1700	2100 U	UG/KG
4-NITROANILINE	1700	2100 U	UG/KG
NITROBENZENE	330	400 U	UG/KG
2-NITROPHENOL	330	400 U	UG/KG
4-NITROPHENOL	1700	2100 U	UG/KG
N-NITROSODIPHENYLAMINE	330	400 U	UG/KG
DI-N-OCTYL PHTHALATE	330	400 U	UG/KG
PENTACHLOROPHENOL	1700	2100 U	UG/KG
PHENANTHRENE	330	35 J	UG/KG
PHENOL	330	400 U	UG/KG
4-BROMOPHENYL-PHENYLETHER	330	400 U	UG/KG
4-CHLOROPHENYL-PHENYLETHER	330	400 U	UG/KG
N-NITROSO-DI-N-PROPYLAMINE	330	400 U	UG/KG
PYRENE	330	57 J	UG/KG
2,4,6-TRICHLOROPHENOL	330	400 U	UG/KG
2,4,5-TRICHLOROPHENOL	330	400 U	UG/KG

SURROGATE RECOVERIES	QC LIMITS		
TERPHENYL-d14	(48 - 131 %)	72	%
NITROBENZENE-d5	(27 - 130 %)	71	%
PHENOL-d6	(10 - 133 %)	65	%
2-FLUOROBIPHENYL	(32 - 130 %)	74	%
2-FLUOROPHENOL	(10 - 130 %)	63	%
2,4,6-TRIBROMOPHENOL	(33 - 139 %)	79	%

APPENDIX D

CHARACTERIZATION DATA AND WASTE DISPOSAL RECEIPTS

BENCHMARK
ENVIRONMENTAL
ENGINEERING &
SCIENCE, PLLC

Columbia Analytical Services inc. A FULL SERVICE ENVIRONMENTAL LABORATORY

October 22, 2007

Mr. Mike Lesakowski
Benchmark Environmental Eng.
726 Exchange Street
Suite 624
Buffalo, NY 14210

PROJECT:GLR HOLDINGS
Submission #:R2740236

Dear Mr. Lesakowski:

Enclosed are the analytical results of the analyses requested. The analytical data was provided to you on 10/19/07 per a Facsimile transmittal. All data has been reviewed prior to report submission.

Should you have any questions please contact me at (585) 288-5380.

Thank you for letting us provide this service.

Sincerely,

COLUMBIA ANALYTICAL SERVICES

Janice Jaeger
Project Chemist

Enc.

Columbia Analytical Services Inc.

1 Mustard ST.
Suite 250
Rochester, NY 14609
(585) 288-5380

THIS IS AN ANALYTICAL TEST REPORT FOR:

Client : Benchmark Environmental Eng.
Project Reference: GLR HOLDINGS
Lab Submission # : R2740236
Project Manager : Janice Jaeger
Reported : 10/22/07

Report Contains a total of 24 pages

The results reported herein relate only to the samples received by the laboratory. This report may not be reproduced except in full, without the approval of Columbia Analytical Services.

This package has been reviewed by Columbia Analytical Services' QA Department/Laboratory Director to comply with NELAC standards prior to report submittal.

Columbia Analytical Services Inc.

CASE NARRATIVE

This report contains analytical results for the following samples:

Submission #: R2740236

Lab ID	Client ID
1044742	FOOTER WASTE PROFILE
1044743	FOOTER WASTE PROFILE

All samples were received in good condition unless otherwise noted on the cooler receipt and preservation check form located at the end of this report.

All samples were preserved in accordance with approved analytical methods.

All samples have been analyzed by the approved methods cited on the analytical results pages.

All holding times and associated QC were within limits.

No analytical or QC problems were encountered.

All sampling activities performed by CAS personnel have been in accordance with "CAS Field Procedures and Measurements Manual" or by client specifications.

ORGANIC QUALIFIERS

U - Indicates compound was analyzed for but not detected. The sample quantitation limit must be corrected for dilution and for percent moisture.

J - Indicates an estimated value. The flag is used either when estimating a concentration for tentatively identified compounds, or when the data indicate the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit and greater than the MDL. This flag is also used for DoD instead of "P" as indicated below.

N - Indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds, where the identification is based on a mass spectral library search.

P - This flag is used for a pesticide/Aroclor target analyte when there is a greater than 40% (25% for CLP) difference for detected concentrations between the two GC columns. The concentration is reported on the Form I and flagged with a "P" ("J" for DoD).

Q - for DoD only – indicates a pesticide/Aroclor target is not confirmed. This flag is used when there is ≥ 100% difference for the detected concentrations between the two GC columns.

C - This flag applies to pesticide results where the identification has been confirmed by GC/MS.

B - This flag is used when the analyte is found in the associated blank as well as in the sample.

E - This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis.

D - This flag identifies all compounds identified in an analysis at a secondary dilution factor. If a sample or extract is re-analyzed at a higher dilution factor, as in the "E" flag above, the "DL" suffix is appended to the sample number on the Form I for the diluted sample, and ALL concentration values reported on that Form I are flagged with the "D" flag.

A - This flag indicates that a TIC is a suspected aldol-condensation product.

X - As specified in Case Narrative.

* - This flag identifies compounds associated with a quality control parameter which exceeds laboratory limits.

CAS/Rochester Lab ID # for State Certifications

NELAP Accredited
Delaware Accredited
Connecticut ID # PH0556
Florida ID # E87674
Illinois ID #200047
Maine ID #NY0032
Massachusetts ID # M-NY032
Navy Facilities Engineering Service Center Approved

Nebraska Accredited
New Jersey ID # NY004
New York ID # 10145
New Hampshire ID # 294100 A/B
Pennsylvania ID# 68-786
Rhode Island ID # 158
West Virginia ID # 292

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INORGANIC QUALIFIERS

C (Concentration) qualifier –

- B - if the reported value was obtained from a reading that was less than the Contract Required Detection Limit (CRDL) but was greater than or equal to the Instrument Detection Limit (IDL). This qualifier may also be used to indicate that there was contamination above the reporting limit in the associated blank. See Narrative for details.
- U - if the analyte was analyzed for, but not detected

Q qualifier - Specified entries and their meanings are as follows:

- D - Spike was diluted out
- E - The reported value is estimated because the serial dilution did not meet criteria.
- J - Estimated Value
- M - Duplicate injection precision not met.
- N - Spiked sample recovery not within control limits.
- S - The reported value was determined by the Method of Standard Additions (MSA).
- W - Post-digestion spike for Furnace AA Analysis is out of control limits (85-115), while sample absorbance is less than 50% of spike absorbance.
- * - Duplicate analysis not within control limits.
- + - Correlation coefficient for the MSA is less than 0.995.

M (Method) qualifier:

- "P" for ICP
- "A" for Flame AA
- "F" for Furnace AA
- "PM" for ICP when Microwave Digestion is used
- "AM" for Flame AA when Microwave Digestion is used
- "FM" for Furnace M when Microwave Digestion is used
- "CV" for Manual Cold Vapor AA
- "AV" for Automated Cold Vapor AA
- "AF" for Automated Cold Vapor Atomic Fluorescence Spectrometry
- "CA" for Midi-Distillation Spectrophotometric
- "AS" for Semi-Automated Spectrophotometric
- "C" for Manual Spectrophotometric
- "T" for Titrimetric
- " " where no data has been entered
- "NR" if the analyte is not required to be analyzed.

CAS/Rochester Lab ID # for State Certifications

NELAP Accredited
Delaware Accredited
Connecticut ID # PH0556
Florida ID # E87674
Illinois ID #200047
Maine ID #NY0032
Massachusetts ID # M-NY032
Navy Facilities Engineering Service Center Approved
Nebraska Accredited
New Jersey ID # NY004
New York ID # 10145
New Hampshire ID # 294100 A/B
Pennsylvania ID # 68-786
Rhode Island ID # 158
West Virginia ID # 292

COLUMBIA ANALYTICAL SERVICES

Reported: 10/22/07

Benchmark Environmental Eng.
Project Reference: GLR HOLDINGS
Client Sample ID : FOOTER WASTE PROFILE

Date Sampled : 10/09/07 15:00 **Order #:** 1044742 **Sample Matrix:** SOIL/SEDIMENT
Date Received: 10/11/07 **Submission #:** R2740236

ANALYTE	METHOD	PQL	RESULT	UNITS	DATE ANALYZED	DILUTION
ARSENIC	6010B	0.500	0.500 U	MG/L	10/16/07	1.0
BARIUM	6010B	1.00	1.00 U	MG/L	10/16/07	1.0
CADMIUM	6010B	0.100	0.100 U	MG/L	10/16/07	1.0
CHROMIUM	6010B	0.100	0.100 U	MG/L	10/16/07	1.0
LEAD	6010B	0.100	0.100 U	MG/L	10/16/07	1.0
MERCURY	7470A	0.000300	0.000300 U	MG/L	10/17/07	1.0
SELENIUM	6010B	0.500	0.500 U	MG/L	10/16/07	1.0
SILVER	6010B	0.100	0.100 U	MG/L	10/16/07	1.0

Data reported following TCLP Toxicity Characteristics Leaching Procedure. Federal Register, Part 261, Vol. 55, No. 126, June 29, 1990.

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8260B TCLP
Reported: 10/22/07

Benchmark Environmental Eng.
Project Reference: GLR HOLDINGS
Client Sample ID : FOOTER WASTE PROFILE

Date Sampled : 10/09/07 15:00 **Order #:** 1044742 **Sample Matrix:** SOIL/SEDIMENT
Date Received: 10/11/07 **Submission #:** R2740236 **Analytical Run** 151817

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 10/16/07			
ANALYTICAL DILUTION: 10.00			
BENZENE	5.0	50 U	UG/L
2-BUTANONE (MEK)	10	100 U	UG/L
CARBON TETRACHLORIDE	5.0	50 U	UG/L
CHLOROBENZENE	5.0	50 U	UG/L
CHLOROFORM	5.0	50 U	UG/L
1,2-DICHLOROETHANE	5.0	50 U	UG/L
1,1-DICHLOROETHENE	5.0	50 U	UG/L
TETRACHLOROETHENE	5.0	50 U	UG/L
TRICHLOROETHENE	5.0	50 U	UG/L
VINYL CHLORIDE	5.0	50 U	UG/L

SURROGATE RECOVERIES	QC LIMITS		
BROMOFLUOROBENZENE	(50 - 135 %)	104	%
TOLUENE-D8	(75 - 128 %)	110	%
DIBROMOFLUOROMETHANE	(58 - 133 %)	107	%

Data Reported following TCLP Toxicity Characteristics Leaching Procedure.
Federal Register, Part 261, Vol. 55, NO 126, June 29, 1990.

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8270C TCLP
Reported: 10/22/07

Benchmark Environmental Eng.
Project Reference: GLR HOLDINGS
Client Sample ID : FOOTER WASTE PROFILE

Date Sampled : 10/09/07 15:00 **Order #:** 1044742 **Sample Matrix:** SOIL/SEDIMENT
Date Received: 10/11/07 **Submission #:** R2740236 **Analytical Run** 151628

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 10/15/07			
DATE ANALYZED : 10/15/07			
ANALYTICAL DILUTION: 10.00			
1,4-DICHLOROBENZENE	10	100 U	UG/L
2,4-DINITROTOLUENE	10	100 U	UG/L
HEXACHLOROBENZENE	10	100 U	UG/L
HEXACHLOROBUTADIENE	10	100 U	UG/L
HEXACHLOROETHANE	10	100 U	UG/L
2-METHYLPHENOL	10	100 U	UG/L
3+4-METHYLPHENOL	10	100 U	UG/L
NITROBENZENE	10	100 U	UG/L
PENTACHLOROPHENOL	50	500 U	UG/L
PYRIDINE	50	500 U	UG/L
2,4,6-TRICHLOROPHENOL	10	100 U	UG/L
2,4,5-TRICHLOROPHENOL	10	100 U	UG/L

SURROGATE RECOVERIES	QC LIMITS		
TERPHENYL-D14	(48 - 131 %)	92	%
NITROBENZENE-D5	(27 - 130 %)	91	%
PHENOL-D6	(10 - 133 %)	37	%
2-FLUOROBIPHENYL	(32 - 130 %)	97	%
2-FLUOROPHENOL	(10 - 130 %)	54	%
2,4,6-TRIBROMOPHENOL	(33 - 139 %)	114	%

Data Reported following TCLP Toxicity Characteristics Leaching Procedure.
Federal Register, Part 261, Vol. 55, NO 126, June 29, 1990.

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8081A TCLP
Reported: 10/22/07

Benchmark Environmental Eng.
Project Reference: GLR HOLDINGS
Client Sample ID : FOOTER WASTE PROFILE

Date Sampled : 10/09/07 15:00 **Order #:** 1044742 **Sample Matrix:** SOIL/SEDIMENT
Date Received: 10/11/07 **Submission #:** R2740236 **Analytical Run** 151748

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 10/16/07			
DATE ANALYZED : 10/17/07			
ANALYTICAL DILUTION: 10.00			
GAMMA-BHC (LINDANE)	0.50	5.0 U	UG/L
CHLORDANE	2.0	20 U	UG/L
ENDRIN	0.50	5.0 U	UG/L
HEPTACHLOR	0.50	5.0 U	UG/L
HEPTACHLOR EPOXIDE	0.50	5.0 U	UG/L
METHOXYCHLOR	2.0	20 U	UG/L
TOXAPHENE	10	100 U	UG/L

SURROGATE RECOVERIES	QC LIMITS	RESULT	UNITS
DECACHLOROBIPHENYL (DCB)	(18 - 176 %)	108	%
TETRACHLORO-META-XYLENE (TCMX)	(24 - 136 %)	81	%

Data Reported following TCLP Toxicity Characteristics Leaching Procedure.
Federal Register, Part 261, Vol. 55, NO 126, June 29, 1990.

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8151A TCLP
Reported: 10/22/07

Benchmark Environmental Eng.
Project Reference: GLR HOLDINGS
Client Sample ID : FOOTER WASTE PROFILE

Date Sampled : 10/09/07 15:00 **Order #:** 1044742 **Sample Matrix:** SOIL/SEDIMENT
Date Received: 10/11/07 **Submission #:** R2740236 **Analytical Run** 151775

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 10/16/07			
DATE ANALYZED : 10/18/07			
ANALYTICAL DILUTION: 10.00			
2,4-D	5.0	50 U	UG/L
2,4,5-TP (SILVEX)	5.0	50 U	UG/L

SURROGATE RECOVERIES	QC LIMITS		
DCAA	(20 - 150 %)	63	%

Data Reported following TCLP Toxicity Characteristics Leaching Procedure.
Federal Register, Part 261, Vol. 55, NO 126, June 29, 1990.

COLUMBIA ANALYTICAL SERVICES

Reported: 10/22/07

Benchmark Environmental Eng.
Project Reference: GLR HOLDINGS
Client Sample ID : FOOTER WASTE PROFILE

Date Sampled : 10/09/07 15:00 **Order #:** 1044743 **Sample Matrix:** SOIL/SEDIMENT
Date Received: 10/11/07 **Submission #:** R2740236

ANALYTE	METHOD	PQL	RESULT	DRY WEIGHT UNITS	DATE ANALYZED	TIME ANALYZED	DILUTION
FLASH POINT	1010.M		>100	°C	10/15/07	11:35	1.0
PERCENT SOLIDS	160.3M	1.00	85.7	%	10/11/07	15:10	1.0

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8082 PCB'S
Reported: 10/22/07

Benchmark Environmental Eng.
Project Reference: GLR HOLDINGS
Client Sample ID : FOOTER WASTE PROFILE

Date Sampled : 10/09/07 15:00 **Order #:** 1044743 **Sample Matrix:** SOIL/SEDIMENT
Date Received: 10/11/07 **Submission #:** R2740236 **Percent Solid:** 85.7

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 10/15/07			
DATE ANALYZED : 10/17/07			
ANALYTICAL DILUTION: 1.00			Dry Weight
PCB 1016	33	39 U	UG/KG
PCB 1221	67	78 U	UG/KG
PCB 1232	33	39 U	UG/KG
PCB 1242	33	39 U	UG/KG
PCB 1248	33	39 U	UG/KG
PCB 1254	33	39 U	UG/KG
PCB 1260	33	200	UG/KG

SURROGATE RECOVERIES	QC LIMITS	RESULT	UNITS
DECACHLOROBIPHENYL	(29 - 153 %)	96	%
TETRACHLORO-META-XYLENE	(27 - 134 %)	92	%

COLUMBIA ANALYTICAL SERVICES

INORGANIC BLANK SPIKE SUMMARY

CAS Submission #: R2740236
Client: Benchmark Environmental Eng.
GLR HOLDINGS

BLANK SPIKES

	BLANK	FOUND	ADDED	% REC	LIMITS	RUN	UNITS
ARSENIC	0.500 U	5.00	5.00	100	80 - 120	151740	MG/L
BARIUM	1.00 U	5.18	5.00	104	80 - 120	151740	MG/L
CADMIUM	0.100 U	0.991	1.00	99	80 - 120	151740	MG/L
CHROMIUM	0.100 U	4.92	5.00	98	80 - 120	151740	MG/L
LEAD	0.100 U	5.24	5.00	105	80 - 120	151740	MG/L
SELENIUM	0.500 U	0.932	1.00	93	80 - 120	151740	MG/L
SILVER	0.100 U	5.33	5.00	107	80 - 120	151740	MG/L
MERCURY	0.000300 U	0.00101	0.00100	101	80 - 120	151771	MG/L

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8260B TCLP
Reported: 10/22/07

Project Reference:
Client Sample ID : METHOD BLANK

Date Sampled : **Order #:** 1046845 **Sample Matrix:** SOIL/SEDIMENT
Date Received: **Submission #:** **Analytical Run** 151817

ANALYTE		PQL	RESULT	UNITS
DATE ANALYZED : 10/16/07				
ANALYTICAL DILUTION: 1.00				
BENZENE		5.0	5.0 U	UG/L
2-BUTANONE (MEK)		10	10 U	UG/L
CARBON TETRACHLORIDE		5.0	5.0 U	UG/L
CHLOROBENZENE		5.0	5.0 U	UG/L
CHLOROFORM		5.0	5.0 U	UG/L
1,2-DICHLOROETHANE		5.0	5.0 U	UG/L
1,1-DICHLOROETHENE		5.0	5.0 U	UG/L
TETRACHLOROETHENE		5.0	5.0 U	UG/L
TRICHLOROETHENE		5.0	5.0 U	UG/L
VINYL CHLORIDE		5.0	5.0 U	UG/L
SURROGATE RECOVERIES	QC LIMITS			
BROMOFLUOROBENZENE	(50 - 135 %)		101	%
TOLUENE-D8	(75 - 128 %)		106	%
DIBROMOFLUOROMETHANE	(58 - 133 %)		103	%

Data Reported following TCLP Toxicity Characteristics Leaching Procedure.
Federal Register, Part 261, Vol. 55, NO 126, June 29, 1990.

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8270C TCLP
Reported: 10/22/07

Project Reference:
Client Sample ID : METHOD BLANK

Date Sampled : **Order #:** 1045905 **Sample Matrix:** SOIL/SEDIMENT
Date Received: **Submission #:** **Analytical Run** 151628

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 10/15/07			
DATE ANALYZED : 10/15/07			
ANALYTICAL DILUTION: 10.00			
1,4-DICHLOROBENZENE	10	100 U	UG/L
2,4-DINITROTOLUENE	10	100 U	UG/L
HEXACHLOROBENZENE	10	100 U	UG/L
HEXACHLOROBUTADIENE	10	100 U	UG/L
HEXACHLOROETHANE	10	100 U	UG/L
2-METHYLPHENOL	10	100 U	UG/L
3+4-METHYLPHENOL	10	100 U	UG/L
NITROBENZENE	10	100 U	UG/L
PENTACHLOROPHENOL	50	500 U	UG/L
PYRIDINE	50	500 U	UG/L
2,4,6-TRICHLOROPHENOL	10	100 U	UG/L
2,4,5-TRICHLOROPHENOL	10	100 U	UG/L

SURROGATE RECOVERIES	QC LIMITS		
TERPHENYL-D14	(48 - 131 %)	94	%
NITROBENZENE-D5	(27 - 130 %)	91	%
PHENOL-D6	(10 - 133 %)	42	%
2-FLUOROBIPHENYL	(32 - 130 %)	93	%
2-FLUOROPHENOL	(10 - 130 %)	58	%
2,4,6-TRIBROMOPHENOL	(33 - 139 %)	116	%

Data Reported following TCLP Toxicity Characteristics Leaching Procedure.
Federal Register, Part 261, Vol. 55, NO 126, June 29, 1990.

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8081A TCLP
Reported: 10/22/07

Project Reference:
Client Sample ID : METHOD BLANK

Date Sampled : **Order #:** 1046556 **Sample Matrix:** SOIL/SEDIMENT
Date Received: **Submission #:** **Analytical Run** 151748

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 10/16/07			
DATE ANALYZED : 10/17/07			
ANALYTICAL DILUTION: 10.00			
GAMMA-BHC (LINDANE)	0.50	5.0 U	UG/L
CHLORDANE	2.0	20 U	UG/L
ENDRIN	0.50	5.0 U	UG/L
HEPTACHLOR	0.50	5.0 U	UG/L
HEPTACHLOR EPOXIDE	0.50	5.0 U	UG/L
METHOXYCHLOR	2.0	20 U	UG/L
TOXAPHENE	10	100 U	UG/L

SURROGATE RECOVERIES	QC LIMITS		
DECACHLOROBIPHENYL (DCB)	(18 - 176 %)	109	%
TETRACHLORO-META-XYLENE (TCMX)	(24 - 136 %)	83	%

Data Reported following TCLP Toxicity Characteristics Leaching Procedure.
Federal Register, Part 261, Vol. 55, NO 126, June 29, 1990.

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8151A TCLP
Reported: 10/22/07

Project Reference:
Client Sample ID : METHOD BLANK

Date Sampled : Order #: 1046686 **Sample Matrix:** SOIL/SEDIMENT
Date Received: Submission #: **Analytical Run** 151775

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 10/16/07			
DATE ANALYZED : 10/18/07			
ANALYTICAL DILUTION: 10.00			
2,4-D	5.0	50 U	UG/L
2,4,5-TP (SILVEX)	5.0	50 U	UG/L

SURROGATE RECOVERIES	QC LIMITS		
DCAA	(20 - 150 %)	76	%

Data Reported following TCLP Toxicity Characteristics Leaching Procedure.
Federal Register, Part 261, Vol. 55, NO 126, June 29, 1990.

COLUMBIA ANALYTICAL SERVICES

EXTRACTABLE ORGANICS
METHOD 8082 PCB'S
Reported: 10/22/07

Project Reference:
Client Sample ID : METHOD BLANK

Date Sampled : **Order #:** 1046431 **Sample Matrix:** SOIL/SEDIMENT
Date Received: **Submission #:** **Percent Solid:** 100

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 10/15/07			
DATE ANALYZED : 10/17/07			
ANALYTICAL DILUTION: 1.00			Dry Weight
PCB 1016	33	33 U	UG/KG
PCB 1221	67	67 U	UG/KG
PCB 1232	33	33 U	UG/KG
PCB 1242	33	33 U	UG/KG
PCB 1248	33	33 U	UG/KG
PCB 1254	33	33 U	UG/KG
PCB 1260	33	33 U	UG/KG

SURROGATE RECOVERIES	QC LIMITS	RESULT	UNITS
DECACHLOROBIPHENYL	(29 - 153 %)	89	%
TETRACHLORO-META-XYLENE	(27 - 134 %)	83	%

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD: 8260B TCLP

LABORATORY CONTROL SAMPLE SUMMARY

REFERENCE ORDER #: 1046847 ANALYTICAL RUN # : 151817

ANALYTE	TRUE VALUE	% RECOVERY	QC LIMITS
DATE ANALYZED : 10/16/07			
ANALYTICAL DILUTION: 1.0			
BENZENE	20.0	102	70 - 130
2-BUTANONE (MEK)	20.0	72	50 - 150
CARBON TETRACHLORIDE	20.0	123	70 - 130
CHLOROBENZENE	20.0	108	70 - 130
CHLOROFORM	20.0	98	70 - 130
1,2-DICHLOROETHANE	20.0	98	70 - 130
1,1-DICHLOROETHENE	20.0	125	70 - 130
TETRACHLOROETHENE	20.0	118	70 - 130
TRICHLOROETHENE	20.0	107	70 - 130
VINYL CHLORIDE	20.0	93	70 - 130

COLUMBIA ANALYTICAL SERVICES

QUALITY CONTROL SUMMARY: LABORATORY CONTROL SAMPLE
SOIL/SEDIMENT

Spiked Order No. : 1045906

Dup Spiked Order No. : 1045907

Client ID:

Test: 8270C TCLP

Analytical Units: UG/L

Run Number : 151628

ANALYTE	SPIKE ADDED	SAMPLE CONCENT.	BLANK SPIKE FOUND	BLANK SPIKE % REC.	BLANK SPIKE DUP. FOUND	BLANK SPIKE DUP. % REC.	BLANK SPIKE DUP. RPD	QC LIMITS RPD	QC LIMITS REC.
1,4-DICHLOROBENZENE	1000	0	610	61	590	59	3	30	20 - 112
2,4-DINITROTOLUENE	1000	0	1100	110	980	98	12	30	46 - 124
HEXACHLOROBENZENE	1000	0	960	96	870	87	10	30	56 - 116
HEXACHLOROBUTADIENE	1000	0	640	64	620	62	3	30	10 - 104
HEXACHLOROETHANE	1000	0	600	60	590	59	2	30	10 - 107
2-METHYLPHENOL	1000	0	770	77	730	73	5	30	26 - 105
3+4-METHYLPHENOL	2000	0	1400	70	1400	70	0	30	22 - 108
NITROBENZENE	1000	0	920	92	810	81	13	30	32 - 130
PENTACHLOROPHENOL	1000	0	1000	100	930	93	7	30	21 - 131
PYRIDINE	1000	0	280	28	440	44	44 *	30	28 - 130
2,4,6-TRICHLOROPHENOL	1000	0	1020	102	933	93	9	30	33 - 120
2,4,5-TRICHLOROPHENOL	1000	0	999	100	900	90	10	30	34 - 121

COLUMBIA ANALYTICAL SERVICES

QUALITY CONTROL SUMMARY: LABORATORY CONTROL SAMPLE
SOIL/SEDIMENT

Spiked Order No. : 1046557

Dup Spiked Order No. : 1046558

Client ID:

Test: 8081A TCLP

Analytical Units: UG/L

Run Number : 151748

ANALYTE	SPIKE ADDED	SAMPLE CONCENT.	BLANK SPIKE FOUND	BLANK SPIKE % REC.	BLANK SPIKE DUP. FOUND	BLANK SPIKE DUP. % REC.	BLANK SPIKE DUP. RPD	QC LIMITS RPD	QC LIMITS REC.
GAMMA-BHC (LINDANE)	20	0	20.0	100	19.0	95	5	30	47 - 133
ENDRIN	20	0	20.0	100	19.0	95	5	30	45 - 143
HEPTACHLOR	20	0	18.0	90	18.0	90	0	30	50 - 120
HEPTACHLOR EPOXIDE	20	0	22.0	110	21.0	105	5	30	77 - 106
METHOXYCHLOR	200	0	220	110	210	105	5	30	86 - 117

COLUMBIA ANALYTICAL SERVICES

QUALITY CONTROL SUMMARY: LABORATORY CONTROL SAMPLE
SOIL/SEDIMENT

Spiked Order No. : 1046687

Dup Spiked Order No. : 1046688

Client ID:

Test: 8151A TCLP

Analytical Units: UG/L

Run Number : 151775

ANALYTE	SPIKE ADDED	SAMPLE CONCENT.	BLANK SPIKE FOUND	BLANK SPIKE % REC.	BLANK SPIKE DUP. FOUND	BLANK SPIKE DUP. % REC.	BLANK SPIKE DUP. RPD	QC LIMITS RPD	QC LIMITS REC.
2,4-D	100	0	86.0	86	72.0	72	18	30	45 - 134
2,4,5-TP (SILVEX)	100	0	79.0	79	66.0	66	18	30	45 - 112

COLUMBIA ANALYTICAL SERVICES

QUALITY CONTROL SUMMARY: LABORATORY CONTROL SAMPLE
SOIL/SEDIMENT

Spiked Order No. : 1046432

Dup Spiked Order No. : 1046433

Client ID:

Test: 8082 PCB'S

Analytical Units: UG/KG

Run Number : 151735

ANALYTE	SPIKE ADDED	SAMPLE CONCENT.	BLANK SPIKE FOUND	BLANK SPIKE % REC.	BLANK SPIKE DUP. FOUND	BLANK SPIKE DUP. % REC.	BLANK SPIKE DUP. RPD	QC LIMITS RPD	QC LIMITS REC.
PCB 1260	170	0	146	88	150	90	3	30	57 - 141

Columbia Analytical Services INC
An Employee - Owned Company
www.caslab.com

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

One Mustard St., Suite 250 • Rochester, NY 14609-0859 • (585) 288-5380 • 800-695-7222 x11 • FAX (585) 288-8475

PAGE ______ OF ______

SR #

CAS Contact

Project Name: GLR Holdings	Project Number:
Project Manager: Mike Lesakowski	Report CC:
Company/Address: Benchmark Eng 726 Exchange St Suite 624 Buffalo NY 14210	
Phone #: (716) 856-0599	FAX#: (716) 856-0583
Sampler's Signature:	Sampler's Printed Name:

ANALYSIS REQUESTED (Include Method Number and Container Preservative)

CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	GC/MS VOA's ☐ 8260 ☐ 624 ☐ CLP	GC/MS SVOA's ☐ 8270 ☐ 625 ☐ CLP	GC VOA's ☐ 8021 ☐ 601/602	PESTICIDES ☐ 8081 ☐ 608 ☐ CLP	PCB's ☐ 8082 ☐ 608 ☐ CLP	METALS, TOTAL (List in comments below)	METALS, DISSOLVED (List in comments below)	Full TCLP, T. PCBs Ignitability						REMARKS/ ALTERNATE DESCRIPTION
PRESERVATIVE																			
Frontier waste profile		10/9/07	1500	Soil	4								4						

Preservative Key
0. NONE
1. HCL
2. HNO_3
3. H_2SO_4
4. NaOH
5. Zn. Acetate
6. MeOH
7. $NaHSO_4$
8. Other ______

SPECIAL INSTRUCTIONS/COMMENTS
Metals

8260 & 8270 added as per Mike Lesakowski
[illegible] 10/12/07

See QAPP ☐

TURNAROUND REQUIREMENTS
___ RUSH (SURCHARGES APPLY)
___ 24 hr X 48 hr ___ 5 day
___ STANDARD
REQUESTED FAX DATE: ASAP
REQUESTED REPORT DATE: ASAP

REPORT REQUIREMENTS
___ I. Results Only
___ II. Results + QC Summaries (LCS, DUP, MS/MSD as required)
___ III. Results + QC and Calibration Summaries
___ IV. Data Validation Report with Raw Data
___ V. Specialized Forms / Custom Report
Edata ___ Yes ___ No

INVOICE INFORMATION
PO#
BILL TO:

SUBMISSION #

SAMPLE RECEIPT: CONDITION/COOLER TEMP: ______ CUSTODY SEALS: Y N

23

	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature	Thomas [signature]	Rachel Jones				
Printed Name	Tom Behrendt	Rachel Jones				
Firm	Benchmark	CAS				
Date/Time	10/10/07 1700	10/11/07 950				

Distribution: White - Return to Originator, Yellow - Lab Copy; Pink - Retained by Client

SCOC-1102-08

148331

NIAGARA FALLS LANDFILL
56th Street & Niagara Falls Blvd
Niagara Falls, NY 14304 (716)282-6381

SITE	TICKET	GRID
5B	302696	

WEIGHMASTER	
AS00067 ALBERT S	
DATE IN	TIME IN
23 October 2007	4:14 pm
DATE OUT	TIME OUT
23 October 2007	4:39 pm
VEHICLE	ROLL OFF
MAL43	
REFERENCE	ORIGIN
	Inbound -NY-ERIE

302648
~~BENCHMARK BUILDERS~~ Visone Plumbing
~~1001 STALEY ROAD~~
~~GRAND ISLAND, NY~~ 14072
Contract: BENCHMARK

00 Gross Weight 72,860.00 lb
Tare Weight 26,880.00 lb
Net Weight 45,980.00 lb

WENDYS/NF.BLVD.
BENCHMARK BUILDERS

22.99	TN	C&D				
1.00	LD	ENVIRONMENTAL FEE				
1.00	LD	FUEL RECOVERY FEE				

NET AMOUNT

TENDERED

CHANGE

CHECK NO.

HAVE A NICE DAY

ALLIED WASTE

SIGNATURE

14855

NIAGARA FALLS LANDFILL
56th Street & Niagara Falls Blvd
Niagara Falls, NY 14304 (716)282-6381

202648
~~BENCHMARK BUILDERS~~ Visone Plumbing
1301 STALEY ROAD
GRAND ISLAND, NY 14072
Contract: BENCHMARK

SITE	TICKET	GRID
5B	302697	

WEIGHMASTER
AS00067 ALBERT S

DATE IN	TIME IN
23 October 2007	4:17 pm
DATE OUT	**TIME OUT**
23 October 2007	4:40 pm
VEHICLE	**ROLL OFF**
DUMMY1	
REFERENCE	**ORIGIN**
	Inbound -NY-ERIE

00 Gross Weight 64,120.00 lb
Tare Weight 25,100.00 lb
Net Weight 39,020.00 lb

VISONE@WENDYS NF BLVD
BENCHMARK BUILDERS

QTY	UNIT	DESCRIPTION	RATE	EXTENSION	TAX	TOTAL
19.51	TN	C&D				
1.00	LD	ENVIRONMENTAL FEE				
1.00	LD	FUEL RECOVERY FEE				

174.7 Ton

HAVE A NICE DAY

ALLIED WASTE

SIGNATURE Mark A B

NET AMOUNT
TENDERED
CHANGE
CHECK NO.

L48442

NIAGARA FALLS LANDFILL
56th Street & Niagara Falls Blvd
Niagara Falls, NY 14304 (716)282-6381

202366
L. VISONE PLUMBING
4470 DARCY LANE
WILLIAMSVILLE, NY 14221
Contract: VISONE

SITE	TICKET	GRID
5B	302807	

WEIGHMASTER: PJS0000 PAM S

DATE IN	TIME IN
24 October 2007	11:53 am
DATE OUT	**TIME OUT**
24 October 2007	12:13 pm
VEHICLE	**ROLL OFF**
DIRT #4	
REFERENCE	**ORIGIN**
	Inbound -NY-NIAGARA

00 Gross Weight 89,260.00 lb
Tare Weight 50,860.00 lb
Net Weight 38,400.00 lb

NF BLVD
VISONE PLUMBING

QTY	UNIT	DESCRIPTION	RATE	EXTENSION	TAX	TOTAL
19.20	TN	C&D				
1.00	LD	ENVIRONMENTAL FEE				
1.00	LD	FUEL RECOVERY FEE				
			OK	LOU		

NET AMOUNT

TENDERED

CHANGE

CHECK NO.

HAVE A NICE DAY

ALLIED WASTE

SIGNATURE

NIAGARA FALLS LANDFILL
56th Street & Niagara Falls Blvd
Niagara Falls, NY 14304 (716)282-6381

SITE	TICKET	GRID
SB	302816	

WEIGHMASTER: FJ80000 PAM S

DATE IN	TIME IN
24 October 2007	12:35 pm

DATE OUT	TIME OUT
24 October 2007	12:49 pm

VEHICLE	ROLL OFF
DIRT #4	

REFERENCE	ORIGIN
	Inbound -NY-NIAGARA

202366
L. VISONE PLUMBING
4470 DARCY LANE
WILLIAMSVILLE, NY 14221
Contract: VISONE

00 Gross Weight 90,320.00 lb
Tare Weight 53,220.00 lb
Net Weight 37,100.00 lb

NF BLVD
VISONE PLUMBING

			DESCRIPTION		EXTENSION		TOTAL
18.55	TN		C&D				
1.00	LD		ENVIRONMENTAL FEE				
1.00	LD		FUEL RECOVERY FEE				

NET AMOUNT

TENDERED

CHANGE

CHECK NO.

HAVE A NICE DAY

ALLIED WASTE

SIGNATURE

148464

NIAGARA FALLS LANDFILL
56th Street & Niagara Falls Blvd
Niagara Falls, NY 14304 (716)282-6381

SITE	TICKET	GRID
5B	302829	

WEIGHMASTER
PJ80000 PAM S

DATE IN	TIME IN
24 October 2007	1:14 pm
DATE OUT	**TIME OUT**
24 October 2007	1:30 pm
VEHICLE	**ROLL OFF**
DIRT #4	
REFERENCE	**ORIGIN**
	Inbound -NY-NIAGARA

202366
L. VISONE PLUMBING
4470 DARCY LANE
WILLIAMSVILLE, NY 14221
Contract: VISONE

00 Gross Weight 87,820.00 lb
Tare Weight 54,700.00 lb
Net Weight 33,120.00 lb

NF BLVD
VISONE PLUMBING

QTY	UNIT		DESCRIPTION	RATE	EXTENSION	TAX	TOTAL
16.56	TN		C&D				
1.00	LD		ENVIRONMENTAL FEE				
1.00	LD		FUEL RECOVERY FEE				
				OK	LOU		

NET AMOUNT

TENDERED

CHANGE

CHECK NO.

HAVE A NICE DAY

ALLIED WASTE

SIGNATURE

143475

NIAGARA FALLS LANDFILL
56th Street & Niagara Falls Blvd
Niagara Falls, NY 14304 (716)282-6381

202366
L. VISONE PLUMBING
4470 DARCY LANE
WILLIAMSVILLE, NY 14221
Contract: VISONE

SITE	TICKET	GRID
5B	302840	

WEIGHMASTER: AS00067 ALBERT S

DATE IN	TIME IN
24 October 2007	1:52 pm

DATE OUT	TIME OUT
24 October 2007	2:14 pm

VEHICLE	ROLL OFF
DIRT #4	

REFERENCE	ORIGIN
	Inbound -NY-ERIE

00 Gross Weight 93,800.00 lb
Tare Weight 56,360.00 lb
Net Weight 37,440.00 lb

NF BLVD
VISONE PLUMBING

QTY	UNIT	DESCRIPTION	RATE	EXTENSION	TAX	TOTAL
18.72	TN	C&D				
1.00	LD	ENVIRONMENTAL FEE				
1.00	LD	FUEL RECOVERY FEE				

NET AMOUNT

TENDERED

CHANGE

CHECK NO.

HAVE A NICE DAY

ALLIED WASTE

SIGNATURE

148493

NIAGARA FALLS LANDFILL
56th Street & Niagara Falls Blvd
Niagara Falls, NY 14304 (716)282-6381

SITE	TICKET	GRID
5B	902858	

WEIGHMASTER
AS00067 ALBERT S

DATE IN	TIME IN
24 October 2007	2:41 pm

DATE OUT	TIME OUT
24 October 2007	3:03 pm

VEHICLE	ROLL OFF
DIRT #4	

REFERENCE	ORIGIN
	Inbound -NY-ERIE

202366
L. VISONE PLUMBING
4470 DARCY LANE
WILLIAMSVILLE, NY 14221
Contract: VISONE

00 Gross Weight 84,560.00 lb
Tare Weight 57,100.00 lb
Net Weight 27,460.00 lb

NF.BLVD
VISONE PLUMBING

QTY	[illegible]	DESCRIPTION	[illegible]	EXTENSION	TAX	TOTAL
13.73	TN	C&D				
1.00	LD	ENVIRONMENTAL FEE				
1.00	LD	FUEL RECOVERY FEE				

NET AMOUNT
TENDERED
CHANGE
CHECK NO.

HAVE A NICE DAY

ALLIED WASTE

SIGNATURE Bob [signature]

148

NIAGARA FALLS LANDFILL
56th Street & Niagara Falls Blvd
Niagara Falls, NY 14304 (716)282-6381

202366
L. VISONE PLUMBING
4470 DARCY LANE
WILLIAMSVILLE, NY 14221
Contract: VISONE

SITE	TICKET	GRID
5B	202871	

WEIGHMASTER
AS00067 ALBERT S

DATE IN	TIME IN
24 October 2007	3:52 pm
DATE OUT	**TIME OUT**
24 October 2007	4:10 pm
VEHICLE	**ROLL OFF**
DIRT #4	

REFERENCE	ORIGIN
	Inbound -NY-ERIE

00 Gross Weight 83,580.00 lb
Tare Weight 29,260.00 lb
Net Weight 54,320.00 lb

NF BLVD,
VISONE PLUMBING

QTY	UNIT	DESCRIPTION	RATE	EXTENSION	TAX	TOTAL
27.16	TN	C&D				
1.00	LD	ENVIRONMENTAL FEE				
1.00	LD	FUEL RECOVERY FEE				

NET AMOUNT
TENDERED
CHANGE
CHECK NO.

HAVE A NICE DAY

ALLIED WASTE

SIGNATURE

NIAGARA FALLS LANDFILL
56th Street & Niagara Falls Blvd
Niagara Falls, NY 14304 (716)282-6381

202366
L. VISONE PLUMBING
4470 DARCY LANE
WILLIAMSVILLE, NY 14221
Contract: VISONE

SITE	TICKET	GRID
5B	302874	

WEIGHMASTER: AS00067 ALBERT S

DATE IN	TIME IN
24 October 2007	4:33 pm

DATE OUT	TIME OUT
24 October 2007	4:45 pm

VEHICLE	ROLL OFF
DIRT #4	

REFERENCE	ORIGIN
	Inbound -NY-ERIE

00 Gross Weight 65,400.00 lb
Tare Weight 28,840.00 lb
Net Weight 36,560.00 lb

NF BLVD.
VISONE PLUMBING

QTY	UNIT	DESCRIPTION	RATE	EXTENSION	TAX	TOTAL
18.28	TN	C&D				
1.00	LD	ENVIRONMENTAL FEE				
1.00	LD	FUEL RECOVERY FEE				

NET AMOUNT

TENDERED

CHANGE

CHECK NO.

HAVE A NICE DAY

ALLIED WASTE

SIGNATURE

APPENDIX E

SITE SURVEY

APEX CONSULTING
SURVEY & ENGINEERING SERVICES, P.C.
NIAGARA COUNTY
102 EAST AVENUE, LOCKPORT, NEW YORK 14094
Phone: (716) 439-0188 FAX: (716) 439-0189

SURVEY OF PART OF LOT 54 OF THE MILE RESERVE. SITUATE IN THE CITY OF NIAGARA FALLS, COUNTY OF NIAGARA AND THE STATE OF NEW YORK.

SCALE: 1" = 20'	JOB NO.: 06-022
DATE: 10/3/06	RESURVEY:
DRAWN BY: CTA	DWG. FILE: 06-022SM2
REVISIONS:	

CHESTER S. DERES JR., L.S.
N.Y.S. LICENSE NO. 049768

NOTE: THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF AN ABSTRACT OF TITLE AND IS SUBJECT TO ANY INFORMATION DERIVED BY AN EXAMINATION OF THE SAME.

NOTE: ONLY COPIES OF THIS SURVEY MADE FROM THE ORIGINAL AND EMBOSSED WITH THE SURVEYORS' SEAL SHALL BE VALID COPIES.

NOTE: THIS SURVEY IS SUBJECT TO EASEMENTS AND RIGHTS OF WAY OF RECORD.

NOTE: UNAUTHORIZED ALTERATIONS TO THIS MAP ARE IN VIOLATION OF SEC. 7209 PROVISION 2 OF THE NEW YORK STATE EDUCATION LAW.

SBL NUMBER: 160.12-2-5

ELECTRONIC ATTACHMENTS

ATTACHMENT 1 – IRM WORK PLAN
ATTACHMENT 2 - RI/AAR/IRM REPORT
ATTACHMENT 3 – SITE MANAGEMENT PLAN

ELECTRONIC ATTACHMENT 1

IRM WORK PLAN

Interim Remedial Measures Work Plan

7503 Niagara Falls Boulevard Site
Niagara Falls, New York

October 2006 0101-002-500

Prepared For:

GLR Holdings, LLC

Prepared By:

BENCHMARK
ENVIRONMENTAL
ENGINEERING &
SCIENCE, PLLC

726 Exchange Street, Suite 624, Buffalo, New York | phone: (716) 856-0599 | fax: (716) 856-0583

INTERIM REMEDIAL MEASURES (IRM) WORK PLAN FOR BROWNFIELD CLEANUP PROGRAM

7503 NIAGARA FALLS BOULEVARD SITE
NIAGARA FALLS, NEW YORK

SITE NO. C932126

October 2006 | 0101-002-500

Prepared for:

GLR Holdings, LLC

IRM WORK PLAN

7503 NIAGARA FALLS BOULEVARD SITE

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Benchmark Environmental Engineering & Science, PLLC

IRM WORK PLAN
7503 NIAGARA FALLS BOULEVARD SITE

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LIST OF FIGURES

APPENDICES

1.0 INTRODUCTION

This document presents the proposed scope of work for completion of an Interim Remedial Measure (IRM) for the 7503 Niagara Falls Boulevard Site in Niagara Falls, New York (see Figures 1 and 2). The IRM is being performed on behalf of GLR Holdings, LLC (GLR) through the New York State Department of Environmental Conservation (NYSDEC) Brownfield Cleanup Program (BCP). Benchmark Environmental Engineering & Science, PLLC (Benchmark) recently implemented Remedial Investigation (RI) activities at the Site. The data obtained during the RI and previous on-Site investigations (discussed below) was utilized to develop this IRM Work Plan. Benchmark will be completing an IRM to promptly address on-Site groundwater impacted by chlorinated volatile organic compounds (VOCs) to facilitate site redevelopment. The planned approach to the IRM and related activities is discussed below.

1.1 Background

GLR is redeveloping the 7503 Niagara Falls Boulevard Site and the east adjacent parcel addressed at 7543-7555 Niagara Falls Boulevard as a fast food restaurant (see Figure 3). 7503 Niagara Falls Boulevard is subject to the BCP, while 7543-7555 Niagara Falls Blvd is not. For purposes of this IRM, reference to the Site from this point forward refers only to 7503 Niagara Falls Boulevard parcel.

The Site encompasses approximately 0.89 acres of vacant land along Niagara Falls Boulevard in the City of Niagara Falls, New York (see Figure 2). The property is generally bounded by Niagara Falls Boulevard to the north, a vacant lot and apartment buildings to the east (i.e., 7543-7555 Niagara Falls Blvd owned by GLR), private residences to the south, and commercial (fast-food restaurant) property to the west (i.e., 7403 Niagara Falls Blvd.). A concrete slab remnant from a former building foundation is present across the majority of the western portion of the property. The remainder of the Site is generally covered by asphalt.

Beginning in the late 1960s and continuing through the mid-1990s, the Site was occupied by several commercial establishments. These included various restaurants, auto parts sales and auto repair facilities. The property has been vacant since approximately 1998. The history of Site from an environmental perspective is summarized below.

1.2 Previous Investigations

The nature and distribution of chemical constituents in soil/fill and groundwater at the Site and adjacent site were described during five historic investigations (References 1-5). These included:

- A July 2004 Phase I Environmental Site Assessment (ESA) by GZA GeoEnvironmental (GZA).
- A September 2004 Subsurface Phase II Environmental Assessment conducted by Nature's Way Environmental Consultants and Contractors (NWEC&C).
- A May 2005 Focused Phase II Type Environmental Investigation conducted by NWEC&C.
- An August 2005 Downgradient Groundwater Characterization study conducted by Benchmark.
- An October 2005 Supplemental Site Characterization Adjacent to Site study conducted by Benchmark.
- An October 2006 BCP Remedial Investigation.

Based on the results of the recent RI data and previous investigations, it has been determined that groundwater and saturated soils have been impacted by chlorinated VOCs in to two discrete areas as depicted in Figure 4. Tables 2 and 3 summarize historic analytical results.

1.3 Constituents of Primary Concern (COPCs)

Based on findings of the RI and previous investigations, primary Constituents of Potential Concern (COPCs) are comprised of certain chlorinated VOCs. Specifically, the site-specific COPCs are identified as: tetrachloroethene (PCE); trichloroethene (TCE); cis-1,2-dichloroethene (cis-1,2-DCE); trans-1,2-dichloroethene (trans-1,2-DCE); vinyl chloride (VC); and 1,1,2-trichloroethane (1,1,2-TCA).

1.4 Purpose and Scope

An IRM is proposed to promptly mitigate risks to public health and the environment attributable to contamination at the Site, and to expedite the redevelopment schedule. Remedial action objectives (i.e., groundwater cleanup objectives) are shown on Table 1. Based on the nature and extent of contamination as indicated by prior investigations, the most applicable remedial measure is in-situ enhanced bioremediation of impacted groundwater and saturated soils via direct injection of hydrogen releasing compounds (HRC®) into the impacted zones.

This IRM Work Plan delineates the planned HRC® injection and includes design details describing the planned approach to the IRM work, including anticipated injection zones, the amount of HRC® material to be injected and program performance monitoring. The proposed work will include:

- Direct pressure injection of HRC® into the shallow saturated soil on-site using small diameter probe rods and a high-capacity injection pump.
- Groundwater monitoring to evaluate the effectiveness of the in-situ treatment.

This Work Plan addresses the following tasks in detail:

- The mass of HRC® required to effectively enhance biodegradation of chlorinated VOCs in groundwater.
- Groundwater monitoring sampling parameters and frequency.
- Project documentation and schedule.

Implementation of the remedial activities outlined in this IRM Work Plan will be conducted by Benchmark serving as the Design-Build Engineer. A remediation contractor will be retained to assist in carrying out the work in accordance with the activities described herein. IRM implementation will be supervised and documented per the Work Plan.

1.5 Project Organization and Responsibilities

Benchmark will manage the brownfield cleanup on behalf of the property owner, including selection of the remediation contractor to perform the IRM activities on a design-build basis. The NYSDEC, Division of Environmental Remediation, will monitor the remedial actions to verify that the work is performed in accordance with the BCA.

2.0 TECHNICAL APPROACH

2.1 Pre-Mobilization Tasks

Community residents and other interested parties will be informed of the IRM schedule, objectives, and details via a fact sheet before work begins. The intent of this effort is to seek neighborhood cooperation; minimize disruption of neighborhood residential and commercial activities; and facilitate a safe and secure work site. Benchmark and the NYSDEC will coordinate and lead community relations throughout the course of the project.

2.1.1 Meetings

2.1.1.1 Public Information and Outreach

The fact sheet containing information about the IRM will be direct-mailed by GLR Holdings, LLC to those individuals on the Brownfield Site Contact List, including property owners and residents adjacent to the project site, environmental groups, local political representatives, and interested regulatory agencies. A copy of this Work Plan will be made available for public review at the NYSDEC Region 9 office and the LaSalle Branch of the Niagara County Central Library.

2.1.1.2 Project Coordination Meeting

A project coordination meeting will be held with representatives of the Project Team, including the Design-Build Engineer's Project Manager; the remediation contractor; and the designated NYSDEC contact(s) as the involved regulatory agency. The New York State Department of Health (NYSDOH) will also be notified and invited to attend as an interested agency. The meeting will be held prior to the start of IRM activities to review responsibilities, personnel assignments, and implementation details. Agenda items will include:

- IRM schedule.
- Work sequencing.
- Designation of responsibilities, contact personnel and pager/phone numbers.

- Project documentation requirements.
- Health and safety requirements.
- Work hours.
- Public relations, including procedures for addressing news media and citizen inquiries.

Benchmark will prepare meeting minutes for distribution to attendees following the project coordination meeting.

2.1.2 Underground Utilities Location

Prior to initiating subsurface work, the remediation contractor will locate, with the assistance of utility companies, all active utility lines within the work area. Underground lines will be staked and marked with fluorescent paint.

2.1.3 Health and Safety Plan Development

A Site-Specific Health and Safety Plan (HASP) will be prepared and implemented by the Design-Build Engineer in accordance with the requirements of 29 CFR 1910.120. The HASP will cover all on-site remediation activities. Benchmark will be responsible for site control and for the health and safety of its authorized site workers. Benchmark's HASP is provided for informational purposes in Appendix A.

2.2 In-Situ Groundwater Treatment

2.2.1 Technology Description

In-Situ Enhanced Bioremediation of chlorinated VOCs in groundwater will be accomplished using HRC®. HRC® is a specially formulated lactic acid-based compound developed by Regenesis Corporation for in-situ treatment of chlorinated VOC contamination in groundwater. HRC® is a viscous liquid that is pressure injected into the subsurface using small diameter probe rods and a high-pressure injection pump to facilitate anaerobic bioremediation by prolonged release of hydrogen into the impacted aquifer. Upon contact with water, HRC® slowly hydrolyzes and is broken down by microbial action. During this process, lactic acid is released and used by microbes to produce hydrogen. The resulting hydrogen is then used in a microbially mediated process known as reductive dechlorination. This process enhances natural anaerobic biodegradation reducing chlorinated VOCs in groundwater and saturated soils.

2.2.2 Site Specific In-Situ Treatment Details

The site-specific remedial program was developed using design software provided by the manufacturer of HRC® (ref. 6)· This remedial program will involve directly injecting approximately 1,200 lbs of HRC® into the contaminated groundwater at the two discrete VOC-impacted areas (see Figure 5). Using 10-foot by 10-foot grid treatment spacing, approximately 18 delivery points would be necessary to treat each area with approximately 600 lbs. of HRC®. Direct-push delivery probes will be advanced to approximately 12 fbgs and HRC® will be injected continuously at a rate of approximately 4lbs/ft. until the delivery probe is retracted to approximately 4 fbgs.

2.3 Groundwater Monitoring

A groundwater sampling program will be implemented to evaluate the effectiveness of the in-situ groundwater treatment program. Based on Benchmark's experience at similar sites, HRC® has been shown to rapidly enhance biodegradation and metabolize chlorinated VOCs on the order of months. As such, to monitor the effectiveness of the in-situ treatment, and to meet the Site redevelopment schedule, the groundwater sampling program will consist of post-treatment monitoring for COPCs in MW-14 and MW-19. The frequency of monitoring shall vary based on the planned redevelopment schedule but will be no more frequent than monthly or less frequent than quarterly. The concentrations of COPCs in MW-14 and MW-19 from analytical results collected during the RI activities in June-July 2006 will serve as baseline concentrations for comparison (see Table 3). When concentrations of COPCs are below GWQS groundwater monitoring will be discontinued. If either of the monitoring wells exhibit concentrations of COPCs above GWQS, additional quarterly groundwater monitoring events will be completed for that monitoring location.

3.0 DOCUMENTATION AND REPORTING

3.1 Daily Activities Monitoring

Reporting during implementation of the IRM will include preparation of a daily report and, when appropriate, problem identification and corrective measures reports. Appendix B contains sample project documentation forms. Information that may be included on the daily report form includes:

- Processes and locations of construction under way.
- Equipment and personnel working in the area, including subcontractors.
- The amount of HRC® injected at injection locations.

The completed reports will be available on-site and will be submitted to the NYSDEC as part of the Final Report.

A problem identification report and a corrective measure report will be completed whenever major field problems are encountered and corrective measures may be necessary. These reports will be attached to the Final Report. The NYSDEC will be promptly notified of problems requiring modifications to this Work Plan prior to proceeding or completion of the construction item. Changes or additions will be noted in the Final Report.

Photo documentation of the IRM activities will be prepared by the Design-Build Engineer throughout the duration of the project as necessary to convey typical work activities and whenever changed conditions or special circumstances arise. Photos will be provided in digital format.

3.2 IRM Closeout Report

An IRM closeout report will be prepared and submitted to the NYSDEC after the in-situ treatment. The report will be stamped by a NYS licensed Professional Engineer and will be submitted within 60 days of completion of the work. At a minimum, the report will include:

- A Site or area planimetric map showing the HRC® injection point locations.
- A tabular summary of the mass of HRC® injected at each injection location.
- Copies of daily inspection reports and, if applicable, problem identification and corrective measure reports.
- A description of any deviations from the Work Plan and associated corrective measures taken; and other pertinent information necessary to document that the site activities were carried out in accordance with this Work Plan.
- A certification by a licensed NYS Professional Engineer that all work was performed in accordance with the Brownfield Cleanup Agreement and approved Interim Remedial Measures Work Plan.

3.3 Groundwater Monitoring Reports

A groundwater monitoring report will be provided to the NYSDEC following each post IRM groundwater sampling event. The reports will include tabulated analytical data and discussion of results.

4.0 PROJECT SCHEDULE

The IRM activities (excluding post remediation groundwater monitoring) detailed in this Work Plan shall be completed within approximately 1 month of approval of this Work Plan.

5.0 REFERENCES

1. *Phase I Environmental Site Assessment (ESA),* prepared by GZA GeoEnvironmental (GZA) July, 2004.

2. *Subsurface Phase II Environmental Assessment at Vacant Property located at 7503 Niagara Falls Boulevard, Niagara Falls, New York*, prepared by Nature's Way Environmental Consultants & Contractors, Inc., September 20, 2004.

3. *Focused Phase II Type Environmental Investigation of Vacant Property located at 7503-75555 Niagara Falls Boulevard, Niagara Falls, New York*, prepared by Nature's Way Environmental Consultants & Contractors, Inc., May 18, 2005.

4. *Downgradient Groundwater Characterization Letter Report at 7503 Niagara Falls Boulevard, Niagara Falls, New York*, prepared by Benchmark Environmental Engineering & Science, PLLC, August 11, 2005.

5. *Supplemental Site Characterization Adjacent to Site Study, Niagara Falls, New York,* prepared by Benchmark Environmental Engineering & Science, PLLC, October, 2005.

6. *HRC Design Software for Plume Area/Grid Treatment.* US Version 3.1. Regenesis Corporation.

TABLES

Benchmark Environmental Engineering & Science, PLLC

TABLE 1

GROUNDWATER CLEANUP OBJECTIVES

IRM Work Plan
7503 Niagara Falls Boulevard Site
GLR Holdings

Parameter	GWQS/GV [1]
VOCs (ug/L)	
Tetrachloroethene	**5**
Trichloroethene	**5**
1,1,2-Trichloroethane	**1**
cis-1,2-Dichloroethene	**5**
trans-1,2-Dichloroethene	**5**
1,1-Dichloroethene	**5**
Vinyl chloride	**2**

Notes:
1. NYSDEC Class "GA" Groundwater Quality Standards/Guidance Values (GWQS/GV), 6 NYCRR Part 703.

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

TABLE 2

HISTORICAL SOIL ANALYTICAL DATA SUMMARY

Remedial Investigation
7503 Niagara Falls Boulevard Site
GLR Holdings

Sampling Event	Sampling Location									SCO UNRESTRICTED USE [2]	SCO RESTRICTED-COMMERCIAL [2]
	Subsurface Phase II Environmental Assessment (August 2004)		Focused Phase II Type Environmental Investigation (May 2005)								
Parameters	EP 2 (6.0-8.0 fbgs)	EP 8 (8.0-10.0 fbgs)	EP 9 (8.0-10.0 fbgs)	EP 10 (8.0-10.0 fbgs)	EP 14 (10.0-12.0 fbgs)	EP 17 (6.0-8.0 fbgs)	EP 20 (6.0-8.0 fbgs)	EP 21 (4.0-6.0 fbgs)	EP 22 (6.0-8.0 fbgs)		
TCL VOCs (ug/kg)											
cis-1,2-Dichloroethene	257	148	149	83.7	539	ND	128	3450	249	**250**	**500,000**
1,1-Dichloroethene	ND	ND	ND	ND	21.6	ND	ND	ND	ND	**330**	**500,000**
trans-1,2-Dichloroethene	266	69.8	34.5	ND	224	ND	130	2750	187	**190**	**500,000**
Tetrachloroethene	ND	190	1430	ND	1210	ND	ND	ND	375	**1300**	**150,000**
1,1,2-Trichloroethane	ND	ND	ND	ND	160	ND	ND	ND	ND	**--**	**--**
Trichloroethene	9.96	154	760	31.3	1300	8.29	ND	ND	188	**470**	**200,000**
Vinyl Chloride	51.1	50.5	ND	ND	ND	ND	891	4170	71.2	**20**	**13,000**

Notes:

1. Only those parameters detected at a minimum of one sample location are presented in this table; all other compounds were reported as non-detect.
2. Soil Cleanup Objectives (SCOs) per June 2006 NYSDEC draft Part 375

Yellow shaded cells indicate exceedances of unrestricted SCOs.
Red shaded cells indicate exceedances of restricted-commerical SCOs (none).

TABLE 3

SUMMARY OF GROUNDWATER ANALYTICAL DATA

Remedial Investigation
7503 Niagara Falls Boulevard Site
GLR Holdings

Parameter [1]	Sampling Event/Location																GWQS/GV [4]
	Subsurface Phase II Environmental Assessment (August 2004)	Focused Phase II Type Environmental Investigation (May 2005)			Downgradient Groundwater Characterization		Remedial Investigation (June 2006)										
	EP/PZ 8	MW 14	MW 17	MW 19	MW-1 (8/23/05)	MW-2 (8/23/05)	MW - 1 (6/23/06)	MW-2 (6/23/06)	MW-4 (6/23/06)	MW-5 (6/23/06)	MW - 14 [2] (6/23/06)	MW-17 (6/23/06) [6]	MW-17 (7/13/06) [6]	MW-19 (6/23/06) [6]	MW-19 (7/13/06) [6]	MW-19 (6/23/06) [3]	
VOCs (ug/L)																	
Methylene chloride	ND	ND	ND	ND	ND	ND	ND	**7 J**	**7 J**	**7 J**	ND	ND	NA	ND	NA	ND	**5**
Carbon Disulfide	16.3	ND	ND	ND	0.96 J	0.86 J	ND	ND	ND	17 J	ND	ND	NA	ND	NA	ND	**NS**
Vinyl chloride	ND	192	ND	12.2	ND	ND	ND	ND	ND	ND	**910 D**	ND	NA	**58**	NA	**54**	**2**
Acetone	ND	ND	ND	ND	4.4 J	6.3 J	ND	ND	ND	ND	ND	ND	NA	ND	NA	ND	**50***
1,1-Dichloroethene	ND	32	ND	ND	ND	ND	ND	ND	ND	ND	**83**	ND	NA	1 J	NA	1 J	**5**
Trichloroethene	31	411	ND	ND	ND	ND	ND	ND	ND	ND	**540 D**	2 J	NA	1 J	NA	ND	**5**
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**9 J**	ND	NA	ND	NA	ND	**1**
Benzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**1J**	ND	NA	ND	NA	ND	**1**
Tetrachloroethene	10.1	760	5.09	ND	ND	ND	ND	ND	ND	ND	**640 D**	4 J	NA	1 J	NA	ND	**5**
Toluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1 J	ND	NA	ND	NA	ND	**5**
trans-1,2-Dichloroethene	4.1	351	ND	ND	ND	ND	ND	ND	ND	ND	**1300 D**	2 J	NA	ND	NA	ND	**5**
cis-1,2-Dichloroethene	20.5	316	ND	10	ND	ND	ND	ND	ND	ND	**1100 D**	1 J	NA	**30**	NA	**30**	**5**
Total and Soluble Metals[4,6] (ug/L)																	
Iron, Total	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**56300**	NA	**12600**	NA	**28600**	NA	**300**
Iron, Soluble	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**351**	NA	21.2 B	NA	**584**	NA	**300**
Manganese, Total	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**2420**	NA	**318**	NA	**704**	NA	**300**
Manganese, Soluble	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	29.1	NA	1.2 B	NA	199	NA	**300**
Wet Chemistry (units as indicated)																	
Chemical Oxygen Demand (mg/L)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	ND	NA	ND	NA	**NS**
Nitrate (mg/L)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.49	NA	3.6	NA	ND	NA	**10**
Sulfate (mg/L)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**888**	NA	75.1	NA	157	NA	**250**
Field Measurements (units as indicated)																	
pH (units)	NA	NA	NA	NA	NA	NA	6.83 6.75	7.06 7.03	7.09 7.08	6.71 6.74	9.36 9.48	10.68 10.75	11.26 11.30	7.17 7.31	7.38 7.28	7.17 7.31	**6.5 - 8.5**
Temperature (°C)	NA	NA	NA	NA	NA	NA	17.2 17.2	18.1 17.6	21.2 22.7	20.1 20.2	17.8 18.5	17.6 19.6	21.7 21.4	18.6 19.5	23.5 23.3	18.6 19.5	**NA**
Specific Conductance (uS)	NA	NA	NA	NA	NA	NA	1442 1411	1136 914.1	665.3 671.1	1020 1021	1255 1252	1907 1900	1714 1820	881.2 896.2	827 842	881.2 896.2	**NA**
Turbidity (NTU)	NA	NA	NA	NA	NA	NA	240 169	169 30.7	49.4 38.6	35.1 63.1	>1000 >1000	47.2 78.4	>1000 >1000	>1000 >1000	>1000 >1000	>1000 >1000	**50****
ORP (mV)	NA	NA	NA	NA	NA	NA	-76 -68	-94 -83	10 20	42 43	-84 -72	-94 -95	-106 -87	-131 -149	-49 -85	-131 -149	**NA**

Notes:
1. Only those parameters detected at a minimum of one sample location are presented in this table; all other compounds were reported as non-detect.
2. MS/MSD collected at monitoring well MW-14.
3. Blind Duplicate collected at monitoring well MW-19 (6/23/06).
4. NYSDEC Class "GA" Groundwater Quality Standards/Guidance Values (GWQS/GV), 6 NYCRR Part 703.
5. Groundwater collected from well MW-14, MW-17 (7/13/06), and MW-19 (7/13/06) were analyzed for soluble iron and manganese, in addition to TAL Metals.
6. MW-17 and MW-19 had insufficient volumes to collect the volume for the full parameter list. VOCs and field measurement volumes were collected on 6/23/06. Metals and wet chemistry volumes were collected on 7/13/06.

Definitions:
J = Estimated value; result is less than the sample quantitation limit but greater than zero.
D = Diluted sample result.
ND = parameter not detected above laboratory detection limit.
J = parameter has been identified with its approximate concentration.
" * " = Groundwater Quality Guidance Value
" ** " = field threshold value; when exceeded, field filtered metals sample is collected (i.e., dissolved metals).
NA = Not Applicable
NS = No GWQS/GV listed in 6 NYCRR Part 703.
BOLD = Analytical result exceeds individual GWQS/GV.

FIGURES

FIGURE 1

BENCHMARK
ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

726 EXCHANGE STREET
SUITE 624
BUFFALO, NEW YORK 14210
(716) 856-0599

PROJECT NO.: 0101-002-500

DATE: OCTOBER 2006

DRAFTED BY: BCH

SITE LOCATION AND VICINITY MAP

INTERIM REMEDIAL MEASURES WORK PLAN

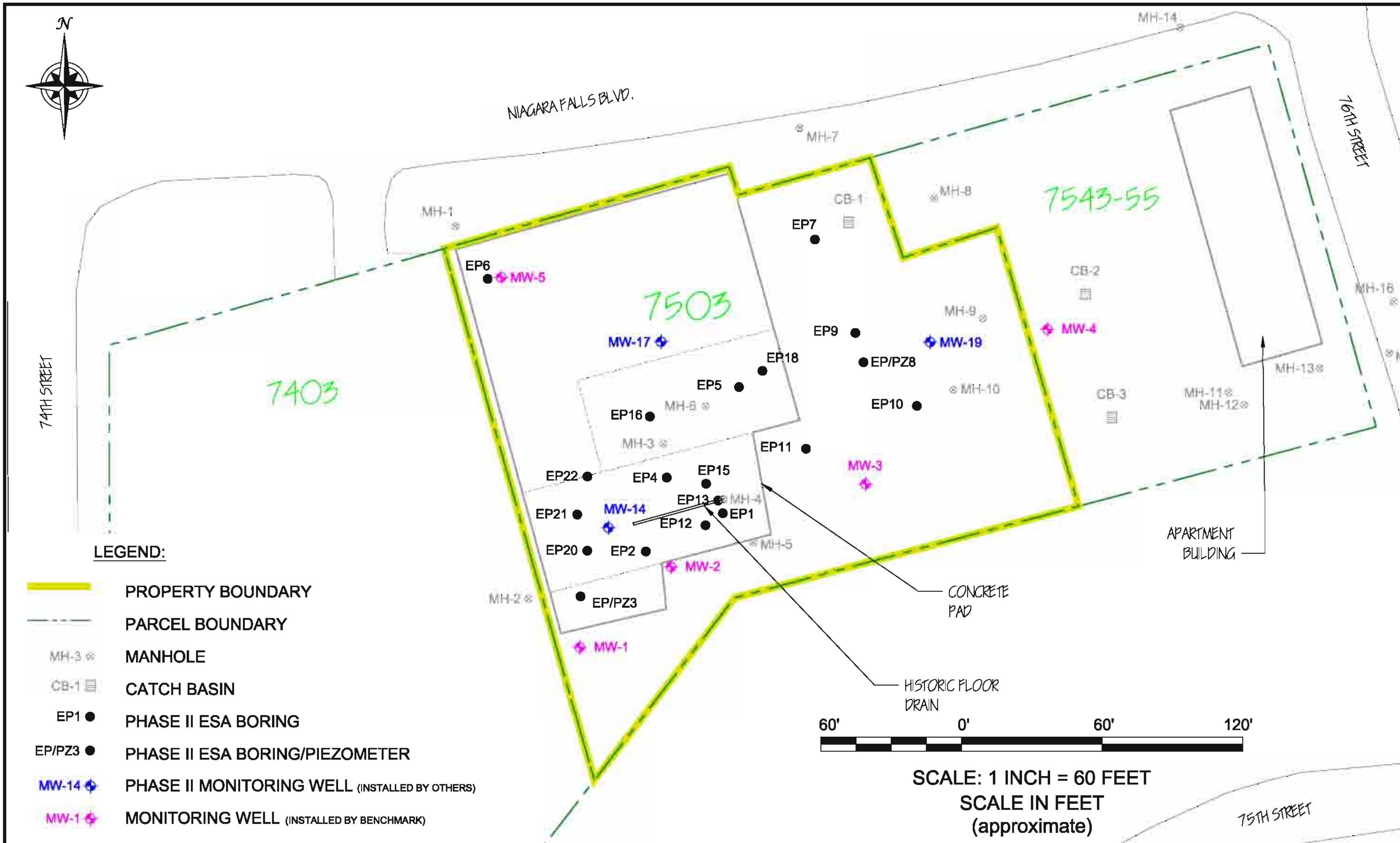
7503 NIAGARA FALLS BOULEVARD SITE
NIAGARA FALLS, NEW YORK

PREPARED FOR

GLR HOLDINGS, LLC

FILEPATH:g:\cad\benchmark\glr holdings-wendy's\irm work plan\figure 1; site location and vicinity map.dwg

F:\CAD\Benchmark\GLR Holdings - Wendy's\IRM Work Plan\Figure 2; Site Plan.dwg



BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC
726 EXCHANGE STREET
SUITE 624
BUFFALO, NEW YORK 14210
(716) 856-0599

PROJECT NO.: 0101-002-500

DATE: OCTOBER 2006

DRAFTED BY: BCH

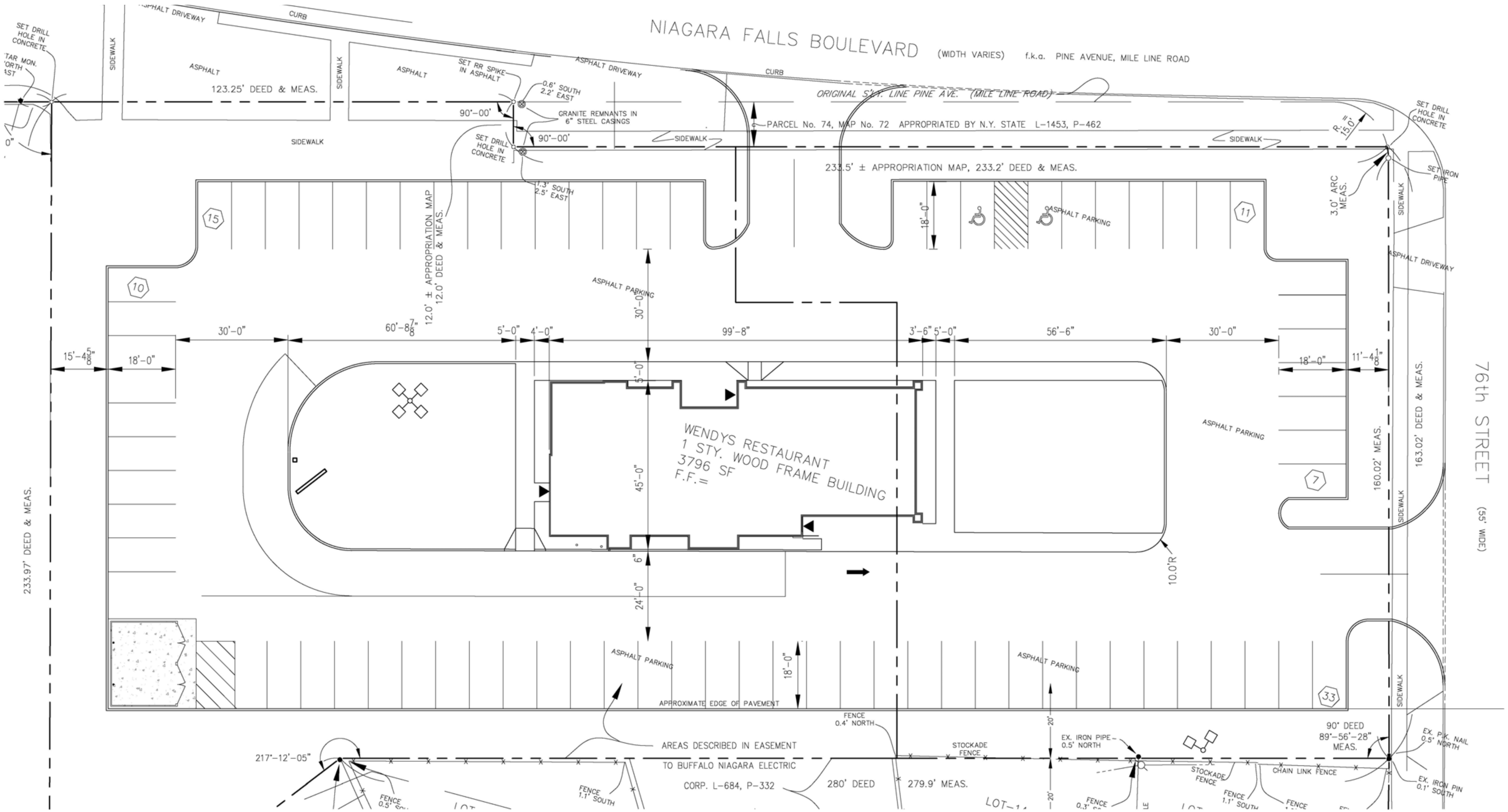
SITE PLAN

INTERIM REMEDIAL MEASURES WORK PLAN

7503 NIAGARA FALLS BOULEVARD SITE
NIAGARA FALLS, NEW YORK

PREPARED FOR
GLR HOLDINGS, LLC

FIGURE 2



DATE: OCTOBER 2006
DRAFTED BY: BCH

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726 EXCHANGE STREET
SUITE 624
BUFFALO, NEW YORK 14210
(716) 856-0599

JOB NO.: 0101-002-500

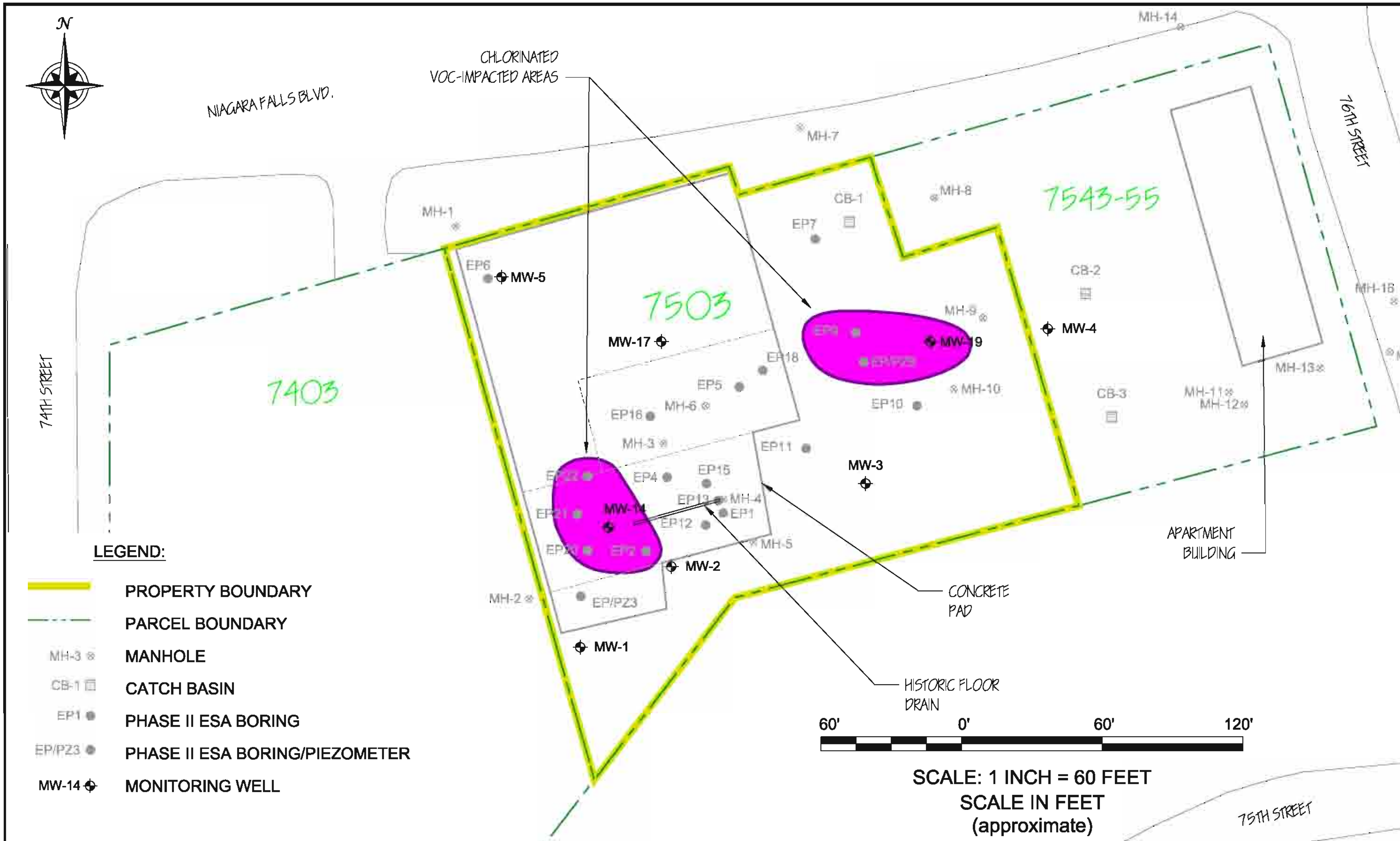
PROPOSED REDEVELOPMENT PLAN

INTERIM REMEDIAL MEASURES WORK PLAN
7503 NIRAGARA FALLS BOULEVARD SITE
NIAGARA FALLS, NEW YORK

PREPARED FOR
GLR HOLDINGS, LLC

FIGURE 3

F:\CAD\Benchmark\GLR Holdings - Wendy's\IRM Work Plan\Figure 4; Chlorinated VOCs in GW.dwg



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PROJECT NO.: 0101-002-500

DATE: AUGUST 2006

DRAFTED BY: BCH

CHLORINATED VOCs IN GROUNDWATER

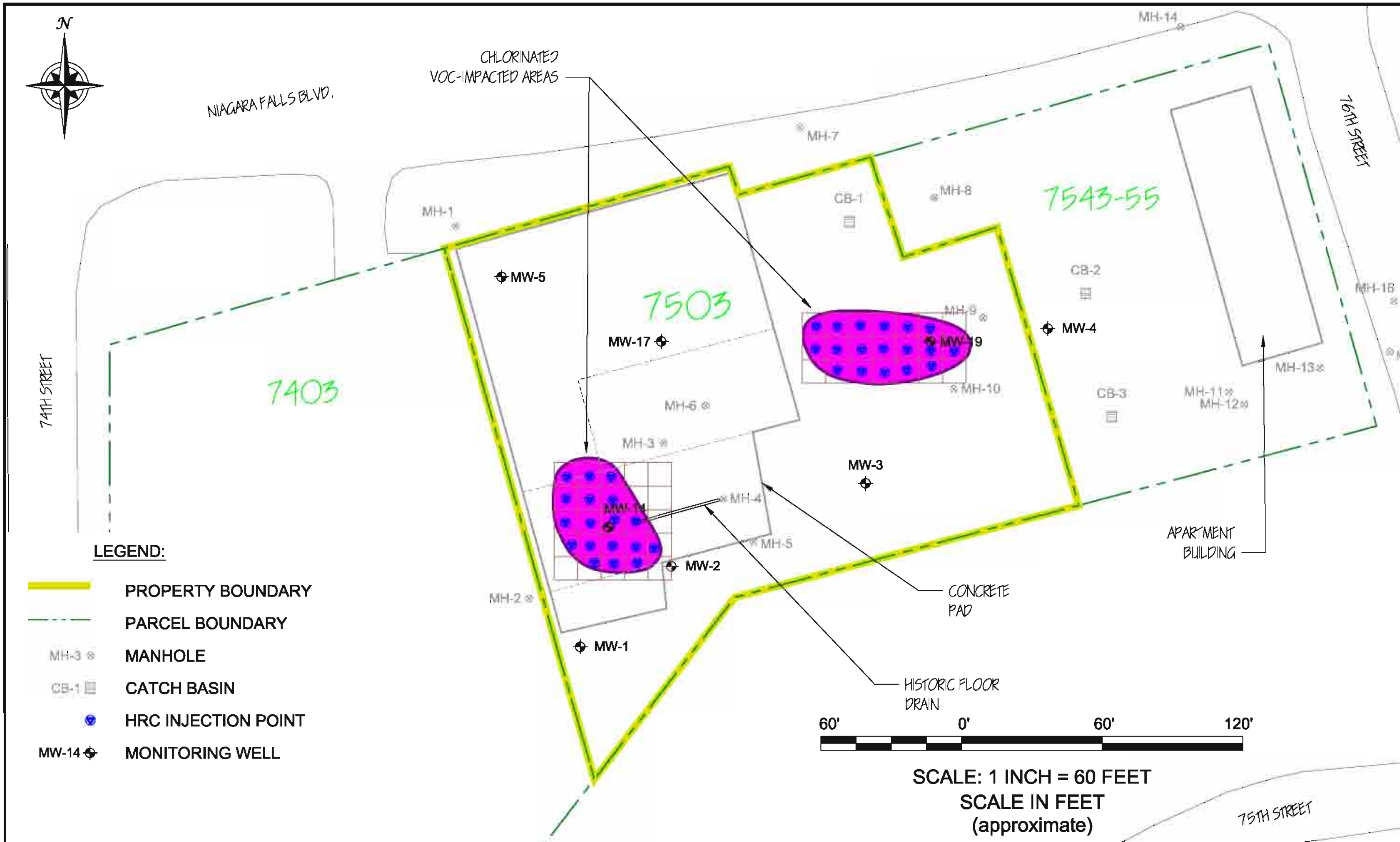
INTERIM REMEDIAL MEASURES WORK PLAN

7503 NIAGARA FALLS BOULEVARD SITE
NIAGARA FALLS, NEW YORK

PREPARED FOR
GLR HOLDINGS, LLC

FIGURE 4

F:\CAD\Benchmark\GLR Holdings - Wendy's\IRM Work Plan\Figure 5; In-Situ HRC Injection Plan.dwg



BENCHMARK
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726 EXCHANGE STREET
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(716) 856-0599

PROJECT NO.: 0101-002-500

DATE: AUGUST 2006

DRAFTED BY: BCH

IN-SITU HRC INJECTION PLAN

INTERIM REMEDIAL MEASURES WORK PLAN

7503 NIAGARA FALLS BOULEVARD SITE
NIAGARA FALLS, NEW YORK

PREPARED FOR
GLR HOLDINGS, LLC

FIGURE 5

APPENDIX A

SITE HEALTH AND SAFETY PLAN (HASP)

SITE HEALTH AND SAFETY PLAN
for
INTERIM REMEDIAL MEASURES ACTIVITIES

7503 NIAGARA FALLS BOULEVARD
NIAGARA FALLS, NY

October 2006 0101-002-500

higher level of respiratory protection.

7.2.3 Level D Protection Ensemble

As indicated above, Level D protection is primarily a work uniform. It can be worn in areas where only boots can be contaminated, where there are no inhalable toxic substances and where the atmospheric contains at least 19.5% oxygen.

Recommended PPE for Level D includes:

- Coveralls.
- Safety boots/shoes.
- Safety glasses or chemical splash goggles.
- Hardhat.
- Optional gloves; escape mask; face shield.

7.2.4 Recommended Level of Protection for Site Tasks

Based upon current information regarding both the contaminants suspected to be present at the Site and the various tasks that are included in the investigation, the minimum required Levels of Protection for these tasks shall be as identified in Table 7-1.

7503 Niagara Falls Boulevard
Health and Safety Plan for Interim Remedial Measures Activities

Plan Reviewed by (initial):

Corporate Health and Safety Director:	Thomas H. Forbes
Project Manager:	Michael Lesakowski
Designated Site Safety and Health Officer:	Bryan C. Hann

Acknowledgement:

I acknowledge that I have reviewed the information contained in this site-specific Health and Safety Plan, and understand the hazards associated with performance of the field activities described herein. I agree to comply with the requirements of this plan.

NAME (PRINT)	SIGNATURE	DATE

7503 NIAGARA FALLS BOULEVARD
HEALTH AND SAFETY PLAN FOR
INTERIM REMEDIAL MEASURES ACTIVITIES

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HEALTH AND SAFETY PLAN FOR
INTERIM REMEDIAL MEASURES ACTIVITIES

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INTERIM REMEDIAL MEASURES ACTIVITIES

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BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

7503 NIAGARA FALLS BOULEVARD
HEALTH AND SAFETY PLAN FOR
INTERIM REMEDIAL MEASURES ACTIVITIES

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Attachments:

1.0 INTRODUCTION

1.1 General

In accordance with OSHA requirements contained in 29 CFR 1910.120 and USEPA Standard Operating Safety Guidelines, this Health and Safety Plan (HASP) describes the specific health and safety practices and procedures to be employed by Benchmark Environmental Engineering & Science, PLLC and TurnKey Environmental Restoration, LLC employees (referred to jointly hereafter as Benchmark) during interim remedial measures (IRM) activities at 7503 Niagara Falls Boulevard located in Niagara Falls, Niagara County, New York. This HASP presents information and procedures for Benchmark employees who will be involved with field activities, including the assignment of responsibilities, personnel protection requirements, work practices and emergency response procedures. It is not intended to cover the activities of other contractors or subcontractors on the Site; these firms will be required to develop and enforce their own HASPs as discussed below. In order to ensure that proper coordination on such key issues as emergency notification and decontamination exists between Benchmark and other contractors or subcontractors, Benchmark will review all HASPs and coordinate procedures where appropriate.

This HASP presents information on known Site health and safety hazards using available historical information for previously-investigated areas of the Site, and identifies the equipment, materials and procedures that will be used to eliminate or control these hazards. Environmental monitoring will be performed during the course of field activities to provide real-time data for on-going assessment of potential hazards. This HASP will be updated as new data becomes available.

All Benchmark personnel involved with the field activities associated with the IRM will be required to comply with this HASP and any field modifications as directed by the Site Safety and Health Officer.

1.2 Site Location and Description

The Site encompasses approximately 0.89-acres along Niagara Falls Boulevard in the City of Niagara Falls, New York (See Figure 1). The property is generally bounded by Niagara Falls Boulevard to the north, a vacant lot and apartment buildings to the east (i.e., 7543-7555 Niagara Falls Blvd), private residences to the south, and a commercial (restaurant) property to the west (7403 Niagara Falls Blvd.). A concrete slab remnant from a former building foundation is present across the majority of the western portion of the property. The remainder of the site is generally covered by asphalt.

1.3 Site History

Beginning in the late 1960's and continuing through the mid 1990's, the property was occupied by several commercial establishments. These included various restaurants, auto parts sales and auto repair facilities. The property has been vacant since approximately 1998. The site is presently owned by GLR Holdings, LLC, who plans to redevelop 7503 through 7555 Niagara Falls Boulevard as a Wendy's Restaurant with associated drives and surface lot parking.

1.4 Previous Investigations

A Phase I Environmental Site Assessment was performed for the subject property by GZA Geo Environmental of New York in July 2004 (Ref. 1). The Phase I ESA indicated potential environmental conditions due to the potential for chemical and/or petroleum product releases associated with historic automotive collision and repair shop activities on the property. In September 2004 and May 2005, Nature's Way Environmental Consultants & Contractors, Inc. performed limited Subsurface Phase II environmental investigations at the site (Refs. 2 and 3). The Phase II investigations focused on determining whether volatile and semi-volatile organic compounds possibly related to historic auto repair and collision operations have impacted site soil and/or groundwater. Based upon the Phase II investigations, it was determined that site soil and groundwater has been impacted with

FIGURE 1

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PROJECT NO.: 0101-002-100

DATE: NOVEMBER 2005

DRAFTED BY: BCH

SITE LOCATION AND VICINITY MAP

HEALTH AND SAFETY PLAN

7503 NIAGARA FALLS BOULEVARD SITE
NIAGARA FALLS, NEW YORK

PREPARED FOR

GLR HOLDINGS, LLC

FILEPATH:\cad\benchmark\glr holdings-wendy's\brownfield cleanup program (bcp) - glr\hasp\figure 1; site location and vicinity map.dwg chlorinated volatile organic compounds, likely associated with painting and machining operations. Benchmark confirmed the findings of the previous investigations during a remedial investigation (RI) of the site in June-July 2006.

Based on the presence of environmental conditions at 7503 Niagara Falls Boulevard, GLR Holdings has elected to pursue cleanup and redevelopment of the site under the New York State Brownfield Cleanup Program (BCP), and has applied for entrance into the BCP with the intent to execute a Brownfield Cleanup Agreement (BCA) as a non-responsible party (volunteer) per ECL§27-1405.

1.5 IRM Activities

Benchmark personnel will be on-site for Site IRM activities including the following:

- Direct pressure injection of HRC® into the shallow saturated soil on-site using a direct-push drill rig equipped with small diameter probe rods and a high-capacity injection pump.

- Groundwater monitoring to evaluate the effectiveness of the in-situ treatment.

2.0 ORGANIZATIONAL STRUCTURE

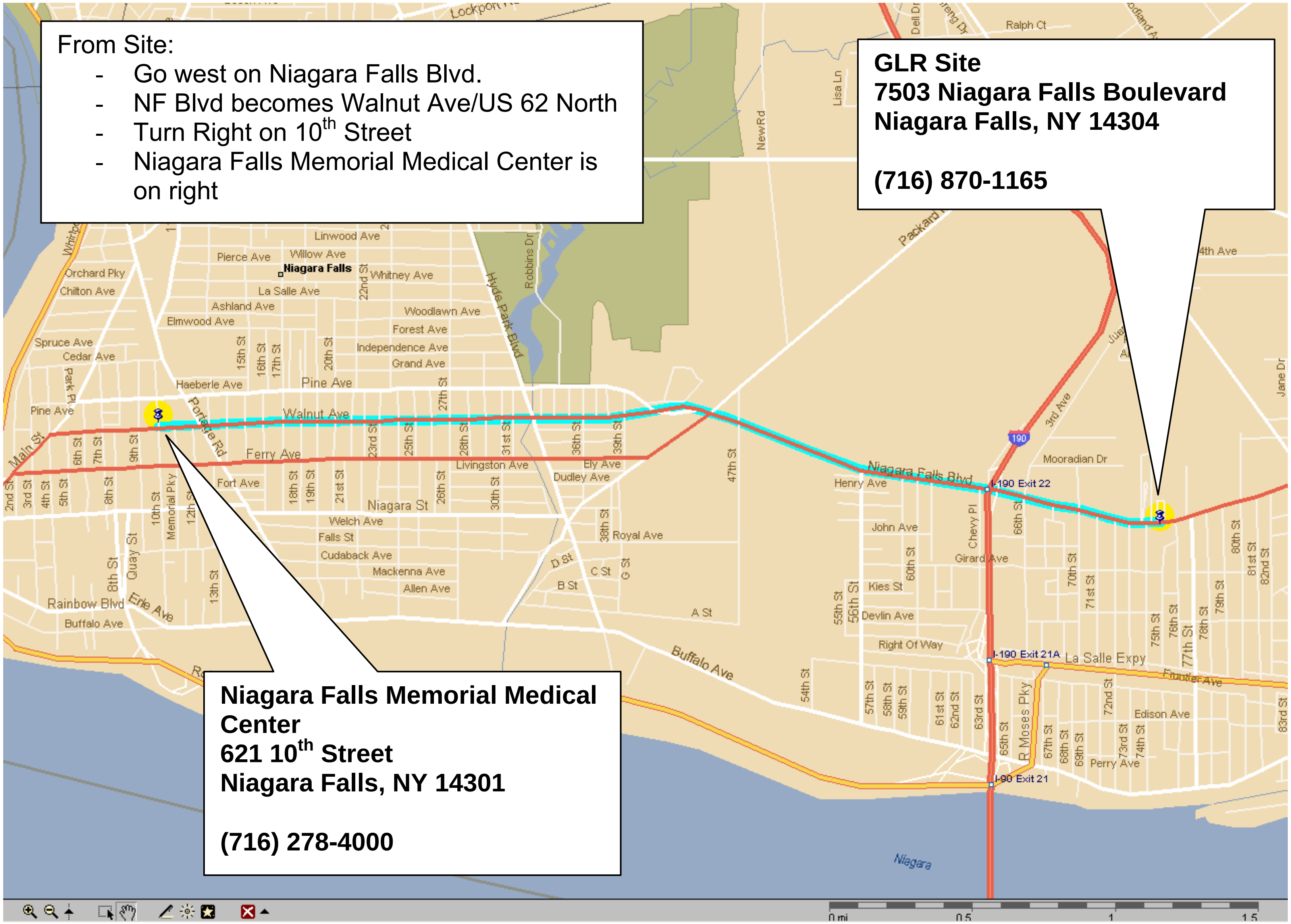
This chapter of the HASP describes the lines of authority, responsibility and communication as they pertain to health and safety functions at the Site. The purpose of this chapter is to identify the personnel who will impact the development and implementation of the HASP and to describe their roles and responsibilities. This chapter also identifies other contractors and subcontractors involved in work operations and establishes the lines of communication among them for heath and safety matters. The organizational structure described in this chapter is consistent with the requirements of 29 CFR 1910.120(b)(2). This section will be reviewed by the Project Manager and updated as necessary to reflect the current organizational structure at this Site.

2.1 Roles and Responsibilities

All Benchmark personnel on the Site must comply with the minimum requirements of this HASP. The specific responsibilities and authority of management, safety and health, and other personnel on this Site are detailed in the following paragraphs.

2.1.1 Corporate Health and Safety Director

The Benchmark Corporate Health and Safety Director is **Mr. Thomas H. Forbes**. The Corporate Health and Safety Director is responsible for developing and implementing the Health and Safety program and policies for Benchmark Environmental Engineering & Science PLLC and TurnKey Environmental Restoration, LLC, and consulting with corporate management to ensure adequate resources are available to properly implement these programs and policies. The Corporate Health and Safety Director coordinates Benchmark's Health and Safety training and medical monitoring programs, and assists project management and field staff in developing site-specific health and safety plans.



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DATE: JANUARY 2006

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HOSPITAL ROUTE MAP

HEALTH AND SAFETY PLAN (HASP)

7503 NIAGARA FALLS BOULEVARD
NIAGARA FALLS, NEW YORK

PREPARED FOR

GLR HOLDINGS, LLC

FIGURE A2-1

FILEPATH: g:\cad\benchmark\glr holdings - wendy's\brownfield cleanup program (bcp) - glr\hasp\figure a2-1; hospital route map.dwg

2.1.2 Project Manager

The Project Manager for this Site is **Mr. Michael Lesakowski**. The Project Manager has the responsibility and authority to direct all Benchmark work operations at the Site. The Project Manager coordinates safety and health functions with the Site Safety and Health Officer, and bears ultimate responsibility for proper implementation of this HASP. He may delegate authority to expedite and facilitate any application of the program, including modifications to the overall project approach as necessary to circumvent unsafe work conditions. Specific duties of the Project Manager include:

- Preparing and coordinating the Site Work Plan.
- Providing Benchmark workers with work assignments and overseeing their performance.
- Coordinating health and safety efforts with the Site Safety and Health Officer (SSHO).
- Reviewing the emergency response coordination plan to assure its effectiveness.
- Serving as the primary liason with Site contractors and the property owner.

2.1.3 Site Safety and Health Officer

The Site Safety and Health Officer (SSHO) for this Site is **Mr. Bryan H. Hann**. The qualified alternate SSHO is **Mr. Richard L. Dubisz**. The SSHO reports to the Project Manager. The SSHO is on-site or readily accessible to the Site during all work operations and has the authority to halt work if unsafe conditions are detected. The specific responsibilities of the SSHO are:

- Managing the safety and health functions for Benchmark personnel on the Site.
- Serving as the point of contact for safety and health matters.

- Ensuring that Benchmark field personnel working on the Site have received proper training (per 29 CFR Part 1910.120(e)), that they have obtained medical clearance to wear respiratory protection (per 29 CFR Part 1910.134), and that they are properly trained in the selection, use and maintenance of personal protective equipment, including qualitative respirator fit testing.

- Performing or overseeing Site monitoring as required by the HASP.

- Assisting in the preparation and review of the HASP.

- Maintaining site-specific safety and health records as described in this HASP.

- Coordinating with the Project Manager, Site Workers and Contractor's SSHO as necessary for safety and health efforts.

2.1.4 Site Workers

Site workers are responsible for: complying with this HASP or a more stringent HASP, if appropriate (i.e. Contractor and Subcontractor's HASP); using proper PPE; reporting unsafe acts and conditions to the SSHO; and following the safety and health instructions of the Project Manager and SSHO.

2.1.5 Other Site Personnel

Other Site personnel who will have health and safety responsibilities in the work zone will include subcontractors and governmental agencies performing Site inspection work (viz. New York State Department of Environmental Conservation and/or its designated oversight contractor) who will be responsible for developing, implementing and enforcing a Health and Safety Plan equally stringent or more stringent than Benchmark's HASP. Benchmark assumes no responsibility for the health and safety of anyone outside its direct employ. During activities involving subcontractors, the subcontractor's HASP shall cover all non-Benchmark Site personnel. The subcontractor(s) shall assign a SSHO who will coordinate with Benchmark's SSHO as necessary to ensure effective lines of communication and consistency between contingency plans.

3.0 HAZARD EVALUATION

The possibility exists that workers will be exposed to hazardous substances during groundwater monitoring. The principal points of exposure would be through direct contact with impacted media or vapors during sample collection and handling activities. In addition, the use of large equipment will also present conditions for potential physical injury to workers. Adherence to the medical evaluations, worker training relative to chemical hazards, safe work practices, proper personal protection, environmental monitoring, establishment work zones and site control, appropriate decontamination procedures and contingency planning outlined herein will reduce the potential for chemical exposures and physical injuries.

3.1 Chemical Hazards

Table 3-1 identifies known constituents of potential concern and ranges of concentrations, by media, observed during previous Phase II investigations (References 2 through 4). Based on this work, the constituents of potential concern include specific chlorinated organics. Table 3-2 lists toxicity and exposure data for these constituents of potential concern. As additional data is obtained, Tables 3-1 and 3-2 will be updated accordingly. Brief descriptions of the toxicology of these materials and related health and safety guidance and criteria are provided below.

- **Tetrachloroethene** is used a solvent for greases, waxes and rubbers. It is harmful by ingestion inhalation and skin absorption. Exposure can cause dermatitis, dizziness, nausea, liver and kidney damage. This compound is a suspected carcinogen.

- **Trichloroethene (TCE)** This compound was formally widely used in dry cleaning operations and metal degreasing. It is toxic by inhalation and skin absorption. It is an irritant to the skin, eyes and mucous membranes. Symptoms of exposure may include headache, dizziness and nausea. Exposure may cause liver and kidney damage. TCE is a suspected human carcinogen.

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TABLE 3-1

CONSTITUENTS OF POTENTIAL CONCERN & OBSERVED CONCENTRATIONS BY MEDIA (1)

IRM Activities Health and Safety Plan
7503 Niagara Falls Boulevard
GLR Holdings
Niagara Falls, New York

Parameter	Saturated Soil (ug/kg)	Groundwater (ug/L)
Tetrachloroethene	ND-1430	ND-760
Trichloroethene	ND-1300	ND-411
cis-1,2-Dichloroethene	ND-3450	ND-316
trans-1,2-Dichloroethene	ND-2750	ND-351
Vinyl chloride	ND-4170	ND-192
1,1-Dichloroethene	ND-21.6	ND-32.0
1,1,2-Trichloroethane	ND-160	ND

Notes:
(1) Concentration ranges based on:
Subsurface Phase II Environmental Assessment by Nature's Way Environmental Consultants & Contractors, Inc., September 20, 2004.
Focused Phase II Environmental Investigation by Nature's Way Environmental Consultants & Contractors, Inc., May 18, 2005.
Supplemental Site Characterization Report by Benchmark Environmental Engineering & Science, PLLC, November 15, 2005

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

TABLE 3-2

TOXICITY AND EXPOSURE DATA FOR CONSTITUENTS OF POTENTIAL CONCERN

IRM Activities Health and Safety Plan
7503 Niagara Falls Boulevard
GLR Holdings
Niagara Falls, New York

Constituents of Potential Concern	Inhalation Hazard		IDLH
	PEL	TLV	
Volatile Organic Compounds (ppm):			
Tetrachloroethene	100	25	150, Ca
Trichloroethene	100	50	1000, Ca
cis-1,2-Dichloroethene	200	200	1000
trans-1,2-Dichloroethene	200	200	1000
Vinyl Chloride	1	1	Ca
1,1-Dichloroethene	Not Listed	5	Ca
1,1,2-Trichloroethane	10	10	100, Ca

Notes:
PEL- Permissible Exposure Limit, established by OSHA, equals the maximium exposure concentration allowable for 8 hours per day @ 40 hours per week.
TLV- Threshold Limit Value, established by ACGIH, equals the maximum exposure concentration allowable for 8 hours per day @ 40 hours per week.
IDLH- Immediately Dangerous to Life or Health
Ca- NIOSH considers constituent to be a potential carcinogen.
ND-IDLH has not yet been established.

- **1,2-Dichloroethene (cis and trans)** Commercial use of these compounds is not extensive; however are used as intermediates in the production of other chlorinated solvents and compounds, as well as low temperature extraction solvents for dyes, perfumes, and lacquers. They are highly volatile by reaction with alkalies, potassium hydroxide, sodium, and sodium hydroxide. Direct exposure is mostly by inhalation resulting in heart and liver damage.

- **Vinyl Chloride** is used primarily as an intermediate in the manufacture of polyvinyl chloride; limited quantities are used as a refrigerant and as an intermediate in the production of chlorinated compounds. It is a biodegradation product of trichloroethene, tetrachloroethene, and 1,1,1-trichloroethene. Inhalation exposure may result in damage to the liver, kidneys, lungs and other organs. In addition to liver cancer, exposure has also been linked to an increased risk of lung, brain, hematopoietic, and digestive tract cancers.

- **1, 1, 2-Trichloroethane**, also known as vinyl trichloride, is a nonflammable liquid that is used in the manufacture of **1,1-dichloroethene**; as a solvent for fats, waxes, resins, and alkaloids; and in organic synthesis. 1,1,2-Trichloroethane is rapidly absorbed, widely distributed in organs and tissues, and extensively metabolized. The chemical exerts a narcotic action at "low" concentrations and is irritating to the eyes and mucous membranes of the respiratory tract. When in contact with skin, 1,1,2-trichloroethane may cause cracking and erythema.

With respect to the anticipated activities defined in Section 1.4, possible routes of exposure to the above-mentioned contaminants are presented in Table 3-3. The use of proper respiratory equipment, as outlined in Section 7.0, will minimize the potential for exposure to airborne contamination. Further, exposure to contaminants through dermal and other routes will also be minimized through the use of protective clothing (Section 7.0), safe work practices (Section 6.0), and proper decontamination procedures (Section 12.0).

3.2 Physical Hazards

Remedial investigation activities at the Site may present the following physical hazards:

- The potential for physical injury during heavy equipment use, such as drill rigs.

TABLE 3-3

POTENTIAL ROUTES OF EXPOSURE TO CONSTITUENTS OF POTENTIAL CONCERN

IRM Activities Health and Safety Plan
7503 Niagara Falls Boulevard
GLR Holdings
Niagara Falls, New York

Activity	Direct Contact with Surface and Subsurface Soils	Direct Contact with Groundwater	Inhalation of Vapors or Dust
Subsurface Soil Borings (HRC Injections)	X		X
Development and Sampling of Monitoring Wells		X	

- The potential for slip and fall injuries due to slippery terrain.

These hazards represent only some of the possible means of injury which may be present during investigation and sampling activities at the Site. Since it is impossible to list all potential sources of injury, it shall be the responsibility of each individual to exercise proper care and caution during all phases of the work.

4.0 TRAINING

4.1 Site Workers

All personnel performing site investigation activities (such as, but not limited to, equipment operators and general laborers) and who may be exposed to hazardous substances, health hazards, or safety hazards and their supervisors/managers responsible for the site shall receive training in accordance with 29 CFR 1910.120(e) before they are permitted to engage in operations in the exclusion zone or contaminant reduction zone. This training includes an initial 40-hour Hazardous Waste Site Worker Protection Course, an 8-hour Annual Refresher Course subsequent to the initial 40-hour training, and 3 days of actual field experience under the direct supervision of a trained, experienced supervisor. Additional site-specific training shall also be provided by the SSHO prior to the start of field activities. A description of topics to be covered by this training is provided below.

4.1.1 Initial and Refresher Training

Initial and refresher training is conducted by a qualified instructor as specified under OSHA 29 CFR 1910.120(e)(5), and is specifically designed to meet the requirements of OSHA 29 CFR 1910.120(e)(3) and 1910.120(e)(8). The training covers, as a minimum, the following topics:

- OSHA HAZWOPER regulations.
- Site safety and hazard recognition, including chemical and physical hazards.
- Medical monitoring requirements.
- Air monitoring, permissible exposure limits, and respiratory protection level classifications.
- Appropriate use of personal protective equipment (PPE), including chemical compatibility and respiratory equipment selection and use.
- Work practices to minimize risk.

- Work zones and Site control.
- Safe use of engineering controls and equipment.
- Decontamination procedures.
- Emergency response and escape.
- Confined space entry procedures.
- Heat and cold stress monitoring.
- Elements of a Health and Safety Plan.
- Spill containment.

Initial training also incorporates workshops for PPE and respiratory equipment use (Levels A, B and C), and respirator fit testing. Records and certification received from the course instructor documenting each employee's successful completion of the training identified above are maintained on file at Benchmark Environmental Engineering and Science, PLLC's Buffalo, NY office. Contractors and Subcontractors are required to provide similar documentation of training for all their personnel who will be involved in on-site work activities.

Any employee who has not been certified as having received health and safety training in conformance with 29 CFR 1910.120(e) is prohibited from working in the exclusion and contamination reduction zones, or to engage in any on-site work activities that may involve exposure to hazardous substances or wastes.

4.1.2 Site Training

Site workers are given a copy of the HASP and provided a site-specific briefing prior to the commencement of work to ensure that employees are familiar with the HASP and the information and requirements it contains. The site briefing shall be provided by the SSHO prior to initiating field activities and shall include:

- Names of personnel and alternates responsible for Site safety and health.
- Safety, health and other hazards present on the Site.
- The Site lay-out including work zones and places of refuge.
- The emergency communications system and emergency evacuation procedures.
- Use of PPE.
- Work practices by which the employee can minimize risks from hazards.
- Safe use of engineering controls and equipment on the Site.
- Medical surveillance, including recognition of symptoms and signs of over-exposure (see Section 5).
- Decontamination procedures (see Section 12).
- The Emergency Response Plan (see Attachment 2).
- Confined space entry procedures, if required (see Section 13).
- The spill containment program (see Section 9).
- Site control (see Section 11).

Supplemental health and safety briefings will also be conducted by the SSHO on an as-needed basis during the course of the work. Supplemental briefings are provided as necessary to notify employees of any changes to this HASP as a result of information gathered during on-going Site characterization and analysis. Conditions for which the SSHO may schedule additional briefings include, but are not limited to: a change in Site conditions (viz., based on monitoring results); changes in the work schedule/plan; newly discovered hazards; and safety incidents occurring during Site work.

4.2 Supervisor Training

On-site safety and health personnel who are directly responsible for or who supervise the safety and health of workers engaged in hazardous waste operations (viz., SSHO) shall receive, in addition to the appropriate level of worker training described in Section 4.1, above, 8 additional hours of specialized supervisory training, in compliance with 29 CFR 1910.120(e)(4).

4.3 Emergency Response Training

Emergency response training is addressed in Attachment 2 of this HASP, Emergency Response Plan.

4.4 Site Visitors

Benchmark's SSHO will provide a site-specific briefing to all Site visitors and other non-Benchmark personnel who enter the Site beyond the Site entry point. The site-specific briefing will provide information about Site hazards, the Site lay-out including work zones and places of refuge, the emergency communications system and emergency evacuation procedures, and other pertinent safety and health requirements as appropriate.

Site visitors will not be permitted to enter the exclusion zone or contaminant reduction zones unless they have received the level of training required for Site workers as described in Section 4.1.

5.0 MEDICAL MONITORING

Medical monitoring examinations are provided to Benchmark employees as stipulated under 29 CFR Part 1910.120(f). These exams include initial employment and termination physicals for all Benchmark employees involved in hazardous waste Site field operations. Annual exams are provided for those employees who are engaged in hazardous waste site field operations for more than 30 days per year, or who meet other specific criteria listed in 29 CFR 1910.120(f). Post-exposure examinations are also provided for employees who may have been injured, received a health impairment, or developed signs or symptoms of over-exposure to hazardous substances or were accidentally exposed to substances at concentrations above the permissible exposure limits without necessary personal protective equipment. Such exams are performed as soon as possible following development of symptoms or the known exposure event.

Medical evaluations are performed by ADP Screening & Selection Services, an occupational health care provider under contract with TurnKey-Benchmark. ADP's local facility is Health Works WNY, Seneca Square Plaza, 1900 Ridge Road, West Seneca, New York 14224. The facility can be reached at (716) 823-5050 to schedule routine appointments or post-exposure examinations.

Medical evaluations are conducted according to the Benchmark-TurnKey Medical Monitoring Program and include an evaluation of the workers' ability to use respiratory protective equipment. The examinations include:

- Occupational/medical history review.
- Physical exam, including vital sign measurement.
- Spirometry testing.
- Eyesight testing.
- Audio testing (minimum baseline and exit, annual for employees routinely exposed to greater than 85db).

- EKG (for employees >40 yrs age or as medical conditions dictate).
- Chest X-ray (baseline and exit, and every 5 years).
- Blood biochemistry (including blood count, white cell differential count, serum multiplastic screening).
- Medical certification of physical requirements (viz., sight, musculoskeletal, cardiovascular) for safe job performance and to wear respiratory protection equipment.

The purpose of the medical evaluation is to determine an employee's fitness for duty on hazardous waste sites; and to establish baseline medical data.

In conformance with OSHA regulations, Benchmark will maintain and preserve medical records for a period of 30 years following termination of employment. Employees are provided a copy of the physician's post-exam report, and have access to their medical records and analyses.

6.0 SAFE WORK PRACTICES

All Benchmark employees shall conform to the following safe work practices during all on-site work activities conducted within the exclusion and contamination reduction zones:

- Eating, drinking, chewing gum or tobacco, smoking, or any practice that increases the probability of hand-to-mouth contact is strictly prohibited.
- The hands and face must be thoroughly washed upon leaving the work area and prior to engaging in any activity indicated above.
- Respiratory protective equipment and clothing must be worn by all personnel entering the Site as required by the HASP or as modified by the Site Safety Officer. Excessive facial hair (i.e., beards, long mustaches or sideburns) that interferes with the satisfactory respirator-to-face seal is prohibited.
- Contact with surfaces/materials either suspected or known to be contaminated will be avoided to minimize the potential for transfer to personnel, cross contamination and need for decontamination.
- Due to possible contraindications, use of prescribed drugs should be reviewed with the Benchmark occupational physician.
- Alcoholic beverage and illegal drug intake are strictly forbidden during the work day.
- All personnel shall be familiar with standard operating safety procedures and additional instructions contained in this Health and Safety Plan.
- On-site personnel shall use the "buddy" system. No one may work alone (i.e., out of earshot or visual contact with other workers) in the exclusion zone.
- Personnel and equipment in the contaminated area shall be minimized, consistent with effective Site operations.
- All employees have the obligation to immediately report and if possible, correct unsafe work conditions.
- Use of contact lenses on-site will not be permitted. Spectacle kits for insertion

into full-face respirators will be provided for Benchmark employees, as requested and required.

The recommended specific safety practices for working around the subcontractor's equipment (e.g., drill rig, site truck.) are as follows:

- Although the subcontractors are responsible for their equipment and safe operation of the Site, Benchmark personnel are also responsible for their own safety.

- Subsurface work will not be initiated without first clearing underground utility services.

- Heavy equipment should not be operated within 20 feet of overhead wires. This distance may be increased if windy conditions are anticipated or if lines carry high voltage. The Site should also be sufficiently clear to ensure the project staff can move around the heavy machinery safely.

- Care should be taken to avoid overhead wires when moving heavy-equipment from location to location.

- Hard hats, safety boots and safety glasses should be worn at all times in the vicinity of heavy equipment. Hearing protection is also recommended.

- The work Site should be kept neat. This will prevent personnel from tripping and will allow for fast emergency exit from the Site.

- Proper lighting must be provided when working at night.

- Investigation activities should be discontinued during an electrical storm or severe weather conditions.

- The presence of combustible gases should be checked before igniting any open flame.

- Personnel shall stand upwind of any investigation activity when not immediately involved in sampling/logging/observing activities.

- Personnel will not approach the edge of an unsecured trench/excavation closer than 2 feet.

7.0 PERSONAL PROTECTIVE EQUIPMENT

7.1 Equipment Selection

Personal protective equipment (PPE) will be donned when work activities may result in exposure to physical or chemical hazards beyond acceptable limits, and when such exposure can be mitigated through appropriate PPE. The selection of PPE will be based on an evaluation of the performance characteristics of the PPE relative to the requirements and limitations of the Site, the task-specific conditions and duration, and the hazards and potential hazards identified at the Site.

Equipment designed to protect the body against contact with known or suspect chemical hazards are grouped into four categories according to the degree of protection afforded. These categories, designated A through D consistent with United States Environmental Protection Agency (USEPA) Level of Protection designation, are:

- **Level A:** Should be selected when the highest level of respiratory, skin and eye protection is needed.
- **Level B:** Should be selected when the highest level of respiratory protection is needed, but a lesser level of skin protection is required. Level B (or Level A) is also necessary for oxygen-deficient atmospheres.
- **Level C:** Should be selected when the types of airborne substances are known, the concentrations have been measured and the criteria for using air-purifying respirators are met. In atmospheres where no airborne contaminants are present, Level C provides dermal protection only.
- **Level D:** Should not be worn on any site with elevated respiratory or skin hazards. This is generally a work uniform providing minimal protection.

OSHA requires the use of certain PPE under conditions where an immediate danger to life and health (IDLH) may be present. Specifically, OSHA 29 CFR 1910.120(g)(3)(iii) requires use of a positive pressure self-contained breathing apparatus, or positive pressure air-line respirator equipped with an escape air supply when chemical exposure levels present a substantial possibility of immediate serious injury, illness or death, or impair the ability to escape. Similarly, OSHA 29 CFR 1910.120(g)(3)(iv) requires donning totally-encapsulating chemical protective suits (with a protection level equivalent to Level A protection) in conditions where skin absorption of a hazardous substance may result in a substantial possibility of immediate serious illness, injury or death, or impair the ability to escape.

In situations where the types of chemicals, concentrations, and possibilities of contact are unknown, the appropriate level of protection must be selected based on professional experience and judgment until the hazards can be further characterized. The individual components of clothing and equipment must be assembled into a full protective ensemble to protect the worker from site-specific hazards, while at the same time minimizing hazards and drawbacks of the personal protective gear itself. Ensemble components are detailed below for levels A/B, C, and D protection.

7.2 Protection Ensembles

7.2.1 Level A/B Protection Ensemble

Level A/B ensembles include similar respiratory protection, however Level A provides a higher degree of dermal protection than Level B. Use of Level A over Level B is determined by: comparing the concentrations of identified substances in the air with skin toxicity data, and assessing the effect of the substance (by its measured air concentrations or splash potential) on the small area of the head and neck unprotected by Level B clothing.

The recommended PPE for level A/B is:

- Pressure-demand, full-face piece self-contained breathing apparatus (MSHA/-NIOSH approved) or pressure-demand supplied-air respirator with escape self-contained breathing apparatus (SCBA).
- Chemical-resistant clothing. For Level A, clothing consists of totally-encapsulating chemical resistant suit. Level B incorporates hooded one-or two-piece chemical splash suit.
- Inner and outer chemical resistant gloves.
- Chemical-resistant safety boots/shoes.

- Hardhat.

7.2.2 Level C Protection Ensemble

Level C protection is distinguished from Level B by the equipment used to protect the respiratory system, assuming the same type of chemical-resistant clothing is used. The main selection criterion for Level C is that conditions permit wearing an air-purifying device. The device (when required) must be an air purifying respirator (MSHA/NIOSH approved) equipped with filter cartridges. Cartridges must be able to remove the substances encountered. Respiratory protection will be used only with proper fitting, training and the approval of a qualified individual. In addition, an air-purifying respirator can be used only if: oxygen content of the atmosphere is at least 19.5% in volume; substances are identified and concentrations measured; substances have adequate warning properties; the individual passes a qualitative fit-test for the mask; and an appropriate cartridge/canister is used, and its service limit concentration is not exceeded.

Recommended PPE for Level C conditions includes:

- Full-face piece, air-purifying respirator equipped with MSHA and NIOSH approved organic vapor/acid gas/dust/mist combination cartridges or as designated by the SSHO.
- Chemical-resistant clothing (hooded, one or two-piece chemical splash suit or disposable chemical-resistant one-piece suit).
- Inner and outer chemical-resistant gloves.
- Chemical-resistant safety boots/shoes.
- Hardhat.

An air monitoring program is part of all response operations when atmospheric contamination is known or suspected. It is particularly important that the air be monitored thoroughly when personnel are wearing air-purifying respirators. Continual surveillance using direct-reading instruments is needed to detect any changes in air quality necessitating a

TABLE 7-1

IRM ACTIVITIES
7503 NIAGARA FALLS BOULEVARD
GLR HOLDINGS
NIAGARA FALLS BOULEVARD

REQUIRED PERSONAL PROTECTIVE EQUIPMENT (PPE) LEVELS[1]

Activity	Respiratory Protection[2]	Clothing	Gloves	Boots	Other Required PPE/Modifications[3]
Subsurface Soil Borings	Level D; upgrade to Level C if necessary	Work Uniform or Tyvek	L	L outer, steel-toed safety boot inner	Hardhat, Safety glasses w/ sideshields
Development and Sampling of Monitoring Wells	Level D; upgrade to Level C if necessary	Work Uniform or Tyvek	L	L outer, steel-toed safety boot inner[3]	Safety glasses w/ sideshields

Notes:

1. T = Tyvek; L= Latex; N = Nitrile;, S = Saranex
2. Respiratory equipment shall conform to guidelines presented in Section 8. The Level C requirement is an air-purifying respirator equiped with organic compound/acid gas/dust cartridge.
3. Dust masks shall be donned as directed by the site health and safety officer or site safety technician whenever potentially contaminated airborne particulates (i.e., dust) are present in significant amounts in the breathing zone. Goggles may be substituted with safety glasses w/side-shields whenever contact with contaminated liquids is not anticipated.

8.0 EXPOSURE MONITORING

8.1 General

Based on the results of historic sample analysis and the nature of the proposed work activities at the Site, the possibility exists that particulates may be released to the air during intrusive sampling activities. Ambient breathing zone concentrations may at times, exceed the permissible exposure limits (PEL) established by OSHA for the individual compounds (see Table 3-2), in which case respiratory protection will be required. Respiratory and dermal protection may be modified (upgraded or downgraded) by the SSHO based upon real-time field monitoring data.

8.1.1 Work Area Monitoring

Routine, real-time monitoring of the atmosphere within the work area will be conducted by Benchmark during all intrusive investigation phases such as drilling, well development, etc. The work area will be monitored at regular intervals using a photo-ionization detector (PID). Observed values will be recorded and maintained as part of the permanent field record.

Additional air monitoring measurements may be made by Benchmark personnel to verify field conditions during subcontractor oversight activities. Monitoring instruments will be protected from surface contamination during use. Additional monitoring instruments may be added if the situations or conditions change.

8.1.2 Off-Site Community Monitoring

In addition to on-site monitoring within the work zone(s), monitoring at the down-wind portion of the site perimeter will be conducted when any intrusive activities are performed outdoors of the facility. This will provide a real-time method for determination of substantial vapor releases to the surrounding community as a result of intrusive work.

The monitoring will be performed at the downwind perimeter location at regular intervals and at a minimum of once per half hour during times when organic vapors exceed established limits for five minutes or longer until such time as work zone concentrations decrease to below the perimeter monitoring action levels. If sustained concentrations of organic vapors are detected in excess of the threshold values identified in Section 7.2.2 at the downwind perimeter location for a period of ***5*** minutes or longer, the actions identified in Section 7.2.2 shall be taken. Pertinent emergency response information including the telephone number and address of the Fire Department are included in Attachment 2 - Emergency Response Plan.

8.2 Monitoring Action Levels

8.2.1 On-site Levels

The PID or other appropriate instrument(s) will be used as specified in this Health and Safety Plan. Readings obtained in the breathing zone may be interpreted (with regard to other site conditions) as follows for on-site Benchmark personnel:

- Total atmospheric concentrations of unidentified vapors or gases ranging from 0 to background on the PID) - Continue operations under Level D.
- Total atmospheric concentrations of unidentified vapors or gases yielding sustained readings above background to *5* ppm on the PID (vapors not suspected of containing high levels of chemicals toxic to the skin) - Continue operations under Level C.
- Total atmospheric concentrations of unidentified vapors or gases yielding sustained readings of *5* to 50 ppm above background on the PID - Continue operations under Level B, re-evaluate and alter (if possible) construction methods to achieve lower vapor concentrations.
- Total atmospheric concentrations of unidentified vapors or gases above 50 ppm on the PID - Discontinue operations and exit the work zone immediately.

Readings with the organic vapor analyzers will be recorded and documented in the Health and Safety Logbook. All instruments will be calibrated before use and the procedure will be documented in the Health and Safety Logbook.

9.0 SPILL RELEASE/RESPONSE

This chapter of the HASP describes the potential for and procedures related to spills or releases of known or suspected petroleum and/or hazardous substances on the Site. The purpose of this Section of the HASP is to plan appropriate response, control, counter-measures and reporting, consistent with OSHA requirements in 29 CFR 1910.120(b)(4)(ii)(J) and (j)(1)(viii). The spill containment program addresses the following elements:

- Potential hazardous material spills and available controls.
- Initial notification and evaluation.
- Spill response.
- Post-spill evaluation.

9.1 Potential Spills and Available Controls

An evaluation was conducted to determine the potential for hazardous material and oil/petroleum spills at this Site. For the purpose of this evaluation, hazardous materials posing a significant spill potential are considered to be:

- CERCLA Hazardous Substances as identified in 40 CFR Part 302, where such materials pose the potential for release in excess of their corresponding Reportable Quantity (RQ).
- Extremely Hazardous Substances as identified in 40 CFR Part 355, Attachment 1, where such materials pose the potential for release in excess of their corresponding Reportable Quantity (RQ).
- Hazardous Chemicals as defined under Section 311(e) of the Emergency Planning and Community Right-To-Know Act of 1986, where such chemicals are present or will be stored in excess of 10,000 lbs.
- Toxic Chemicals as defined in 40 CFR Part 372, where such chemicals are present or will be stored in excess of 10,000 lbs.

- Chemicals regulated under 6NYCRR Part 597, where such materials pose the potential for release in excess of their corresponding Reportable Quantity (RQ).

Oil/petroleum products are considered to pose a significant spill potential whenever the following situations occur:

- the potential for a "harmful quantity" of oil (including petroleum and non-petroleum-based fuels and lubricants) to reach navigable waters of the U.S. exists (40 CFR Part 112.4). Harmful quantities are considered by USEPA to be volumes of 1,000 gallons or more, or lesser quantities that either form a visible sheen on the water or violate applicable water quality standards.

- the potential for any amount of petroleum to reach any waters of NY State, including groundwater, exists. Petroleum, as defined by NY State in 6NYCRR Part 612, is a petroleum-based heat source, energy source, or engine lubricant/maintenance fluid.

- the potential for any release, to soil or water, of petroleum from a bulk storage facility regulated under 6NYCRR Part 612. A regulated petroleum storage facility is defined by NY State as a Site having stationary tank(s) and intra-facility piping, fixtures and related equipment with an aggregate storage volume of 1100 gallons or greater.

The evaluation indicates that, based on Site history and the scope of work, a hazardous material spill is not likely to occur during investigation efforts. However, the procedures identified below will be followed in the event of an unanticipated release.

9.2 Initial Spill Notification and Evaluation

Any worker who discovers a hazardous substance or oil/petroleum spill will immediately notify the Project Manager and SSHO. The worker will, to the best of his/her ability, report the material involved, the location of the spill, the estimated quantity of material spilled, the direction/flow of the spill material, related fire/explosion incidents, if any, and any associated injuries. The Emergency Response Plan presented in Attachment 2 of this HASP will immediately be implemented if an emergency release has occurred.

Following initial report of a spill, the Project Manager will make an evaluation as to whether the release exceeds RQ levels. If an RQ level is exceeded, the Project Manager will notify the Site owner who will in turn notify NYSDEC at 1-800-457-7362 within 2 hours of spill discovery. The Project Manager will also determine what additional agencies are to be contacted regarding the release, and will follow-up with written reports as required by the applicable regulations.

9.3 Spill Response

For all spill situations, the following general response guidelines will apply:

- Only those personnel involved in overseeing or performing containment operations will be allowed within the spill area. If necessary, the area will be roped, ribboned or otherwise blocked off to prevent unauthorized access.
- Appropriate PPE, as specified by the SSHO, will be donned before entering the spill area.
- Ignition points will be extinguished/removed if fire or explosion hazards exist.
- Surrounding reactive materials will be removed.
- Drains or drainage in the spill area will be blocked to prevent inflow of spilled materials or applied materials.

For minor spills, the Benchmark will maintain a Spill Control and Containment Kit in the Field Office or other readily accessible storage location. The kit will consist of, at a minimum, a 50 lb. bag of "speedy dry" granular absorbent material, absorbent pads, shovels, empty 5-gallon pails and an empty open-top 55-gallon drum. Spilled materials will be absorbed, and shoveled into a 55-gallon drum for proper disposal (USEPA approval will be secured for on-site treatment of the impacted soils/absorbent materials, if applicable). Impacted soils will be hand-excavated to the point that no visible signs of contamination remains, and will be drummed with the absorbent.

In the event of a major release or a release that threatens surface water, a spill response contractor will be called to the Site. The response contractor may use heavy equipment (viz., excavator, backhoe, etc.) to berm the soils surrounding the spill site or create diversion trenching to mitigate overland migration or release to navigable waters. Where feasible, pumps will be used to transfer free liquid to storage containers. Spill control/cleanup contractors in the Western New York area that may be contacted for assistance (in order of preference) include:

- The Environmental Service Group of NY, Inc.: (716) 695-6720
- Op-Tech: (716) 873-7680
- Environmental Products and Services, Inc.: (716) 447-4700

9.4 Post-Spill Evaluation

If a reportable quantity of hazardous material or oil/petroleum is spilled as determined by the Project Manager, a written report will be prepared as indicated in Section 9.2. The report will identify the root cause of the spill, type and amount of material released, date/time of release, response actions, agencies notified and/or involved in cleanup, and procedures to be implemented to avoid repeat incidents. In addition, all re-useable spill cleanup and containment materials will be decontaminated, and spill kit supplies/disposable items will be replenished.

10.0 HEAT/COLD STRESS MONITORING

Although most Site Investigation activities will occur in a climate controlled environment, measures will be taken to minimize heat/cold stress to Benchmark employees working outdoors. The Site Safety and Health Officer and/or his or her designee will be responsible for monitoring Benchmark field personnel for symptoms of heat/cold stress.

10.1 Heat Stress Monitoring

Personal protective equipment may place an employee at risk of developing heat stress, a common and potentially serious illnesses often encountered at construction, landfill, waste disposal, industrial or other unsheltered sites. The potential for heat stress is dependent on a number of factors, including environmental conditions, clothing, workload, physical conditioning and age. Personal protective equipment may severely reduce the body's normal ability to maintain temperature equilibrium (via evaporation and convection), and require increased energy expenditure due to its bulk and weight.

Proper training and preventive measures will mitigate the potential for serious illness. Heat stress prevention is particularly important because once a person suffers from heat stroke or heat exhaustion, that person may be predisposed to additional heat related illness. To avoid heat stress, the following steps should be taken:

- Adjust work schedules.
- Modify work/rest schedules according to monitoring requirements.
- Mandate work slowdowns as needed.
- Perform work during cooler hours of the day if possible or at night if adequate lighting can be provided.
- Provide shelter (air-conditioned, if possible) or shaded areas to protect personnel during rest periods.
- Maintain worker's body fluids at normal levels. This is necessary to ensure that the cardiovascular system functions adequately. Daily fluid intake must approximately equal the amount of water lost in sweat (i.e., eight fluid ounces

must be ingested for approximately every 1 lb of weight lost). The normal thirst mechanism is not sensitive enough to ensure that enough water will be consumed to replace lost perspiration. When heavy sweating occurs, workers should be encouraged to drink more.

- Train workers to recognize the symptoms of heat related illness.

Heat-Related Illness - Symptoms:

- Heat rash may result from continuous exposure to heat or humid air.

- Heat cramps are caused by heavy sweating with inadequate electrolyte replacement. Signs and symptoms include: muscle spasms; pain in the hands, feet and abdomen.

- Heat exhaustion occurs from increased stress on various body organs including inadequate blood circulation due to cardiovascular insufficiency or dehydration. Signs and symptoms include: pale, cool, moist skin; heavy sweating; dizziness; nausea; fainting.

- Heat stroke is the most serious form of heat stress. Temperature regulation fails and the body temperature rises to critical levels. Immediate action must be taken to cool the body before serious injury and death occur. Competent medical help must be obtained. Signs and symptoms are: red, hot, usually dry skin; lack of or reduced perspiration; nausea; dizziness and confusion; strong, rapid pulse; coma.

The monitoring of personnel wearing protective clothing should commence when the ambient temperature is 70 degrees Fahrenheit or above. For monitoring the body's recuperative ability to excess heat, one or more of the following techniques should be used as a screening mechanism.

- Heart rate may be measured by the radial pulse for 30 seconds as early as possible in the resting period. The rate at the beginning of the rest period should not exceed 100 beats per minute. If the rate is higher, the next work period should be shortened by 10 minutes (or 33%), while the length of the rest periods stay the same, If the pulse rate is 100 beats per minute at the beginning of the nest rest period, the following work cycle should be further shortened by 33%.

- Body temperature may be measured orally with a clinical thermometer as early as possible in the resting period. Oral temperature at the beginning of the rest period should not exceed 99.6 degrees Fahrenheit. If it does, the next work period should be shortened by 10 minutes (or 33%), while the length of the rest period remains the same. However, if the oral temperature exceeds 99.6 degrees Fahrenheit at the beginning of the next period, the work cycle may be further shortened by 33%. Oral temperature should be measured at the end of the rest period to make sure that it has dropped below 99.6 degrees Fahrenheit. No Benchmark employee will be permitted to continue wearing semi-permeable or impermeable garments when his/her oral temperature exceeds 100.6 degrees Fahrenheit.

10.2 Cold Stress Monitoring

Exposure to cold conditions may result in frostbite or hypothermia, each of which progresses in stages as shown below.

- **Frostbite** occurs when body tissue (usually on the extremities) begins to freeze. The three states of frostbite are:

    1) **Frostnip** - This is the first stage of the freezing process. It is characterized by a whitened area of skin, along with a slight burning or painful sensation. Treatment consists of removing the victim from the cold conditions, removal of boots and gloves, soaking the injured part in warm water (102 to 108 degrees Fahrenheit) and drinking a warm beverage. Do not rub skin to generate friction/ heat.

    2) **Superficial Frostbite** - This is the second stage of the freezing process. It is characterized by a whitish gray area of tissue which will be firm to the touch but will yield little pain. The treatment is identical for Frostnip.

    3) **Deep Frostbite** - In this final stage of the freezing process the affected tissue will be cold, numb and hard and will yield little to no pain. Treatment is identical to that for Frostnip.

- **Hypothermia** is a serious cold stress condition occurring when the body loses heat at a rate faster than it is produced. If untreated, hypothermia may be fatal. The stages of hypothermia may not be clearly defined or visible at first, but generally include:

    1) Shivering

    2) Apathy (i.e., a change to an indifferent or uncaring mood)

3) Unconsciousness

4) Bodily freezing

Employees exhibiting signs of hypothermia should be treated by medical professionals. Steps that can be taken while awaiting help include:

1) Remove the victim from the cold environment and remove wet or frozen clothing. (Do this carefully as frostbite may have started.)

2) Perform active re-warming with hot liquids for drinking (Note: do not give the victim any liquid containing alcohol or caffeine) and a warm water bath (102 to 108 degrees Fahrenheit).

3) Perform passive re-warming with a blanket or jacket wrapped around the victim.

In any potential cold stress situation, it is the responsibility of the Site Health and Safety Officer to encourage the following:

- Education of workers to recognize the symptoms of frostbite and hypothermia.

- Workers should dress warmly, with more layers of thin clothing as opposed to one thick layer.

- Personnel should remain active and keep moving.

- Personnel should be allowed to take shelter in a heated areas, as necessary.

- Personnel should drink warm liquids (no caffeine or alcohol if hypothermia has set in).

- For monitoring the body's recuperation from excess cold, oral temperature recordings should occur:

  - At the Site Safety Technicians discretion when suspicion is based on changes in a worker's performance or mental status.

  - At a workers request.

  - As a screening measure, two times per shift, under unusually hazardous conditions (e.g., wind chill less than 20 degrees Fahrenheit or wind chill less than 30 degrees Fahrenheit with precipitation).

- As a screening measure whenever anyone worker on Site develops hypothermia.

Any person developing moderate hypothermia (a core body temperature of 92 degrees Fahrenheit) will not be allowed to return to work for 48 hours without the recommendation of a qualified medical doctor.

11.0 WORK ZONES AND SITE CONTROL

Work zones around the areas designated for IRM activities will be established by Benchmark on a daily basis and communicated to all employees and other Site users by the SSHO. It shall be the Site Safety and Health Officer's responsibility to ensure that all Site workers are aware of the work zone boundaries and to enforce proper procedures in each area. The zones will include:

- Exclusion Zone ("Hot Zone") - The area where contaminated materials may be exposed, excavated or handled and all areas where contaminated equipment or personnel may travel. The zone will be delineated by flagging tape. All personnel entering the Exclusion Zone must wear the prescribed level of personal protective equipment identified in Section 7.

- Contaminant Reduction Zone - The zone where decontamination of personnel and equipment takes place. Any potentially contaminated clothing, equipment and samples must remain in the Contaminant Reduction Zone until decontaminated.

- Support Zone - The part of the Site that is considered non-contaminated or "clean." Support equipment will be located in this zone, and personnel may wear normal work clothes within this zone.

In the absence of other task-specific work zone boundaries established by the SSHO, the following boundaries will apply to all activities involving disruption or handling of Site soils, sediment or groundwater:

- Exclusion Zone: 50 foot radius from the outer limit of the sampling activity.

- Contaminant Reduction Zone: 100 foot radius from the outer limit of the sampling activity.

- Support Zone: Areas outside the Contaminant Reduction Zone.

Access of non-essential personnel to the Exclusion and Contaminant Reduction Zones will be strictly controlled by Benchmark. Only personnel who are essential to the completion of the task will be allowed access to these areas and only if they are wearing the prescribed level of protection. Entrance of all personnel must be approved by the SSHO.

The Contractor will maintain a Health and Safety Logbook containing the names of workers and their level of protection. The zone boundaries may be changed by the SSHO as environmental conditions warrant, and to respond to the necessary changes in work locations on-site.

12.0 DECONTAMINATION

12.1 Decontamination For Benchmark Employees

The degree of decontamination required is a function of a particular task and the environment within which it occurs. The following decontamination procedure will remain flexible, thereby allowing the decontamination crew to respond appropriately to the changing environmental conditions which may arise at the Site. All Benchmark personnel on-site shall follow the procedure below.

Station 1 - Equipment Drop: Deposit visibly contaminated (if any) re-useable equipment used in the contamination reduction and exclusion zones (tools, containers, monitoring instruments, radios, clipboards, etc.) on plastic sheeting.

Station 2 - Boots and Gloves Wash and Rinse: Scrub outer boots and outer gloves. Deposit tape and gloves in waste disposal container.

Station 3 - Tape, Outer Boot and Glove Removal: Remove tape, outer boots and gloves. Deposit tape and gloves in waste disposal container.

Station 4 - Canister or Mask Change: If worker leaves exclusive zone to change canister (or mask), this is the last step in the decontamination procedure. Worker's canister is exchanged, new outer gloves and boot cover donned, and worker returns to duty.

Station 5 - Outer Garment/Face Piece Removal: Protective suit removed and deposited in separate container provided by Contractor. Face piece or goggles are removed if used. Avoid touching face with fingers. Face piece and/or goggles deposited on plastic sheet. Hard hat removed and placed on plastic sheet.

Station 6 - Inner Glove Removal: Inner gloves are the last personal protective equipment to be removed. Avoid touching the outside of the gloves with bare fingers. Dispose of these gloves in waste disposal container.

Following PPE removal, personnel shall wash hands, face and forearms with absorbent wipes. If field activities proceed for a duration of 6 consecutive months or longer, shower facilities will be provided for worker use in accordance with OSHA 29 CFR 1910.120(n).

12.2 Decontamination For Medical Emergencies

In the event of a minor, non-life threatening injury, personnel should follow the decontamination procedures as defined, and then administer first-aid.

In the event of a major injury or other serious medical concern (e.g., heat stroke), immediate first-aid is to be administered and the victim transported to the hospital in lieu of further decontamination efforts unless exposure to a Site contaminant would be considered "Immediately Dangerous to Life or Health."

12.3 Decontamination Of Field Equipment

Decontamination of heavy equipment will be conducted by the subcontractor in accordance with his approved Health and Safety Plan in the Contamination Reduction Zone. As a minimum, this will include manually removing heavy soil clods, followed by high pressure water and detergent or steam cleaning.

Decontamination of all tools used for sample collection purposes will be conducted by Benchmark personnel. It is expected that all tools will be constructed of nonporous, nonabsorbent materials (i.e., metal) which will aid in the decontamination effort. Any tool or part of a tool made of porous, absorbent material (i.e., wood) will be placed into suitable containers and prepared for disposal.

13.0 CONFINED SPACE ENTRY

OSHA 29 CFR 1910.146 identifies a confined space as a space which is large enough and so configured that an employee can physically enter and do assigned work, has limited or restricted means for entry and exit, and is not intended for continuous employee occupancy. Confined spaces include, but are not limited to, trenches, storage tanks, process vessels, pits, sewers, tunnels, underground utility vaults, pipelines, sumps, wells, and excavations.

Confined space entry by Benchmark employees is not anticipated to be necessary to complete the Site investigation activities identified in Section 1.4. In the event that the scope of work changes or confined space entry appears necessary, the Project Manager will be consulted to determine if feasible engineering alternatives to confined space entry can be implemented. If confined space entry by Benchmark employees cannot be avoided through reasonable engineering measures, task-specific confined space entry procedures will be developed and a confined-space entry permit will be issued through Benchmark's corporate Health and Safety Director. Benchmark employees shall not enter a confined space without these procedures and permits in place.

14.0 FIRE PREVENTION AND PROTECTION

14.1 General Approach

Recommended practices and standards of the National Fire Protection Association (NFPA) and other applicable regulations will be followed in the development and application of Project Fire Protection Programs. When required by regulatory authorities, the project management will prepare and submit a Fire Protection Plan for the approval of the contracting officers, authorized representative or other designated official. Essential considerations for the Fire Protection Plan will include:

- Proper Site preparation and safe storage of combustible and flammable materials.
- Availability of coordination with private and public fire authorities.
- Adequate job-site fire protection and inspections for fire prevention.
- Adequate indoctrination and training of employees.

14.2 Equipment And Requirements

Fire extinguishers will be provided by Benchmark and are required to be provided by the subcontractor on all heavy equipment brought on-site. Fire extinguishers will be inspected, serviced, and maintained in accordance with the manufacturer's instructions. As a minimum, all extinguishers shall be checked monthly and weighed semi-annually, and recharged if necessary. Recharge or replacement shall be mandatory immediately after each use.

14.3 Flammable And Combustible Substances

All storage, handling or use of flammable and combustible substances will be under the supervision of qualified persons. All tanks, containers and pumping equipment, whether portable or stationary, which are used for the storage and handling of flammable and combustible liquids, will meet the recommendations of the National Fire Protection Association.

14.4 Hot Work

If the scope of work necessitates welding or blow torch operation, the hot work permit presented in Attachment 3 will be completed by the SSHO and reviewed/issued by the Project Manager.

15.0 EMERGENCY INFORMATION

In accordance with OSHA 29 CFR Part 1910, an Emergency Response Plan is attached to this HASP as Attachment 2.

16.0 REFERENCES

1. Phase I Environmental Site Assessment Apartments/Vacant Lot 7503-7555 Niagara Falls Boulevard, Niagara Falls, New York, GZA GeoEnvironmental of New York, July 2004.

2. Subsurface Phase II Environmental Assessment, 7503-7555 Niagara Falls Boulevard Niagara Falls, NY, Nature's Way Environmental Consultants & Contractors, Inc., September 20, 2004.

3. Focused Phase II Environmental Investigation, 7503-7555 Niagara Falls Boulevard Niagara Falls, NY, Nature's Way Environmental Consultants & Contractors, Inc., May 18, 2005.

4. Supplemental Site Characterization Report, 7503-7555 Niagara Falls Boulevard Niagara Falls, NY, Benchmark Environmental Engineering & Science, PLLC, November 15, 2005.

ATTACHMENT 1

NYSDOH GENERIC COMMUNITY AIR MONITORING PLAN

New York State Department of Health
Generic Community Air Monitoring Plan [1]

A Community Air Monitoring Plan (CAMP) requires real-time monitoring for volatile organic compounds (VOCs) and particulates (i.e., dust) at the downwind perimeter of each designated work area when certain activities are in progress at contaminated sites. The CAMP is not intended for use in establishing action levels for worker respiratory protection. Rather, its intent is to provide a measure of protection for the downwind community (i.e., off-site receptors including residences and businesses and on-site workers not directly involved with the subject work activities) from potential airborne contaminant releases as a direct result of investigative and remedial work activities. The action levels specified herein require increased monitoring, corrective actions to abate emissions, and/or work shutdown. Additionally, the CAMP helps to confirm that work activities did not spread contamination off-site through the air.

The generic CAMP presented below will be sufficient to cover many, if not most, sites. Specific requirements should be reviewed for each situation in consultation with NYSDOH to ensure proper applicability. In some cases, a separate site-specific CAMP or supplement may be required. Depending upon the nature of contamination, chemical- specific monitoring with appropriately-sensitive methods may be required. Depending upon the proximity of potentially exposed individuals, more stringent monitoring or response levels than those presented below may be required. Special requirements will be necessary for work within 20 feet of potentially exposed individuals or structures and for indoor work with co-located residences or facilities. These requirements should be determined in consultation with NYSDOH.

Reliance on the CAMP should not preclude simple, common-sense measures to keep VOCs, dust, and odors at a minimum around the work areas.

Community Air Monitoring Plan

Depending upon the nature of known or potential contaminants at each site, real-time air monitoring for volatile organic compounds (VOCs) and/or particulate levels at the perimeter of the exclusion zone or work area will be necessary. Most sites will involve VOC and particulate monitoring; sites known to be contaminated with heavy metals alone may only require particulate monitoring. If radiological contamination is a concern, additional monitoring requirements may be necessary per consultation with appropriate NYSDEC/NYSDOH staff.

Continuous monitoring will be required for all ground intrusive activities and during the demolition of contaminated or potentially contaminated structures. Ground intrusive activities include, but are not limited to, soil/waste excavation and handling, test pitting or trenching, and the installation of soil borings or monitoring wells.

[1] Taken from Appendix 1A of the Draft DER-10 Technical Guidance for Site Investigation and Remediation, December 2002.

Periodic monitoring for VOCs will be required during non-intrusive activities such as the collection of soil and sediment samples or the collection of groundwater samples from existing monitoring wells. “Periodic” monitoring during sample collection might reasonably consist of taking a reading upon arrival at a sample location, monitoring while opening a well cap or overturning soil, monitoring during well baling/purging, and taking a reading prior to leaving a sample location. In some instances, depending upon the proximity of potentially exposed individuals, continuous monitoring may be required during sampling activities. Examples of such situations include groundwater sampling at wells on the curb of a busy urban street, in the midst of a public park, or adjacent to a school or residence

VOC Monitoring, Response Levels, and Actions

Volatile organic compounds (VOCs) must be monitored at the downwind perimeter of the immediate work area (i.e., the exclusion zone) on a continuous basis or as otherwise specified. Upwind concentrations should be measured at the start of each workday and periodically thereafter to establish background conditions. The monitoring work should be performed using equipment appropriate to measure the types of contaminants known or suspected to be present. The equipment should be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate. The equipment should be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below.

- If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities must be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities can resume with continued monitoring.
- If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities must be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less - but in no case less than 20 feet, is below 5 ppm over background for the 15-minute average.
- If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shutdown.

All 15-minute readings must be recorded and be available for State (DEC and DOH) personnel to review. Instantaneous readings, if any, used for decision purposes should also be recorded.

Particulate Monitoring, Response Levels, and Actions

Particulate concentrations should be monitored continuously at the upwind and downwind perimeters of the exclusion zone at temporary particulate monitoring stations. The particulate monitoring should be performed using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) for comparison to the airborne particulate action level. The equipment must be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration should be visually assessed during all work activities.

- If the downwind PM-10 particulate level is 100 micrograms per cubic meter ($\mu g/m^3$) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques must be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 $\mu g/m^3$ above the upwind level and provided that no visible dust is migrating from the work area.

- If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 $\mu g/m^3$ above the upwind level, work must be stopped and a re-evaluation of activities initiated. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 $\mu g/m^3$ of the upwind level and in preventing visible dust migration.

All readings must be recorded and be available for State (DEC and DOH) personnel to review.

ATTACHMENT 2

EMERGENCY RESPONSE PLAN

ATTACHMENT 2

EMERGENCY RESPONSE PLAN

Personnel Exposure

- Skin contact: Use copious amounts of soap and water. Wash/rinse affected area for at least 15 minutes. Decontaminate and provide medical attention. Eyewash stations will be provided on site. If necessary, transport to Niagara Falls Memorial Medical Center.

- Inhalation: Move to fresh air and, if necessary, transport to Niagara Falls Memorial Medical Center.

- Ingestion: Decontaminate and transport to Niagara Falls Memorial Medical Center.

Personal Injury

Minor first-aid will be applied on-site as deemed necessary. In the event of a life threatening injury, the individual should be transported to Niagara Falls Memorial Medical Center via ambulance. The Site Health and Safety Officer and/or the subcontractor's Health and Safety Officer will supply available chemical specific information to appropriate medical personnel as requested.

First aid kits will conform to Red Cross and other applicable good health standards, and shall consist of a weatherproof container with individually sealed packages for each type of item. First aid kits will be fully equipped before being sent out on each job and will be checked weekly by the Site Health and Safety Officer to ensure that the expended items are replaced.

Communications

Internal emergency communication systems are used to alert workers to danger, convey safety information, and maintain site control. Any effective system can be employed. Two-way radio headsets or field telephones are often used when work teams are far from the command post. Hand signals and air-horn blasts are also commonly used. Every system must have a backup. It shall be the responsibility of the Site Health and Safety Officer and/or the subcontractor's Health and Safety Officer to ensure that an adequate method of internal communication is understood by all personnel entering the site. Unless all personnel are otherwise informed, the following signals shall be used.

1) Emergency signals by portable air horn, siren, or whistle: two short blasts, personal injury; continuous blast, emergency requiring site excavation.

2) Visual signals: hand gripping throat, out of air/cannot breathe; hands on top of head, need assistance; thumbs up, affirmative/ everything is OK; thumbs down, no/negative; grip partner's wrist or waist, leave area immediately.

Evacuation

In the event that an area must be evacuated due to an emergency, such as a chemical spill or a fire, workers shall exit upwind, if possible. Since work conditions and work zones within the site may be changing on daily basis, it shall be the responsibility of the Site Health and Safety Officer and/or the subcontractor's Health and Safety officer to review evacuation routes and procedures as necessary and to inform all site workers of any changes.

Adverse Weather Conditions

In the event of adverse weather conditions, the Site Health and Safety Officer in conjunction with the subcontractor's Health and Safety Officer will determine if engineering operations can continue without sacrificing the health and safety of site personnel. Some of the items to be considered prior to determining if work should continue are:

- Potential for heat/cold stress;
- Inclement weather—related working conditions;

ATTACHMENT 2

EMERGENCY RESPONSE PLAN

- Limited visibility; and
- Potential for electrical storms.

<u>Emergency Telephone Numbers</u>

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE PROJECT & CORPORATE HEALTH AND SAFETY MANAGER: **Thomas Forbes**

(716) 856-0599 (Work)
(716) 864-1730 (Mobile)
(716) 685-0062 (Home)

BENCHMARK SITE HEALTH AND SAFETY OFFICER: **Bryan Hann**

(716) 870-1165 (Mobile)
(716) 856-0599 (Work)
(716) 823-8005 (Home)

NIAGARA FALLS MEMORIAL MEDICAL CENTER	(716) 278-4000
FIRE	911
AMBULANCE	911
CITY OF ROCHESTER POLICE	911
STATE EMERGENCY RESPONSE HOTLINE	(800) 457-7362
NATIONAL RESPONSE HOTLINE	(800) 424-8802

NYSDEC	Niagara County DOH
Mr. Jeff Konsella, P.E.	Ms. Paulette M. Kline
270 Michigan Street	5467 Upper Mtn. Road Suite 100
Buffalo, New York 14203	Lockport, New York 14094

The site location is:

7503 Niagara Falls Boulevard
Niagara Falls, NY 14304

ATTACHMENT 2

EMERGENCY RESPONSE PLAN

Directions to Hospital

The following directions describe the best route to **Niagara Falls Memorial Medical Center** and Figure C-1 identifies the hospital route:

> Start out going West on NIAGARA FALLS BOULEVARD which becomes WALNUT AVE/RT 62 NORTH.
> Turn RIGHT onto 10TH ST.
> NIAGARA FALLS MEMORIAL MEDICAL CENTER is located on the right at 621 10th Street. Follow signs to Emergency Room.

Records and Reporting

It shall be the responsibility of each employer to establish and assure adequate records of all:

- Occupational injuries and illnesses;
- Accident investigations;
- Reports to insurance carrier or State compensation agencies;
- Reports required by client;
- Records and reports required by local, state, federal and/or international agencies;
- Property or equipment damage;
- Third party injury or damage claims;
- Environmental testing logs;
- Explosive and hazardous substances inventories and records;

- Records of inspections and citations;
- Related correspondence; and
- Safety training.

ATTACHMENT 3

HOT WORK PERMIT FORM

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

HOT WORK PERMIT

PART 1 - INFORMATION

Issue Date:	
Date Work to be Performed: Start:	Finish (permit terminated):
Performed By:	
Work Area:	
Object to be Worked On:	

PART 2 - APPROVAL

(for 1, 2 or 3: mark Yes, No or NA)*

Will working be on or in:	Finish (permit terminated):	
1. Metal partition, wall, ceiling covered by combustible material?	yes	no
2. Pipes, in contact with combustible material?	yes	no
3. Explosive area?	yes	no

* = If any of these conditions exist (marked "yes"), a permit will not be issued without being reviewed and approved by Thomas H. Forbes (Corporate Health and Safety Director). Required Signature below.

PART 3 - REQUIRED CONDITIONS**

(Check all conditions that must be met)

	PROTECTIVE ACTION		PROTECTIVE EQUIPMENT
	Specific Risk Assessment Required		Goggles/visor/welding screen
	Fire or spark barrier		Apron/fireproof clothing
	Cover hot surfaces		Welding gloves/gauntlets/other:
	Move movable fire hazards, specifically		Wellintons/Knee pads
	Erect screen on barrier		Ear protection: Ear muffs/Ear plugs
	Restrict Access		B.A.: SCBA/Long Breather
	Wet the ground		Respirator: Type:
	Ensure adequate ventilation		Cartridge:
	Provide adequate supports		Local Exhaust Ventilation
	Cover exposed drain/floor or wall cracks		Extinguisher/Fire blanket
	Fire watch (must remain on duty during duration of permit)		Personal flammable gas monitor
	Issue additional permit(s):		

Other precautions:

** Permit will not be issued until these conditions are met.

SIGNATURES

Orginating Employee:	Date:
Project Manager:	Date:
Part 2 Approval:	Date:

Prepared By: ___________

APPENDIX B

PROJECT DOCUMENTATION FORMS

INSPECTOR'S DAILY REPORT

CONTRACTOR			
CLIENT		DATE:	

LOCATION				DAY		JOB NO.	
WEATHER		TEMP	° F	START		END	

WORK PERFORMED:

CONTRACTOR ACTIVITIES:

[PUT CONTRACTOR ACTIVITIES HERE, BE SPECIFIC. TYPE OF EQUIPMENT, ACTIVITIES PERFORMED, BY WHOM, LOCATION OF LANDFILL ETC.]

BENCHMARK ACTIVITIES:

[PUT ENGINEER ACTIVITIES HERE, BE SPECIFIC. TYPE OF EQUIPMENT, ACTIVITIES AND TESTING PERFORMED, SAMPLES COLLECTED, BY WHOM, LOCATION OF LANDFILL ETC.]

TEST PERFORMED		*QA PERSONNEL* SIGNATURE			
PICTURES TAKEN	none	REPORT NO.			
VISITORS	none	SHEET	1	OF	

BENCHMARK
ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

INSPECTOR'S DAILY REPORT

CONTRACTOR			
CLIENT		DATE:	

LOCATION			DAY		JOB NO.	
WEATHER	TEMP	° F	START		END	

MEETINGS HELD & RESULTS:

CONTRACTOR'S WORK FORCE AND EQUIPMENT

DESCRIPTION	*H*	*#*	*DESCRIPTION*	*H*	*#*	*DESCRIPTION*	*H*	*#*	*DESCRIPTION*	*H*	*#*
Field Engineer						Equipment			Front Loader Ton		
Superintendent			Ironworker			Generators			Bulldozer		
						Welding Equip.			DJ Dump truck		
Laborer-Foreman			Carpenter						Water Truck		
Laborer									Backhoe		
Operating Engineer			Concrete Finisher						Excavator		
						Roller			Pad foot roller		
Carpenter						Paving Equipment					
						Air Compressor					

REMARKS:

REFERENCES TO OTHER FORMS:

SAMPLES COLLECTED:					
SAMPLE NUMBER					
APPROX. LOCATION OF STOCKPILE					
NO. OF STOCKPILE					
DATE OF COLLECTION					
CLIMATOLOGIC CONDITIONS					
FIELD OBSERVATION		SHEET		OF	

DAILY LOG				
	DATE			
	REPORT NO.			
	PAGE	OF		

Date:

Project:

Job No:

Location:

CQA Monitor(s):

Client:

Contractor:

Contractor's Supervisor:

PROBLEM IDENTIFICATION REPORT

WEATHER CONDITIONS:

Ambient Air Temp. - A.M.:

Ambient Air Temp. - P.M.:

Wind Direction:

Wind Speed:

Precipitation:

Problem Description:

Problem Location (reference test location, sketch on back of form as appropriate):

Problem Causes:

Suggested Corrective Measures or Variances:

Linked to Corrective Measures Report No. or Variance Log No.

Approvals (initial):

CQA Engineer:

Project Manager:

Signed:

CQA Representative

DAILY LOG	DATE			
	REPORT NO.			
	PAGE	OF		

CORRECTIVE MEASURES REPORT

Date:

Project:

Job No:

Location:

CQA Monitor(s):

Client:

Contractor:

Contractor's Supervisor:

WEATHER CONDITIONS:

Ambient Air Temp. - A.M.:

Ambient Air Temp. - P.M.:

Wind Direction:

Wind Speed:

Precipitation:

Corrective Measures Undertaken (reference Problem Identification Report No.)

Retesing Location:

Suggested Method of Minimizing Re-Occurrence:

Approvals (initial):

CQA Engineer:

Project Manager:

Signed:

CQA Representative

ELECTRONIC ATTACHMENT 2

RI/AAR/IRM REPORT

Remedial Investigation/ Alternatives Analysis Report/ Interim Remedial Measures (RI/AAR/IRM) Report

7503 Niagara Falls Boulevard Site
Niagara Falls, New York

October 2007 0101-002-400

Prepared For:

GLR Holdings, LLC

Prepared By:

BENCHMARK
ENVIRONMENTAL
ENGINEERING &
SCIENCE, PLLC

726 Exchange Street, Suite 624, Buffalo, New York | phone: (716) 856-0599 | fax: (716) 856-0583

REMEDIAL INVESTIGATION/ ALTERNATIVES ANALYSIS REPORT/ INTERIM REMEDIAL MEASURES REPORT

7503 NIAGARA FALLS BOULEVARD SITE
NIAGARA FALLS, NEW YORK
BCP Site No. C932126

October 2007 0101-002-400

Prepared for:

GLR Holdings, LLC

REMEDIAL INVESTIGATION, ALTERNATIVES ANALYSIS REPORT AND INTERIM REMEDIAL MEASURES REPORT

7503 Niagara Falls Boulevard Site

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REMEDIAL INVESTIGATION, ALTERNATIVES ANALYSIS REPORT AND INTERIM REMEDIAL MEASURES REPORT

7503 Niagara Falls Boulevard Site

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REMEDIAL INVESTIGATION, ALTERNATIVES ANALYSIS REPORT AND INTERIM REMEDIAL MEASURES REPORT

7503 Niagara Falls Boulevard Site

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APPENDICES

1.0 INTRODUCTION

This Remedial Investigation/Alternatives Analysis Report/Interim Remedial Measures (RI/AAR/IRM) Report has been prepared on behalf of GLR Holdings, LLC (GLR) for the 7503 Niagara Falls Boulevard Site in Niagara Falls, New York (Site; see Figure 1). GLR has entered into a Brownfield Cleanup Agreement (BCA) with the NYSDEC to investigate and cleanup the Site under the Brownfield Cleanup Program (BCP). This RI/AAR/IRM was completed pursuant to 6NYCRR Part 375-3 (Brownfield Cleanup Program) and New York State Department of Environmental Conservation's (NYSDEC's) Draft DER-10 Technical Guidance for Site Investigation and Remediation.

Based on the findings of historic site investigations, a RI was necessary to confirm the nature and extent of contamination at the Site, to identify a source area and to produce sufficient data to evaluate remedial alternatives for the Site. Benchmark Environmental Engineering & Science, PLLC (Benchmark) implemented RI activities per the approved RI Work Plan in June 2006. Upon evaluation of the RI data and subsequent meetings with the New York State Department of Environmental Conservation (NYSDEC), it was determined that an IRM would be implemented to address groundwater impacted with volatile organic compounds (VOCs). An IRM Work Plan, which called for in-situ enhanced bioremediation of VOC-impacted groundwater, was submitted and approved by the NYSDEC in November 2006. As part of the IRM, the NYSDEC also required that soil gas samples be collected on-Site as part of the RI. The IRM field work was completed in November 2006 and the soil gas sampling was completed in January 2007. Based on the findings of the January 2007 soil gas sampling, the NYSDEC and NYSDOH required off-Site soil gas sampling at residential properties south of the Site, which was completed in June and July 2007. GLR initiated commercial redevelopment of the Site as a fast food restaurant in September 2007.

1.1 Background

GLR is redeveloping the 7503 Niagara Falls Boulevard Site and the east adjacent parcel addressed at 7543-7555 Niagara Falls Boulevard as a fast food restaurant. 7503 Niagara Falls Boulevard is subject to the BCP, while 7543-7555 Niagara Falls Blvd is not. For purposes of this RI, reference to the Site from this point forward refers only to 7503 Niagara Falls Boulevard parcel.

The Site encompasses approximately 0.89 acres of vacant land along Niagara Falls Boulevard in the City of Niagara Falls, New York. The property is generally bounded by Niagara Falls Boulevard to the north, a vacant lot and apartment buildings to the east (i.e., 7543-7555 Niagara Falls Blvd owned by GLR), private residences to the south, and commercial (fast-food restaurant) property to the west (i.e., 7403 Niagara Falls Blvd.). A concrete slab remnant from a former building foundation is present across the majority of the western portion of the property. The remainder of the Site is generally covered by asphalt.

Beginning in the late 1960s and continuing through the mid-1990s, the Site was occupied by several commercial establishments. These included various restaurants, auto parts sales and auto repair facilities. The property has been vacant since approximately 1998. The history of Site from an environmental perspective is summarized in Section 1.2.3.

1.2 Previous Investigations

The nature and distribution of chemical constituents in soil/fill and groundwater at the Site and adjacent site were described during five historic investigations (References 1-5). These included:

- A July 2004 Phase I Environmental Site Assessment (ESA) by GZA GeoEnvironmental (GZA).
- A September 2004 Subsurface Phase II Environmental Assessment conducted by Nature's Way Environmental Consultants and Contractors (NWEC&C).
- A May 2005 Focused Phase II Type Environmental Investigation conducted by NWEC&C.
- An August 2005 Downgradient Groundwater Characterization study conducted by Benchmark.
- An October 2005 Supplemental Site Characterization Adjacent to Site study conducted by Benchmark.

Appendix A presents the previous investigation sample results; the sample locations are shown on Figure 2. Table A-1 in Appendix A presents the maximum concentrations observed in Site soil/fill and groundwater. Table A-2 in Appendix A presents a summary of historic analytical soil data. The following sections describe the results of those sampling programs to provide a historic-based description of the nature and distribution of chemical constituents at the Site.

1.2.1 July 2004 – Phase I Environmental Assessment

In July 2004, GZA conducted a Phase I Environmental Site Assessment (ESA) of the Site and adjacent site encompassing 7503-7555 Niagara Falls Boulevard, Niagara Falls, New York (Ref. 1). GZA reportedly identified historic auto repair and collision operations in association with the subject property.

1.2.2 September 2004 – Subsurface Phase II Environmental Assessment

NWEC&C performed a focused subsurface Phase II Environmental Assessment (EA) based on the historic use of the property (Ref. 2). In August 2004, eight soil borings were advanced to between 12 and 16 feet below ground surface (fbgs) at the Site. Two soil samples (EP2 and EP8) were analyzed for volatile and semi-volatile organic compounds (VOCs and SVOCs). No NYSDEC STARS List SVOCs were identified above method detection limits in either soil sample. Several chlorinated VOCs were reported as present in both samples, one of which exceeded its Technical and Administrative Guidance Memorandum #4046 (TAGM 4046) threshold. Specifically, the sample from EP2 reportedly contained cis-1,2-dichloroethene at a concentration of 257 parts per billion (ppb). The other chlorinated VOCs detected were trans-1,2-dichloroethene, trichloroethene (TCE), tetrachloroethene (PCE), and vinyl chloride (VC). Two soil borings were completed with temporary well screens to allow for accumulation and sampling of shallow groundwater. There were no VOCs identified in the sample from EP/PZ3. The sample from EP/PZ8 was reported to contain the same five chlorinated VOCs as identified in the soil sample from that location, four of which at concentrations exceeding NYSDEC Groundwater Quality Standards (GWQS) published in NYSDEC Technical and Operational Guidance Series (TOGS) 1.1.1. Specifically, cis-1,2-dichloroethene at 20.5 ppb, TCE at 31 ppb, PCE at 10.1 ppb, and VC at 16.3 ppb exceeded NYSDEC GWQS.

1.2.3 May 2005 – Focused Phase II Type Environmental Investigation

NWEC&C performed a focused Phase II Type Environmental Investigation on-Site (Ref. 3). A total of 14 soil borings (EP9-EP22) were advanced to depths of 8 to 12 fbgs. Eleven soil samples were analyzed for chlorinated VOCs and compared to the NYSDEC TAGM 4046 guidance values. With the exception of EP9, all borings in which contaminant concentrations were reported above TAGM 4046 were located in the southwest section of the Site (EP14, EP20, EP21, and EP22). The highest individual contaminant concentrations were reported for the 4 to 6-foot sample at EP21. Specifically, trans-1,2-dichloroethene (2,750 ppb), cis-1,2-dichloroethene (3,450 ppb), and vinyl chloride (4,170 ppb). The 8 to 10-foot sample collected from EP9, located in the eastern section of the Site, contained two contaminant concentrations above TAGM 4046 guidance values; specifically, PCE at 1,430 ppb and TCE at 760 ppb. NWEC&C concluded that distinct areas of impacted soils existed in the southwest and eastern section of the Site.

Three, two-inch diameter permanent groundwater monitoring wells (MW14, MW17, and MW19) were constructed and screened from 2.5 to 12.5 fbgs. Samples from each well were analyzed for chlorinated VOCs and results compared to the NYSDEC groundwater quality standards (GWQS). The highest concentrations were reported for the sample from MW14 in which six compounds were identified at concentrations significantly in excess of the NYSDEC GWQS. Specifically, cis-1,2-dichloroethene (316 ppb), 1,1-dichloroethene (32 ppb), trans-1,2-dichloroethene (351 ppb), PCE (760 ppb), TCE (411 ppb), and VC (192 ppb). Concentrations of PCE in MW17 and cis-1,2,-dichloroethene and VC in MW19 exceeded NYSDEC GWQS, but at relatively lower concentrations than those observed in MW14.

1.2.4 August 2005 – Downgradient Groundwater Characterization

In August 2005, Benchmark, on behalf of GLR Holdings, mobilized a drill rig to advance two borings to approximately 7.5 fbgs and subsequently constructed two-inch diameter flush-joint monitoring wells designated as MW-1 and MW-2. Both wells were initially found to contain an inadequate volume of groundwater for development or sample collection (i.e., dryness), indicating the saturated formation observed during well installation did not yield sufficient groundwater for sample collection possibly due to the extended dry weather pattern at that time. The wells were subsequently sampled for TCL VOC analysis on August 23, 2005. No VOCs were detected at either location, with the exception of trace concentrations (below laboratory reporting limits; J-qualified) of acetone and carbon disulfide. The results were described in a letter report to GLR on August 11, 2005 (Ref. 4).

1.2.5 October 2005 - Supplemental Site Characterization Adjacent to Site

In October 2005, Benchmark completed limited subsurface soil boring activities for GLR at 7543-7555 Niagara Falls Blvd., Niagara Falls, New York. The boring program consisted of advancing five direct-push boreholes (SB-1 through SB-5) to an approximate depth of 4 fbgs. A composite sample was prepared from grab samples collected from approximately 2 fbgs and analyzed for Target Compound List (TCL) SVOCs, polychlorinated biphenyls (PCBs), and Target Analyte List (TAL) metals. Two grab samples were also collected from the boring locations SB-1 and SB-4, which exhibited the highest headspace PID readings, and analyzed for TCL VOCs. No VOCs were detected in soil with the exception of methylene chloride, which is a common laboratory contaminant. Various SVOCs were detected in the composite soil sample. In particular, several polynuclear aromatic hydrocarbons (PAHs) were detected above the NYSDEC Recommended Soil Cleanup Objectives (RSCOs). A trace level of PCB Aroclor 1254 was detected in the soil composite sample; however, it was present at a concentration well below NYSDEC RSCOs. Metals concentrations were below the upper range of eastern U.S. background concentrations published in TAGM 4046, with the exception of calcium and magnesium. However, these metals are generally not considered toxic and NYSDEC does not typically require corrective measures to address these substances. The results were described in a letter report to GLR on November 15, 2005 (Ref. 5).

1.3 Constituents of Primary Concern (COPCs)

Based on findings the RI and previous investigations, primary Constituents of Potential Concern (COPCs) are comprised of certain chlorinated VOCs. Specifically, the site-specific COPCs are identified as: tetrachloroethene (PCE); trichloroethene (TCE); 1,1-dichoroethene (1,1-DCE), cis-1,2-dichloroethene (cis-1,2-DCE); trans-1,2-dichloroethene (trans-1,2-DCE); vinyl chloride (VC); and 1,1,2-trichloroethane (1,1,2-TCA).

1.4 Report Organization

This report contains the following eight sections:

- Section 1.0 is the introduction and provides Site background information.
- Section 2.0 presents the investigation approach.
- Section 3.0 describes the Site physical characteristics as they pertain to the investigation findings.
- Section 4.0 presents the investigation results by media.
- Section 5.0 describes the fate and transport of the COPCs.
- Section 6.0 presents the qualitative risk assessment.
- Section 7.0 presents the project summary and conclusions.
- Section 8.0 describes the IRM activities
- Section 9.0 presents the alternative analysis
- Section 10.0 provides a list of references for this report.

2.0 INVESTIGATION APPROACH

2.1 Sewer and Drain Investigation

The 2005 Supplemental Site Investigation performed by others involved inspection of manholes to check the orientation of sewer penetrations, and to evaluate sediment for visual or olfactory evidence of impacts by chlorinated organics. As part of this RI, Benchmark performed a physical inspection of the manholes and a dye test to investigate sewer flow patterns. Benchmark also interviewed City of Niagara Falls Wastewater Treatment Department personnel to obtain pertinent data. This information was collected and evaluated in the context of assessing potential localized hydrogeological effects and factors potentially impacting contaminant fate and transport.

2.2 Supplemental Soil Investigation

A substantial amount of soil data was collected during previous investigations of 7503 Niagara Falls Boulevard and the adjacent GLR property at 7543-7555 Niagara Falls Boulevard. Therefore, the RI soil sampling program was designed to supplement previous findings and to further evaluate subsurface conditions. As such, two soil samples were collected from MW-3 and MW-5 to assess on-site subsurface soil, and one soil sample was collected from MW-4 to determine whether off-site subsurface soil impacts exist. Figure 3 presents soil sample locations.

2.2.1 Subsurface Soil Investigation

Borings MW-3, MW-4, and MW-5 were advanced through unconsolidated overburden soil/fill material using 4¼-inch hollow stem augers to a depth of 8 to 10 fbgs (i.e., target depth). Continuous 2-inch diameter split-spoon samples were collected at 2-foot intervals and described on stratigraphic field borehole logs from ground surface to the target depth. Each 2-foot split-spoon soil sample was scanned for total volatile organic vapors with a Photovac 2020 photoionization detector (PID) equipped with a 10.2 eV lamp, and any visual and/or olfactory observations were noted. Soil descriptions, PID scan results, and visual/olfactory observations recorded during boring advancement are presented on the Field Borehole Logs in Appendix B.

2.2.2 Soil Samples

Soil samples were collected from MW-3, MW-4, and MW-5 in accordance with the requirements of the RI Work Plan (Ref. 6). As PID screening results did not indicate significant VOC impact, samples were collected from native soil directly above the apparent groundwater table, if encountered, or as selected based on field observations. Upon collection, soil samples MW-3 (2-4 fbgs), MW-4 (2-4 fbgs) and MW-5 (4-6 fbgs) were transferred to laboratory supplied, pre-cleaned sample containers for analysis of TCL VOCs, TCL SVOCs, TCL PCBs, and TAL metals using NYSDEC ASP CLP methodology.

2.3 Groundwater Investigation

In accordance with the Work Plan, three new groundwater monitoring wells (MW-3, MW-4, and MW-5) were installed at the Site to depths of 8 fbgs, 8 fbgs, and 10 fbgs, respectively on June 12 and 13, 2006. The new monitoring wells were installed to assist in determining the extent of impacted groundwater and whether these impacts extend off-site. Groundwater samples were also collected from existing monitoring wells MW-1, MW-2, MW-14, MW-17 and MW-19 for analysis to confirm the impact observed during previous investigations. Figure 3 presents new and existing monitoring well locations.

2.3.1 Well Installation

The borings for MW-3, MW-4, and MW-5 were advanced through unconsolidated overburden soil/fill material as described in Section 2.2.1 to facilitate monitoring well installation. Monitoring well construction details are presented on the Field Borehole Logs in Appendix B.

2.3.2 Groundwater Samples

The new and existing monitoring wells were developed following installation. Field parameters were measured periodically during well development, and the results are presented in Appendix B on field development logs. Prior to sample collection, static water levels were measured and recorded for all on-site monitoring wells. Appendix B contains purge and sample collection logs. The groundwater samples were analyzed for USEPA TCL VOCS. In addition, samples from existing monitoring wells MW-14, MW-17, and MW-19 were analyzed for Chemical Oxygen Demand (COD); nitrate and sulfate; as well as total and soluble iron and manganese to evaluate enhanced in-situ bioremediation as a potential future remedial approach. Field parameters including pH, temperature, specific conductance, turbidity and ORP were measured during sampling and are summarized on Table 3.

2.3.3 Groundwater Flow Data

Following monitoring well installation, Benchmark personnel surveyed the top of each riser pipe from new and existing monitoring wells using an arbitrary reference elevation of 500.00 feet above mean sea level (fmsl). In addition, water levels were measured in new and existing monitoring wells on June 23, 2006. Survey and groundwater level data is summarized in Table 1.

2.4 Soil Gas Investigation

As required by the NYSDEC in a letter dated November 1, 2006 (see Appendix D), soil gas sampling was completed on-Site to evaluate whether a potential off-Site soil gas exposure pathway exists. Soil gas samples SG-MW-14(1), SG-MW-14(2), SG-MW-19(1) and SG-MW-19(2) were collected at the locations as shown on Figure 2. The soil gas samples were analyzed for VOCs via USEPA method TO-15. Soil gas sample results are shown on Table 4 and discussed in Section 4.4.

2.5 Off-Site Soil Gas Investigation

As required by the NYSDEC and the New York State Department of Health (NYSDOH) in letter dated April 11, 2007 (see Appendix D), off-Site soil gas sampling was completed at residential properties south of the Site to further evaluate whether a potential off-Site soil gas exposure pathway exists. Off-Site soil gas samples were collected at a total of four sampling locations at 658 75th Street and 668 75th Street in accordance with the Off-Site Soil Gas Sampling Plan (Ref. 7) dated June 15, 2007, which was approved by the NYSDEC and NYSDOH. The soil gas samples were analyzed for VOCs via USEPA method TO-15. Soil gas sample results are shown on Table 5 and discussed in Section 4.5

3.0 SITE PHYSICAL CHARACTERISTICS

The physical characteristics of the Site observed during the RI are described below.

3.1 Surface Features

The Site is currently vacant, with remnants of a concrete slab associated with a former building, on the northwestern portion of the site, with the remainder of the Site covered with asphalt. Additional surface features include drainage structures (storm water collection basins, sanitary sewer collection basins and one trench-style floor drain within the concrete foundation area).

3.2 Geology

The Site is located in the Erie-Ontario Lake Plain Physiographic Province of Western New York. The geology of the Erie-Niagara Basin is described as consisting of unconsolidated deposits (predominantly of glacial origin) overlying Silurian- and Devonian-age sedimentary bedded or layered bedrock. The naturally occurring unconsolidated deposits in the area consist of the following three types: alluvial silt, sand, and gravel deposited during comparatively recent geologic time; lacustrine sediments composed primarily of silt, sand, and clay deposited during the late Pleistocene Epoch; and glacial till, a heterogeneous mixture of particles (i.e., clay, silt, sand, gravel, and cobbles) deposited directly from glacial ice during the Pleistocene Epoch. Relief in the area is generally flat and the result of pre-glacial erosion of bedrock and subsequent topographic modification by glaciation.

The bedrock formations in the region dip to the south at approximately 30 to 40 feet per mile and exhibit only very gentle folding. In the Erie-Niagara Basin, the major areas of groundwater are within glacial sand and gravel deposits and limestone and shale bedrock. The main sources of groundwater within the bedrock are fractures and solution cavities.

As discussed in the Subsurface Phase II Environmental Assessment (Ref. 2) and the Focused Phase II Type Environmental Investigation (Ref. 3), the subsurface soil at the Site consists of three distinct horizons: (1) asphalt or concrete at grade to approximately 0.3 fbgs; (2) a soil/fill layer consisting of varying textured soils, from sand to silty clay, mixed with concrete, gravel, and brick with occasional slag and cinders ranging in thickness from 1.5 feet along the perimeter of the Site becoming thicker within the central portion of the Site up to 6.0 feet; and (3) a native lacustrine clayey silt to silty clay.

Native soils at the Site were classified as silty clay (CL), firm to hard, with silt and fine sand filled desiccations (i.e., healed) with sand and silt lenses present. The U.S. Department of Agriculture Soil Conservation Service soil survey map of Niagara County (Ref. 7) describes the general soil type at the Site as an association of Canandaigua, Raynham, and Rhinebeck types. Based on field characterization, the soil type at the Site more closely resembles the Rhinebeck type due in part to excessive mottling and a perched water table above the slowly permeable subsoil and substratum.

Depth to and type of bedrock below the Site has not been determined.

3.3 Hydrogeology

Unconfined groundwater was encountered at the Site within the soil/fill and native soil interface at a depth of 2.5 to 7.5 fbgs (see Table 1). Figure 5 shows that mounding occurs within the western portion of the Site creating radial flow outward. The shallow groundwater appears to be a perched condition present within the firm silty clay native soils. Regional groundwater, however, appears to flow south toward the Niagara River (see Figure 5) based on groundwater elevations outside of the former building foundation.

The entire area within 3 miles of the Site is served by two municipal water companies that acquire their drinking water from Lake Erie or the west branch of the Niagara River.

4.0 INVESTIGATION RESULTS

The following sections discuss the results of the Remedial Investigation. Tables 2 and 3 summarize the soil and groundwater analytical data, respectively. Analytical data is included in Appendix C. Figure 2 presents the locations of the soil samples and groundwater monitoring wells.

4.1 Sewers and Drains

In May 2005, Nature's Way collected a sample of soil/sediment from the grated floor drain (identified as historic floor drain of Figure 3). According to the Phase II report, an earthprobe was used to advance a sampling spoon into the sediment of the floor drain to a depth of 0.9 feet, at which time hard bottom was encountered. No unnatural odors were noted during sample handling, and no visible staining or discoloration was observed. The sample, designated EP-13, was screened with a PID and analyzed for TCL VOCs (Method 8260B). The PID reading was 0.3 ppm and no VOCs were detected in the sample submitted for analysis.

In July 2006, Benchmark completed an assessment of the floor drains, sewer manholes and catch basins on-Site and adjacent to the Site, with particular attention to sewer manholes and sewer lines proximate the areas of impact. Mr. James Hook of the Niagara Falls Wastewater Treatment Department accompanied Benchmark personnel to identify existing manholes and/or catch basins by sewer type (i.e. storm sewer or sanitary sewer) and to provide likely flow direction. The information provided by the Niagara Falls Wastewater Treatment Department was supplemented with a dye test. Figure 3 presents the approximate layout and flow direction of the sanitary and storm sewer lines, including the location of manholes, catch basins, and sewer cleanouts.

Based on the results of the dye test and information provided by the Niagara Falls Wastewater Treatment Department, there is a storm-water collection system and a sanitary sewer system on-Site. In general, the drains flow from their collection points, through their respective network and exit the eastern boundary of the Site, where they discharge to sewer mains along 76th Street.

There are stormwater sewer lines that are located in the approximate areas of the groundwater impact in the southwestern portion of the Site and the eastern boundary of the Site. Based on the depths of the manholes in those areas, the sewer lines are not located within the groundwater table. Specifically, the depths of MH-2, MH-5 and MH-10 are four fbgs and depth to groundwater in those areas ranges from approximately five fbgs (MW-19 to approximately seven fbgs (MW-2). Furthermore, there was no water flow noted within the manholes at the time of the inspection, until water was introduced into the manholes or catch basins during the dye test. Based on the results of this investigation, it does not appear that the sewer system would facilitate migration of contaminated groundwater on-site.

4.2 Soil/Fill

As was discussed in Section 2.2, a soil sample was collected from MW-3 and MW-5 to assess on-site subsurface soil, and MW-4 to determine whether off-site subsurface soil impacts exist. Impacted soil/fill was not observed during sampling in any of the three soil borings. As indicated on the Field Borehole Logs in Appendix B, PID headspace readings from the soil samples collected within the borings were 0.0 ppm, further supporting field observations.

Table 2 presents a comparison of the detected soil/fill parameters to NYSDEC Soil Cleanup Objectives (SCOs) 6NYCRR Part 375-6 (June 2006). Analytical data show that all sampled constituents meet restricted-commercial SCOs for soils. Therefore, on-Site subsurface soil impacts were not identified at sample locations MW-3 and MW-5. Similarly, off-site subsurface soil impacts were not identified at MW-4. Table A-2 in Appendix A presents the historic soil analytical data.

4.3 Groundwater

Groundwater samples were collected from two of the three new monitoring wells (i.e., MW-4 and MW-5) and five existing monitoring wells (MW-1, MW-2, MW-14, MW-17 and MW-19) on June 23, 2006. MW-3 was dry at the time of sampling and, therefore, no sample was collected. Results for detected constituents are summarized on Table 3. NYSDEC Class GA Groundwater Quality Standards/Guidance Values (GWQS/GV) are presented for comparison. A discussion of the results is presented below.

4.3.1 Volatile Organic Compounds

As indicated in Table 3, VOCs detected in the newly installed wells (MW-4 and MW-5) were limited to one parameter (i.e., methylene chloride) reported at trace (estimated)

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concentrations below the sample quantitation limit. Methylene chloride is a common laboratory contaminant.

The COPCs listed in Section 1.3 were detected in existing monitoring well MW-14 at concentrations above the Class GA GWQS. The concentration of benzene in MW-14 was estimated at 1 ppb, which is equal to the GWQS. Vinyl chloride and cis-1,2-dichloroethene were detected in existing monitoring well MW19 at concentrations above their respective GWQS.

4.3.2 Wet Chemistry

Total and soluble iron and total manganese concentrations in existing wells MW-14 and MW-19 exceeded their respective Class GA GWQS. These data were collected in the context of evaluating enhanced in-situ bioremediation as a potential remedial alternative to address impacted groundwater on-site.

4.3.3 Summary

VOC impacts do not extend to down-gradient wells MW-1 and MW-2, newly installed on-site monitoring well MW-5 or off-site monitoring well MW-4. MW-3 was dry at the time of groundwater sampling and, therefore, no sample was collected.

The groundwater results presented above indicate VOC-impacted groundwater at the location of MW-14 and, to a lesser extent, at MW-19. It appears that natural degradation of PCE may be occurring as PCE concentrations have decreased since May 2005 and PCE breakdown products concentrations have increased. Table A-1 in Appendix A presents the maximum concentrations historically observed in Site groundwater. Figure 5 presents the approximate boundaries of two chlorinated VOC groundwater plumes, based on the June 2006 RI and historic groundwater data.

4.3.4 Groundwater Flow Direction

Figure 4 is an isopotential map for the June 2006 RI water level measurements obtained from the new and existing groundwater monitoring wells. Survey and groundwater level data is summarized in Table 1. As discussed in Section 3.3, unconfined groundwater was encountered at the Site within the soil/fill and native soil interface at a depth of 2.5 to 7.5 fbgs. Mounding occurs within the western portion of the Site creating radial flow outward. The shallow groundwater appears to be a perched condition present within the firm silty clay native soils. Shallow groundwater flow in the central area of the Site appears to flow in a south to southeast direction.

4.4 Soil Gas Investigation

As summarized on Table 4, soil gas samples SG-MW-14(1), SG-MW-14(2), SG-MW-19(1) and SG-MW-19(2) were collected at the sampling locations shown on Figure 2. COPCs detected in the soil gas samples included PCE, TCE, cis-1,2-DCE, trans-1,2-DCE, 1,1-DCE and VC.

NYSDEC and NYSDOH does not currently have standards, criteria or guidance values for concentrations of compounds in soil gas, thus no comparative regulatory guidance values or cleanup concentrations are included in Table 4. However, in the absence of such information, NYSDOH indicates that guidelines for VOCs in indoor air (i.e., Table 3.1 of NYSDOH October 2006 Soil Vapor Intrusion guidance document) may be used to evaluate potential indoor air concerns related to soil gas concentrations. PCE was detected in SG-MW-19(1) at a concentration of 240 ug/m^3, above the NYSDOH indoor air guideline of 100ug/m^3. TCE was detected in SG-MW-14(1), SG-MW-19(1) and SG-MW-19(2) at concentrations of 8.1 ug/m^3, 520 ug/m^3 and 170 ug/m^3, respectively, above the NYSDOH indoor air guideline of 5 ug/m^3. No other COPCs are included on Table 3.1 of the NYSDOH guidance document.

4.5 Off-Site Soil Gas Investigation

As summarized in Table 5, off-Site soil gas samples GLR-SV-658A, GLR-SV-658B, GLR-SV-668A and GLR-SV-668B were collected at the sampling locations shown on Figure 2 in accordance with the Off-Site Soil Gas Sampling Plan (Ref. 9). The only COPC identified in those samples was PCE in samples GLR-SV-658A and GLR-SV-658B at a concentration of 22 ug/m^3 and 14 ug/m^3, respectively.

As indicated in Section 4.4, NYSDEC and NYSDOH does not currently have standards, criteria or guidance values for concentrations of compounds in soil gas, thus no comparative regulatory guidance values or cleanup concentrations are included in Table 5. However, in the absence of such information, NYSDOH indicates that guidelines for VOCs in indoor air (i.e., Table 3.1 of NYSDOH October 2006 Soil Vapor Intrusion guidance document) may be used to evaluate potential indoor air concerns related to soil gas concentrations. As such, it should be noted that PCE was detected in off-Site soil gas samples below the NYSDOH indoor air guideline of 100 ug/m^3.

4.6 Data Usability Summary

In accordance with the Quality Assurance Project Plan (QAPP) for the RI Work Plan (Ref. 8), the laboratory analytical data from this investigation was independently assessed and, as required, submitted for independent review. Ms. Judy Harry of Data Validation Services located in North Creek, New York performed the data usability summary assessment, which involved a review of the summary form information and sample raw data, and a limited review of associated QC raw data. Specifically, the following items were reviewed:

- Laboratory Narrative Discussion
- Custody Documentation
- Holding Times
- Surrogate and Internal Standard Recoveries
- Matrix Spike Recoveries/Duplicate Recoveries
- Field Duplicate Correlation
- Preparation/Calibration Blanks
- Control Spike/Laboratory Control Samples
- Instrumental IDLs
- Calibration/CRI/CRA Standards
- ICP Interference Check Standards
- ICP Serial Dilution Correlations
- Sample Results Verification

The Data Usability Summary Reports (DUSR) was conducted using guidance from the USEPA Region 2 validation Standard Operating Procedures, the USEPA National Functional Guidelines for Data Review, as well as professional judgment. Appendix C includes the DUSR, which was prepared in accordance with Appendix 2B of NYSDEC's draft DER-10 guidance. Those items listed above that demonstrated deficiencies are discussed below; all other items were determined to be acceptable for this level of review.

In general, sample processing was conducted in compliance with protocol requirements. Sample results are usable as reported; usable with minor edit or qualification;

or reported as estimated values. Internal laboratory quality control (QC) samples and site-specific QC samples indicate satisfactory analytical accuracy, precision, and completeness. Sample shipping coolers were received in good condition and at an appropriate temperature. A blind duplicate evaluation performed on soil sample MW-4, 4-6' showed an acceptable correlation for all analytes. No indications of significant matrix interference or other indications of potential negative sample bias were recorded; however, minor data qualification as "estimated" ("J" qualifier) or edit to non-detection was required due to typical processing or matrix effects. The following text summarizes quality issues of concern as presented in the DUSR(s).

- Due to the presence in associated method, trip, and/or holding blanks, results for methylene chloride, acetone, dichlorodifluoromethane, and trichlorofluoromethane in the soils, and for acetone in the aqueous samples were considered external contamination.

- Calibration standards showed an unacceptable response with laboratory requirements and validation guidelines for caprolactum, 2,4-dinitrophenol, and 4,6-dinitro-2-methylphenol. Results for these 3 compounds were qualified as estimated, and may have a low bias.

- Due to the presence in the associated method blank, results for bis(2-ethylhexyl)phthalate in the soil samples are considered external contamination.

- Matrix spikes were performed for TAL Metals on soil sample MW-4 (2-4') and showed outlying recoveries for antimony, arsenic, lead, manganese, and zinc, and an elevated duplicate correlation for arsenic. Results for these 5 elements in the soil samples are therefore qualified as estimated.

- The ICP Serial dilution evaluation of MW-4 (2-4') showed outlying correlations for calcium, copper, lead, iron, magnesium, nickel, vanadium, and zinc. Detected results for these analytes in the soil samples are therefore qualified as estimated.

- Results for analytes flagged as "E" by the Laboratory are derived from the dilution analysis of the samples.

- Due to its presence in associated holding blank, the deteced result for TCE in MW-19 (12/06) is considered external contamination, and is edited to reflect non-detection.

5.0 FATE AND TRANSPORT OF COPCS

The analytical results presented above in Section 4.0 as well as the results of the IRM (discussed in Section 8) were incorporated with the physical characterization of the Site to evaluate the fate and transport of COPCs in Site media. The mechanisms by which the COPCs can migrate to other areas or media are briefly outlined below.

5.1 Airborne Pathways

Potential migration pathways involving airborne transport of non-volatile COPCs include erosion and transport of surficial soil particles and sorbed chemical constituents in fugitive dust emissions. Volatilization of chemicals present in groundwater and/or soil gas is another potential migration pathway for airborne transport of COPCs. These potential migration pathways are discussed in greater detail below.

5.1.1 Fugitive Dust

The chemicals in soil/fill are present at concentrations below restricted commercial SCOs. This potential migration pathway is not considered relevant.

5.1.2 Volatilization

Volatile chemicals are present in on-Site groundwater and soil gas and may be released to ambient air or indoor air through volatilization through the soil/fill into overlying building structures. Reduction of VOCs in groundwater has occurred since the IRM (i.e., in-situ enhanced bioremediation of groundwater); VOCs will continue to degrade over time as a result of the enhanced bioremediation, as well through natural biodegradation.

Volatile chemicals typically have a low organic-carbon partition coefficient (Koc), low molecular weight, and a high Henry's Law constant. Since residual VOCs are present in groundwater in two discrete areas of the Site and in on-Site soil gas, this pathway is potentially relevant.

5.2 Waterborne Pathways

Chemicals in surface soils could be potentially transported via storm water runoff or via leaching to groundwater. The chemicals in soil/fill are present at concentrations below restricted commercial SCOs. This potential migration pathway is not considered relevant.

5.2.1 Surface Water Runoff

Erosion and transport of surface soils and associated sorbed chemicals in surface water runoff is not considered a potential migration pathway. The potential for soil particle transport with surface water runoff is low, as the Site is mostly flat lying and covered by asphalt. Uncontrolled off-site transport is further limited because the Site is outside the 500-year floodplain. The Site is surrounded by a storm water sewer collection system that provides a mechanism for controlled surface water transport.

5.2.2 Leaching

Chemicals present in soil may migrate downward to groundwater as a result of infiltration of precipitation. The chemicals in soil/fill are present at concentrations below restricted commercial SCOs and this potential migration pathway is not considered relevant. The proposed future land use of the Site (predominately covered by building and asphalt) also reduces leaching provided the integrity of the surface cover is maintained.

5.3 Exposure Pathways

Based on the analysis of chemical fate and transport provided above, the pathways through which Site COPCs could reach on-Site receptors at significant exposure point concentrations are limited to volatilization of contaminants in groundwater and soil gas through the soil/fill to the overlying planned building structure. These exposure pathways may be reduced, but would not necessarily be fully addressed, under the future unremediated commercial land use scenario discussed in Section 6.0. Based on future land use, which includes the Site predominately covered by the planned building and asphalt parking, there were no migration pathways identified that would affect off-site receptors.

6.0 QUALITATIVE RISK ASSESSMENT

6.1 Potential Human Health Risks

The identification of potential human receptors is based on the characteristics of the Site, the surrounding land uses, and the probable future land uses. In terms of future use, the current Site owner (GLR Holdings, LLC) intends to redevelop the Site as a restaurant with asphalt parking areas. Small areas of the Site would be covered with grass and ornamental landscaping. This future use is consistent with surrounding property use and site zoning. Accordingly, the reasonably anticipated future use of the Site is for commercial purposes, with potential exposed receptors comprised of the commercial worker potentially exposed to VOC-impacted indoor air and the construction worker during site redevelopment.

Historic soil/fill data was reviewed to determine the highest exposure point concentration for chlorinated VOCs within the "source areas" identified on Figure 5. Table 6 presents the highest concentrations observed during the May 2005 Phase II Environmental Investigation completed by others (Ref. 3). These results are compared to the health-based cleanup objectives on Table 6. In addition to the commercial health-based SCOs, Table 6 also includes USEPA health-based recommended soil cleanup objectives as published in NYSDEC TAGM HWR-94-4046. These values are considered protective of human health under a residential use scenario, and are thus conservative comparative criteria for the reasonably anticipated commercial future use scenario. As shown on Table 6, no compounds were detected in the soil/fill above any of the comparative criteria. Accordingly, no unacceptable health risks are indicated under the current and future use scenario. The health-based criteria described above are for individual constituents; cumulative or synergistic effects among chemicals may yield greater risks.

As discussed in Section 4.3.1, and upon evaluation of IRM groundwater monitoring data, residual VOCs are present in MW-14 and to a lesser extent, in MW-19 above the NYSDEC Class GA GWQS, indicating a potential unacceptable human health risk if ingested. Potable water for the Site and surrounding area is provided by municipal water supply. The Class GA GWQS for these constituents are health (water source) based standards.

The IRM was completed to reduce/eliminate VOCs; however, residual VOCs remain in Site groundwater and soil gas. Under the future (commercial) use conditions, potential exposure routes are incidental ingestion, dermal contact and inhalation of re-suspended particulates in air; inhalation of volatile compounds in ambient or indoor air; and dermal contact with compounds in groundwater. As discussed with the NYSDEC and the NYSDOH, there will be institutional and engineering controls utilized at the Site as part of the final remedy. Specifically, one of the engineering controls will be an active sub-slab depressurization (ASD) system in the planned building to address potential indoor air quality concerns. The preliminary ASD system design was provided to the NYSDEC and NYSDOH with no significant concerns identified. The details of the installation and testing of the ASD system will be included in the Final Engineering Report. The AAR (Section 8) includes a discussion of the institutional and engineering controls that may be used at the Site. The institutional and engineering controls will serve to eliminate potential human health risks at the Site.

For the trespasser and construction worker scenarios, health-risk based lookup values specifically addressing these types of receptors are not widely published, as estimates of exposure frequency and duration tend to be site-specific in nature. However, the NYSDEC has published health risk-based lookup values for several chemicals under various exposure scenarios in the June 2006 document entitled "New York State Brownfield Cleanup Program Development of Soil Cleanup Objectives Technical Support Document" (a.k.a., "Technical Support Document"). The Technical Support Document forms the basis for the health-based SCOs presented in 6NYCRR Part 375-6. Based on incorporation of these types of receptors and exposures, the commercial health-based SCOs presented in the Technical Support Document are considered protective of human health under both the current and future site use condition.

6.2 Potential Ecological Risks

The 7503 Niagara Falls Boulevard Site is the site of various former commercial establishments located within a developed, urban area of Niagara Falls. A concrete slab remnant from a former building foundation is present across the majority of the western portion of the Site with the remainder generally covered by asphalt, providing little or no wildlife habitat or food value. No natural waterways are present on or adjacent to the Site.

The reasonably anticipated future use is commercial with the majority of the Site covered by structures and asphalt. As such, no unacceptable ecological risks are anticipated under the current or reasonably anticipated future use scenario.

7.0 RI SUMMARY AND CONCLUSIONS

Based on the RI findings and historical data, there were no exceedances of COPCs or other analytes in soil above NYSDEC Part 375 restricted-commercial SCOs on-Site.

On-site soil gas samples indicated that elevated concentrations of VOCs are present in soil gas. Although the NYSDEC and NYSDOH do not currently have standards, criteria or guidance values for concentrations of compounds in soil gas, NYSDOH indicates that guidelines for VOCs in indoor air may be used to evaluate potential indoor air concerns related to soil gas concentrations. PCE and TCE were detected in soil gas samples above their respective NYSDOH indoor air guidelines. The planned future building includes provisions for an ASD system to mitigate potential vapor intrusion and indoor air quality concerns.

Off-Site soil gas samples were collected at two south adjacent residential properties in accordance with the NYSDEC and NYSDOH approved Off-Site Soil Gas Sampling Plan. The only COPC identified in those samples was PCE at two sample locations. PCE was detected in two off-Site soil gas samples below the NYSDOH indoor air guideline.

Groundwater data indicated that COPCs were detected in groundwater above Class GA GWQS in MW-14 and MW-19 on-Site. Upon evaluation of the RI data and subsequent meetings with the NYSDEC, it was determined that an IRM would be implemented to address chlorinated VOCs present in groundwater in two discrete locations on-Site. An IRM Work Plan, which called for in-situ enhanced bioremediation of VOC-impacted groundwater, was submitted and approved by the NYSDEC in November 2006. A discussion of the IRM activities is presented in Section 8.0. An evaluation of remedial alternatives (i.e., AAR) is included in Section 9.

8.0 INTERIM REMEDIAL MEASURES (IRM)

An IRM was implemented at the Site in accordance with the IRM Work Plan (Ref. 10), as approved by the NYSDEC on November 1, 2006.

Based on the nature and extent of impacted media, which included VOC-impacted groundwater, the selected remedial measure was in-situ enhanced bioremediation of impacted groundwater and saturated soils via direct injection of hydrogen releasing compounds (HRC®) into the impacted zones. HRC® is a specially formulated lactic acid-based compound developed by Regenesis Corporation for in-situ treatment of chlorinated VOC contamination in groundwater. HRC® is a viscous liquid that is pressure injected into the subsurface using small diameter probe rods and a high-pressure injection pump to facilitate anaerobic bioremediation by prolonged release of hydrogen into the impacted aquifer. The process enhances natural anaerobic biodegradation reducing chlorinated VOCs in groundwater.

The IRM involved directly injecting approximately 1,200 lbs of HRC® into the contaminated groundwater at the two discrete VOC-impacted areas (see Figure 6). Using 10-foot by 10-foot grid treatment spacing, 18 delivery points were used to treat each area with approximately 600 lbs. of HRC®. Direct-push delivery probes were advanced to approximately 12 fbgs and HRC® material was injected continuously at a rate of approximately 4lbs/ft. until the delivery probe was retracted to approximately 4 fbgs.

A groundwater sampling program was implemented to evaluate the effectiveness of the in-situ groundwater treatment program. The groundwater sampling program included post-treatment monitoring for COPCs in MW-14 and MW-19. As shown in Table 7, the chlorinated VOCs in MW-19 were reduced from the June 2006 baseline concentration of approximately 91 ug/L total chlorinated VOCs to approximately 53 ug/L total chlorinated VOCs in June 2007. At MW-14, total chlorinated VOCs were reduced from the June 2006 baseline concentration of approximately 4,575 ug/L total chlorinated VOCs to approximately 3,315 ug/L total chlorinated VOCs in June 2007. Although the concentrations of VOCs have indicated a rebound effect since the January 2007 sampling event, it should be noted that the PCE, the parent compound of TCE, cis-1,2-DCE, trans-1,2-DCE and VC, continues to degrade. As PCE degrades (i.e. undergoes reductive dechlorination) its daughter product are formed, resulting in an increase in their respective concentrations. Over time, the daughter products also degrade.

The continued degradation and of PCE and its daughter products will continue to be monitored subsequent to Site redevelopment. A long-term groundwater monitoring plan will be included as a component of the selected site remedy, which is discussed in the remedial alternatives analysis in Section 9. Furthermore, the selected remedy includes provisions for an ASD system in the planned building to mitigate indoor air quality concerns related to residual VOCs in groundwater.

9.0 ALTERNATIVES ANALYSIS

9.1 Purpose

This Alternative Analysis Report (AAR) section identifies the goals of the remedial program and provides Remedial Action Objectives (RAOs) for the Site. The AAR provides the sufficient detail to support the decision making process required to select appropriate remedial actions for the Site and will provide the basis for the Remedial Action Work Plan.

9.2 Remedial Action Objectives

The remedial goal for the Site is for the remedy to be protective of public health and the environment, given the intended use of the Site as a fast-food restaurant and associated surface parking. Remedial Action Objectives are site-specific statements that convey the goals for minimizing or eliminating substantial risks to public health and the environment.

RAOs for this Site have been developed based on the findings of the RI and previous investigations, which identified contaminated groundwater and associated saturated soils as the primary concerns. Therefore, the RAOs for the Site are to:

- Prevent direct contact or ingestion of groundwater with contaminant levels exceeding drinking water standards.
- Prevent contact with, or inhalation of, volatile organic compounds from contaminated groundwater.
- Prevent ingestion/direct contact with contaminated soil.

In addition to achieving RAOs, NYSDEC's Brownfield Cleanup Program calls for remedy evaluation in accordance with DER-10 Technical Guidance for Site Investigation and Remediation. Specifically, the guidance states "When proposing an appropriate remedy, the person responsible for conducting the investigation and/or remediation should identify and develop a remedial action that is based on the following criteria...:"

- **Overall Protection of Public Health and the Environment**. This criterion is an evaluation of the remedy's ability to protect public health and the environment, assessing how risks posed through each existing or potential pathway of exposure are eliminated, reduced, or controlled through removal, treatment, engineering controls, or institutional controls.

- **Compliance with Standards, Criteria, and Guidance (SCGs)**. Compliance with SCGs addresses whether a remedy will meet applicable environmental laws, regulations, standards, and guidance.

- **Long-Term Effectiveness and Permanence**. This criterion evaluates the long-term effectiveness of the remedy after implementation. If wastes or treated residuals remain on-site after the selected remedy has been implemented, the following items are evaluated: (i) the magnitude of the remaining risks (i.e., will there be any significant threats, exposure pathways, or risks to the community and environment from the remaining wastes or treated residuals), (ii) the adequacy of the engineering and institutional controls intended to limit the risk, (iii) the reliability of these controls, and (iv) the ability of the remedy to continue to meet RAOs in the future.

- **Reduction of Toxicity, Mobility or Volume with Treatment**. This criterion evaluates the remedy's ability to reduce the toxicity, mobility, or volume of Site contamination. Preference is given to remedies that permanently and significantly reduce the toxicity, mobility, or volume of the wastes at the Site.

- **Short-Term Effectiveness**. Short-term effectiveness is an evaluation of the potential short-term adverse impacts and risks of the remedy upon the community, the workers, and the environment during construction and/or implementation. This includes a discussion of how the identified adverse impacts and health risks to the community or workers at the Site will be controlled, and the effectiveness of the controls. This criterion also includes a discussion of engineering controls that will be used to mitigate short term impacts (i.e., dust control measures), and an estimate of the length of time needed to achieve the remedial objectives.

- **Implementability**. The implementability criterion evaluates the technical and administrative feasibility of implementing the remedy. Technical feasibility includes the difficulties associated with the construction and the ability to monitor the effectiveness of the remedy. For administrative feasibility, the availability of the necessary personnel and material is evaluated along with potential difficulties in obtaining specific operating approvals, access for construction, etc.

- **Cost**. Capital, operation, maintenance, and monitoring costs are estimated for the remedy and presented on a present worth basis.

- **Community Acceptance**. This criterion evaluates the public's comments, concerns, and overall perception of the remedy.

- **Land Use**

The Community Acceptance criterion incorporates public concerns into the evaluation of the remedial alternatives. Therefore, Community Acceptance of the remedy is evaluated after the public comment period.

The intended future land use was initially approved by the NYSDEC by approval of the BCP application. As the future plans include development of a fast-food restaurant and asphalt parking, all evaluated technologies will accommodate the anticipated future development. As such, a relative comparison of the technologies being considered related to land use has not been performed.

9.3 Standards, Criteria and Guidance (SCGs)

The cleanup objectives for Site groundwater are the NYSDEC Class GA Groundwater Quality Standards/Guidance Values (GWQS/GV) as listed in 6 NYCRR part 703 (NYSDEC Division of Water Technical and Operational Guidance Series (TOGS) 1.1.1. The cleanup objectives for Site soil are the Soil Cleanup Objectives (SCOs) for protection of public health on commercial properties per 6NYCRR Part 375-6 (June 2006).

9.4 General Response Actions

General Response Actions are broad classes of actions that may satisfy the RAOs. General response actions form the foundation for the identification and screening of remedial technologies and alternatives. General Response Actions considered for the Site include:

- In-situ treatment of groundwater
- Extraction and ex-situ treatment of groundwater
- Excavation of impacted saturated soil
- Institutional and engineering controls
- Groundwater monitoring

Specific remedial alternatives evaluated for the Site include the following technologies:

- Groundwater pump and treat
- Air-sparge/soil-vapor extraction (AS/SVE)
- Multi-phase (i.e., soil gas and groundwater) extraction (MPE)
- Excavation of saturated soils with extraction/treatment of groundwater
- In-situ enhanced bioremediation of groundwater

Groundwater pump and treat was eliminated from consideration due to Site hydrogeology. Specifically, shallow groundwater appears perched within soil/fill materials above low-permeability native soils. Groundwater recharge within certain monitoring wells was on the order of inches per day during groundwater sampling. Monitoring well MW-3, which is constructed of similar materials and to similar depths as other monitoring wells on-site, did not produce water following installation. Therefore, it did not appear that there would be sufficient groundwater recharge to support groundwater extraction wells on-site.

Multi-phase (i.e., soil gas and groundwater) extraction (MPE), which includes a groundwater extraction component, was also eliminated from consideration due to Site hydrogeology as discussed above.

Air-sparge/soil-vapor extraction (AS/SVE) was eliminated from consideration as the impacted zone is within the groundwater table. AS/SVE is generally used to remediate VOCs within unsaturated soils, or soils within the smear zone (i.e., the soil interval in the area of seasonal groundwater fluctuation). In some cases, groundwater is pumped to decrease the groundwater table, exposing impacted soil in the smear zone. This technology would not be effective due to contamination within the groundwater table and for the reasons discussed above that eliminated groundwater pump and treat from further consideration.

Excavation was eliminated from consideration as concentrations of COPCs in soil did not exceed Part 375 restricted-commercial SCOs and the impacted zone is within the groundwater table. Groundwater ranges from approximately 3 to 8 feet across the Site. Materials removed from the subsurface would require pre-treatment prior to transportation and/or disposal due to removal of saturated soils or the excavation would require dewatering and treatment of impacted groundwater prior to and/or during excavation. Furthermore, additional groundwater treatment/remediation would likely be necessary subsequent to excavation activities.

9.5 Interim Remedial Measure for Groundwater

In-situ enhanced bioremediation of groundwater via injection of a Hydrogen Release Compound (HRC®) was selected as an Interim Remedial Measure for Site groundwater. As detailed in Section 8.0, the IRM was completed in November 2006 and consisted of HRC® injection within two areas of the Site (i.e., vicinity of MW-14 and MW-19). Approximately 600 lbs of HRC® product was directly injected into the contaminated groundwater at each plume location using small diameter probe rods and a high-capacity injection pump. Using 10-foot by 10-foot grid treatment spacing, a total of 36 delivery points were used to treat the areas surrounding monitoring wells MW-14 and MW-19.

Subsequent to HRC injection, groundwater monitoring was conducted to monitor the concentrations of chlorinated VOCs. The concentrations of cVOCs decreased at both monitoring locations subsequent to HRC injection; however residual VOC concentrations in groundwater remain. This evaluation was based on baseline VOCs concentrations and four subsequent groundwater monitoring events over an approximate 7 month period. Long-term groundwater monitoring will be included as an institutional control.

9.6 Alternatives Evaluation

The two alternatives evaluated below that assume use of the Site for commercial purposes are: Alternative 1 – No Further Action and Alternative 2 – Institutional and Engineering Controls. In addition, Alternative 3 – Unrestricted Use – has been evaluated to provide a basis for comparison to commercial use alternatives.

9.6.1 Alternative 1: No Further Action

"No further action" is defined as performing no additional cleanup activities at the Site beyond that which was already performed at the Site as an IRM (i.e., approximately 32 pounds of HRC® was injected at 36 boring locations at a depth of 4 to 12 fbgs). The efficacy of the No Further Action alternative will continue to be monitored via the Long-Term Groundwater Monitoring Plan.

Overall Protection of Public Health and the Environment – The IRM achieved a reduction in the concentration of some of the VOCs in groundwater; however, groundwater concentrations remain above GWQS/GV. Therefore, the No Further Action alternative is currently not protective of human health and the environment and does not achieve the

RAOs for the Site; however, concentrations will likely continue to decrease with time. Groundwater monitoring will continue until VOC concentrations are below GWQS/GV.

Compliance with SCGs – The IRM was performed in accordance with applicable, relevant, and appropriate standards, guidance, and criteria (SCGs). Since groundwater concentrations remain above GWQS/GV, the No Further Action alternative does not satisfy this criterion.

Long-Term Effectiveness and Permanence – The IRM did not achieve reduction in VOC groundwater concentrations below GWQS/GV. Continued groundwater monitoring will be used to assess whether the No Further Action alternative provides long-term effectiveness and permanence.

Reduction of Toxicity, Mobility, or Volume with Treatment – The IRM reduced the toxicity, mobility, and volume of Site groundwater contamination; however, VOC concentrations remain above GWQS/GV.

Short-Term Effectiveness – The short-term adverse impacts and risks to the community, workers, and environment during implementation of the IRM were effectively controlled. The potential for chemical exposures and physical injuries were reduced through safe work practices; proper personal protection; environmental monitoring; establishment of work zones and Site control; and appropriate decontamination procedures.

Implementability – No technical or action-specific administrative implementability issues were associated with implementation of the IRM.

Cost – The capital cost of the completed IRM was approximately $65,000. The annual groundwater monitoring costs are presented with the institutional and engineering controls in Section 9.6.2.

Community Acceptance – A fact sheet describing the work proposed in IRM Work Plan was sent to those on the Brownfield Site Contact List and made available for comment. No comments opposing the work were received.

9.6.2 Alternative 2: Institutional and Engineering Controls

An institutional control is a non-physical restriction on the use of real property with the objective of limiting human or environmental exposure to impacted media. Institutional controls would involve use restrictions on all or portions of the Site to restrict or prevent groundwater use and to dictate future use (e.g., to prevent land use in a residential capacity).

Engineering controls would include any physical barrier or method employed to actively or passively contain, stabilize, or monitor contaminants; restrict the movement of contaminants; or eliminate potential exposure pathways to contaminants. Engineering controls include pavement, caps, covers, subsurface barriers, slurry walls, building ventilation systems, fences, and access controls.

As required by the BCP, maintenance of existing institutional controls (e.g., environmental easements to prevent groundwater use) and any engineering controls (e.g., vapor barriers) must be certified annually. The annual certification would include assurance that the institutional and engineering controls have not been altered and remain effective. The institutional and engineering controls for this Site would include:

- An Environmental Easement to preclude the use of Site groundwater for potable purposes.
- An Environmental Easement that limits use of the Site for commercial or industrial purposes (restricted use).
- A Soil/Fill Management Plan (SFMP) to assure soil/fill removed from the Site is handled in a safe and environmentally responsible manner and provides methods for addressing unknown areas of impact, if discovered.
- An active sub-slab depressurization (ASD) system and foundation vapor barrier for new buildings and structures designed for regular occupancy.
- A Long-Term Groundwater Monitoring Plan (LTGMP) to monitor the effectiveness of the HRC® injections in reducing VOC concentrations below GWQS/GV.

Protection of Human Health and the Environment – Groundwater use restrictions would be protective of future human health risk due to groundwater ingestion, as it would not allow groundwater use for potable purposes. The vapor barrier and ASD system would protect the health of future building occupants. The SFMP would protect future Site workers from potential exposure to Site contaminants in the soil. The LTGMP would provide a means for determining the efficacy of the in-situ groundwater treatment.

Compliance with SCGs – This alternative may or may not result in on-site groundwater obtaining cleanup objectives. VOC concentrations decreased following HRC® injections and will likely continue to decrease over time; however, the timeframe for this alternative to meet SCGs for groundwater cannot be determined as this time. This alternative will satisfy the RAOs for the Site through enforcement of the Environmental Easement and operation of the ASD system.

Long-Term Effectiveness and Permanence – The institutional and engineering controls would reduce the potential for exposure to impacted groundwater and vapor on the Site. Groundwater monitoring would determine whether the HRC® injections reduced the concentrations of VOC-impacted groundwater below GWQS/GV. The Environmental Easements restricting groundwater use for potable purposes and land use would be binding for the current property owner and all subsequent property owners and occupants.

Reduction of Toxicity, Mobility, or Volume – This alternative provides no reduction in toxicity, mobility, or volume of constituents of concern in soil/fill or groundwater except for that which was accomplished with the HRC® injections.

Short-Term Effectiveness and Impacts – There would be no additional risks posed to the community, Site workers, or the environment with implementation of this alternative. The alternative would become effective once the environment easement restricting groundwater and land use have been obtained and the ASD system and vapor barrier have been installed during Site redevelopment.

Implementability – No significant technical implementability issues are associated with this alternative. The ASD system would be designed by a licensed professional engineer. With respect to administrative tasks, the Environmental Easements: must be created by the property owner in writing and filed in the appropriate county; must be granted to New York State; and can only be extinguished or amended in writing by the NYSDEC Commissioner.

Cost – The estimated capital cost for the institutional and engineering controls is $40,200. Annual OM&M costs for groundwater monitoring, easement certification, and ASD operation are estimated to be $3,500 for an estimated 30-year present worth cost of $94,000 (see Table 8).

9.6.3 Alternative 3: Unrestricted Use

An Unrestricted Use alternative would necessitate remediation of all soil where concentrations exceed the unrestricted use SCO per 6NYCRR Part 375. At a minimum, this would involve additional remedial work in two areas (see Figure 6). For Unrestricted Use scenarios, excavation and off-site disposal of impacted soil is generally regarded as the most applicable remedial measure, because institutional controls cannot be used to supplement the remedy. As such, the Unrestricted Use alternative assumes that Area 1 would be excavated to approximately 12 fbgs and Area 2 would be excavated to approximately 10 fbgs for disposal at an off-site commercial solid waste landfill. The estimated total volume of impacted soil that would be removed from these areas is approximately 5,000 cubic yards. Since removing the VOC-impacted saturated soil would eliminate the source of groundwater contamination, it is assumed that no groundwater remediation or long-term monitoring would be required. Groundwater infiltration and surface water runoff into the excavation would require treatment prior to discharge to the sanitary sewer.

Overall Protection of Public Health and the Environment – The Unrestricted Use alternative would achieve the corresponding Part 375 SCOs, which are designed to be protective of human health under any reuse scenario.

Compliance with SCGs – The Unrestricted Use alternative would need to be performed in accordance with applicable, relevant, and appropriate standards, guidance, and criteria. All soil with VOC concentrations above Part 375 Unrestricted SCOs would be removed; therefore, this alternative complies with the SCGs. Groundwater monitoring following soil excavation would be required to determine if GWQS/GV have been met.

Long-Term Effectiveness and Permanence **–** The Unrestricted Use alternative would achieve removal of all residual impacted soil; therefore, no soil exceeding the unrestricted use SCOs would remain on the Site and groundwater concentrations would likely be reduced below GWQS/GV. As such, the Unrestricted Use alternative would provide long-term effectiveness and permanence. Post-remedial monitoring and certifications would not be required.

Reduction of Toxicity, Mobility, or Volume with Treatment **–** Through removal of all impacted soil, the Unrestricted Use alternative would permanently and significantly reduce the toxicity, mobility, and volume of Site contamination.

Short-Term Effectiveness **–** The short-term adverse impacts and risks to the community, workers, and environment during implementation of the Unrestricted Use alternative are not considered significant and are controllable. The potential for chemical exposures and physical injuries would be reduced through: safe work practices; proper personal protective equipment (PPE); environmental monitoring; establishment of work zones and Site control; and appropriate decontamination procedures.

Implementability – No technical implementability issues would be encountered in construction of the Unrestricted Use alternative, with the exception of excavation dewatering. Administrative implementability issues may include the need for rezoning of the area, since residential, agricultural, and other unrestricted uses are not consistent with current zoning or the reasonably anticipated future use of the Site as a commercial establishment.

Cost **–** The capital cost of implementing an Unrestricted Use alternative (post- IRM) is estimated at $722,000 (see Table 9). Post-remedial groundwater monitoring and annual certification costs would not be incurred.

Community Acceptance – Community acceptance will be evaluated based on comments received from the public in response to Fact Sheets and other planned Citizen Participation activities.

9.7 Recommended Remedial Measure

Based on the above screening and the conclusions of the remedial investigation and interim remedial measures, the Institutional and Engineering Controls alternative fully satisfies the remedial action objectives and is fully protective of human health and the environment. Accordingly, the completed IRM with implementation of the institutional and engineering controls is the recommended final remedial approach for the Site.

10.0 REFERENCES

1. GZA GeoEnvironmental (GZA). July. *Phase I Environmental Site Assessment (ESA).* 2004.

2. Nature's Way Environmental Consultants & Contractors, Inc. 2004. *Subsurface Phase II Environmental Assessment at Vacant Property located at 7503 Niagara Falls Boulevard, Niagara Falls, New York.* September 20.

3. Nature's Way Environmental Consultants & Contractors, Inc. 2005. *Focused Phase II Type Environmental Investigation of Vacant Property located at 7503-75555 Niagara Falls Boulevard, Niagara Falls, New York.* May 18.

4. Benchmark Environmental Engineering & Science, PLLC. 2005. *Downgradient Groundwater Characterization Letter Report at 7503 Niagara Falls Boulevard, Niagara Falls, New York.* August 11.

5. Benchmark Environmental Engineering & Science, PLLC. 2005. *Supplemental Site Characterization Adjacent to Site Study, Niagara Falls, New York.* October.

6. Benchmark Environmental Engineering & Science, PLLC. 2006. *Remedial Investigation Work Plan, 7503 Niagara Falls Boulevard Site, Niagara Falls, New York.* January.

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8. Benchmark Environmental Engineering & Science, PLLC. 2006. *Quality Assurance Project Plan for Remedial Investigation Work Plan, 7503 Niagara Falls Boulevard Site, Niagara Falls, NY.* January.

9. Benchmark Environmental Engineering & Science, PLLC. 2007. *Off-Site Soil Gas Sampling Work Plan, 7503 Niagara Falls Boulevard Site, Niagara Falls, New York.* June.

10. Benchmark Environmental Engineering & Science, PLLC. 2006. *Interim Remedial Measures Work Plan, 7503 Niagara Falls Boulevard Site, Niagara Falls, New York.* October.

TABLES

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TABLE 1

GROUNDWATER ELEVATION DATA SUMMARY

RI/AAR/IRM Report
7503 Niagara Falls Boulevard Site
GLR Holdings

Monitoring Well Designation	Top of Casing Elevation[1]	Top of Riser Elevation[1] (Reference Point)	Water Level from TOR, ft below Ref Pt.[2]	Groundwater Surface Elevation, ft
MW - 1	495.69	495.35	6.04	489.31
MW -2	496.61	495.96	6.62	489.34
MW - 3	495.80	495.26	Dry	Dry
MW - 4	495.86	495.27	5.63	489.64
MW - 5	497.23	496.68	7.84	488.84
MW - 14	497.02	496.64	3.46	493.18
MW - 17	497.19	496.75	2.57	494.18
MW - 19	496.24	495.87	4.68	491.19

Notes:

1. Top of casing and riser elevations based upon an assumed datum of 500.00 fmsl.
2. Water levels measured and recorded on June 23, 2006

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TABLE 2

SOIL ANALYTICAL DATA SUMMARY

RI/AAR/IRM Report
7503 Niagara Falls Boulevard Site
GLR Holdings

Parameter [1]	Sampling Location				SCO UNRESTRICTED USE[3]	SCO RESTRICTED-COMMERCIAL[3]
	MW - 3 (2.0-4.0 ft)	MW-4 (2.0-4.0 ft)	MW-4 (2.0-4.0 ft)[2]	MW-5 (4.0-6.0 ft)		
TCL VOCs (ug/kg)						
2- Butanone	9 J	7 J	6 J	ND	**NS**	**500,000****
TCL SVOCs (ug/kg)						
Phenol	ND	ND	24 J	ND	330	**500,000****
Phenanthrene	ND	52 J	110 J	ND	**100,000**	**500,000****
Anthracene	ND	ND	19 J	ND	**100,000**	**500,000****
Carbazole	ND	ND	22 J	ND	**NS**	NS
Di-n-butyl phthalate	ND	ND	15 J	ND	**NS**	**NS**
Fluoranthene	ND	97 J	210 J	ND	100,000	**500,000****
Pyrene	ND	100 J	220 J	ND	**100,000**	**500,000****
Benzo(a)anthracene	ND	48 J	120 J	ND	**1,000**	**11,000**
Chrysene	ND	56 J	150 J	ND	**1,000**	**56,000**
Bis(2-ethylhexyl) phthalate	ND	ND	ND	110 BJ	**NS**	**NS**
Di-n-octyl phthalate	ND	ND	24 J	ND	NS	**NS**
Benzo(b)fluoranthene	ND	100 J	240 J	ND	**1,000**	**5,600**
Benzo(k)fluoranthene	ND	110 J	270 J	ND	**800**	**56,000**
Benzo(a)pyrene	ND	52 J	130 J	ND	**1,000**	**1,000**
Indeno(1,2,3-cd)pyrene	ND	49 J	120 J	ND	500	**5,600**
Dibenzo(a,h)anthracene	ND	16 J	43 J	ND	**330**	**560**
Benzo(ghi)perylene	ND	23 J	49 J	ND	**100,000**	**500,000****
TAL METALS (mg/kg)						
Aluminum - Total	12600	11500	9950	9400	**NS**	**NS**
Arsenic - Total	10.8 N*J	3.7 N*J	2.1 N*J	4.1 N*J	**13,000**	16
Barium - Total	76.6 *	82.4 *	75.5 *	49.4 *	**350,000**	**400**
Beryllium -Total	1 *	0.63 *	0.48 B*	0.47 B*	**7,200**	**590**
Cadmium - Total	0.24 B	0.21 B	0.26 B	0.16 B	2,500	**9.3**
Calcium - Total	3180 E*J	5300 E*J	6890 E*J	17600 E*J	**NS**	**NS**
Chromium - Total	18.5	16.2	15.8	14.6	**30,000**	**1,500**
Cobalt - Total	9.5 E*J	7.2 E*J	5.4 BE*J	6.9 E*J	**NS**	**NS**
Copper - Total	28.1 *	17.2 *	13 *	19.5 *	**50,000**	**270**
Iron - Total	28800 E*J	18100 E*J	11500 E*J	15900 E*J	**NS**	**NS**
Lead - Total	17.6 N*J	14.7 N*J	16.3 N*J	8.2 N*J	**63,000**	1000
Magnesium - Total	3910 E*J	3920 E*J	3710 E*J	5390 E*J	**NS**	**NS**
Manganese - Total	150 ENJ	111 ENJ	102 ENJ	176 ENJ	**1,600,000**	**10,000**
Nickel - Total	23.7 EJ	18.1 EJ	15.4 EJ	18.3 EJ	**30,000**	**310**
Potassium - Total	1410 *	796 *	572 B*	1560 *	**NS**	**NS**
Sodium - Total	337 B	75.8 B	44.8 B	144 B	NS	**NS**
Vanadium - Total	59 E*J	21.9 E*J	15.6 E*J	20.6 E*J	**NS**	**NS**
Zinc - Total	59.7 EN*J	62 EN*J	64.9 EN*J	46.2 EN*J	**109,000**	**10,000**

Notes:
1. Only those parameters detected at a minimum of one sample location are presented in this table; all other compounds were reported as non-detect.
2. Blind Duplicate and MS/MSD collected at monitoring well MW-4 (2.0-4.0 ft).
3. Values per NYSDEC draft Part 375 Soil Cleanup Objectives.

Definitions:
J = Indicates a value greater than or equal to the instrument detection limit but less than the sample quantitation limit.
B = Analyte was detected in the associated blank as well as in the sample.
E = For inorganic data, indicates a value estimated or not reported due to the presence of interferences.
N = For inorganic data, indicates spike sample recovery is not within the quality control limits.
ND = parameter not detected above laboratory detection limit.
NJ = parameter has been 'tentatively identified' with its approximate concentration.
NA = Not Applicable.
SB= Site Background.
NS = No soil cleanup objective listed in NYSDEC draft part 375 Restricted Use Soil Cleanup Objectives.
* = For inorganic data, indicates the spike or duplicate analysis is not within the quality control limits.
** = The SCOs for commercial use are capped at a maximum value of 500 ppm.
Shaded cells indicate exceedances of unrestricted SCOs (none).

TABLE 3

SUMMARY OF GROUNDWATER ANALYTICAL DATA

RI/AAR/IRM Report
7503 Niagara Falls Boulevard Site
GLR Holdings

Parameter [1]	Sampling Event/Location															GWQS/GV [4]
	Subsurface Phase II Environmental Assessment (August 2004)	Focused Phase II Type Environmental Investigation (May 2005)			Downgradient Groundwater Characterization		Remedial Investigation (June 2006)									
	EP/PZ 8	MW 14	MW 17	MW 19	MW-1 (8/23/05)	MW-2 (8/23/05)	MW - 1 (6/23/06)	MW-2 (6/23/06)	MW-4 (6/23/06)	MW-5 (6/23/06)	MW - 14 [2] (6/23/06)	MW-17 (6/23/06) [6]	MW-17 (7/13/06) [6]	MW-19 (6/23/06) [6]	MW-19 (7/13/06) [6]	MW-19 (6/23/06) [3]	
VOCs (ug/L)																	
Methylene chloride	ND	ND	ND	ND	ND	ND	ND	**7 J**	**7 J**	**7 J**	ND	ND	NA	ND	NA	ND	5
Carbon Disulfide	16.3	ND	ND	ND	0.96 J	0.86 J	ND	ND	ND	17 J	ND	ND	NA	ND	NA	ND	NS
Vinyl chloride	ND	**192**	ND	**12.2**	ND	ND	ND	ND	ND	ND	**910 D**	ND	NA	**58**	NA	**54**	2
Acetone	ND	ND	ND	ND	4.4 J	6.3 J	ND	ND	ND	ND	ND	ND	NA	ND	NA	ND	50*
1,1-Dichloroethene	ND	**32**	ND	ND	ND	ND	ND	ND	ND	ND	**83**	ND	NA	1 J	NA	1 J	5
Trichloroethene	31	**411**	ND	ND	ND	ND	ND	ND	ND	ND	**540 D**	2 J	NA	1 J	NA	ND	5
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**9 J**	ND	NA	ND	NA	ND	1
Benzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**1J**	ND	NA	ND	NA	ND	1
Tetrachloroethene	10.1	**760**	**5.09**	ND	ND	ND	ND	ND	ND	ND	**640 D**	4 J	NA	1 J	NA	ND	5
Toluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1 J	ND	NA	ND	NA	ND	5
trans-1,2-Dichloroethene	4.1	**351**	ND	ND	ND	ND	ND	ND	ND	ND	**1300 D**	2 J	NA	ND	NA	ND	5
cis-1,2-Dichloroethene	20.5	**316**	ND	**10**	ND	ND	ND	ND	ND	ND	**1100 D**	1 J	NA	**30**	NA	**30**	5
Total and Soluble Metals [4,5] (ug/L)																	
Iron, Total	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**56300**	NA	**12600**	NA	**28600**	NA	300
Iron, Soluble	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**351**	NA	21.2 B	NA	**584**	NA	300
Manganese, Total	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**2420**	NA	**318**	NA	**704**	NA	300
Manganese, Soluble	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	29.1	NA	1.2 B	NA	199	NA	300
Wet Chemistry (units as indicated)																	
Chemical Oxygen Demand (mg/L)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	ND	NA	ND	NA	NS
Nitrate (mg/L)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.49	NA	3.6	NA	ND	NA	10
Sulfate (mg/L)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**868**	NA	75.1	NA	157	NA	250
Field Measurements (units as indicated)																	
pH (units)	NA	NA	NA	NA	NA	NA	6.83 6.75	7.06 7.03	7.09 7.08	6.71 6.74	9.36 9.48	10.68 10.75	11.26 11.30	7.17 7.31	7.38 7.28	7.17 7.31	6.5 - 8.5
Temperature (°C)	NA	NA	NA	NA	NA	NA	17.2 17.2	18.1 17.6	21.2 22.7	20.1 20.2	17.8 18.5	17.6 19.6	21.7 21.4	18.6 19.5	23.5 23.3	18.6 19.5	NA
Specific Conductance (uS)	NA	NA	NA	NA	NA	NA	1442 1411	1136 914.1	665.3 671.1	1020 1021	1255 1252	1907 1900	1714 1820	881.2 896.2	827 842	881.2 896.2	NA
Turbidity (NTU)	NA	NA	NA	NA	NA	NA	240 169	169 30.7	49.4 38.6	35.1 63.1	>1000 >1000	47.2 78.4	>1000 >1000	>1000 >1000	>1000 >1000	>1000 >1000	60**
ORP (mV)	NA	NA	NA	NA	NA	NA	-76 -68	-94 -83	10 20	42 43	-84 -72	-94 -95	-106 -87	-131 -149	-49 -85	-131 -149	NA

Notes:

1. Only those parameters detected at a minimum of one sample location are presented in this table; all other compounds were reported as non-detect.
2. MS/MSD collected at monitoring well MW-14.
3. Blind Duplicate collected at monitoring well MW-19 (6/23/06).
4. NYSDEC Class "GA" Groundwater Quality Standards/Guidance Values (GWQS/GV), 6 NYCRR Part 703.
5. Groundwater collected from well MW-14, MW-17 (7/13/06), and MW-19 (7/13/06) were analyzed for soluble iron and manganese, in addition to TAL Metals.
6. MW-17 and MW-19 had insufficient volumes to collect the volume for the full parameter list. VOCs and field measurement volumes were collected on 6/23/06. Metals and wet chemistry volumes were collected on 7/13/06.

Definitions:

J = Estimated value; result is less than the sample quantitation limit but greater than zero.
D = Diluted sample result.
ND = parameter not detected above laboratory detection limit.
J = parameter has been identified with its approximate concentration.
" * " = Groundwater Quality Guidance Value
" ** " = field threshold value; when exceeded, field filtered metals sample is collected (i.e., dissolved metals).
NA = Not Applicable
NS = No GWQS/GV listed in 6 NYCRR Part 703.
BOLD = Analytical result exceeds individual GWQS/GV

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TABLE 4
SUMMARY OF SOIL VAPOR ANALYTICAL RESULTS

RI/AAR/IRM Report
7503 Niagara Falls Boulevard Site
GLR Holdings

Parameter [1]	Sample Location			
	SG-MW-14 (1)	SG-MW-14 (2)	SG-MW-19 (1)	SG-MW-19 (2)
TCL Volatile Organic Compounds (VOCs) - ug/m³				
1,3-Butadiene	ND	24	ND	7.3
Acetone	23	19	ND	64
Carbon Disulfide	ND	3.1	40	97
Dichlorodifluoromethane	4.6	3.7	ND	ND
1,1-Dichloroethene	1.2	ND	52	20
trans 1,2-Dichloroethene	7.9	ND	110	44
cis 1,2-Dichloroethene	12	ND	230	110
n-Hexane	22	130	270	35
Methyl Ethyl Ketone	1.8	ND	ND	ND
Cyclohexane	6.9	55	24	7.6
Benzene	3.5	28	8.9	5.1
n-Heptane	16	70	82	12
Toluene	9.8	31	6.8	2.6
Tetrachloroethene	2.2	ND	240	53
Trichloroethene	8.1	ND	520	170
Trichlorofluoromethane	2.4	2.1	ND	ND
Ethylbenzene	1.7	6.9	ND	ND
Xylene (m,p)	6.1	27	13	ND
Xylene (o)	2	8.3	4.8	ND
Xylene (total)	8.3	35	17	ND
Styrene	0.85	ND	ND	ND
Vinyl Chloride	5.6	ND	380	140

Notes:
1. Only those compounds detected above the laboratory reporting limit are presented in this table.

Definitions:
ND= Not detected above laboratory detection limits.

TABLE 5
SUMMARY OF OFF-SITE SOIL VAPOR ANALYTICAL RESULTS

RI/AAR/IRM Report
7503 Niagara Falls Boulevard Site
GLR Holdings

Parameter [1]	Sample Location			
	GLR - SV - 658A	GLR - SV - 658B	GLR - SV - 668A	GLR - SV - 668B
TCL Volatile Organic Compounds (VOCs) - ug/m³				
Acetone	160	ND	4800	3300
Methyl Ethyl Ketone	ND	ND	830	530
Methyl Butyl Ketone	ND	ND	ND	82
Toluene	7.9	ND	ND	ND
Tetrachloroethene	22	14	ND	ND

Notes:

1. Only those compounds detected above the laboratory reporting limit are presented in this table.

Definitions:

ND= Not detected above laboratory detection limits.

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TABLE 6

COMPARISON OF CHLORINATED VOC CONCENTRATIONS TO HEALTH-BASED SOIL CLEANUP OBJECTIVES

RI/AAR/IRM Report
7503 Niagara Falls Boulevard Site
GLR Holdings

Parameter	Highest Exposure Point Concentration[1]	*USEPA Health Based RSCO*	*Part 375 Commercial SCO (ppm)*[3]
Chlorinated VOCs (ppm)			
Tetrachloroethene	1.43	*14*	*150*
Trichloroethene	1.3	*64*	*200*
cis-1,2-Dichloroethene	3.45	--	*970*
trans-1,2-Dichloroethe	2.75	*2000*	*1700*
Vinyl chloride	4.17	*N/A*	*13*
1,1-Dichloroethene	0.0216	*12*	*5500*
1,1,2-Trichloroethane	0.16	--	--

Notes:

1. Concentrations observed during Phase II Environmental Investigation, May 2005.
2. USEPA Health Based RSCO are per NYSDEC TAGM 4046 "Determination of Soil Cl Objectives and Cleanup Levels."
3. NYSDEC Brownfield Cleanup Program Development of Soil Cleanup Objectives, Jun Technical Support Document, Table 5.3.6-2 Chronic Human Health-Based Soil Clea

N/A = USEPA Health-Based value not available.
"--" = Constituent not included in table.

TABLE 7

SUMMARY OF IRM GROUNDWATER ANALYTICAL DATA

RI/AAR/IRM Report
7503 Niagara Falls Boulevard Site
GLR Holdings

Parameter [1]	MW-14					MW-19					GWQS/GV [3]
	Baseline	Dec-06	Jan-07	Mar-07	Jun-07	Baseline	Dec-06	Jan-07	Mar-07	Jun-07	
Vinyl chloride	910 D	380	150	320	540 E	58	24	22	24	15	2
1,1-Dichloroethene	85 D	140 J	21 J	21 J	60 J	1 J	ND	ND	ND	ND	5
Trichloroethene	540 D	1500 J	300	150	330	1 J	ND	2 J	ND	ND	5
Tetrachloroethene	640	480	120	98	35	1 J	ND	ND	ND	ND	5
trans-1,2-Dichloroethene	1300 D	520	240	500	1500 E	ND	ND	ND	ND	ND	5
cis-1,2-Dichloroethene	1100 D	570	220	370	850 E	30	28	26	12	38	5
Total cVOCs	4575	3590	1051	1459	3315	91	52	50	36	53	NA

Notes:

1. Chlorinated volatile organics only are shown.
2. Baseline concentrations were collected in June 2006. Hydrogen Release Compound (HRC) injection was completed in November 2006.
3. NYSDEC Class "GA" Groundwater Quality Standards/Guidance Values (GWQS/GV), 6 NYCRR Part 703

Definitions:

J = Estimated value; result is less than the sample quantitation limit but greater than zero.
D = Diluted sample result
E= Estimated value; result exceeds the upper concentration of the calibration range
ND = parameter not detected above laboratory detection limit.
NA = Not Applicable

BENCHMARK Environmental Engineering & Science, PLLC

TABLE 8

COST ESTIMATE FOR REMEDIAL ALTERNATIVE 2
INSTITUTIONAL AND ENGINEERING CONTROLS

RI/AAR/IRM Report
7503 Niagara Falls Boulevard Site
GLR Holdings

Item	Quantity	Units	Unit Cost	Total Cost
Institutional Controls				
Soil/Fill Management Plan	1	LS	$ 4,500	$ 4,500
Environmental Easements [1]	1	LS	$ 10,000	$ 10,000
Long-Term Groundwater Monitoring Plan [2]	1	LS	$ 3,000	$ 3,000
1st Year Groundwater Sampling/Reporting	2	Event	$ 1,500	$ 3,000
Subtotal:				**$ 20,500**
Engineering Controls [3]				
6 mil Vapor Barrier (installed)	3800	SF	$ 0.50	$ 1,900
Subslab Depressurization System (installed)	1	LS	$ 10,000	$ 10,000
Subtotal:				**$ 11,900**
Subtotal Capital Cost				**$ 32,400**
Contractor Mobilization/Demobilization				$ 2,000
Health and Safety				$ 1,000
Engineering/Contingency (35%)				$ 7,840
Total Capital Cost				**$ 40,240**
Annual Operation Maintenance & Monitoring (OM&M):				
Groundwater Sampling[3] / Reporting	1	Event	$ 1,500	$ 1,500
Institutional and Engineering Controls Certification	1	Yr	$ 2,000	$ 2,000
Total Annual OM&M Cost				**$ 3,500**
Number of Years (n):				30
Interest Rate (I):				5%
p/A value:				15.3725
OM&M Present Worth (PW):				**$ 53,804**
Total Present Worth (PW): Capital Cost + OM&M PW				**$ 94,044**

Notes:
1. Environmental easements for groundwater and soil use restrictions not included in Engineering/Contingency costs.
2. Assumes building will incorporate slab-on-grade construction with gravel sub-base to facilitate vapor extraction.
3. Annual sampling of new well at former location of MW-14 for analysis of VOCs.

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

TABLE 9

COST ESTIMATE FOR REMEDIAL ALTERNATIVE 3
UNRESTRICTED USE

RI/AAR/IRM Report
7503 Niagara Falls Boulevard Site
GLR Holdings

Item	Quantity	Units	Unit Cost	Total Cost
Soil Removal[1,2]				
Soil Excavating & Hauling	4500	CY	$ 10	$ 45,000
Trans/Disposal (with non-haz/ contained-in desig.)	7200	TON	$ 40	$ 288,000
Verification Sampling	1	LS	$ 1,500	$ 1,500
Backfill (place/compact)	4500	CY	$ 15	$ 67,500
Groundwater Verification Sampling	1	LS	$ 1,000	$ 1,000
Subtotal:				**$ 403,000**
Groundwater Extraction During Excavation				
Frac Tank Delivery/Rental/Removal	1	MO	$ 2,000	$ 2,000
Dual Bag Filter Unit Rental	1	MO	$ 1,000	$ 1,000
Disposable Bag Filters	30	EA	$ 10	$ 300
Misc. Pipe, Hose, poly sheeting	1	LS	$ 1,500	$ 1,500
Subtotal:				**$ 4,800**
Air Stripping Treatment				
Basic System Model 1321-P[3]	1	EA	$ 12,500	$ 12,500
Installation	1	LS	$ 3,500	$ 3,500
Air Stripper Maintenance/Cleaning	1	LS	$ 1,500	$ 1,500
Air Stripper Performance Sampling	1	MO	$ 500	$ 500
Air Stripper Electrical	1	MO	$ 300	$ 300
Subtotal:				**$ 18,300**
Emissions Treatment				
Thermal Oxidizer	1	LS	$ 60,000	$ 60,000
Oxidizer Installation	1	LS	$ 10,000	$ 10,000
Oxidizer Natural Gas	1	MO	$ 1,800	$ 1,800
Subtotal:				**$ 71,800**
Discharge to Sewer				
Sewer Permit Fee	1	LS	$ 500	$ 500
Sewer User Fee (5 gpm)	100000	GAL	$ 0.10	$ 10,000
Subtotal:				**$ 10,500**
Subtotal Capital Cost				**$ 508,400**
Contractor Mobilization/Demobilization (5%)				$ 25,420
Health and Safety (2%)				$ 10,168
Engineering/Contingency (35%)				$ 177,940
Total Capital Cost				**$ 721,928**

Annual Operation Maintenance & Monitoring (OM&M):	
N/A	$ -
Total Annual OM&M Cost	$ -
Number of Years (n):	30
Interest Rate (I):	5%
p/A value:	15.3725
OM&M Present Worth (PW):	**$ -**

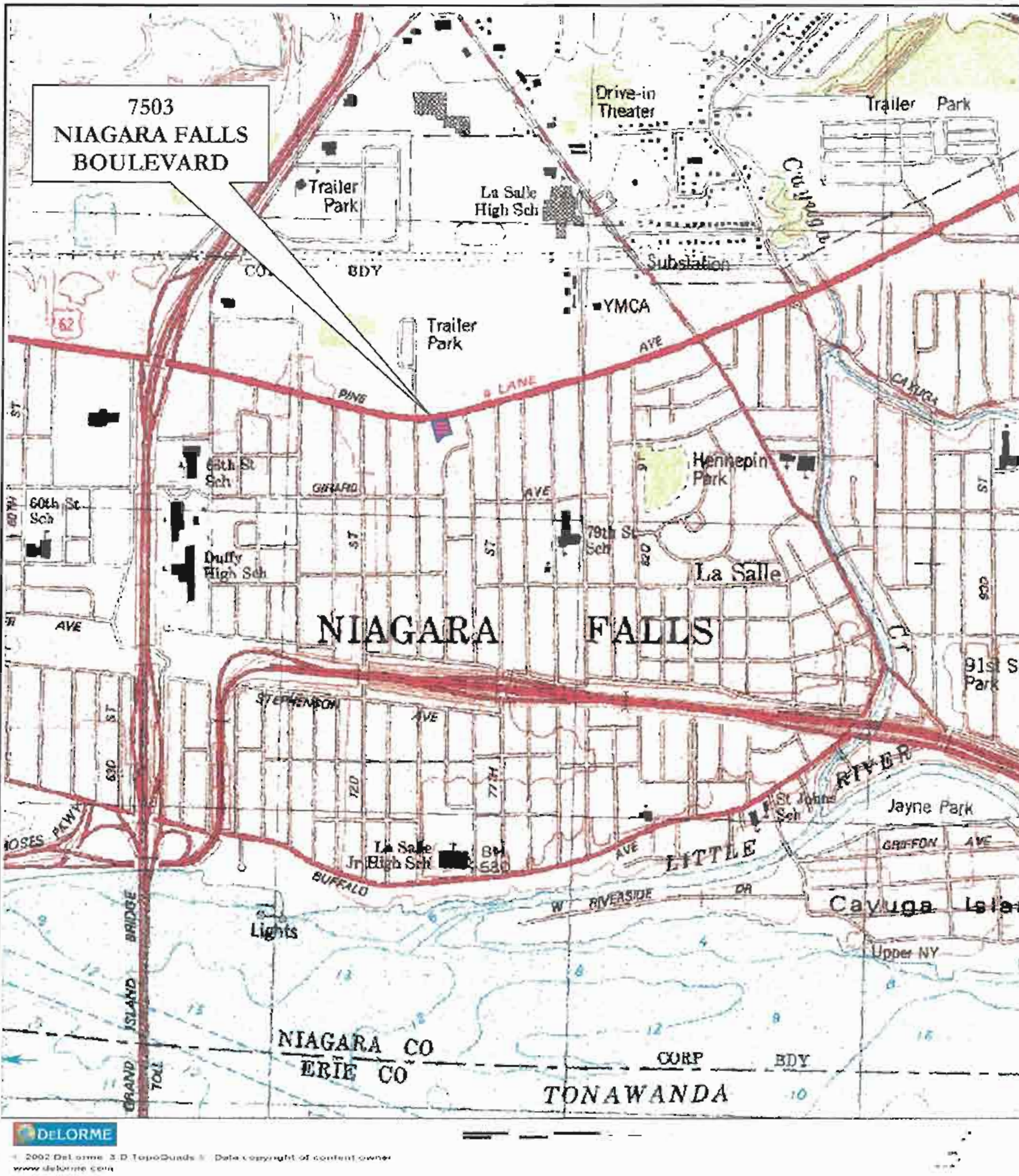
Total Present Worth (PW): Capital Cost + OM&M PW	**$ 721,928**

Notes:

1. Assumes material is acceptable for disposal at a sanitary landfill based on conformance with NYSDEC "contained-in" criteria
2. Based on 1.6 Tons/CY
3. Includes controls, skid, and 2HP 150 scfm blower

FIGURES

FIGURE 1



BENCHMARK
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726 EXCHANGE STREET
SUITE 624
BUFFALO, NEW YORK 14210
(716) 856-0599

[illegible]

[illegible]

[illegible]

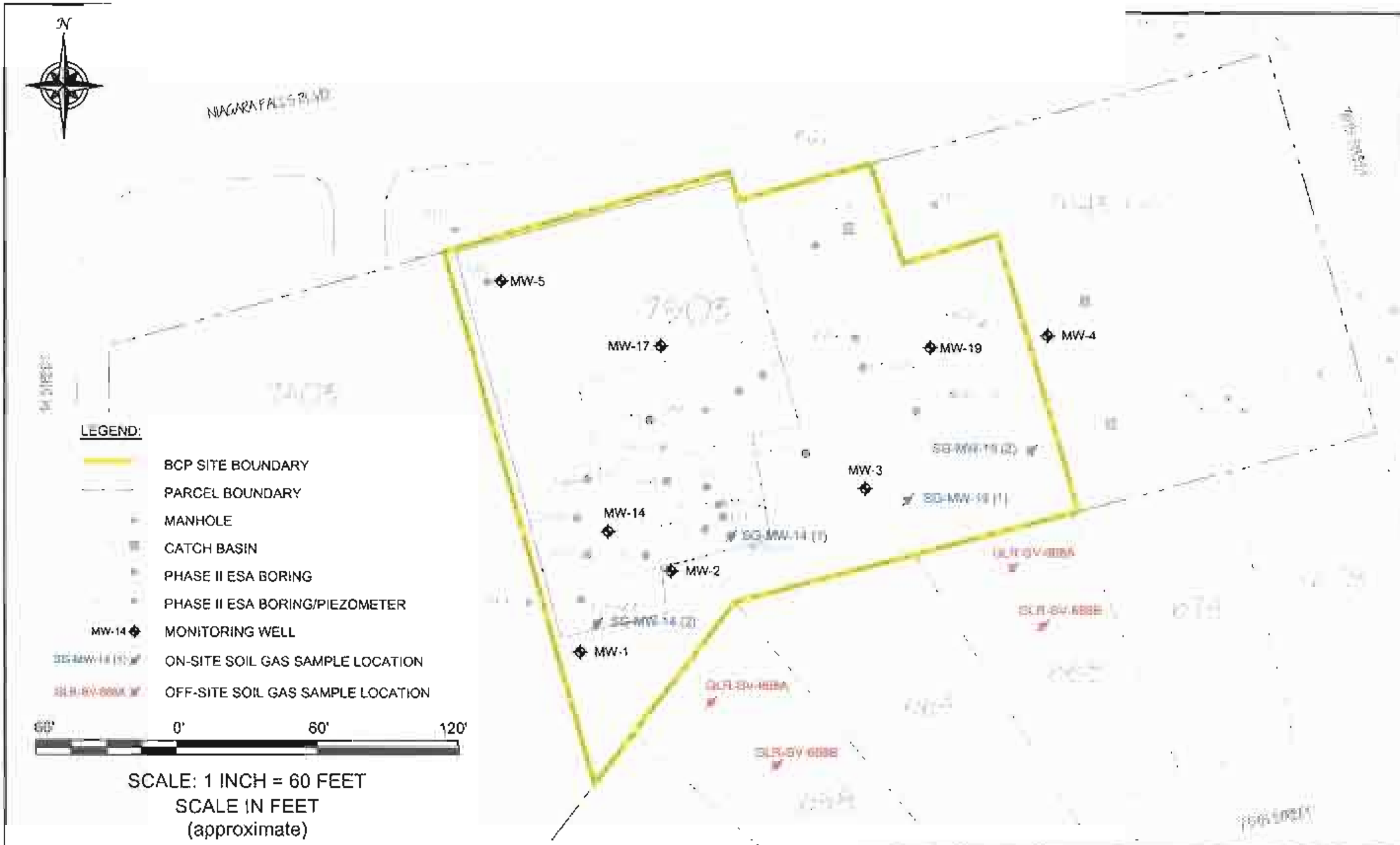
SITE LOCATION AND VICINITY MAP

REMEDIAL INVESTIGATION REPORT

7503 NIAGARA FALLS BOULEVARD SITE
NIAGARA FALLS, NEW YORK

[illegible]

GLR HOLDINGS, LLC



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(716) 856-0599

PROJECT NO.: 0101-002-400

DATE: OCTOBER 2007

DRAFTED BY: BCH/NTM

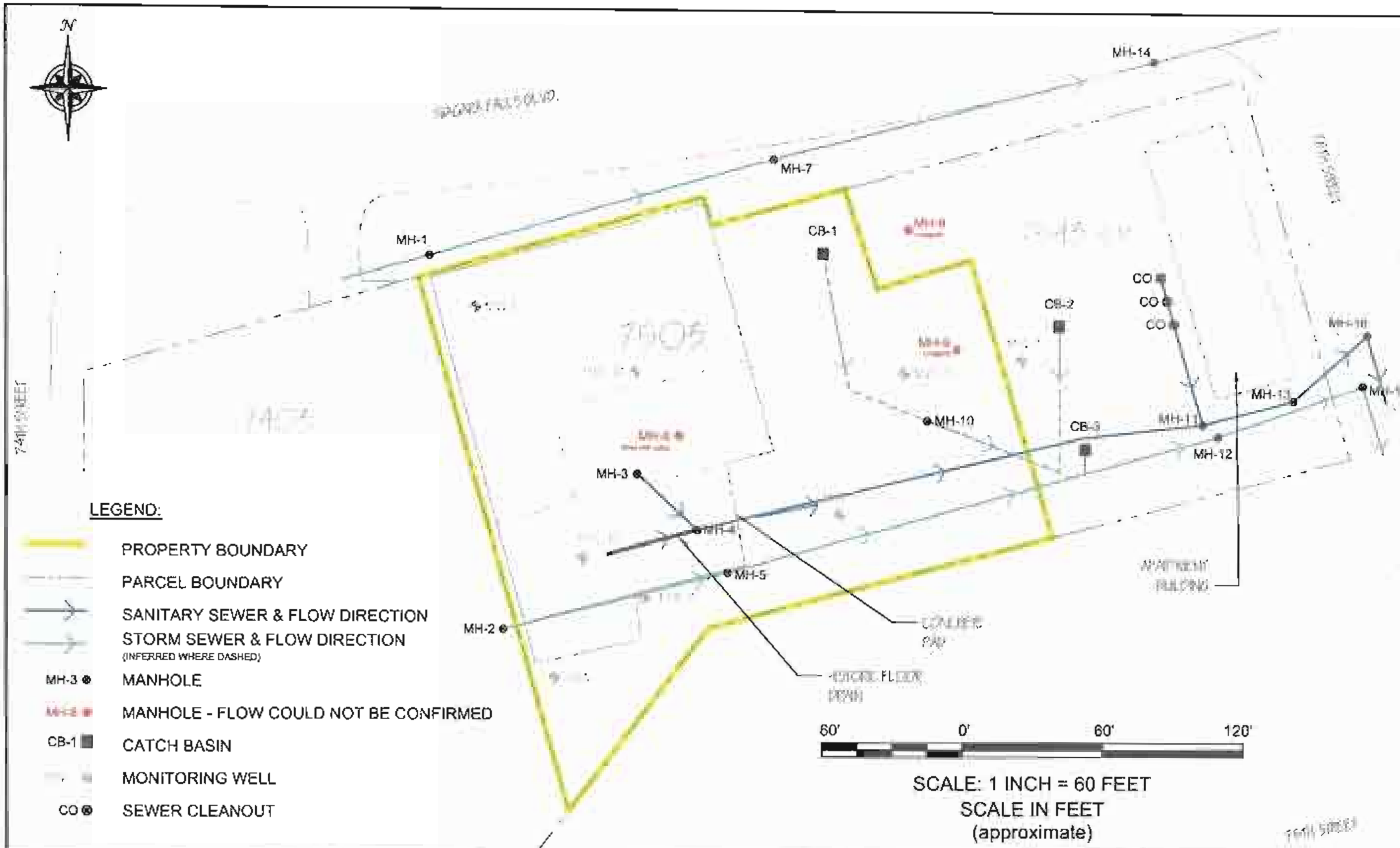
SITE PLAN

REMEDIAL INVESTIGATION REPORT

7503 NIAGARA FALLS BOULEVARD SITE
NIAGARA FALLS, NEW YORK

PREPARED FOR
GLR HOLDINGS, LLC

FIGURE 2



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SUITE 624
BUFFALO, NEW YORK 14210
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PROJECT NO.: 0101-002-400

DATE: OCTOBER 2007

DRAFTED BY: BCH

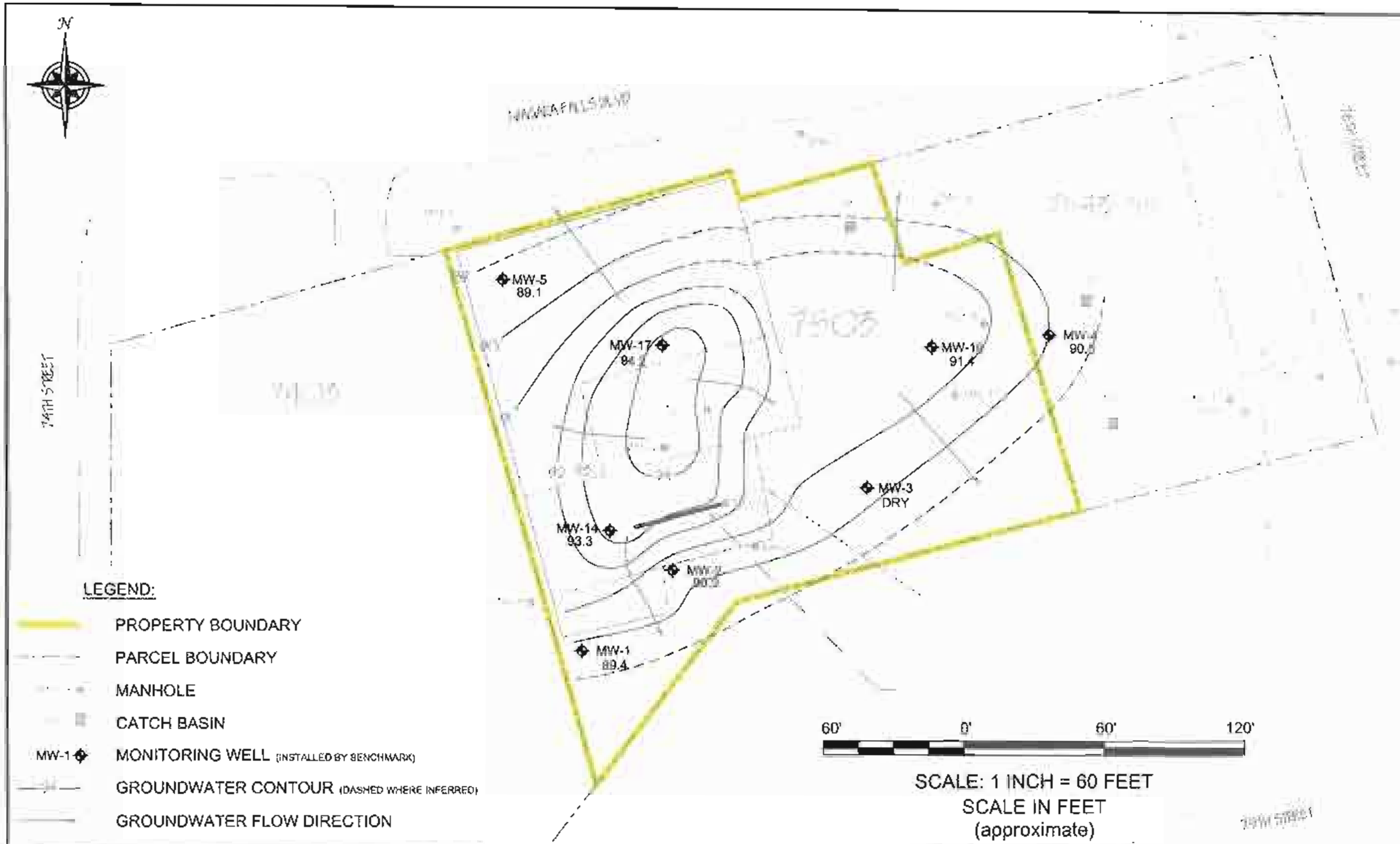
SEWER LAYOUT

REMEDIAL INVESTIGATION REPORT

NIAGARA FALLS, NEW YORK
7503 NIAGARA FALLS BOULEVARD SITE

PREPARED FOR
GLR HOLDINGS, LLC

FIGURE 3



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DATE: OCTOBER 2007

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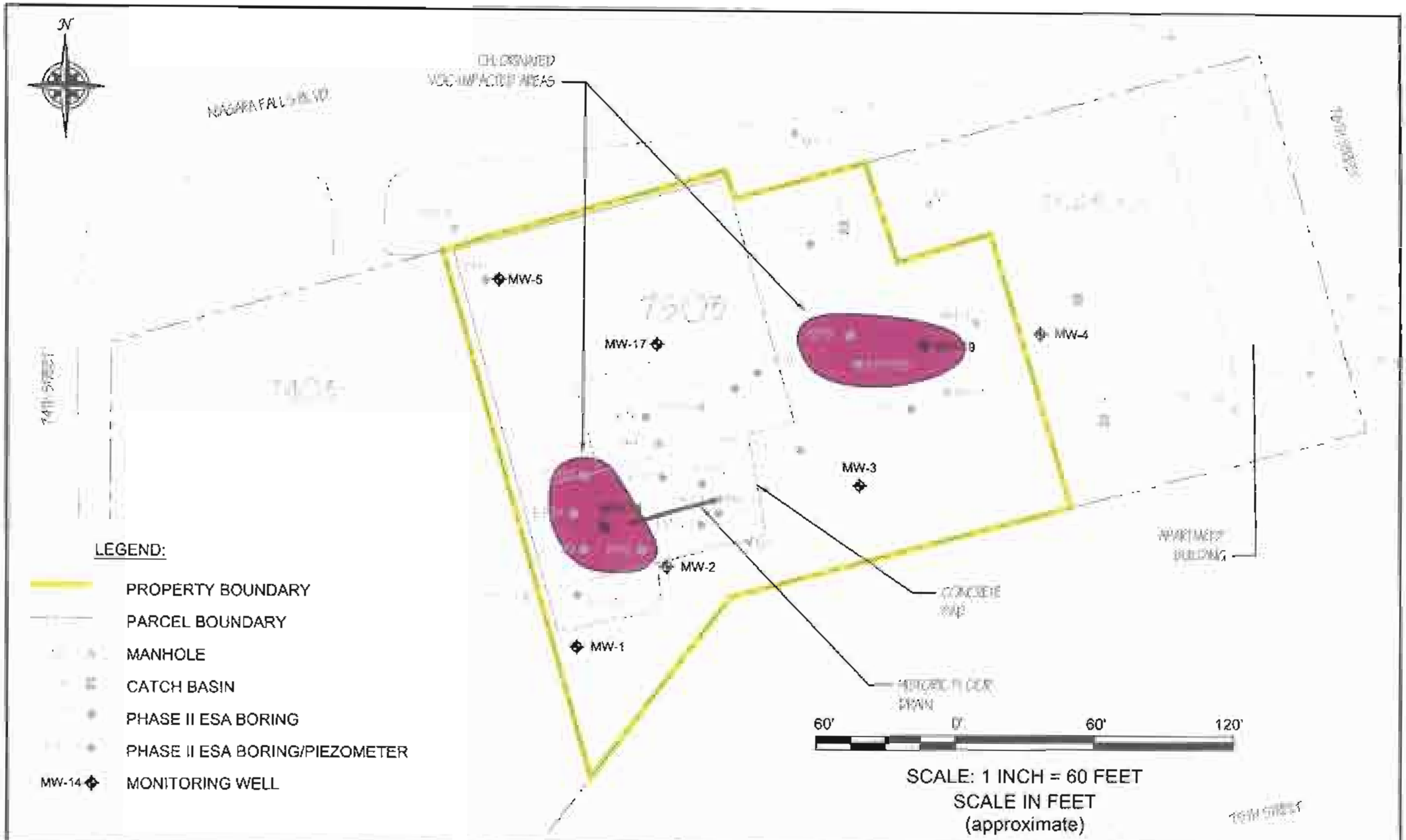
GROUNDWATER ISOPOTENTIAL MAP

REMEDIAL INVESTIGATION REPORT

NIAGARA FALLS, NEW YORK
7503 NIAGARA FALLS BOULEVARD SITE

PREPARED FOR
GLR HOLDINGS, LLC

FIGURE 4



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CHLORINATED VOC-IMPACTED AREAS

REMEDIAL INVESTIGATION REPORT

NIAGARA FALLS, NEW YORK
7503 NIAGARA FALLS BOULEVARD SITE

PREPARED FOR
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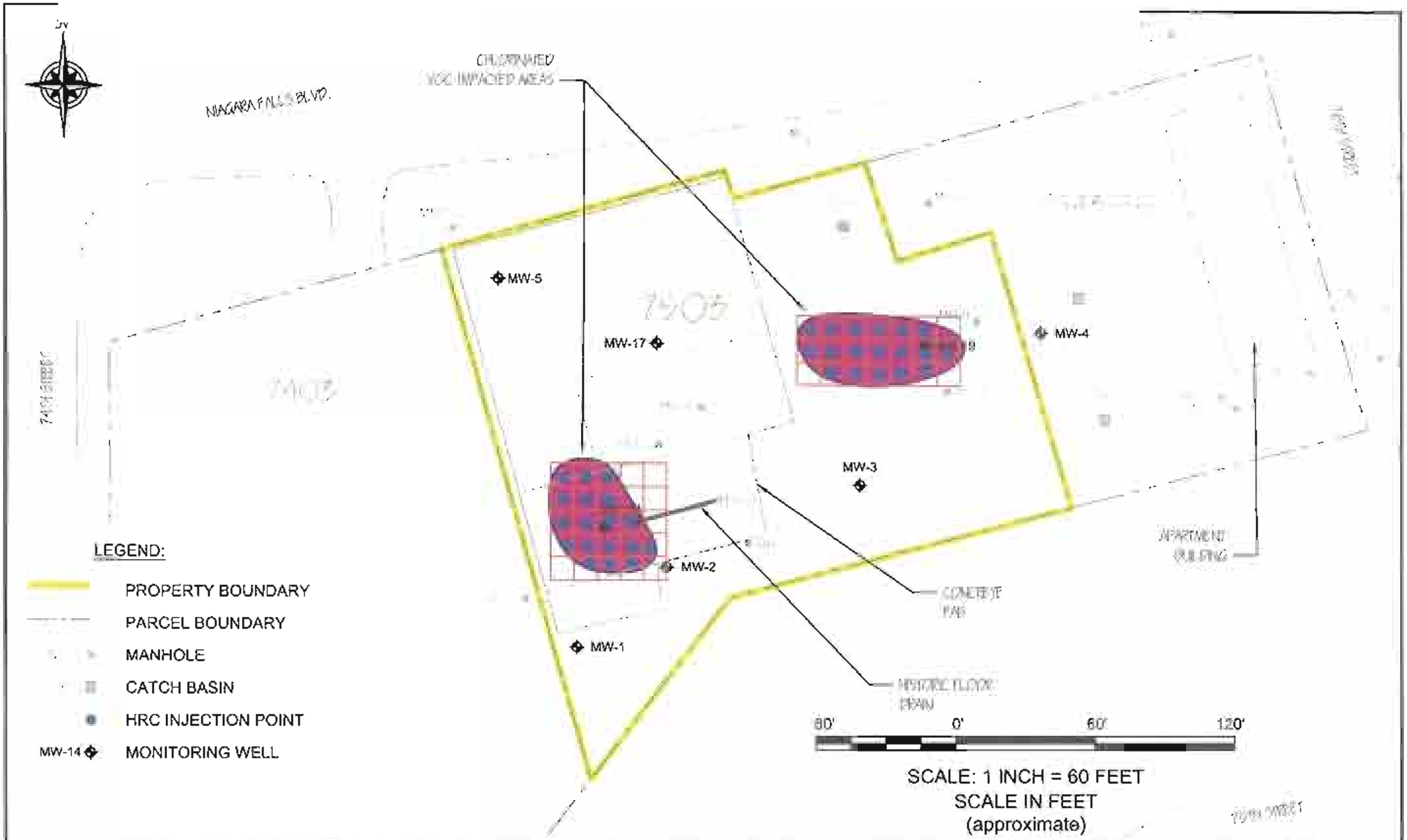
FIGURE 5



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DATE: OCTOBER 2007

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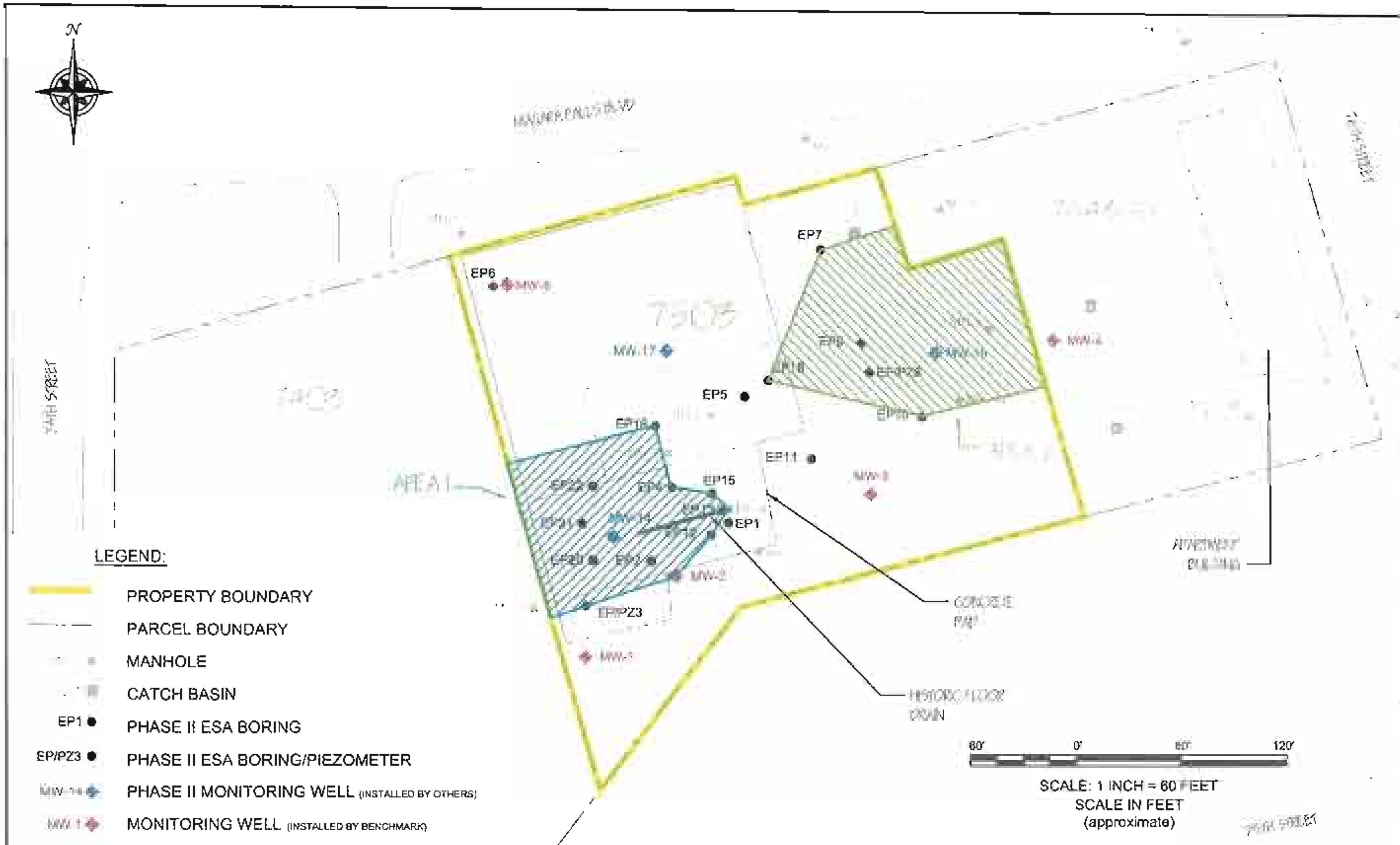
IN-SITU HRC INJECTION MAP

REMEDIAL INVESTIGATION REPORT

7503 NIAGARA FALLS BOULEVARD SITE
NIAGARA FALLS, NEW YORK

PREPARED FOR
GLR HOLDINGS, LLC

FIGURE 6



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DATE: OCTOBER 2007

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UNRESTRICTED USE ALTERNATIVE PROPOSED EXCAVATION AREAS

REMEDIAL INVESTIGATION REPORT

NIAGARA FALLS, NEW YORK
7503 NIAGARA FALLS BOULEVARD SITE

PREPARED FOR
GLR HOLDINGS, LLC

FIGURE 7

APPENDIX A

PREVIOUS INVESTIGATION SAMPLE RESULTS

BENCHMARK
ENVIRONMENTAL
ENGINEERING &
SCIENCE, PLLC

TABLE A-1

MAXIMUM CONCENTRATIONS OF COPCs BY MEDIA

Summary of Historical Data for Remedial Investigation Report
7503 Niagara Falls Boulevard Site
GLR Holdings

Parameter	Soil[1] (ug/kg)	Groundwater[2] (ug/L)
Tetrachloroethene	ND - 1,430 (EP-9)	ND - 760
Trichloroethene	ND - 1,300 (EP-14)	ND - 411
cis-1,2-Dichloroethene	ND - 3,450 (EP-21)	ND - 316
trans-1,2-Dichloroethene	ND - 2,750 (EP-21)	ND - 351
Vinyl chloride	ND - 4,170 (EP-21)	ND - 192
1,1-Dichloroethene	ND - 21.6 (EP-14)	ND - 32.0
1,1,2-Trichloroethane	ND - 160 (EP-14)	ND

Notes:
1. Concentrations observed in soil borings indicated, per Phase II Environmental Inv., May 18, 2005.
2. All concentrations observed in MW-14, per Phase II Environmental Inv., May 18, 2005.
ND = Not detected.

TABLE A-2

HISTORICAL SOIL ANALYTICAL DATA SUMMARY

RI/AAR/IRM Report
7503 Niagara Falls Boulevard Site
GLR Holdings

Sampling Event	Sampling Location									SCO UNRESTRICTED USE [2]	SCO RESTRICTED-COMMERCIAL [2]
	Subsurface Phase II Environmental Assessment (August 2004)		Focused Phase II Type Environmental Investigation (May 2005)								
Parameters	EP 2 (6.0-8.0 fbgs)	EP 8 (8.0-10.0 fbgs)	EP 9 (8.0-10.0 fbgs)	EP 10 (8.0-10.0 fbgs)	EP 14 (10.0-12.0 fbgs)	EP 17 (6.0-8.0 fbgs)	EP 20 (6.0-8.0 fbgs)	EP 21 (4.0-6.0 fbgs)	EP 22 (6.0-8.0 fbgs)		
TCL VOCs (ug/kg)											
cis-1,2-Dichloroethene	257	148	149	83.7	539	ND	128	3450	249	250	500,000
1,1-Dichloroethene	ND	ND	ND	ND	21.6	ND	ND	ND	ND	330	500,000
trans-1,2-Dichloroethene	268	69.8	34.5	ND	224	ND	130	2750	187	190	500,000
Tetrachloroethene	ND	190	1430	ND	1210	ND	ND	ND	375	1300	150,000
1,1,2-Trichloroethane	ND	ND	ND	ND	160	ND	ND	ND	ND	--	--
Trichloroethene	9.96	154	760	31.3	1300	8.29	ND	ND	188	470	200,000
Vinyl Chloride	51.1	50.5	ND	ND	ND	ND	891	4170	71.2	20	13,000

Notes:

1. Only those parameters detected at a minimum of one sample location are presented in this table; all other compounds were reported as non-detect
2. Soil Cleanup Objectives (SCOs) per June 2006 NYSDEC draft Part 375

Yellow shaded cells indicate exceedances of unrestricted SCOs.

Red shaded cells indicate exceedances of restricted-commerical SCOs (none).

APPENDIX B

FIELD BOREHOLE AND MONITORING WELL LOGS

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

FIELD BOREHOLE/MONITORING INSTALLATION LOG

Project Name:	7503 Niagara Falls Blvd.	**BORING NUMBER:**	**MW-3**
Project Number:	0101-002-400	**Location:**	7503 Niagara Falls Blvd.
Client:	GLR Holdings	**Start Date/Time:**	06/12/06 13:45
Drilling Company:	Earth Dimensions, Inc	**End Date/Time:**	06/12/06 15:10
Driller:	Phil	**Logged By:**	TAB
Helper:	Harold Kleever	**Drilling Method:**	4.25" HSA
Rig Type:	CME 550	**Weather:**	Partly cloudy, low 50's wind 0-5 mph NW

Elevation (fmsl)	Depth (fbgs)	Sample No.	Blows (per 6")	SPT N-Value	Recovery	SAMPLE DESCRIPTION USCS Classification: Color, Moisture Condition, Percentage of Soil Type, Texture, Plasticity, Fabric, Bedding, Weathering/Fracturing, Odor, Other	PID Scan (ppm)	PID HDSP (ppm)	Well Construction Details
0.00	0	S1	2, 3, 4, 5	7	0.9	**0.0 - 0.5:** Black, moist, asphalt from surface to 0.2', bedding below, angular gravel with little sand & silt, loose, FILL **0.5 - 0.9:** Brown/black moist sandy silt size material with trace slag, dense, loose, w/ white, black and gray mottling, over clayey silt, FILL	0.0	0.0	2" Sch. 40 PVC riser
-2.00	2	S2	4, 3, 2, 6	5	1.0	**2.0 - 3.0:** Gray, moist silty clay with little fine sand, firm, w/ iron staining, reworked native soil, FILL	0.0	0.0	
-4.00	4	S3	2, 4, 7, 10	11	1.7	**4.0 - 4.2:** Same as S2 **4.2 - 4.6:** Gray, wet clayey silt with some fine sand and iron staining, CL **4.6 - 5.7:** Reddish brown, moist silty clay with little fine sand, soft to firm, w/gray sand lenses and veins, CL	0.0	0.0	sand pack - 00N (8.0 - 2.0 fbgs); 2" Sch. 40 PVC screen, 0.010" slot
-6.00	6	S4	8, 12, 18, 28	30	1.7	**6.0 - 7.7:** Same as S3 4.6 - 5.7	0.0	0.0	
-8.00	8	S5		0		EOB 8.0 fbgs.			
-10.00	10	S6		0					
-12.00	12	S7		0					
-14.00	14	S8		0					
-16.00	16	S9		0					
-18.00	18								

ABBREVIATIONS:

C = coarse	fbgs = feet below ground surface	HSA = hollow stem auger	MS = medium sand
CG = coarse gravel	FG = fine gravel	LP = low plasticity	NA = not applicable
CS = coarse sand	fmsl = feet above mean sea level	LWD = lower when disturbed	NPF = non-plastic fines
EOB = end of boring	FS = fine sand	M = medium	SA = sub-angular
F = fines or fine	HP = high plasticity	MP = medium plasticity	SR = sub-rounded
			Sp = split spoon

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

FIELD BOREHOLE/MONITORING INSTALLATION LOG

Project Name:	7503 Niagara Falls Blvd.	**BORING NUMBER:**	**MW-4**
Project Number:	0101-002-400	**Location:**	7503 Niagara Falls Blvd.
Client:	GLR Holdings	**Start Date/Time:**	06/14/06 8:05
Drilling Company:	Earth Dimensions, Inc.	**End Date/Time:**	06/14/06 15:10
Driller:	Phil	**Logged By:**	TAB
Helper:	Harold Kleever	**Drilling Method:**	4.25" HSA
Rig Type:	CME 550	**Weather:**	Sunny low 60's wind 0 - 5 mph west

Elevation (fmsl)	Depth (fbgs)	Sample No.	Blows (per 6")	SPT N-Value	Recovery	SAMPLE DESCRIPTION USCS Classification: Color, Moisture Condition, Percentage of Soil Type, Texture, Plasticity, Fabric, Bedding, Weathering/Fracturing, Odor, Other	PID Scan (ppm)	PID HDSP (ppm)	Well Construction Details
0.00	0	S1	5 10 5 8	15	0.5	At grade asphalt ~ 0.2 inches thick. **0.2 - 0.4:** Dark Brown/Black, moist, loose, 80% NPF, 20% gravel, w/ cinders and pieces of concrete, FILL **0.4 - 0.7:** Dark Brown, moist, reworked clay, 60% MPF, 40% sand, w/ trace coarse grained sand and iron staining, FILL	0.0	0.0	2" Sch. 40 PVC riser
-2.00	2	S2	7 8 10 10	18	1.6	**2.0 - 2.3:** Same as S1 0.4 - 0.7 **2.3 - 3.6:** Moist medium gray to dark gray clayey silt with little sand, grading to sandy silt at 3.5' bg, firm, w/ organic layers, FILL, CL-SM	0.1	0.0	
-4.00	4	S3	5 4 10 12	14	1.7	**4.0 - 4.2:** same as S2 2.3 - 3.6, FILL **4.2 - 4.6:** Wet medium w/orange mottling, gray silty sand, trace clay, loose when disturbed, with rootlets, SM **4.6 - 5.7:** Reddish brown, moist, silty clay with little fine sand, firm, w/ rootlets and gray sand lenses and partings, CL	0.0	0.0	sand pack - #00N (8.0 - 2.0 fbgs) 2" Sch. 40 PVC screen, 0.010" slot
-6.00	2	S4	8 14 18 20	32	1.8	**6.0 - 7.7:** Same as S3 4.6 - 5.7 w/ yellowish brown moist sand lens in bottom of split spoon	0	0.0	
-8.00	4	S5		0		EOB 8.0 fbgs.			
-10.00	6	S6		0					
-12.00	8	S7		0					
-14.00	10	S8		0					
-16.00	12	S9							

SPT N-Value scale: 0, 20, 40

ABREVIATIONS:

C = coarse	fbgs = feet below ground surface	HSA = hollow stem auger	MS = medium sand
CG = coarse gravel	FG = fine gravel	LP = low plasticity	NA = not applicable
CS = coarse sand	fmsl = feet above mean sea level	LWD = loose when disturbed	NPF = not plastic fines
EOB = end of boring	FS = fine sand	M = medium	SA = sub-angular
F = fines or fine	HP = high plasticity	MP = medium plasticity	SR = sub-rounded
			SS = split spoon

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE PLLC

FIELD BOREHOLE/MONITORING INSTALLATION LOG

Project Name:	7503 Niagara Falls Blvd.	**BORING NUMBER:**	**MW-5**
Project Number:	0101 002-400	**Location:**	7503 Niagara Falls Blvd.
Client:	GLR Holdings	**Start Date/Time:**	06/12/06 10:55 AM
Drilling Company:	Earth Dimensions, Inc.	**End Date/Time:**	06/12/06 12:20 PM
Driller:	Phil	**Logged By:**	TAB
Helper:	Harold Kleever	**Drilling Method:**	4.25" HSA
Rig Type:	CME 550	**Weather:**	Partly cloudy, low 50's wind 0-5 mph NW

Elevation (fmsl)	Depth (fbgs)	Sample No.	Blows (per 6")	SPT N-Value	Recovery	SAMPLE DESCRIPTION USCS Classification: Color, Moisture Condition, Percentage of Soil Type, Texture, Plasticity, Fabric, Bedding, Weathering/Fracturing, Odor, Other	PID Scan (ppm)	PID HDSP (ppm)	Well Construction Details
0.00	0	S1	4, 21, 7, 5	28	0.7	At grade concrete slab ~ 0.4 inches thick. **0.0 - 0.3:** Gray moist, sandy gravel, loose, base material below slab, FILL. **0.3 - 0.4:** Brown, moist, loose sand with little silt, FILL. **0.4 - 0.7:** Reddish brown, moist, silty clay, w/gray sand lenses & fracturing	0.0	0.0	Bentonite Chips; 2" Sch. 40 PVC riser
-2.00	2	S2	5, 4, 5, 5	9	0.0	**NO RECOVERY**	0.0	0.0	
-4.00	4	S3	3, 3, 3, 5	6	1.5	**4.0 - 5.5:** Grey, moist to wet clayey silt with little sand, grading to sandy silt at 5.4' bg, medium soft to firm, w/some iron staining, CL.	0.0	0.0	sand pack - #00N (10.0 - 3.0 fbgs); 2" Sch. 40 PVC screen, 0.010" slot
-6.00	6	S4	8, 11, 12, 21	23	2.0	**6.0 - 8.0:** Reddish brown, moist silty clay with little fine sand, stiff, w/ some medium gray clay lenses and grey sand partings, CL	0.0	0.0	
-8.00	8	S5	8, 17, 19, 26	36	2.0	**8.0 -10.0:** Same as S4	0.0	0.0	
-10.00	10	S6		0		EOB 10.0 fbgs.			
-12.00	12	S7		0					
-14.00	14	S8		0					
-16.00	16	S9		0					
-18.00	18								

ABREVIATIONS:

C = coarse	fbgs = feet below ground surface	HSA = hollow stem auger	MS = medium sand
CG = coarse gravel	FG = fine gravel	LP = low plasticity	NA = not applicable
CS = coarse sand	fmsl = feet above mean sea level	LWD = loose when disturbed	NPF = not plastic fines
EOB = end of boring	FS = fine sand	M = medium	SA = sub-angular
F = fines or fine	HP = high plasticity	MP = medium plasticity	SR = sub-rounded
			SS = split spoon

APPENDIX C

RI ANALYTICAL DATA

Benchmark - 7503 Niagara Falls Blvd. Site
Benchmark - 7503 Niagara Falls Blvd. site
BENCHMARK - SOIL-ASP00 (CLP) VOLATILES

Client ID / Job No / Sample Date	Lab ID	BLIND DUP A06-6735 06/12/2006	A6673504	MW-3 (2-4) A06-6735 06/12/2006	A6673502	MW-4 (2-4) A06-6735 06/12/2006	A6673503	MW-5 (4-6) A06-6735 06/12/2006	A6673501
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Chloromethane	UG/KG	ND	13	ND	12	ND	13	ND	12
Bromomethane	UG/KG	ND	13	ND	12	ND	13	ND	12
Vinyl chloride	UG/KG	ND	13	ND	12	ND	13	ND	12
Chloroethane	UG/KG	ND	13	ND	12	ND	13	ND	12
Methylene chloride	UG/KG	10 BJ	13	10 BJ	12	12 BJ	13	16 B	12
Acetone	UG/KG	29	13	18	12	33	13	12	12
Carbon Disulfide	UG/KG	ND	13	ND	12	ND	13	ND	12
1,1-Dichloroethene	UG/KG	ND	13	ND	12	ND	13	ND	12
1,1-Dichloroethane	UG/KG	ND	13	ND	12	ND	13	ND	12
Chloroform	UG/KG	ND	13	ND	12	ND	13	ND	12
1,2-Dichloroethane	UG/KG	ND	13	ND	12	ND	13	ND	12
2-Butanone	UG/KG	6 J	13	9 J	12	7 J	13	ND	12
1,1,1-Trichloroethane	UG/KG	ND	13	ND	12	ND	13	ND	12
Carbon Tetrachloride	UG/KG	ND	13	ND	12	ND	13	ND	12
Bromodichloromethane	UG/KG	ND	13	ND	12	ND	13	ND	12
1,2-Dichloropropane	UG/KG	ND	13	ND	12	ND	13	ND	12
cis-1,3-Dichloropropene	UG/KG	ND	13	ND	12	ND	13	ND	12
Trichloroethene	UG/KG	ND	13	ND	12	ND	13	ND	12
Dibromochloromethane	UG/KG	ND	13	ND	12	ND	13	ND	12
1,1,2-Trichloroethane	UG/KG	ND	13	ND	12	ND	13	ND	12
Benzene	UG/KG	ND	13	ND	12	ND	13	ND	12
trans-1,3-Dichloropropene	UG/KG	ND	13	ND	12	ND	13	ND	12
Bromoform	UG/KG	ND	13	ND	12	ND	13	ND	12
4-Methyl-2-pentanone	UG/KG	ND	13	ND	12	ND	13	ND	12
2-Hexanone	UG/KG	ND	13	ND	12	ND	13	ND	12
Tetrachloroethene	UG/KG	ND	13	ND	12	ND	13	ND	12
Toluene	UG/KG	ND	13	ND	12	ND	13	ND	12
1,1,2,2-Tetrachloroethane	UG/KG	ND	13	ND	12	ND	13	ND	12
Chlorobenzene	UG/KG	ND	13	ND	12	ND	13	ND	12
Ethylbenzene	UG/KG	ND	13	ND	12	ND	13	ND	12
Styrene	UG/KG	ND	13	ND	12	ND	13	ND	12
Total Xylenes	UG/KG	ND	13	ND	12	ND	13	ND	12
1,1,2-Trichloro-1,2,2-trifluor	UG/KG	ND	13	ND	12	ND	13	ND	12
cis-1,2-Dichloroethene	UG/KG	ND	13	ND	12	ND	13	ND	12
trans-1,2-Dichloroethene	UG/KG	ND	13	ND	12	ND	13	ND	12
Dichlorodifluoromethane	UG/KG	2 BJ	13	2 BJ	12	2 BJ	13	2 BJ	12
Trichlorofluoromethane	UG/KG	6 BJ	13	5 BJ	12	5 BJ	13	5 BJ	12
Methyl acetate	UG/KG	ND	13	ND	12	ND	13	ND	12
Methyl-t-Butyl Ether (MTBE)	UG/KG	ND	13	ND	12	ND	13	ND	12
Cyclohexane	UG/KG	ND	13	ND	12	ND	13	ND	12
Methylcyclohexane	UG/KG	ND	13	ND	12	ND	13	ND	12
1,2-Dibromoethane	UG/KG	ND	13	ND	12	ND	13	ND	12
Isopropylbenzene	UG/KG	ND	13	ND	12	ND	13	ND	12

NA = Not Applicable   ND = Not Detected

Benchmark - 7503 Niagara Falls Blvd. Site
Benchmark - 7503 Niagara Falls Blvd. site
BENCHMARK - SOIL-ASP00 (CLP) VOLATILES

Client ID Job No / Lab ID Sample Date		BLIND DUP A06-6735 06/12/2006	A6673504	MW-3 (2-4) A06-6735 06/12/2006	A6673502	MW-4 (2-4) A06-6735 06/12/2006	A6673503	MW-5 (4-6) A06-6735 06/12/2006	A6673501
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
1,3-Dichlorobenzene	UG/KG	ND	13	ND	12	ND	13	ND	12
1,4-Dichlorobenzene	UG/KG	ND	13	ND	12	ND	13	ND	12
1,2-Dichlorobenzene	UG/KG	ND	13	ND	12	ND	13	ND	12
1,2-Dibromo-3-chloropropane	UG/KG	ND	13	ND	12	ND	13	ND	12
1,2,4-Trichlorobenzene	UG/KG	ND	13	ND	12	ND	13	ND	12
IS/SURROGATE(S)									
Bromochloromethane	%	91	50-200	95	50-200	94	50-200	89	50-200
1,4-Difluorobenzene	%	89	50-200	92	50-200	91	50-200	88	50-200
Chlorobenzene-D5	%	88	50-200	91	50-200	90	50-200	87	50-200
p-Bromofluorobenzene	%	97	59-113	96	59-113	96	59-113	101	59-113
1,2-Dichloroethane-D4	%	106	70-121	102	70-121	102	70-121	108	70-121
Toluene-D8	%	101	84-138	100	84-138	100	84-138	105	84-138

NA = Not Applicable   ND = Not Detected

Benchmark - 7503 Niagara Falls Blvd. Site
Benchmark - 7503 Niagara Falls Blvd. site
BENCHMARK - SOIL - ASP00 (CLP) SEMIVOLATILES

Client ID / Job No / Sample Date — Lab ID		BLIND DUP A06-6735 06/12/2006	A6673504	MW-3 (2-4) A06-6735 06/12/2006	A6673502	MW-4 (2-4) A06-6735 06/12/2006	A6673503	MW-5 (4-6) A06-6735 06/12/2006	A6673501
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Benzaldehyde	UG/KG	ND	860	ND	820	ND	870	ND	800
Phenol	UG/KG	24 J	430	ND	410	ND	440	ND	400
Bis(2-chloroethyl) ether	UG/KG	ND	430	ND	410	ND	440	ND	400
2-Chlorophenol	UG/KG	ND	430	ND	410	ND	440	ND	400
2-Methylphenol	UG/KG	ND	430	ND	410	ND	440	ND	400
2,2'-Oxybis(1-Chloropropane)	UG/KG	ND	430	ND	410	ND	440	ND	400
Acetophenone	UG/KG	ND	860	ND	820	ND	870	ND	800
4-Methylphenol	UG/KG	ND	430	ND	410	ND	440	ND	400
N-Nitroso-Di-n-propylamine	UG/KG	ND	430	ND	410	ND	440	ND	400
Hexachloroethane	UG/KG	ND	430	ND	410	ND	440	ND	400
Nitrobenzene	UG/KG	ND	430	ND	410	ND	440	ND	400
Isophorone	UG/KG	ND	430	ND	410	ND	440	ND	400
2-Nitrophenol	UG/KG	ND	430	ND	410	ND	440	ND	400
2,4-Dimethylphenol	UG/KG	ND	430	ND	410	ND	440	ND	400
Bis(2-chloroethoxy) methane	UG/KG	ND	430	ND	410	ND	440	ND	400
2,4-Dichlorophenol	UG/KG	ND	430	ND	410	ND	440	ND	400
Naphthalene	UG/KG	ND	430	ND	410	ND	440	ND	400
4-Chloroaniline	UG/KG	ND	430	ND	410	ND	440	ND	400
Hexachlorobutadiene	UG/KG	ND	430	ND	410	ND	440	ND	400
Caprolactam	UG/KG	ND	860	ND	820	ND	870	ND	800
4-Chloro-3-methylphenol	UG/KG	ND	430	ND	410	ND	440	ND	400
2-Methylnaphthalene	UG/KG	ND	430	ND	410	ND	440	ND	400
Hexachlorocyclopentadiene	UG/KG	ND	430	ND	410	ND	440	ND	400
2,4,6-Trichlorophenol	UG/KG	ND	430	ND	410	ND	440	ND	400
2,4,5-Trichlorophenol	UG/KG	ND	1000	ND	1000	ND	1000	ND	960
Biphenyl	UG/KG	ND	860	ND	820	ND	870	ND	800
2-Chloronaphthalene	UG/KG	ND	430	ND	410	ND	440	ND	400
2-Nitroaniline	UG/KG	ND	1000	ND	1000	ND	1000	ND	960
Dimethyl phthalate	UG/KG	ND	430	ND	410	ND	440	ND	400
2,6-Dinitrotoluene	UG/KG	ND	430	ND	410	ND	440	ND	400
Acenaphthylene	UG/KG	ND	430	ND	410	ND	440	ND	400
3-Nitroaniline	UG/KG	ND	1000	ND	1000	ND	1000	ND	960
Acenaphthene	UG/KG	ND	430	ND	410	ND	440	ND	400
2,4-Dinitrophenol	UG/KG	ND	1000	ND	1000	ND	1000	ND	960
4-Nitrophenol	UG/KG	ND	1000	ND	1000	ND	1000	ND	960
Dibenzofuran	UG/KG	ND	430	ND	410	ND	440	ND	400
2,4-Dinitrotoluene	UG/KG	ND	430	ND	410	ND	440	ND	400
Diethyl phthalate	UG/KG	ND	430	ND	410	ND	440	ND	400
Fluorene	UG/KG	ND	430	ND	410	ND	440	ND	400
4-Chlorophenyl phenyl ether	UG/KG	ND	430	ND	410	ND	440	ND	400
4-Nitroaniline	UG/KG	ND	1000	ND	1000	ND	1000	ND	960
4,6-Dinitro-2-methylphenol	UG/KG	ND	1000	ND	1000	ND	1000	ND	960
N-nitrosodiphenylamine	UG/KG	ND	430	ND	410	ND	440	ND	400

NA = Not Applicable   ND = Not Detected

Client ID / Job No / Sample Date — Lab ID		BLIND DUP A06-6735 06/12/2006	A6673504	MW-3 (2-4) A06-6735 06/12/2006	A6673502	MW-4 (2-4) A06-6735 06/12/2006	A6673503	MW-5 (4-6) A06-6735 06/12/2006	A6673501
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
4-Bromophenyl phenyl ether	UG/KG	ND	430	ND	410	ND	440	ND	400
Hexachlorobenzene	UG/KG	ND	430	ND	410	ND	440	ND	400
Atrazine	UG/KG	ND	860	ND	820	ND	870	ND	800
Pentachlorophenol	UG/KG	ND	1000	ND	1000	ND	1000	ND	960
Phenanthrene	UG/KG	110 J	430	ND	410	52 J	440	ND	400
Anthracene	UG/KG	19 J	430	ND	410	ND	440	ND	400
Carbazole	UG/KG	22 J	430	ND	410	ND	440	ND	400
Di-n-butyl phthalate	UG/KG	15 J	430	ND	410	ND	440	ND	400
Fluoranthene	UG/KG	210 J	430	ND	410	97 J	440	ND	400
Pyrene	UG/KG	220 J	430	ND	410	100 J	440	ND	400
Butyl benzyl phthalate	UG/KG	ND	430	ND	410	ND	440	ND	400
3,3'-Dichlorobenzidine	UG/KG	ND	430	ND	410	ND	440	ND	400
Benzo(a)anthracene	UG/KG	120 J	430	ND	410	48 J	440	ND	400
Chrysene	UG/KG	150 J	430	ND	410	56 J	440	ND	400
Bis(2-ethylhexyl) phthalate	UG/KG	610 B	430	280 BJ	410	890 B	440	110 BJ	400
Di-n-octyl phthalate	UG/KG	24 J	430	ND	410	ND	440	ND	400
Benzo(b)fluoranthene	UG/KG	240 J	430	ND	410	100 J	440	ND	400
Benzo(k)fluoranthene	UG/KG	270 J	430	ND	410	110 J	440	ND	400
Benzo(a)pyrene	UG/KG	130 J	430	ND	410	52 J	440	ND	400
Indeno(1,2,3-cd)pyrene	UG/KG	120 J	430	ND	410	49 J	440	ND	400
Dibenzo(a,h)anthracene	UG/KG	43 J	430	ND	410	16 J	440	ND	400
Benzo(ghi)perylene	UG/KG	49 J	430	ND	410	23 J	440	ND	400
IS/SURROGATE(S)									
1,4-Dichlorobenzene-D4	%	79	50-200	116	50-200	100	50-200	89	50-200
Naphthalene-D8	%	82	50-200	120	50-200	104	50-200	92	50-200
Acenaphthene-D10	%	82	50-200	122	50-200	103	50-200	91	50-200
Phenanthrene-D10	%	83	50-200	130	50-200	109	50-200	100	50-200
Chrysene-D12	%	66	50-200	91	50-200	82	50-200	79	50-200
Perylene-D12	%	79	50-200	93	50-200	90	50-200	60	50-200
Nitrobenzene-D5	%	84	23-120	61	23-120	57	23-120	106	23-120
2-Fluorobiphenyl	%	84	30-115	61	30-115	60	30-115	100	30-115
p-Terphenyl-d14	%	132	18-137	99	18-137	90	18-137	153 *	18-137
Phenol-D5	%	93	24-113	64	24-113	70	24-113	116 *	24-113
2-Fluorophenol	%	80	25-121	56	25-121	58	25-121	101	25-121
2,4,6-Tribromophenol	%	109	19-122	69	19-122	74	19-122	101	19-122
2-Chlorophenol-d4	%	86	20-130	59	20-130	62	20-130	107	20-130
1,2-Dichlorobenzene-d4	%	57	20-130	47	20-130	39	20-130	75	20-130

Benchmark - 7503 Niagara Falls Blvd. Site
Benchmark - 7503 Niagara Falls Blvd. site
STEELFIELDS - ASP00 8082 - PCBS - S

Client ID Job No / Lab ID Sample Date		BLIND DUP A06-6735 06/12/2006	A6673504	MW-3 (2-4) A06-6735 06/12/2006	A6673502	MW-4 (2-4) A06-6735 06/12/2006	A6673503	MW-5 (4-6) A06-6735 06/12/2006	A6673501
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Aroclor 1016	UG/KG	ND	100	ND	100	ND	110	ND	97
Aroclor 1221	UG/KG	ND	100	ND	100	ND	110	ND	97
Aroclor 1232	UG/KG	ND	100	ND	100	ND	110	ND	97
Aroclor 1242	UG/KG	ND	100	ND	100	ND	110	ND	97
Aroclor 1248	UG/KG	ND	100	ND	100	ND	110	ND	97
Aroclor 1254	UG/KG	ND	100	ND	100	ND	110	ND	97
Aroclor 1260	UG/KG	ND	100	ND	100	ND	110	ND	97
SURROGATE(S)									
Tetrachloro-m-xylene	%	68	32-148	78	32-148	61	32-148	58	32-148
Decachlorobiphenyl	%	92	30-150	107	30-150	98	30-150	100	30-150

NA = Not Applicable   ND = Not Detected

Client ID / Job No / Sample Date	Lab ID	BLIND DUP A06-6735 06/12/2006	A6673504	MW-3 (2-4) A06-6735 06/12/2006	A6673502	MW-4 (2-4) A06-6735 06/12/2006	A6673503	MW-5 (4-6) A06-6735 06/12/2006	A6673501
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Aluminum - Total	MG/KG	9950	3.5	12600	3.4	11500	3.3	9400	3.5
Antimony - Total	MG/KG	ND N	0.46	ND N	0.45	ND N	0.43	ND N	0.46
Arsenic - Total	MG/KG	2.1 N*	0.39	10.8 N*	0.38	3.7 N*	0.36	4.1 N*	0.38
Barium - Total	MG/KG	75.5 *	0.01	76.6 *	0.01	82.4 *	0.01	49.4 *	0.01
Beryllium - Total	MG/KG	0.48 B*	0.03	1.0 *	0.03	0.63 *	0.03	0.47 B*	0.03
Cadmium - Total	MG/KG	0.26 B	0.04	0.24 B	0.04	0.21 B	0.04	0.16 B	0.04
Calcium - Total	MG/KG	6890 E*	2.2	3180 E*	2.1	5300 E*	2.0	17600 E*	2.2
Chromium - Total	MG/KG	15.8	0.05	18.5	0.04	16.2	0.04	14.6	0.05
Cobalt - Total	MG/KG	5.4 BE*	0.06	9.5 E*	0.06	7.2 E*	0.06	6.9 E*	0.06
Copper - Total	MG/KG	13.0 *	0.10	28.1 *	0.10	17.2 *	0.10	19.5 *	0.10
Iron - Total	MG/KG	11500 E*	2.2	28800 E*	2.1	18100 E*	2.0	15900 E*	2.2
Lead - Total	MG/KG	16.3 N*	0.19	17.6 N*	0.19	14.7 N*	0.18	8.2 N*	0.19
Magnesium - Total	MG/KG	3710 E*	2.3	3910 E*	2.2	3920 E*	2.1	5390 E*	2.3
Manganese - Total	MG/KG	102 EN	0.02	150 EN	0.02	111 EN	0.01	176 EN	0.02
Mercury - Total	MG/KG	ND	0.062	ND	0.059	ND	0.060	ND	0.050
Nickel - Total	MG/KG	15.4 E	0.11	23.7 E	0.10	18.1 E	0.10	18.3 E	0.10
Potassium - Total	MG/KG	572 B*	2.8	1410 *	2.7	796 *	2.6	1560 *	2.8
Selenium - Total	MG/KG	ND	0.69	ND	0.67	ND	0.64	ND	0.68
Silver - Total	MG/KG	ND	0.12	ND	0.11	ND	0.11	ND	0.11
Sodium - Total	MG/KG	44.8 B	18.3	337 B	17.7	75.8 B	17.0	144 B	18.0
Thallium - Total	MG/KG	ND	0.56	ND	0.54	ND	0.52	ND	0.55
Vanadium - Total	MG/KG	15.6 E*	0.06	59.0 E*	0.06	21.9 E*	0.06	20.6 E*	0.06
Zinc - Total	MG/KG	64.9 EN*	0.18	59.7 EN*	0.18	62.0 EN*	0.17	46.2 EN*	0.18

NA = Not Applicable   ND = Not Detected

Date: 08/01/2006
Time: 12:11:09

Benchmark - 7503 Niagara Falls Blvd. Site
Benchmark - 7503 Niagara Falls Blvd. site-water
EPA ASP 2000 - VOLATILES

Rept: AN0326

Client ID / Job No / Sample Date — Lab ID		BLIND DUP A06-7205 06/23/2006	A6720508	MW-1 A06-7205 06/23/2006	A6720501	MW-14 A06-7205 06/23/2006	A6720505	MW-14 DL A06-7205 06/23/2006	A6720505DL
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Chloromethane	UG/L	ND	10	ND	50	ND	10	ND	80
Bromomethane	UG/L	ND	10	ND	50	ND	10	ND	80
Vinyl chloride	UG/L	54	10	ND	50	850 E	10	910 D	80
Chloroethane	UG/L	ND	10	ND	50	ND	10	ND	80
Methylene chloride	UG/L	ND	10	ND	50	ND	10	ND	80
Acetone	UG/L	1 J	10	ND	50	2 J	10	8 DJ	80
Carbon Disulfide	UG/L	ND	10	ND	50	ND	10	ND	80
1,1-Dichloroethene	UG/L	1 J	10	ND	50	83	10	85 D	80
1,1-Dichloroethane	UG/L	ND	10	ND	50	ND	10	ND	80
Chloroform	UG/L	ND	10	ND	50	ND	10	ND	80
1,2-Dichloroethane	UG/L	ND	10	ND	50	ND	10	ND	80
2-Butanone	UG/L	ND	10	ND	50	ND	10	ND	80
1,1,1-Trichloroethane	UG/L	ND	10	ND	50	ND	10	ND	80
Carbon Tetrachloride	UG/L	ND	10	ND	50	ND	10	ND	80
Bromodichloromethane	UG/L	ND	10	ND	50	ND	10	ND	80
1,2-Dichloropropane	UG/L	ND	10	ND	50	ND	10	ND	80
cis-1,3-Dichloropropene	UG/L	ND	10	ND	50	ND	10	ND	80
Trichloroethene	UG/L	ND	10	ND	50	510 E	10	540 D	80
Dibromochloromethane	UG/L	ND	10	ND	50	ND	10	ND	80
1,1,2-Trichloroethane	UG/L	ND	10	ND	50	9 J	10	9 DJ	80
Benzene	UG/L	ND	10	ND	50	1 J	10	ND	80
trans-1,3-Dichloropropene	UG/L	ND	10	ND	50	ND	10	ND	80
Bromoform	UG/L	ND	10	ND	50	ND	10	ND	80
4-Methyl-2-pentanone	UG/L	ND	10	ND	50	ND	10	ND	80
2-Hexanone	UG/L	ND	10	ND	50	ND	10	ND	80
Tetrachloroethene	UG/L	ND	10	ND	50	600 E	10	640 D	80
Toluene	UG/L	ND	10	ND	50	1 J	10	ND	80
1,1,2,2-Tetrachloroethane	UG/L	ND	10	ND	50	ND	10	ND	80
Chlorobenzene	UG/L	ND	10	ND	50	ND	10	ND	80
Ethylbenzene	UG/L	ND	10	ND	50	ND	10	ND	80
Styrene	UG/L	ND	10	ND	50	ND	10	ND	80
Total Xylenes	UG/L	ND	10	ND	50	ND	10	ND	80
Dichlorodifluoromethane	UG/L	ND	10	ND	50	ND	10	ND	80
Trichlorofluoromethane	UG/L	ND	10	ND	50	ND	10	ND	80
1,1,2-Trichloro-1,2,2-trifluor	UG/L	ND	10	ND	50	ND	10	ND	80
trans-1,2-Dichloroethene	UG/L	ND	10	ND	50	960 E	10	1300 D	80
Methyl-t-Butyl Ether (MTBE)	UG/L	ND	10	ND	50	ND	10	ND	80
cis-1,2-Dichloroethene	UG/L	30	10	ND	50	860 E	10	1100 D	80
Cyclohexane	UG/L	ND	10	ND	50	ND	10	ND	80
Methylcyclohexane	UG/L	ND	10	ND	50	ND	10	ND	80
1,2-Dibromoethane	UG/L	ND	10	ND	50	ND	10	ND	80
Isopropylbenzene	UG/L	ND	10	ND	50	ND	10	ND	80
1,3-Dichlorobenzene	UG/L	ND	10	ND	50	ND	10	ND	80

NA = Not Applicable   ND = Not Detected

Benchmark - 7503 Niagara Falls Blvd. Site
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EPA ASP 2000 - VOLATILES

Client ID / Job No / Sample Date — Lab ID		BLIND DUP A06-7205 06/23/2006	A6720508	MW-1 A06-7205 06/23/2006	A6720501	MW-14 A06-7205 06/23/2006	A6720505	MW-14 DL A06-7205 06/23/2006	A6720505DL
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
1,4-Dichlorobenzene	UG/L	ND	10	ND	50	ND	10	ND	80
1,2-Dichlorobenzene	UG/L	ND	10	ND	50	ND	10	ND	80
1,2-Dibromo-3-chloropropane	UG/L	ND	10	ND	50	ND	10	ND	80
1,2,4-Trichlorobenzene	UG/L	ND	10	ND	50	ND	10	ND	80
Methyl acetate	UG/L	ND	10	ND	50	ND	10	ND	80
IS/SURROGATE(S)									
Bromochloromethane	%	96	50-200	96	50-200	100	50-200	97	50-200
1,4-Difluorobenzene	%	95	50-200	97	50-200	98	50-200	97	50-200
Chlorobenzene-D5	%	94	50-200	96	50-200	97	50-200	96	50-200
p-Bromofluorobenzene	%	99	86-115	96	86-115	100	86-115	98	86-115
1,2-Dichloroethane-D4	%	103	76-114	104	76-114	101	76-114	104	76-114
Toluene-D8	%	101	88-110	100	88-110	100	88-110	100	88-110

NA = Not Applicable ND = Not Detected

Benchmark - 7503 Niagara Falls Blvd. Site
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EPA ASP 2000 - VOLATILES

Client ID / Job No / Sample Date	Lab ID	MW-17 A06-7205 06/23/2006	A6720506	MW-19 A06-7205 06/23/2006	A6720507	MW-2 A06-7205 06/23/2006	A6720502	MW-4 A06-7205 06/23/2006	A6720503
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Chloromethane	UG/L	ND	10	ND	10	ND	50	ND	50
Bromomethane	UG/L	ND	10	ND	10	ND	50	ND	50
Vinyl chloride	UG/L	ND	10	58	10	ND	50	ND	50
Chloroethane	UG/L	ND	10	ND	10	ND	50	ND	50
Methylene chloride	UG/L	ND	10	ND	10	7 J	50	7 J	50
Acetone	UG/L	2 J	10	ND	10	ND	50	ND	50
Carbon Disulfide	UG/L	ND	10	ND	10	6 J	50	6 J	50
1,1-Dichloroethene	UG/L	ND	10	1 J	10	ND	50	ND	50
1,1-Dichloroethane	UG/L	ND	10	ND	10	ND	50	ND	50
Chloroform	UG/L	ND	10	ND	10	ND	50	ND	50
1,2-Dichloroethane	UG/L	ND	10	ND	10	ND	50	ND	50
2-Butanone	UG/L	ND	10	ND	10	ND	50	ND	50
1,1,1-Trichloroethane	UG/L	ND	10	ND	10	ND	50	ND	50
Carbon Tetrachloride	UG/L	ND	10	ND	10	ND	50	ND	50
Bromodichloromethane	UG/L	ND	10	ND	10	ND	50	ND	50
1,2-Dichloropropane	UG/L	ND	10	ND	10	ND	50	ND	50
cis-1,3-Dichloropropene	UG/L	ND	10	ND	10	ND	50	ND	50
Trichloroethene	UG/L	2 J	10	1 J	10	ND	50	ND	50
Dibromochloromethane	UG/L	ND	10	ND	10	ND	50	ND	50
1,1,2-Trichloroethane	UG/L	ND	10	ND	10	ND	50	ND	50
Benzene	UG/L	ND	10	ND	10	ND	50	ND	50
trans-1,3-Dichloropropene	UG/L	ND	10	ND	10	ND	50	ND	50
Bromoform	UG/L	ND	10	ND	10	ND	50	ND	50
4-Methyl-2-pentanone	UG/L	ND	10	ND	10	ND	50	ND	50
2-Hexanone	UG/L	ND	10	ND	10	ND	50	ND	50
Tetrachloroethene	UG/L	4 J	10	1 J	10	ND	50	ND	50
Toluene	UG/L	ND	10	ND	10	ND	50	ND	50
1,1,2,2-Tetrachloroethane	UG/L	ND	10	ND	10	ND	50	ND	50
Chlorobenzene	UG/L	ND	10	ND	10	ND	50	ND	50
Ethylbenzene	UG/L	ND	10	ND	10	ND	50	ND	50
Styrene	UG/L	ND	10	ND	10	ND	50	ND	50
Total Xylenes	UG/L	ND	10	ND	10	ND	50	ND	50
Dichlorodifluoromethane	UG/L	ND	10	ND	10	ND	50	ND	50
Trichlorofluoromethane	UG/L	ND	10	ND	10	ND	50	ND	50
1,1,2-Trichloro-1,2,2-trifluor	UG/L	ND	10	ND	10	ND	50	ND	50
trans-1,2-Dichloroethene	UG/L	2 J	10	ND	10	ND	50	ND	50
Methyl-t-Butyl Ether (MTBE)	UG/L	ND	10	ND	10	ND	50	ND	50
cis-1,2-Dichloroethene	UG/L	1 J	10	30	10	ND	50	ND	50
Cyclohexane	UG/L	ND	10	ND	10	ND	50	ND	50
Methylcyclohexane	UG/L	ND	10	ND	10	ND	50	ND	50
1,2-Dibromoethane	UG/L	ND	10	ND	10	ND	50	ND	50
Isopropylbenzene	UG/L	ND	10	ND	10	ND	50	ND	50
1,3-Dichlorobenzene	UG/L	ND	10	ND	10	ND	50	ND	50

NA = Not Applicable ND = Not Detected

Benchmark - 7503 Niagara Falls Blvd. Site
Benchmark - 7503 Niagara Falls Blvd. site-water
EPA ASP 2000 - VOLATILES

Client ID / Job No / Sample Date	Lab ID	MW-17 A06-7205 06/23/2006	A6720506	MW-19 A06-7205 06/23/2006	A6720507	MW-2 A06-7205 06/23/2006	A6720502	MW-4 A06-7205 06/23/2006	A6720503
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
1,4-Dichlorobenzene	UG/L	ND	10	ND	10	ND	50	ND	50
1,2-Dichlorobenzene	UG/L	ND	10	ND	10	ND	50	ND	50
1,2-Dibromo-3-chloropropane	UG/L	ND	10	ND	10	ND	50	ND	50
1,2,4-Trichlorobenzene	UG/L	ND	10	ND	10	ND	50	ND	50
Methyl acetate	UG/L	ND	10	ND	10	ND	50	ND	50
IS/SURROGATE(S)									
Bromochloromethane	%	97	50-200	96	50-200	97	50-200	97	50-200
1,4-Difluorobenzene	%	96	50-200	95	50-200	96	50-200	96	50-200
Chlorobenzene-D5	%	96	50-200	94	50-200	95	50-200	96	50-200
p-Bromofluorobenzene	%	99	86-115	99	86-115	98	86-115	98	86-115
1,2-Dichloroethane-D4	%	104	76-114	104	76-114	103	76-114	103	76-114
Toluene-D8	%	100	88-110	101	88-110	101	88-110	100	88-110

NA = Not Applicable   ND = Not Detected

Date: 08/01/2006
Time: 12:11:09

Benchmark - 7503 Niagara Falls Blvd. Site
Benchmark - 7503 Niagara Falls Blvd. site-water
EPA ASP 2000 - VOLATILES

Rept: AN0326

Client ID / Job No / Sample Date — Lab ID		MW-5 / A06-7205 / 06/23/2006	A6720504						
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Chloromethane	UG/L	ND	50	NA		NA		NA	
Bromomethane	UG/L	ND	50	NA		NA		NA	
Vinyl chloride	UG/L	ND	50	NA		NA		NA	
Chloroethane	UG/L	ND	50	NA		NA		NA	
Methylene chloride	UG/L	7 J	50	NA		NA		NA	
Acetone	UG/L	11 J	50	NA		NA		NA	
Carbon Disulfide	UG/L	17 J	50	NA		NA		NA	
1,1-Dichloroethene	UG/L	ND	50	NA		NA		NA	
1,1-Dichloroethane	UG/L	ND	50	NA		NA		NA	
Chloroform	UG/L	ND	50	NA		NA		NA	
1,2-Dichloroethane	UG/L	ND	50	NA		NA		NA	
2-Butanone	UG/L	ND	50	NA		NA		NA	
1,1,1-Trichloroethane	UG/L	ND	50	NA		NA		NA	
Carbon Tetrachloride	UG/L	ND	50	NA		NA		NA	
Bromodichloromethane	UG/L	ND	50	NA		NA		NA	
1,2-Dichloropropane	UG/L	ND	50	NA		NA		NA	
cis-1,3-Dichloropropene	UG/L	ND	50	NA		NA		NA	
Trichloroethene	UG/L	ND	50	NA		NA		NA	
Dibromochloromethane	UG/L	ND	50	NA		NA		NA	
1,1,2-Trichloroethane	UG/L	ND	50	NA		NA		NA	
Benzene	UG/L	ND	50	NA		NA		NA	
trans-1,3-Dichloropropene	UG/L	ND	50	NA		NA		NA	
Bromoform	UG/L	ND	50	NA		NA		NA	
4-Methyl-2-pentanone	UG/L	ND	50	NA		NA		NA	
2-Hexanone	UG/L	ND	50	NA		NA		NA	
Tetrachloroethene	UG/L	ND	50	NA		NA		NA	
Toluene	UG/L	ND	50	NA		NA		NA	
1,1,2,2-Tetrachloroethane	UG/L	ND	50	NA		NA		NA	
Chlorobenzene	UG/L	ND	50	NA		NA		NA	
Ethylbenzene	UG/L	ND	50	NA		NA		NA	
Styrene	UG/L	ND	50	NA		NA		NA	
Total Xylenes	UG/L	ND	50	NA		NA		NA	
Dichlorodifluoromethane	UG/L	ND	50	NA		NA		NA	
Trichlorofluoromethane	UG/L	ND	50	NA		NA		NA	
1,1,2-Trichloro-1,2,2-trifluor	UG/L	ND	50	NA		NA		NA	
trans-1,2-Dichloroethene	UG/L	ND	50	NA		NA		NA	
Methyl-t-Butyl Ether (MTBE)	UG/L	ND	50	NA		NA		NA	
cis-1,2-Dichloroethene	UG/L	ND	50	NA		NA		NA	
Cyclohexane	UG/L	ND	50	NA		NA		NA	
Methylcyclohexane	UG/L	ND	50	NA		NA		NA	
1,2-Dibromoethane	UG/L	ND	50	NA		NA		NA	
Isopropylbenzene	UG/L	ND	50	NA		NA		NA	
1,3-Dichlorobenzene	UG/L	ND	50	NA		NA		NA	

NA = Not Applicable ND = Not Detected

Benchmark - 7503 Niagara Falls Blvd. Site
Benchmark - 7503 Niagara Falls Blvd. site-water
EPA ASP 2000 - VOLATILES

Client ID / Job No / Lab ID / Sample Date		MW-5 / A06-7205 / A6720504 / 06/23/2006							
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
1,4-Dichlorobenzene	UG/L	ND	50	NA		NA		NA	
1,2-Dichlorobenzene	UG/L	ND	50	NA		NA		NA	
1,2-Dibromo-3-chloropropane	UG/L	ND	50	NA		NA		NA	
1,2,4-Trichlorobenzene	UG/L	ND	50	NA		NA		NA	
Methyl acetate	UG/L	ND	50	NA		NA		NA	
IS/SURROGATE(S)									
Bromochloromethane	%	96	50-200	NA		NA		NA	
1,4-Difluorobenzene	%	96	50-200	NA		NA		NA	
Chlorobenzene-D5	%	96	50-200	NA		NA		NA	
p-Bromofluorobenzene	%	98	86-115	NA		NA		NA	
1,2-Dichloroethane-D4	%	103	76-114	NA		NA		NA	
Toluene-D8	%	100	88-110	NA		NA		NA	

NA = Not Applicable ND = Not Detected

Date: 08/01/2006
Time: 12:11:09

Benchmark - 7503 Niagara Falls Blvd. Site
Benchmark - 7503 Niagara Falls Blvd. site-water
EPA ASP 2000 - VOLATILES

Rept: AN0326

Client ID Job No Lab ID Sample Date		Trip Blank A06-7205 A6720509 06/22/2006							
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Chloromethane	UG/L	ND	10	NA		NA		NA	
Bromomethane	UG/L	ND	10	NA		NA		NA	
Vinyl chloride	UG/L	ND	10	NA		NA		NA	
Chloroethane	UG/L	ND	10	NA		NA		NA	
Methylene chloride	UG/L	ND	10	NA		NA		NA	
Acetone	UG/L	3 J	10	NA		NA		NA	
Carbon Disulfide	UG/L	ND	10	NA		NA		NA	
1,1-Dichloroethene	UG/L	ND	10	NA		NA		NA	
1,1-Dichloroethane	UG/L	ND	10	NA		NA		NA	
Chloroform	UG/L	ND	10	NA		NA		NA	
1,2-Dichloroethane	UG/L	ND	10	NA		NA		NA	
2-Butanone	UG/L	ND	10	NA		NA		NA	
1,1,1-Trichloroethane	UG/L	ND	10	NA		NA		NA	
Carbon Tetrachloride	UG/L	ND	10	NA		NA		NA	
Bromodichloromethane	UG/L	ND	10	NA		NA		NA	
1,2-Dichloropropane	UG/L	ND	10	NA		NA		NA	
cis-1,3-Dichloropropene	UG/L	ND	10	NA		NA		NA	
Trichloroethene	UG/L	ND	10	NA		NA		NA	
Dibromochloromethane	UG/L	ND	10	NA		NA		NA	
1,1,2-Trichloroethane	UG/L	ND	10	NA		NA		NA	
Benzene	UG/L	ND	10	NA		NA		NA	
trans-1,3-Dichloropropene	UG/L	ND	10	NA		NA		NA	
Bromoform	UG/L	ND	10	NA		NA		NA	
4-Methyl-2-pentanone	UG/L	ND	10	NA		NA		NA	
2-Hexanone	UG/L	ND	10	NA		NA		NA	
Tetrachloroethene	UG/L	ND	10	NA		NA		NA	
Toluene	UG/L	7 J	10	NA		NA		NA	
1,1,2,2-Tetrachloroethane	UG/L	ND	10	NA		NA		NA	
Chlorobenzene	UG/L	ND	10	NA		NA		NA	
Ethylbenzene	UG/L	ND	10	NA		NA		NA	
Styrene	UG/L	ND	10	NA		NA		NA	
Total Xylenes	UG/L	ND	10	NA		NA		NA	
Dichlorodifluoromethane	UG/L	ND	10	NA		NA		NA	
Trichlorofluoromethane	UG/L	ND	10	NA		NA		NA	
1,1,2-Trichloro-1,2,2-trifluor	UG/L	ND	10	NA		NA		NA	
trans-1,2-Dichloroethene	UG/L	ND	10	NA		NA		NA	
Methyl-t-Butyl Ether (MTBE)	UG/L	ND	10	NA		NA		NA	
cis-1,2-Dichloroethene	UG/L	ND	10	NA		NA		NA	
Cyclohexane	UG/L	ND	10	NA		NA		NA	
Methylcyclohexane	UG/L	ND	10	NA		NA		NA	
1,2-Dibromoethane	UG/L	ND	10	NA		NA		NA	
Isopropylbenzene	UG/L	ND	10	NA		NA		NA	
1,3-Dichlorobenzene	UG/L	ND	10	NA		NA		NA	

NA = Not Applicable ND = Not Detected

Benchmark - 7503 Niagara Falls Blvd. Site
Benchmark - 7503 Niagara Falls Blvd. site-water
EPA ASP 2000 - VOLATILES

Client ID / Job No / Lab ID / Sample Date		Trip Blank A06-7205 06/22/2006	A6720509						
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
1,4-Dichlorobenzene	UG/L	ND	10	NA		NA		NA	
1,2-Dichlorobenzene	UG/L	ND	10	NA		NA		NA	
1,2-Dibromo-3-chloropropane	UG/L	ND	10	NA		NA		NA	
1,2,4-Trichlorobenzene	UG/L	ND	10	NA		NA		NA	
Methyl acetate	UG/L	ND	10	NA		NA		NA	
IS/SURROGATE(S)									
Bromochloromethane	%	99	50-200	NA		NA		NA	
1,4-Difluorobenzene	%	97	50-200	NA		NA		NA	
Chlorobenzene-D5	%	96	50-200	NA		NA		NA	
p-Bromofluorobenzene	%	99	86-115	NA		NA		NA	
1,2-Dichloroethane-D4	%	102	76-114	NA		NA		NA	
Toluene-D8	%	102	88-110	NA		NA		NA	

NA = Not Applicable ND = Not Detected

Benchmark - 7503 Niagara Falls Blvd. Site
Benchmark - 7503 Niagara Falls Blvd. site-water
ILM05.2 - TOTAL FE/MN - W

Client ID Job No / Lab ID Sample Date		MW-14 A06-7205 / A6720505 06/23/2006							
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Iron - Total	UG/L	56300	18.0	NA		NA		NA	
Manganese - Total	UG/L	2420	0.13	NA		NA		NA	

NA = Not Applicable ND = Not Detected

Benchmark - 7503 Niagara Falls Blvd. Site
Benchmark - 7503 Niagara Falls Blvd. site-water
BENCHMARK-ILM5.2 SOLUBLE FE/MN-W

Client ID Job No Lab ID Sample Date		MW-14 A06-7205 A6720505 06/23/2006							
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Iron - Soluble	UG/L	351	13.0	NA		NA		NA	
Manganese - Soluble	UG/L	29.1	0.09	NA		NA		NA	

NA = Not Applicable ND = Not Detected

Benchmark - 7503 Niagara Falls Blvd. Site
Benchmark - 7503 Niagara Falls Blvd. site-water
WET CHEMISTRY ANALYSIS

Client ID Job No / Lab ID Sample Date		MW-14 A06-7205 / A6720505 06/23/2006							
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Chemical Oxygen Demand	MG/L	ND	10	NA		NA		NA	
Nitrate	MG/L-N	0.49	0.050	NA		NA		NA	
Sulfate	MG/L	888	150	NA		NA		NA	

NA = Not Applicable   ND = Not Detected

Date: 12/28/2006
Time: 15:39:53

Benchmark - 7503 Niagara Falls Blvd. Site
Benchmark - 7503 Niagara Falls Blvd. site-water
EPA ASP 2000 - VOLATILES

Rept: AN1246

Client ID / Job No / Sample Date — Lab ID		BLIND DUP A06-E857 12/11/2006 — A6E85703		BLIND DUP DL A06-E857 12/11/2006 — A6E85703DL		MW-14 A06-E857 12/11/2006 — A6E85701		MW-19 A06-E857 12/11/2006 — A6E85702	
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Chloromethane	UG/L	ND	10	ND	200	ND	80	ND	10
Bromomethane	UG/L	ND	10	ND	200	ND	80	ND	10
Vinyl chloride	UG/L	420 E	10	390 D	200	380	80	ND	10
Chloroethane	UG/L	ND	10	ND	200	ND	80	24	10
Methylene chloride	UG/L	ND	10	ND	200	ND	80	ND	10
Acetone	UG/L	2 J	10	ND	200	ND	80	ND	10
Carbon Disulfide	UG/L	ND	10	ND	200	ND	80	10	10
1,1-Dichloroethene	UG/L	170	10	150 DJ	200	140	80	1 J	10
1,1-Dichloroethane	UG/L	ND	10	ND	200	ND	80	ND	10
Chloroform	UG/L	ND	10	ND	200	ND	80	ND	10
1,2-Dichloroethane	UG/L	1 J	10	ND	200	ND	80	ND	10
2-Butanone	UG/L	ND	10	ND	200	ND	80	ND	10
1,1,1-Trichloroethane	UG/L	ND	10	ND	200	ND	80	95	10
Carbon Tetrachloride	UG/L	ND	10	ND	200	ND	80	ND	10
Bromodichloromethane	UG/L	ND	10	ND	200	ND	80	ND	10
1,2-Dichloropropane	UG/L	ND	10	ND	200	ND	80	ND	10
cis-1,3-Dichloropropene	UG/L	ND	10	ND	200	ND	80	ND	10
Trichloroethene	UG/L	1900 E	10	1600 D	200	1500	80	ND	10
Dibromochloromethane	UG/L	ND	10	ND	200	ND	80	2 J	10
1,1,2-Trichloroethane	UG/L	5 J	10	ND	200	ND	80	ND	10
Benzene	UG/L	1 J	10	ND	200	ND	80	ND	10
trans-1,3-Dichloropropene	UG/L	ND	10	ND	200	ND	80	ND	10
Bromoform	UG/L	ND	10	ND	200	ND	80	ND	10
4-Methyl-2-pentanone	UG/L	ND	10	ND	200	ND	80	ND	10
2-Hexanone	UG/L	ND	10	ND	200	ND	80	ND	10
Tetrachloroethene	UG/L	570 E	10	500 D	200	480	80	ND	10
Toluene	UG/L	1 J	10	ND	200	ND	80	ND	10
1,1,2,2-Tetrachloroethane	UG/L	ND	10	ND	200	ND	80	ND	10
Chlorobenzene	UG/L	ND	10	ND	200	ND	80	ND	10
Ethylbenzene	UG/L	ND	10	ND	200	ND	80	ND	10
Styrene	UG/L	ND	10	ND	200	ND	80	ND	10
Total Xylenes	UG/L	8 J	10	ND	200	ND	80	ND	10
Dichlorodifluoromethane	UG/L	ND	10	ND	200	ND	80	ND	10
Trichlorofluoromethane	UG/L	ND	10	ND	200	ND	80	ND	10
1,1,2-Trichloro-1,2,2-trifluor	UG/L	ND	10	ND	200	ND	80	ND	10
trans-1,2-Dichloroethene	UG/L	550 E	10	530 D	200	520	80	ND	10
Methyl-t-Butyl Ether (MTBE)	UG/L	ND	10	ND	200	ND	80	ND	10
cis-1,2-Dichloroethene	UG/L	590 E	10	580 D	200	570	80	28	10
Cyclohexane	UG/L	ND	10	ND	200	ND	80	ND	10
Methylcyclohexane	UG/L	ND	10	ND	200	ND	80	ND	10
1,2-Dibromoethane	UG/L	ND	10	ND	200	ND	80	ND	10
Isopropylbenzene	UG/L	ND	10	ND	200	ND	80	ND	10
1,3-Dichlorobenzene	UG/L	ND	10	ND	200	ND	80	ND	10

3590 T vocs

4585 = vocs (6/06)

NA = Not Applicable ND = Not Detected

STL Buffalo

Benchmark - 7503 Niagara Falls Blvd. Site
Benchmark - 7503 Niagara Falls Blvd. site-water
EPA ASP 2000 - VOLATILES

Client ID / Job No / Sample Date — Lab ID		BLIND DUP A06-E857 12/11/2006	A6E85703	BLIND DUP DL A06-E857 12/11/2006	A6E85703DL	MW-14 A06-E857 12/11/2006	A6E85701	MW-19 A06-E857 12/11/2006	A6E85702
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
1,4-Dichlorobenzene	UG/L	ND	10	ND	200	ND	80	ND	10
1,2-Dichlorobenzene	UG/L	ND	10	ND	200	ND	80	ND	10
1,2-Dibromo-3-chloropropane	UG/L	ND	10	ND	200	ND	80	ND	10
1,2,4-Trichlorobenzene	UG/L	ND	10	ND	200	ND	80	ND	10
Methyl acetate	UG/L	ND	10	ND	200	ND	80	ND	10
IS/SURROGATE(S)									
Bromochloromethane	%	101	50-200	96	50-200	94	50-200	99	50-200
1,4-Difluorobenzene	%	101	50-200	93	50-200	93	50-200	96	50-200
Chlorobenzene-D5	%	100	50-200	90	50-200	91	50-200	99	50-200
p-Bromofluorobenzene	%	97	86-115	96	86-115	94	86-115	97	86-115
1,2-Dichloroethane-D4	%	96	76-114	100	76-114	100	76-114	98	76-114
Toluene-D8	%	98	88-110	101	88-110	99	88-110	96	88-110

NA = Not Applicable ND = Not Detected

Client ID / Job No / Sample Date	Lab ID	MW-14 A07-0668 01/22/2007	A7066801	MW-19 A07-0668 01/22/2007	A7066802				
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Chloromethane	UG/L	ND	80	ND	10	NA		NA	
Bromomethane	UG/L	ND	80	ND	10	NA		NA	
Vinyl chloride	UG/L	150	80	22	10	NA		NA	
Chloroethane	UG/L	ND	80	ND	10	NA		NA	
Methylene chloride	UG/L	ND	80	ND	10	NA		NA	
Acetone	UG/L	ND	80	31	10	NA		NA	
Carbon Disulfide	UG/L	ND	80	2 J	10	NA		NA	
1,1-Dichloroethene	UG/L	21 J	80	ND	10	NA		NA	
1,1-Dichloroethane	UG/L	ND	80	ND	10	NA		NA	
Chloroform	UG/L	ND	80	ND	10	NA		NA	
1,2-Dichloroethane	UG/L	ND	80	ND	10	NA		NA	
2-Butanone	UG/L	ND	80	62	10	NA		NA	
1,1,1-Trichloroethane	UG/L	ND	80	ND	10	NA		NA	
Carbon Tetrachloride	UG/L	ND	80	ND	10	NA		NA	
Bromodichloromethane	UG/L	ND	80	ND	10	NA		NA	
1,2-Dichloropropane	UG/L	ND	80	ND	10	NA		NA	
cis-1,3-Dichloropropene	UG/L	ND	80	ND	10	NA		NA	
Trichloroethene	UG/L	300	80	2 J	10	NA		NA	
Dibromochloromethane	UG/L	ND	80	ND	10	NA		NA	
1,1,2-Trichloroethane	UG/L	ND	80	ND	10	NA		NA	
Benzene	UG/L	ND	80	ND	10	NA		NA	
trans-1,3-Dichloropropene	UG/L	ND	80	ND	10	NA		NA	
Bromoform	UG/L	ND	80	ND	10	NA		NA	
4-Methyl-2-pentanone	UG/L	ND	80	ND	10	NA		NA	
2-Hexanone	UG/L	ND	80	ND	10	NA		NA	
Tetrachloroethene	UG/L	120	80	ND	10	NA		NA	
Toluene	UG/L	ND	80	ND	10	NA		NA	
1,1,2,2-Tetrachloroethane	UG/L	ND	80	ND	10	NA		NA	
Chlorobenzene	UG/L	ND	80	ND	10	NA		NA	
Ethylbenzene	UG/L	ND	80	ND	10	NA		NA	
Styrene	UG/L	ND	80	ND	10	NA		NA	
Total Xylenes	UG/L	ND	80	ND	10	NA		NA	
Dichlorodifluoromethane	UG/L	ND	80	ND	10	NA		NA	
Trichlorofluoromethane	UG/L	ND	80	ND	10	NA		NA	
1,1,2-Trichloro-1,2,2-trifluor	UG/L	ND	80	ND	10	NA		NA	
trans-1,2-Dichloroethene	UG/L	240	80	ND	10	NA		NA	
Methyl-t-Butyl Ether (MTBE)	UG/L	ND	80	ND	10	NA		NA	
cis-1,2-Dichloroethene	UG/L	220	80	26	10	NA		NA	
Cyclohexane	UG/L	ND	80	ND	10	NA		NA	
Methylcyclohexane	UG/L	ND	80	ND	10	NA		NA	
1,2-Dibromoethane	UG/L	ND	80	ND	10	NA		NA	
Isopropylbenzene	UG/L	ND	80	ND	10	NA		NA	
1,3-Dichlorobenzene	UG/L	ND	80	ND	10	NA		NA	

NA = Not Applicable ND = Not Detected

Date: 02/09/2007
Time: 16:39:39

Benchmark - 7503 Niagara Falls Blvd. Site
Benchmark - 7503 Niagara Falls Blvd. site-water
EPA ASP 2000 - VOLATILES

Rept: AN0326

Client ID / Job No / Sample Date — Lab ID		MW-14 A07-0668 01/22/2007	A7066801	MW-19 A07-0668 01/22/2007	A7066802				
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
1,4-Dichlorobenzene	UG/L	ND	80	ND	10	NA		NA	
1,2-Dichlorobenzene	UG/L	ND	80	ND	10	NA		NA	
1,2-Dibromo-3-chloropropane	UG/L	ND	80	ND	10	NA		NA	
1,2,4-Trichlorobenzene	UG/L	ND	80	ND	10	NA		NA	
Methyl acetate	UG/L	ND	80	ND	10	NA		NA	
IS/SURROGATE(S)									
Bromochloromethane	%	91	50-200	91	50-200	NA		NA	
1,4-Difluorobenzene	%	90	50-200	89	50-200	NA		NA	
Chlorobenzene-D5	%	90	50-200	90	50-200	NA		NA	
p-Bromofluorobenzene	%	104	86-115	103	86-115	NA		NA	
1,2-Dichloroethane-D4	%	104	76-114	104	76-114	NA		NA	
Toluene-D8	%	98	88-110	98	88-110	NA		NA	

NA = Not Applicable ND = Not Detected

Benchmark - 7503 Niagara Falls Blvd. Site
Benchmark - 7503 Niagara Falls Blvd. site-water
EPA ASP 2000 - VOLATILES

Client ID / Job No / Sample Date	Lab ID	MW-14 A07-1926 03/01/2007	A7192601	MW-19 A07-1926 03/01/2007	A7192602				
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Chloromethane	UG/L	ND	50	ND	20	NA		NA	
Bromomethane	UG/L	ND	50	ND	20	NA		NA	
Vinyl chloride	UG/L	320	50	24	20	NA		NA	
Chloroethane	UG/L	ND	50	ND	20	NA		NA	
Methylene chloride	UG/L	ND	50	ND	20	NA		NA	
Acetone	UG/L	16 J	50	10 J	20	NA		NA	
Carbon Disulfide	UG/L	ND	50	ND	20	NA		NA	
1,1-Dichloroethene	UG/L	21 J	50	ND	20	NA		NA	
1,1-Dichloroethane	UG/L	ND	50	ND	20	NA		NA	
Chloroform	UG/L	ND	50	ND	20	NA		NA	
1,2-Dichloroethane	UG/L	ND	50	ND	20	NA		NA	
2-Butanone	UG/L	19 J	50	25	20	NA		NA	
1,1,1-Trichloroethane	UG/L	ND	50	ND	20	NA		NA	
Carbon Tetrachloride	UG/L	ND	50	ND	20	NA		NA	
Bromodichloromethane	UG/L	ND	50	ND	20	NA		NA	
1,2-Dichloropropane	UG/L	ND	50	ND	20	NA		NA	
cis-1,3-Dichloropropene	UG/L	ND	50	ND	20	NA		NA	
Trichloroethene	UG/L	150	50	ND	20	NA		NA	
Dibromochloromethane	UG/L	ND	50	ND	20	NA		NA	
1,1,2-Trichloroethane	UG/L	ND	50	ND	20	NA		NA	
Benzene	UG/L	ND	50	ND	20	NA		NA	
trans-1,3-Dichloropropene	UG/L	ND	50	ND	20	NA		NA	
Bromoform	UG/L	ND	50	ND	20	NA		NA	
4-Methyl-2-pentanone	UG/L	ND	50	ND	20	NA		NA	
2-Hexanone	UG/L	ND	50	ND	20	NA		NA	
Tetrachloroethene	UG/L	98	50	ND	20	NA		NA	
Toluene	UG/L	ND	50	ND	20	NA		NA	
1,1,2,2-Tetrachloroethane	UG/L	ND	50	ND	20	NA		NA	
Chlorobenzene	UG/L	ND	50	ND	20	NA		NA	
Ethylbenzene	UG/L	ND	50	ND	20	NA		NA	
Styrene	UG/L	ND	50	ND	20	NA		NA	
Total Xylenes	UG/L	19 J	50	ND	20	NA		NA	
Dichlorodifluoromethane	UG/L	ND	50	ND	20	NA		NA	
Trichlorofluoromethane	UG/L	ND	50	ND	20	NA		NA	
1,1,2-Trichloro-1,2,2-trifluor	UG/L	ND	50	ND	20	NA		NA	
trans-1,2-Dichloroethene	UG/L	500	50	ND	20	NA		NA	
Methyl-t-Butyl Ether (MTBE)	UG/L	ND	50	ND	20	NA		NA	
cis-1,2-Dichloroethene	UG/L	370	50	12 J	20	NA		NA	
Cyclohexane	UG/L	ND	50	ND	20	NA		NA	
Methylcyclohexane	UG/L	ND	50	ND	20	NA		NA	
1,2-Dibromoethane	UG/L	ND	50	ND	20	NA		NA	
Isopropylbenzene	UG/L	ND	50	ND	20	NA		NA	
1,3-Dichlorobenzene	UG/L	ND	50	ND	20	NA		NA	

NA = Not Applicable ND = Not Detected

Date: 03/09/2007
Time: 17:05:34

Benchmark - 7503 Niagara Falls Blvd. Site
Benchmark - 7503 Niagara Falls Blvd. site-water
EPA ASP 2000 - VOLATILES

Rept: AN0326

Client ID Job No Lab ID Sample Date		MW-14 A07-1926 A7192601 03/01/2007		MW-19 A07-1926 A7192602 03/01/2007					
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
1,4-Dichlorobenzene	UG/L	ND	50	ND	20	NA		NA	
1,2-Dichlorobenzene	UG/L	ND	50	ND	20	NA		NA	
1,2-Dibromo-3-chloropropane	UG/L	ND	50	ND	20	NA		NA	
1,2,4-Trichlorobenzene	UG/L	ND	50	ND	20	NA		NA	
Methyl acetate	UG/L	ND	50	ND	20	NA		NA	
IS/SURROGATE(S)									
Bromochloromethane	%	90	50-200	92	50-200	NA		NA	
1,4-Difluorobenzene	%	89	50-200	91	50-200	NA		NA	
Chlorobenzene-D5	%	90	50-200	92	50-200	NA		NA	
p-Bromofluorobenzene	%	101	86-115	100	86-115	NA		NA	
1,2-Dichloroethane-D4	%	107	76-114	106	76-114	NA		NA	
Toluene-D8	%	99	88-110	99	88-110	NA		NA	

NA = Not Applicable ND = Not Detected

ient ID / b No / mple Date	Lab ID	MW-14 A07-7030 06/22/2007	A7703002	MW-14 A07-7030 06/22/2007	A7703002DL	MW-19 A07-7030 06/22/2007	A7703001		
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
·tone	UG/L	49	20	41 DJ	100	47	20	NA	
ızene	UG/L	ND	4.0	ND	20	ND	4.0	NA	
›modichloromethane	UG/L	ND	4.0	ND	20	ND	4.0	NA	
›moform	UG/L	ND	4.0	ND	20	ND	4.0	NA	
›momethane	UG/L	ND	4.0	ND	20	ND	4.0	NA	
3utanone	UG/L	85	20	87 DJ	100	170	20	NA	
·bon Disulfide	UG/L	1.6 J	4.0	ND	20	2.0 J	4.0	NA	
·bon Tetrachloride	UG/L	ND	4.0	ND	20	ND	4.0	NA	
.orobenzene	UG/L	ND	4.0	ND	20	ND	4.0	NA	
.oroethane	UG/L	ND	4.0	ND	20	ND	4.0	NA	
.oroform	UG/L	ND	4.0	ND	20	ND	4.0	NA	
.oromethane	UG/L	ND	4.0	ND	20	ND	4.0	NA	
:lohexane	UG/L	ND	4.0	ND	20	ND	4.0	NA	
2-Dibromo-3-chloropropane	UG/L	ND	4.0	ND	20	ND	4.0	NA	
›romochloromethane	UG/L	ND	4.0	ND	20	ND	4.0	NA	
:hlorodifluoromethane	UG/L	ND	4.0	ND	20	ND	4.0	NA	
2-Dibromoethane	UG/L	ND	4.0	ND	20	ND	4.0	NA	
2-Dichlorobenzene	UG/L	ND	4.0	ND	20	ND	4.0	NA	
3-Dichlorobenzene	UG/L	ND	4.0	ND	20	ND	4.0	NA	
4-Dichlorobenzene	UG/L	ND	4.0	ND	20	ND	4.0	NA	
1-Dichloroethane	UG/L	ND	4.0	ND	20	ND	4.0	NA	
2-Dichloroethane	UG/L	ND	4.0	ND	20	ND	4.0	NA	
1-Dichloroethene	UG/L	44	4.0	60 D	20	ND	4.0	NA	
s-1,2-Dichloroethene	UG/L	850 E	4.0	950 D	20	38	4.0	NA	
ans-1,2-Dichloroethene	UG/L	1500 E	4.0	1900 D	20	ND	4.0	NA	
2-Dichloropropane	UG/L	ND	4.0	ND	20	ND	4.0	NA	
s-1,3-Dichloropropene	UG/L	ND	4.0	ND	20	ND	4.0	NA	
ans-1,3-Dichloropropene	UG/L	ND	4.0	ND	20	ND	4.0	NA	
hylbenzene	UG/L	6.3	4.0	ND	20	ND	4.0	NA	
Hexanone	UG/L	ND	20	ND	100	ND	20	NA	
opropylbenzene	UG/L	ND	4.0	ND	20	ND	4.0	NA	
thyl acetate	UG/L	ND	4.0	ND	20	ND	4.0	NA	
thylene chloride	UG/L	ND	4.0	21 D	20	ND	4.0	NA	
thyl-t-Butyl Ether (MTBE)	UG/L	ND	4.0	ND	20	ND	4.0	NA	
Methyl-2-pentanone	UG/L	ND	20	ND	100	ND	20	NA	
thylcyclohexane	UG/L	ND	4.0	ND	20	ND	4.0	NA	
yrene	UG/L	ND	4.0	ND	20	ND	4.0	NA	
1,2,2-Tetrachloroethane	UG/L	ND	4.0	ND	20	ND	4.0	NA	
·trachloroethene	UG/L	35	4.0	40 D	20	ND	4.0	NA	
ıluene	UG/L	ND	4.0	ND	20	ND	4.0	NA	
2,4-Trichlorobenzene	UG/L	ND	4.0	ND	20	ND	4.0	NA	
1,1-Trichloroethane	UG/L	ND	4.0	ND	20	ND	4.0	NA	
1,2-Trichloroethane	UG/L	ND	4.0	ND	20	ND	4.0	NA	

9/21

= Not Applicable ND = Not Detected

Benchmark - 7503 Niagara Falls Blvd. Site
Level 2 - (GLR) 7503 Niagara Falls Blvd. site
AQUEOUS-METHOD 8260 - TCL VOLATILE ORGANICS

Client ID / Job No / Sample Date	Lab ID	MW-14 A07-7030 06/22/2007	A7703002	MW-14 A07-7030 06/22/2007	A7703002DL	MW-19 A07-7030 06/22/2007	A7703001		
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
,1,2-Trichloro-1,2,2-trifluor	UG/L	ND	4.0	ND	20	ND	4.0	NA	
richloroethene	UG/L	330	4.0	400 D	20	ND	4.0	NA	
richlorofluoromethane	UG/L	ND	4.0	ND	20	ND	4.0	NA	
inyl chloride	UG/L	540 E	4.0	880 D	20	15	4.0	NA	
otal Xylenes	UG/L	ND	12	ND	60	ND	12	NA	
IS/SURROGATE(S)									
hlorobenzene-D5	%	102	50-200	85	50-200	102	50-200	NA	
,4-Difluorobenzene	%	102	50-200	86	50-200	103	50-200	NA	
,4-Dichlorobenzene-D4	%	100	50-200	74	50-200	99	50-200	NA	
oluene-D8	%	101	71-126	100	71-126	102	71-126	NA	
-Bromofluorobenzene	%	95	73-120	95	73-120	96	73-120	NA	
,2-Dichloroethane-D4	%	90	66-137	110	66-137	91	66-137	NA	

. = Not Applicable ND = Not Detected

TO-14/15
Result Summary

CLIENT SAMPLE NO.

MW-19 (1)

Lab Name: STL Burlington

SDG Number: A07-0956

Case Number:

Sample Matrix: AIR

Lab Sample No.: 699632

Date Analyzed: 2/1/2007

Date Received: 1/30/2007

Target Compound	CAS Number	Results in ppbv	Q	RL in ppbv	Results in ug/m3	Q	RL in ug/m3
Dichlorodifluoromethane	75-71-8	2.0	U	2.0	9.9	U	9.9
1,2-Dichlorotetrafluoroethane	76-14-2	0.80	U	0.80	5.6	U	5.6
Chloromethane	74-87-3	2.0	U	2.0	4.1	U	4.1
Vinyl Chloride	75-01-4	150		0.80	380		2.0
1,3-Butadiene	106-99-0	2.0	U	2.0	4.4	U	4.4
Bromomethane	74-83-9	0.80	U	0.80	3.1	U	3.1
Chloroethane	75-00-3	2.0	U	2.0	5.3	U	5.3
Bromoethene	593-60-2	0.80	U	0.80	3.5	U	3.5
Trichlorofluoromethane	75-69-4	0.80	U	0.80	4.5	U	4.5
Freon TF	76-13-1	0.80	U	0.80	6.1	U	6.1
1,1-Dichloroethene	75-35-4	13		0.80	52		3.2
Acetone	67-64-1	20	U	20	48	U	48
Isopropyl Alcohol	67-63-0	20	U	20	49	U	49
Carbon Disulfide	75-15-0	13		2.0	40		6.2
3-Chloropropene	107-05-1	2.0	U	2.0	6.3	U	6.3
Methylene Chloride	75-09-2	2.0	U	2.0	6.9	U	6.9
tert-Butyl Alcohol	75-65-0	20	U	20	61	U	61
Methyl tert-Butyl Ether	1634-04-4	2.0	U	2.0	7.2	U	7.2
trans-1,2-Dichloroethene	156-60-5	27		0.80	110		3.2
n-Hexane	110-54-3	78		2.0	270		7.0
1,1-Dichloroethane	75-34-3	0.80	U	0.80	3.2	U	3.2
1,2-Dichloroethene (total)	540-59-0	85		0.80	340		3.2
Methyl Ethyl Ketone	78-93-3	2.0	U	2.0	5.9	U	5.9
cis-1,2-Dichloroethene	156-59-2	58		0.80	230		3.2
Tetrahydrofuran	109-99-9	20	U	20	59	U	59
Chloroform	67-66-3	0.80	U	0.80	3.9	U	3.9
1,1,1-Trichloroethane	71-55-6	0.80	U	0.80	4.4	U	4.4
Cyclohexane	110-82-7	7.1		0.80	24		2.8
Carbon Tetrachloride	56-23-5	0.80	U	0.80	5.0	U	5.0
2,2,4-Trimethylpentane	540-84-1	0.80	U	0.80	3.7	U	3.7
Benzene	71-43-2	2.8		0.80	8.9		2.6
1,2-Dichloroethane	107-06-2	0.80	U	0.80	3.2	U	3.2
n-Heptane	142-82-5	20		0.80	82		3.3

TO-14/15
Result Summary

CLIENT SAMPLE NO.

MW-19 (1)

Lab Name: STL Burlington

SDG Number: A07-0956

Case Number:

Sample Matrix: AIR

Lab Sample No.: 699632

Date Analyzed: 2/1/2007

Date Received: 1/30/2007

Target Compound	CAS Number	Results in ppbv	Q	RL in ppbv	Results in ug/m3	Q	RL in ug/m3
Trichloroethene	79-01-6	97		0.80	520		4.3
1,2-Dichloropropane	78-87-5	0.80	U	0.80	3.7	U	3.7
1,4-Dioxane	123-91-1	20	U	20	72	U	72
Bromodichloromethane	75-27-4	0.80	U	0.80	5.4	U	5.4
cis-1,3-Dichloropropene	10061-01-5	0.80	U	0.80	3.6	U	3.6
Methyl Isobutyl Ketone	108-10-1	2.0	U	2.0	8.2	U	8.2
Toluene	108-88-3	1.8		0.80	6.8		3.0
trans-1,3-Dichloropropene	10061-02-6	0.80	U	0.80	3.6	U	3.6
1,1,2-Trichloroethane	79-00-5	0.80	U	0.80	4.4	U	4.4
Tetrachloroethene	127-18-4	36		0.80	240		5.4
Methyl Butyl Ketone	591-78-6	2.0	U	2.0	8.2	U	8.2
Dibromochloromethane	124-48-1	0.80	U	0.80	6.8	U	6.8
1,2-Dibromoethane	106-93-4	0.80	U	0.80	6.1	U	6.1
Chlorobenzene	108-90-7	0.80	U	0.80	3.7	U	3.7
Ethylbenzene	100-41-4	0.80	U	0.80	3.5	U	3.5
Xylene (m,p)	1330-20-7	2.9		2.0	13		8.7
Xylene (o)	95-47-6	1.1		0.80	4.8		3.5
Xylene (total)	1330-20-7	4.0		0.80	17		3.5
Styrene	100-42-5	0.80	U	0.80	3.4	U	3.4
Bromoform	75-25-2	0.80	U	0.80	8.3	U	8.3
1,1,2,2-Tetrachloroethane	79-34-5	0.80	U	0.80	5.5	U	5.5
4-Ethyltoluene	622-96-8	0.80	U	0.80	3.9	U	3.9
1,3,5-Trimethylbenzene	108-67-8	0.80	U	0.80	3.9	U	3.9
2-Chlorotoluene	95-49-8	0.80	U	0.80	4.1	U	4.1
1,2,4-Trimethylbenzene	95-63-6	0.80	U	0.80	3.9	U	3.9
1,3-Dichlorobenzene	541-73-1	0.80	U	0.80	4.8	U	4.8
1,4-Dichlorobenzene	106-46-7	0.80	U	0.80	4.8	U	4.8
1,2-Dichlorobenzene	95-50-1	0.80	U	0.80	4.8	U	4.8
1,2,4-Trichlorobenzene	120-82-1	2.0	U	2.0	15	U	15
Hexachlorobutadiene	87-68-3	0.80	U	0.80	8.5	U	8.5

TO-14/15
Result Summary

CLIENT SAMPLE NO.

MW-19 (2)

Lab Name: STL Burlington

SDG Number: A07-0956

Case Number:

Sample Matrix: AIR

Lab Sample No.: 699633

Date Analyzed: 2/1/2007

Date Received: 1/30/2007

Target Compound	CAS Number	Results in ppbv	Q	RL in ppbv	Results in ug/m3	Q	RL in ug/m3
Dichlorodifluoromethane	75-71-8	1.3	U	1.3	6.4	U	6.4
1,2-Dichlorotetrafluoroethane	76-14-2	0.50	U	0.50	3.5	U	3.5
Chloromethane	74-87-3	1.3	U	1.3	2.7	U	2.7
Vinyl Chloride	75-01-4	54		0.50	140		1.3
1,3-Butadiene	106-99-0	3.3		1.3	7.3		2.9
Bromomethane	74-83-9	0.50	U	0.50	1.9	U	1.9
Chloroethane	75-00-3	1.3	U	1.3	3.4	U	3.4
Bromoethene	593-60-2	0.50	U	0.50	2.2	U	2.2
Trichlorofluoromethane	75-69-4	0.50	U	0.50	2.8	U	2.8
Freon TF	76-13-1	0.50	U	0.50	3.8	U	3.8
1,1-Dichloroethene	75-35-4	5.0		0.50	20		2.0
Acetone	67-64-1	27		13	64		31
Isopropyl Alcohol	67-63-0	13	U	13	32	U	32
Carbon Disulfide	75-15-0	31		1.3	97		4.0
3-Chloropropene	107-05-1	1.3	U	1.3	4.1	U	4.1
Methylene Chloride	75-09-2	1.3	U	1.3	4.5	U	4.5
tert-Butyl Alcohol	75-65-0	13	U	13	39	U	39
Methyl tert-Butyl Ether	1634-04-4	1.3	U	1.3	4.7	U	4.7
trans-1,2-Dichloroethene	156-60-5	11		0.50	44		2.0
n-Hexane	110-54-3	10		1.3	35		4.6
1,1-Dichloroethane	75-34-3	0.50	U	0.50	2.0	U	2.0
1,2-Dichloroethene (total)	540-59-0	39		0.50	150		2.0
Methyl Ethyl Ketone	78-93-3	1.3	U	1.3	3.8	U	3.8
cis-1,2-Dichloroethene	156-59-2	28		0.50	110		2.0
Tetrahydrofuran	109-99-9	13	U	13	38	U	38
Chloroform	67-66-3	0.50	U	0.50	2.4	U	2.4
1,1,1-Trichloroethane	71-55-6	0.50	U	0.50	2.7	U	2.7
Cyclohexane	110-82-7	2.2		0.50	7.6		1.7
Carbon Tetrachloride	56-23-5	0.50	U	0.50	3.1	U	3.1
2,2,4-Trimethylpentane	540-84-1	0.50	U	0.50	2.3	U	2.3
Benzene	71-43-2	1.6		0.50	5.1		1.6
1,2-Dichloroethane	107-06-2	0.50	U	0.50	2.0	U	2.0
n-Heptane	142-82-5	2.9		0.50	12		2.0

TO-14/15
Result Summary

CLIENT SAMPLE NO.

MW-19 (2)

Lab Name: STL Burlington

SDG Number: A07-0956

Case Number:

Sample Matrix: AIR

Lab Sample No.: 699633

Date Analyzed: 2/1/2007

Date Received: 1/30/2007

Target Compound	CAS Number	Results in ppbv	Q	RL in ppbv	Results in ug/m3	Q	RL in ug/m3
Trichloroethene	79-01-6	31		0.50	170		2.7
1,2-Dichloropropane	78-87-5	0.50	U	0.50	2.3	U	2.3
1,4-Dioxane	123-91-1	13	U	13	47	U	47
Bromodichloromethane	75-27-4	0.50	U	0.50	3.4	U	3.4
cis-1,3-Dichloropropene	10061-01-5	0.50	U	0.50	2.3	U	2.3
Methyl Isobutyl Ketone	108-10-1	1.3	U	1.3	5.3	U	5.3
Toluene	108-88-3	0.68		0.50	2.6		1.9
trans-1,3-Dichloropropene	10061-02-6	0.50	U	0.50	2.3	U	2.3
1,1,2-Trichloroethane	79-00-5	0.50	U	0.50	2.7	U	2.7
Tetrachloroethene	127-18-4	7.8		0.50	53		3.4
Methyl Butyl Ketone	591-78-6	1.3	U	1.3	5.3	U	5.3
Dibromochloromethane	124-48-1	0.50	U	0.50	4.3	U	4.3
1,2-Dibromoethane	106-93-4	0.50	U	0.50	3.8	U	3.8
Chlorobenzene	108-90-7	0.50	U	0.50	2.3	U	2.3
Ethylbenzene	100-41-4	0.50	U	0.50	2.2	U	2.2
Xylene (m,p)	1330-20-7	1.3	U	1.3	5.6	U	5.6
Xylene (o)	95-47-6	0.50	U	0.50	2.2	U	2.2
Xylene (total)	1330-20-7	0.50	U	0.50	2.2	U	2.2
Styrene	100-42-5	0.50	U	0.50	2.1	U	2.1
Bromoform	75-25-2	0.50	U	0.50	5.2	U	5.2
1,1,2,2-Tetrachloroethane	79-34-5	0.50	U	0.50	3.4	U	3.4
4-Ethyltoluene	622-96-8	0.50	U	0.50	2.5	U	2.5
1,3,5-Trimethylbenzene	108-67-8	0.50	U	0.50	2.5	U	2.5
2-Chlorotoluene	95-49-8	0.50	U	0.50	2.6	U	2.6
1,2,4-Trimethylbenzene	95-63-6	0.50	U	0.50	2.5	U	2.5
1,3-Dichlorobenzene	541-73-1	0.50	U	0.50	3.0	U	3.0
1,4-Dichlorobenzene	106-46-7	0.50	U	0.50	3.0	U	3.0
1,2-Dichlorobenzene	95-50-1	0.50	U	0.50	3.0	U	3.0
1,2,4-Trichlorobenzene	120-82-1	1.3	U	1.3	9.6	U	9.6
Hexachlorobutadiene	87-68-3	0.50	U	0.50	5.3	U	5.3

TO-14/15
Result Summary

CLIENT SAMPLE NO.

MW-14 (1)

Lab Name: STL Burlington

SDG Number: A07-0956

Case Number:

Sample Matrix: AIR

Lab Sample No.: 699634

Date Analyzed: 2/1/2007

Date Received: 1/30/2007

Target Compound	CAS Number	Results in ppbv	Q	RL in ppbv	Results in ug/m3	Q	RL in ug/m3
Dichlorodifluoromethane	75-71-8	0.93		0.50	4.6		2.5
1,2-Dichlorotetrafluoroethane	76-14-2	0.20	U	0.20	1.4	U	1.4
Chloromethane	74-87-3	0.50	U	0.50	1.0	U	1.0
Vinyl Chloride	75-01-4	2.2		0.20	5.6		0.51
1,3-Butadiene	106-99-0	0.50	U	0.50	1.1	U	1.1
Bromomethane	74-83-9	0.20	U	0.20	0.78	U	0.78
Chloroethane	75-00-3	0.50	U	0.50	1.3	U	1.3
Bromoethene	593-60-2	0.20	U	0.20	0.87	U	0.87
Trichlorofluoromethane	75-69-4	0.42		0.20	2.4		1.1
Freon TF	76-13-1	0.20	U	0.20	1.5	U	1.5
1,1-Dichloroethene	75-35-4	0.30		0.20	1.2		0.79
Acetone	67-64-1	9.8		5.0	23		12
Isopropyl Alcohol	67-63-0	5.0	U	5.0	12	U	12
Carbon Disulfide	75-15-0	0.50	U	0.50	1.6	U	1.6
3-Chloropropene	107-05-1	0.50	U	0.50	1.6	U	1.6
Methylene Chloride	75-09-2	0.50	U	0.50	1.7	U	1.7
tert-Butyl Alcohol	75-65-0	5.0	U	5.0	15	U	15
Methyl tert-Butyl Ether	1634-04-4	0.50	U	0.50	1.8	U	1.8
trans-1,2-Dichloroethene	156-60-5	2.0		0.20	7.9		0.79
n-Hexane	110-54-3	6.3		0.50	22		1.8
1,1-Dichloroethane	75-34-3	0.20	U	0.20	0.81	U	0.81
1,2-Dichloroethene (total)	540-59-0	5.0		0.20	20		0.79
Methyl Ethyl Ketone	78-93-3	0.62		0.50	1.8		1.5
cis-1,2-Dichloroethene	156-59-2	3.0		0.20	12		0.79
Tetrahydrofuran	109-99-9	5.0	U	5.0	15	U	15
Chloroform	67-66-3	0.20	U	0.20	0.98	U	0.98
1,1,1-Trichloroethane	71-55-6	0.20	U	0.20	1.1	U	1.1
Cyclohexane	110-82-7	2.0		0.20	6.9		0.69
Carbon Tetrachloride	56-23-5	0.20	U	0.20	1.3	U	1.3
2,2,4-Trimethylpentane	540-84-1	0.20	U	0.20	0.93	U	0.93
Benzene	71-43-2	1.1		0.20	3.5		0.64
1,2-Dichloroethane	107-06-2	0.20	U	0.20	0.81	U	0.81
n-Heptane	142-82-5	3.9		0.20	16		0.82

TO-14/15
Result Summary

CLIENT SAMPLE NO.

MW-14 (1)

Lab Name: STL Burlington

SDG Number: A07-0956

Case Number:

Sample Matrix: AIR

Lab Sample No.: 699634

Date Analyzed: 2/1/2007

Date Received: 1/30/2007

Target Compound	CAS Number	Results in ppbv	Q	RL in ppbv	Results in ug/m3	Q	RL in ug/m3
Trichloroethene	79-01-6	1.5		0.20	8.1		1.1
1,2-Dichloropropane	78-87-5	0.20	U	0.20	0.92	U	0.92
1,4-Dioxane	123-91-1	5.0	U	5.0	18	U	18
Bromodichloromethane	75-27-4	0.20	U	0.20	1.3	U	1.3
cis-1,3-Dichloropropene	10061-01-5	0.20	U	0.20	0.91	U	0.91
Methyl Isobutyl Ketone	108-10-1	0.50	U	0.50	2.0	U	2.0
Toluene	108-88-3	2.6		0.20	9.8		0.75
trans-1,3-Dichloropropene	10061-02-6	0.20	U	0.20	0.91	U	0.91
1,1,2-Trichloroethane	79-00-5	0.20	U	0.20	1.1	U	1.1
Tetrachloroethene	127-18-4	0.32		0.20	2.2		1.4
Methyl Butyl Ketone	591-78-6	0.50	U	0.50	2.0	U	2.0
Dibromochloromethane	124-48-1	0.20	U	0.20	1.7	U	1.7
1,2-Dibromoethane	106-93-4	0.20	U	0.20	1.5	U	1.5
Chlorobenzene	108-90-7	0.20	U	0.20	0.92	U	0.92
Ethylbenzene	100-41-4	0.40		0.20	1.7		0.87
Xylene (m,p)	1330-20-7	1.4		0.50	6.1		2.2
Xylene (o)	95-47-6	0.47		0.20	2.0		0.87
Xylene (total)	1330-20-7	1.9		0.20	8.3		0.87
Styrene	100-42-5	0.20		0.20	0.85		0.85
Bromoform	75-25-2	0.20	U	0.20	2.1	U	2.1
1,1,2,2-Tetrachloroethane	79-34-5	0.20	U	0.20	1.4	U	1.4
4-Ethyltoluene	622-96-8	0.20	U	0.20	0.98	U	0.98
1,3,5-Trimethylbenzene	108-67-8	0.20	U	0.20	0.98	U	0.98
2-Chlorotoluene	95-49-8	0.20	U	0.20	1.0	U	1.0
1,2,4-Trimethylbenzene	95-63-6	0.20	U	0.20	0.98	U	0.98
1,3-Dichlorobenzene	541-73-1	0.20	U	0.20	1.2	U	1.2
1,4-Dichlorobenzene	106-46-7	0.20	U	0.20	1.2	U	1.2
1,2-Dichlorobenzene	95-50-1	0.20	U	0.20	1.2	U	1.2
1,2,4-Trichlorobenzene	120-82-1	0.50	U	0.50	3.7	U	3.7
Hexachlorobutadiene	87-68-3	0.20	U	0.20	2.1	U	2.1

TO-14/15
Result Summary

CLIENT SAMPLE NO.

MW-14 (2)

Lab Name: STL Burlington

SDG Number: A07-0956

Case Number:

Sample Matrix: AIR

Lab Sample No.: 699635

Date Analyzed: 2/1/2007

Date Received: 1/30/2007

Target Compound	CAS Number	Results in ppbv	Q	RL in ppbv	Results in ug/m3	Q	RL in ug/m3
Dichlorodifluoromethane	75-71-8	0.75		0.75	3.7		3.7
1,2-Dichlorotetrafluoroethane	76-14-2	0.30	U	0.30	2.1	U	2.1
Chloromethane	74-87-3	0.75	U	0.75	1.5	U	1.5
Vinyl Chloride	75-01-4	0.30	U	0.30	0.77	U	0.77
1,3-Butadiene	106-99-0	11		0.75	24		1.7
Bromomethane	74-83-9	0.30	U	0.30	1.2	U	1.2
Chloroethane	75-00-3	0.75	U	0.75	2.0	U	2.0
Bromoethene	593-60-2	0.30	U	0.30	1.3	U	1.3
Trichlorofluoromethane	75-69-4	0.37		0.30	2.1		1.7
Freon TF	76-13-1	0.30	U	0.30	2.3	U	2.3
1,1-Dichloroethene	75-35-4	0.30	U	0.30	1.2	U	1.2
Acetone	67-64-1	7.9		7.5	19		18
Isopropyl Alcohol	67-63-0	7.5	U	7.5	18	U	18
Carbon Disulfide	75-15-0	1.0		0.75	3.1		2.3
3-Chloropropene	107-05-1	0.75	U	0.75	2.3	U	2.3
Methylene Chloride	75-09-2	0.75	U	0.75	2.6	U	2.6
tert-Butyl Alcohol	75-65-0	7.5	U	7.5	23	U	23
Methyl tert-Butyl Ether	1634-04-4	0.75	U	0.75	2.7	U	2.7
trans-1,2-Dichloroethene	156-60-5	0.30	U	0.30	1.2	U	1.2
n-Hexane	110-54-3	37		0.75	130		2.6
1,1-Dichloroethane	75-34-3	0.30	U	0.30	1.2	U	1.2
1,2-Dichloroethene (total)	540-59-0	0.30	U	0.30	1.2	U	1.2
Methyl Ethyl Ketone	78-93-3	0.75	U	0.75	2.2	U	2.2
cis-1,2-Dichloroethene	156-59-2	0.30	U	0.30	1.2	U	1.2
Tetrahydrofuran	109-99-9	7.5	U	7.5	22	U	22
Chloroform	67-66-3	0.30	U	0.30	1.5	U	1.5
1,1,1-Trichloroethane	71-55-6	0.30	U	0.30	1.6	U	1.6
Cyclohexane	110-82-7	16		0.30	55		1.0
Carbon Tetrachloride	56-23-5	0.30	U	0.30	1.9	U	1.9
2,2,4-Trimethylpentane	540-84-1	0.30	U	0.30	1.4	U	1.4
Benzene	71-43-2	8.9		0.30	28		0.96
1,2-Dichloroethane	107-06-2	0.30	U	0.30	1.2	U	1.2
n-Heptane	142-82-5	17		0.30	70		1.2

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TO-14/15
Result Summary

CLIENT SAMPLE NO.

MW-14 (2)

Lab Name: STL Burlington

SDG Number: A07-0956

Case Number:

Sample Matrix: AIR

Lab Sample No.: 699635

Date Analyzed: 2/1/2007

Date Received: 1/30/2007

Target Compound	CAS Number	Results in ppbv	Q	RL in ppbv	Results in ug/m3	Q	RL in ug/m3
Trichloroethene	79-01-6	0.30	U	0.30	1.6	U	1.6
1,2-Dichloropropane	78-87-5	0.30	U	0.30	1.4	U	1.4
1,4-Dioxane	123-91-1	7.5	U	7.5	27	U	27
Bromodichloromethane	75-27-4	0.30	U	0.30	2.0	U	2.0
cis-1,3-Dichloropropene	10061-01-5	0.30	U	0.30	1.4	U	1.4
Methyl Isobutyl Ketone	108-10-1	0.75	U	0.75	3.1	U	3.1
Toluene	108-88-3	8.2		0.30	31		1.1
trans-1,3-Dichloropropene	10061-02-6	0.30	U	0.30	1.4	U	1.4
1,1,2-Trichloroethane	79-00-5	0.30	U	0.30	1.6	U	1.6
Tetrachloroethene	127-18-4	0.30	U	0.30	2.0	U	2.0
Methyl Butyl Ketone	591-78-6	0.75	U	0.75	3.1	U	3.1
Dibromochloromethane	124-48-1	0.30	U	0.30	2.6	U	2.6
1,2-Dibromoethane	106-93-4	0.30	U	0.30	2.3	U	2.3
Chlorobenzene	108-90-7	0.30	U	0.30	1.4	U	1.4
Ethylbenzene	100-41-4	1.6		0.30	6.9		1.3
Xylene (m,p)	1330-20-7	6.2		0.75	27		3.3
Xylene (o)	95-47-6	1.9		0.30	8.3		1.3
Xylene (total)	1330-20-7	8.1		0.30	35		1.3
Styrene	100-42-5	0.30	U	0.30	1.3	U	1.3
Bromoform	75-25-2	0.30	U	0.30	3.1	U	3.1
1,1,2,2-Tetrachloroethane	79-34-5	0.30	U	0.30	2.1	U	2.1
4-Ethyltoluene	622-96-8	0.30	U	0.30	1.5	U	1.5
1,3,5-Trimethylbenzene	108-67-8	0.30	U	0.30	1.5	U	1.5
2-Chlorotoluene	95-49-8	0.30	U	0.30	1.6	U	1.6
1,2,4-Trimethylbenzene	95-63-6	0.30	U	0.30	1.5	U	1.5
1,3-Dichlorobenzene	541-73-1	0.30	U	0.30	1.8	U	1.8
1,4-Dichlorobenzene	106-46-7	0.30	U	0.30	1.8	U	1.8
1,2-Dichlorobenzene	95-50-1	0.30	U	0.30	1.8	U	1.8
1,2,4-Trichlorobenzene	120-82-1	0.75	U	0.75	5.6	U	5.6
Hexachlorobutadiene	87-68-3	0.30	U	0.30	3.2	U	3.2

TO-14/15
Result Summary

CLIENT SAMPLE NO.

6LR-SV-658A

Lab Name: STL Burlington

SDG Number: A077470

Case Number:

Sample Matrix: AIR

Lab Sample No.: 716547

Date Analyzed: 07/12/07

Date Received: 07/03/07

Target Compound	CAS Number	Results in ppbv	Q	RL in ppbv	Results in ug/m3	Q	RL in ug/m3
Dichlorodifluoromethane	75-71-8	5.0	U	5.0	25	U	25
1,2-Dichlorotetrafluoroethane	76-14-2	2.0	U	2.0	14	U	14
Chloromethane	74-87-3	5.0	U	5.0	10	U	10
Vinyl Chloride	75-01-4	2.0	U	2.0	5.1	U	5.1
1,3-Butadiene	106-99-0	5.0	U	5.0	11	U	11
Bromomethane	74-83-9	2.0	U	2.0	7.8	U	7.8
Chloroethane	75-00-3	5.0	U	5.0	13	U	13
Bromoethene	593-60-2	2.0	U	2.0	8.7	U	8.7
Trichlorofluoromethane	75-69-4	2.0	U	2.0	11	U	11
Freon TF	76-13-1	2.0	U	2.0	15	U	15
1,1-Dichloroethene	75-35-4	2.0	U	2.0	7.9	U	7.9
Acetone	67-64-1	67		50	160		120
Isopropyl Alcohol	67-63-0	50	U	50	120	U	120
Carbon Disulfide	75-15-0	5.0	U	5.0	16	U	16
3-Chloropropene	107-05-1	5.0	U	5.0	16	U	16
Methylene Chloride	75-09-2	5.0	U	5.0	17	U	17
tert-Butyl Alcohol	75-65-0	50	U	50	150	U	150
Methyl tert-Butyl Ether	1634-04-4	5.0	U	5.0	18	U	18
trans-1,2-Dichloroethene	156-60-5	2.0	U	2.0	7.9	U	7.9
n-Hexane	110-54-3	5.0	U	5.0	18	U	18
1,1-Dichloroethane	75-34-3	2.0	U	2.0	8.1	U	8.1
1,2-Dichloroethene (total)	540-59-0	2.0	U	2.0	7.9	U	7.9
Methyl Ethyl Ketone	78-93-3	5.0	U	5.0	15	U	15
cis-1,2-Dichloroethene	156-59-2	2.0	U	2.0	7.9	U	7.9
Tetrahydrofuran	109-99-9	50	U	50	150	U	150
Chloroform	67-66-3	2.0	U	2.0	9.8	U	9.8
1,1,1-Trichloroethane	71-55-6	2.0	U	2.0	11	U	11
Cyclohexane	110-82-7	2.0	U	2.0	6.9	U	6.9
Carbon Tetrachloride	56-23-5	2.0	U	2.0	13	U	13
2,2,4-Trimethylpentane	540-84-1	2.0	U	2.0	9.3	U	9.3
Benzene	71-43-2	2.0	U	2.0	6.4	U	6.4
1,2-Dichloroethane	107-06-2	2.0	U	2.0	8.1	U	8.1
n-Heptane	142-82-5	2.0	U	2.0	8.2	U	8.2

TO-14/15
Result Summary

CLIENT SAMPLE NO.

6LR-SV-658A

Lab Name: STL Burlington

SDG Number: A077470

Case Number:

Sample Matrix: AIR

Lab Sample No.: 716547

Date Analyzed: 07/12/07

Date Received: 07/03/07

Target Compound	CAS Number	Results in ppbv	Q	RL in ppbv	Results in ug/m3	Q	RL in ug/m3
Trichloroethene	79-01-6	2.0	U	2.0	11	U	11
1,2-Dichloropropane	78-87-5	2.0	U	2.0	9.2	U	9.2
1,4-Dioxane	123-91-1	50	U	50	180	U	180
Bromodichloromethane	75-27-4	2.0	U	2.0	13	U	13
cis-1,3-Dichloropropene	10061-01-5	2.0	U	2.0	9.1	U	9.1
Methyl Isobutyl Ketone	108-10-1	5.0	U	5.0	20	U	20
Toluene	108-88-3	2.1		2.0	7.9		7.5
trans-1,3-Dichloropropene	10061-02-6	2.0	U	2.0	9.1	U	9.1
1,1,2-Trichloroethane	79-00-5	2.0	U	2.0	11	U	11
Tetrachloroethene	127-18-4	3.2		2.0	22		14
Methyl Butyl Ketone	591-78-6	5.0	U	5.0	20	U	20
Dibromochloromethane	124-48-1	2.0	U	2.0	17	U	17
1,2-Dibromoethane	106-93-4	2.0	U	2.0	15	U	15
Chlorobenzene	108-90-7	2.0	U	2.0	9.2	U	9.2
Ethylbenzene	100-41-4	2.0	U	2.0	8.7	U	8.7
Xylene (m,p)	1330-20-7	5.0	U	5.0	22	U	22
Xylene (o)	95-47-6	2.0	U	2.0	8.7	U	8.7
Xylene (total)	1330-20-7	2.0	U	2.0	8.7	U	8.7
Styrene	100-42-5	2.0	U	2.0	8.5	U	8.5
Bromoform	75-25-2	2.0	U	2.0	21	U	21
1,1,2,2-Tetrachloroethane	79-34-5	2.0	U	2.0	14	U	14
4-Ethyltoluene	622-96-8	2.0	U	2.0	9.8	U	9.8
1,3,5-Trimethylbenzene	108-67-8	2.0	U	2.0	9.8	U	9.8
2-Chlorotoluene	95-49-8	2.0	U	2.0	10	U	10
1,2,4-Trimethylbenzene	95-63-6	2.0	U	2.0	9.8	U	9.8
1,3-Dichlorobenzene	541-73-1	2.0	U	2.0	12	U	12
1,4-Dichlorobenzene	106-46-7	2.0	U	2.0	12	U	12
1,2-Dichlorobenzene	95-50-1	2.0	U	2.0	12	U	12
1,2,4-Trichlorobenzene	120-82-1	5.0	U	5.0	37	U	37
Hexachlorobutadiene	87-68-3	2.0	U	2.0	21	U	21

TO-14/15
Result Summary

CLIENT SAMPLE NO.

6LR-SV-658B

Lab Name: STL Burlington

SDG Number: A077470

Case Number:

Sample Matrix: AIR

Lab Sample No.: 716546

Date Analyzed: 07/12/07

Date Received: 07/03/07

Target Compound	CAS Number	Results in ppbv	Q	RL in ppbv	Results in ug/m3	Q	RL in ug/m3
Dichlorodifluoromethane	75-71-8	5.0	U	5.0	25	U	25
1,2-Dichlorotetrafluoroethane	76-14-2	2.0	U	2.0	14	U	14
Chloromethane	74-87-3	5.0	U	5.0	10	U	10
Vinyl Chloride	75-01-4	2.0	U	2.0	5.1	U	5.1
1,3-Butadiene	106-99-0	5.0	U	5.0	11	U	11
Bromomethane	74-83-9	2.0	U	2.0	7.8	U	7.8
Chloroethane	75-00-3	5.0	U	5.0	13	U	13
Bromoethene	593-60-2	2.0	U	2.0	8.7	U	8.7
Trichlorofluoromethane	75-69-4	2.0	U	2.0	11	U	11
Freon TF	76-13-1	2.0	U	2.0	15	U	15
1,1-Dichloroethene	75-35-4	2.0	U	2.0	7.9	U	7.9
Acetone	67-64-1	50	U	50	120	U	120
Isopropyl Alcohol	67-63-0	50	U	50	120	U	120
Carbon Disulfide	75-15-0	5.0	U	5.0	16	U	16
3-Chloropropene	107-05-1	5.0	U	5.0	16	U	16
Methylene Chloride	75-09-2	5.0	U	5.0	17	U	17
tert-Butyl Alcohol	75-65-0	50	U	50	150	U	150
Methyl tert-Butyl Ether	1634-04-4	5.0	U	5.0	18	U	18
trans-1,2-Dichloroethene	156-60-5	2.0	U	2.0	7.9	U	7.9
n-Hexane	110-54-3	5.0	U	5.0	18	U	18
1,1-Dichloroethane	75-34-3	2.0	U	2.0	8.1	U	8.1
1,2-Dichloroethene (total)	540-59-0	2.0	U	2.0	7.9	U	7.9
Methyl Ethyl Ketone	78-93-3	5.0	U	5.0	15	U	15
cis-1,2-Dichloroethene	156-59-2	2.0	U	2.0	7.9	U	7.9
Tetrahydrofuran	109-99-9	50	U	50	150	U	150
Chloroform	67-66-3	2.0	U	2.0	9.8	U	9.8
1,1,1-Trichloroethane	71-55-6	2.0	U	2.0	11	U	11
Cyclohexane	110-82-7	2.0	U	2.0	6.9	U	6.9
Carbon Tetrachloride	56-23-5	2.0	U	2.0	13	U	13
2,2,4-Trimethylpentane	540-84-1	2.0	U	2.0	9.3	U	9.3
Benzene	71-43-2	2.0	U	2.0	6.4	U	6.4
1,2-Dichloroethane	107-06-2	2.0	U	2.0	8.1	U	8.1
n-Heptane	142-82-5	2.0	U	2.0	8.2	U	8.2

TO-14/15
Result Summary

CLIENT SAMPLE NO.

6LR-SV-658B

Lab Name: STL Burlington

SDG Number: A077470

Case Number:

Sample Matrix: AIR

Lab Sample No.: 716546

Date Analyzed: 07/12/07

Date Received: 07/03/07

Target Compound	CAS Number	Results in ppbv	Q	RL in ppbv	Results in ug/m3	Q	RL in ug/m3
Trichloroethene	79-01-6	2.0	U	2.0	11	U	11
1,2-Dichloropropane	78-87-5	2.0	U	2.0	9.2	U	9.2
1,4-Dioxane	123-91-1	50	U	50	180	U	180
Bromodichloromethane	75-27-4	2.0	U	2.0	13	U	13
cis-1,3-Dichloropropene	10061-01-5	2.0	U	2.0	9.1	U	9.1
Methyl Isobutyl Ketone	108-10-1	5.0	U	5.0	20	U	20
Toluene	108-88-3	2.0	U	2.0	7.5	U	7.5
trans-1,3-Dichloropropene	10061-02-6	2.0	U	2.0	9.1	U	9.1
1,1,2-Trichloroethane	79-00-5	2.0	U	2.0	11	U	11
Tetrachloroethene	127-18-4	2.0		2.0	14		14
Methyl Butyl Ketone	591-78-6	5.0	U	5.0	20	U	20
Dibromochloromethane	124-48-1	2.0	U	2.0	17	U	17
1,2-Dibromoethane	106-93-4	2.0	U	2.0	15	U	15
Chlorobenzene	108-90-7	2.0	U	2.0	9.2	U	9.2
Ethylbenzene	100-41-4	2.0	U	2.0	8.7	U	8.7
Xylene (m,p)	1330-20-7	5.0	U	5.0	22	U	22
Xylene (o)	95-47-6	2.0	U	2.0	8.7	U	8.7
Xylene (total)	1330-20-7	2.0	U	2.0	8.7	U	8.7
Styrene	100-42-5	2.0	U	2.0	8.5	U	8.5
Bromoform	75-25-2	2.0	U	2.0	21	U	21
1,1,2,2-Tetrachloroethane	79-34-5	2.0	U	2.0	14	U	14
4-Ethyltoluene	622-96-8	2.0	U	2.0	9.8	U	9.8
1,3,5-Trimethylbenzene	108-67-8	2.0	U	2.0	9.8	U	9.8
2-Chlorotoluene	95-49-8	2.0	U	2.0	10	U	10
1,2,4-Trimethylbenzene	95-63-6	2.0	U	2.0	9.8	U	9.8
1,3-Dichlorobenzene	541-73-1	2.0	U	2.0	12	U	12
1,4-Dichlorobenzene	106-46-7	2.0	U	2.0	12	U	12
1,2-Dichlorobenzene	95-50-1	2.0	U	2.0	12	U	12
1,2,4-Trichlorobenzene	120-82-1	5.0	U	5.0	37	U	37
Hexachlorobutadiene	87-68-3	2.0	U	2.0	21	U	21

TO-14/15
Result Summary

CLIENT SAMPLE NO.

GLR-SV-668A

Lab Name: STL Burlington

SDG Number: A07-7157

Case Number:

Sample Matrix: AIR

Lab Sample No.: 715692

Date Analyzed: 7/10/2007

Date Received: 6/26/2007

Target Compound	CAS Number	Results in ppbv	Q	RL in ppbv	Results in ug/m3	Q	RL in ug/m3
Dichlorodifluoromethane	75-71-8	26	U	26	130	U	130
1,2-Dichlorotetrafluoroethane	76-14-2	10	U	10	70	U	70
Chloromethane	74-87-3	26	U	26	54	U	54
Vinyl Chloride	75-01-4	10	U	10	26	U	26
1,3-Butadiene	106-99-0	26	U	26	58	U	58
Bromomethane	74-83-9	10	U	10	39	U	39
Chloroethane	75-00-3	26	U	26	69	U	69
Bromoethene	593-60-2	10	U	10	44	U	44
Trichlorofluoromethane	75-69-4	10	U	10	56	U	56
Freon TF	76-13-1	10	U	10	77	U	77
1,1-Dichloroethene	75-35-4	10	U	10	40	U	40
Acetone	67-64-1	2000		260	4800		620
Isopropyl Alcohol	67-63-0	260	U	260	640	U	640
Carbon Disulfide	75-15-0	26	U	26	81	U	81
3-Chloropropene	107-05-1	26	U	26	81	U	81
Methylene Chloride	75-09-2	26	U	26	90	U	90
tert-Butyl Alcohol	75-65-0	260	U	260	790	U	790
Methyl tert-Butyl Ether	1634-04-4	26	U	26	94	U	94
trans-1,2-Dichloroethene	156-60-5	10	U	10	40	U	40
n-Hexane	110-54-3	26	U	26	92	U	92
1,1-Dichloroethane	75-34-3	10	U	10	40	U	40
1,2-Dichloroethene (total)	540-59-0	10	U	10	40	U	40
Methyl Ethyl Ketone	78-93-3	280		26	830		77
cis-1,2-Dichloroethene	156-59-2	10	U	10	40	U	40
Tetrahydrofuran	109-99-9	260	U	260	770	U	770
Chloroform	67-66-3	10	U	10	49	U	49
1,1,1-Trichloroethane	71-55-6	10	U	10	55	U	55
Cyclohexane	110-82-7	10	U	10	34	U	34
Carbon Tetrachloride	56-23-5	10	U	10	63	U	63
2,2,4-Trimethylpentane	540-84-1	10	U	10	47	U	47
Benzene	71-43-2	10	U	10	32	U	32
1,2-Dichloroethane	107-06-2	10	U	10	40	U	40
n-Heptane	142-82-5	10	U	10	41	U	41

TO-14/15
Result Summary

CLIENT SAMPLE NO.

GLR-SV-668A

Lab Name: STL Burlington

SDG Number: A07-7157

Case Number:

Sample Matrix: AIR

Lab Sample No.: 715692

Date Analyzed: 7/10/2007

Date Received: 6/26/2007

Target Compound	CAS Number	Results in ppbv	Q	RL in ppbv	Results in ug/m3	Q	RL in ug/m3
Trichloroethene	79-01-6	10	U	10	54	U	54
1,2-Dichloropropane	78-87-5	10	U	10	46	U	46
1,4-Dioxane	123-91-1	260	U	260	940	U	940
Bromodichloromethane	75-27-4	10	U	10	67	U	67
cis-1,3-Dichloropropene	10061-01-5	10	U	10	45	U	45
Methyl Isobutyl Ketone	108-10-1	26	U	26	110	U	110
Toluene	108-88-3	10	U	10	38	U	38
trans-1,3-Dichloropropene	10061-02-6	10	U	10	45	U	45
1,1,2-Trichloroethane	79-00-5	10	U	10	55	U	55
Tetrachloroethene	127-18-4	10	U	10	68	U	68
Methyl Butyl Ketone	591-78-6	26	U	26	110	U	110
Dibromochloromethane	124-48-1	10	U	10	85	U	85
1,2-Dibromoethane	106-93-4	10	U	10	77	U	77
Chlorobenzene	108-90-7	10	U	10	46	U	46
Ethylbenzene	100-41-4	10	U	10	43	U	43
Xylene (m,p)	1330-20-7	26	U	26	110	U	110
Xylene (o)	95-47-6	10	U	10	43	U	43
Xylene (total)	1330-20-7	10	U	10	43	U	43
Styrene	100-42-5	10	U	10	43	U	43
Bromoform	75-25-2	10	U	10	100	U	100
1,1,2,2-Tetrachloroethane	79-34-5	10	U	10	69	U	69
4-Ethyltoluene	622-96-8	10	U	10	49	U	49
1,3,5-Trimethylbenzene	108-67-8	10	U	10	49	U	49
2-Chlorotoluene	95-49-8	10	U	10	52	U	52
1,2,4-Trimethylbenzene	95-63-6	10	U	10	49	U	49
1,3-Dichlorobenzene	541-73-1	10	U	10	60	U	60
1,4-Dichlorobenzene	106-46-7	10	U	10	60	U	60
1,2-Dichlorobenzene	95-50-1	10	U	10	60	U	60
1,2,4-Trichlorobenzene	120-82-1	26	U	26	190	U	190
Hexachlorobutadiene	87-68-3	10	U	10	110	U	110

TO-14/15
Result Summary

CLIENT SAMPLE NO.

GLR-SV-668B

Lab Name: STL Burlington

SDG Number: A07-7157

Case Number:

Sample Matrix: AIR

Lab Sample No.: 715693

Date Analyzed: 7/10/2007

Date Received: 6/26/2007

Target Compound	CAS Number	Results in ppbv	Q	RL in ppbv	Results in ug/m3	Q	RL in ug/m3
Dichlorodifluoromethane	75-71-8	20	U	20	99	U	99
1,2-Dichlorotetrafluoroethane	76-14-2	8.0	U	8.0	56	U	56
Chloromethane	74-87-3	20	U	20	41	U	41
Vinyl Chloride	75-01-4	8.0	U	8.0	20	U	20
1,3-Butadiene	106-99-0	20	U	20	44	U	44
Bromomethane	74-83-9	8.0	U	8.0	31	U	31
Chloroethane	75-00-3	20	U	20	53	U	53
Bromoethene	593-60-2	8.0	U	8.0	35	U	35
Trichlorofluoromethane	75-69-4	8.0	U	8.0	45	U	45
Freon TF	76-13-1	8.0	U	8.0	61	U	61
1,1-Dichloroethene	75-35-4	8.0	U	8.0	32	U	32
Acetone	67-64-1	1400		200	3300		480
Isopropyl Alcohol	67-63-0	200	U	200	490	U	490
Carbon Disulfide	75-15-0	20	U	20	62	U	62
3-Chloropropene	107-05-1	20	U	20	63	U	63
Methylene Chloride	75-09-2	20	U	20	69	U	69
tert-Butyl Alcohol	75-65-0	200	U	200	610	U	610
Methyl tert-Butyl Ether	1634-04-4	20	U	20	72	U	72
trans-1,2-Dichloroethene	156-60-5	8.0	U	8.0	32	U	32
n-Hexane	110-54-3	20	U	20	70	U	70
1,1-Dichloroethane	75-34-3	8.0	U	8.0	32	U	32
1,2-Dichloroethene (total)	540-59-0	8.0	U	8.0	32	U	32
Methyl Ethyl Ketone	78-93-3	180		20	530		59
cis-1,2-Dichloroethene	156-59-2	8.0	U	8.0	32	U	32
Tetrahydrofuran	109-99-9	200	U	200	590	U	590
Chloroform	67-66-3	8.0	U	8.0	39	U	39
1,1,1-Trichloroethane	71-55-6	8.0	U	8.0	44	U	44
Cyclohexane	110-82-7	8.0	U	8.0	28	U	28
Carbon Tetrachloride	56-23-5	8.0	U	8.0	50	U	50
2,2,4-Trimethylpentane	540-84-1	8.0	U	8.0	37	U	37
Benzene	71-43-2	8.0	U	8.0	26	U	26
1,2-Dichloroethane	107-06-2	8.0	U	8.0	32	U	32
n-Heptane	142-82-5	8.0	U	8.0	33	U	33

TO-14/15
Result Summary

CLIENT SAMPLE NO.

GLR-SV-668B

Lab Name: STL Burlington

SDG Number: A07-7157

Case Number:

Sample Matrix: AIR

Lab Sample No.: 715693

Date Analyzed: 7/10/2007

Date Received: 6/26/2007

Target Compound	CAS Number	Results in ppbv	Q	RL in ppbv	Results in ug/m3	Q	RL in ug/m3
Trichloroethene	79-01-6	8.0	U	8.0	43	U	43
1,2-Dichloropropane	78-87-5	8.0	U	8.0	37	U	37
1,4-Dioxane	123-91-1	200	U	200	720	U	720
Bromodichloromethane	75-27-4	8.0	U	8.0	54	U	54
cis-1,3-Dichloropropene	10061-01-5	8.0	U	8.0	36	U	36
Methyl Isobutyl Ketone	108-10-1	20	U	20	82	U	82
Toluene	108-88-3	8.0	U	8.0	30	U	30
trans-1,3-Dichloropropene	10061-02-6	8.0	U	8.0	36	U	36
1,1,2-Trichloroethane	79-00-5	8.0	U	8.0	44	U	44
Tetrachloroethene	127-18-4	8.0	U	8.0	54	U	54
Methyl Butyl Ketone	591-78-6	20		20	82		82
Dibromochloromethane	124-48-1	8.0	U	8.0	68	U	68
1,2-Dibromoethane	106-93-4	8.0	U	8.0	61	U	61
Chlorobenzene	108-90-7	8.0	U	8.0	37	U	37
Ethylbenzene	100-41-4	8.0	U	8.0	35	U	35
Xylene (m,p)	1330-20-7	20	U	20	87	U	87
Xylene (o)	95-47-6	8.0	U	8.0	35	U	35
Xylene (total)	1330-20-7	8.0	U	8.0	35	U	35
Styrene	100-42-5	8.0	U	8.0	34	U	34
Bromoform	75-25-2	8.0	U	8.0	83	U	83
1,1,2,2-Tetrachloroethane	79-34-5	8.0	U	8.0	55	U	55
4-Ethyltoluene	622-96-8	8.0	U	8.0	39	U	39
1,3,5-Trimethylbenzene	108-67-8	8.0	U	8.0	39	U	39
2-Chlorotoluene	95-49-8	8.0	U	8.0	41	U	41
1,2,4-Trimethylbenzene	95-63-6	8.0	U	8.0	39	U	39
1,3-Dichlorobenzene	541-73-1	8.0	U	8.0	48	U	48
1,4-Dichlorobenzene	106-46-7	8.0	U	8.0	48	U	48
1,2-Dichlorobenzene	95-50-1	8.0	U	8.0	48	U	48
1,2,4-Trichlorobenzene	120-82-1	20	U	20	150	U	150
Hexachlorobutadiene	87-68-3	8.0	U	8.0	85	U	85

APPENDIX D

NYSDEC/NYSDOH CORRESPONDENCE

NOV - 2 2006

New York State Department of Environmental Conservation
Division of Environmental Remediation, Region 9
270 Michigan Avenue, Buffalo, New York, 14203-2999
Phone: (716) 851-7220 • **FAX:** (716) 851-7226
Website: www.dec.state.ny.us

Denise M. Sheehan
Commissioner

November 1, 2006

Mr. Gregory Barkstrom
Director of Real Estate
Wendy's of Ft. Wayne, Inc.
20 North Union Street
Rochester, New York 14607

Dear Mr. Barkstrom:

Brownfield Cleanup Project Site
Interim Remedial Measure Work Plan
Site No. C932126
7503 Niagara Falls Boulevard
Niagara Falls, Niagara County

The Department has completed its review of the Interim Remedial Measures (IRM) Work Plan for the subject site. The IRM Work Plan is hereby approved by the Department. Please place a copy of the Work Plan in the document repository and mail the Fact Sheet announcing the IRM work to the contact list.

It is the Department's understanding that the IRM will not include any subsequent injection of HRC since it is fully anticipated that a single injection of HRC will be sufficient to adequately address the groundwater contamination on the site and that additional injections will not be necessary. In the case that site groundwater cleanup objectives are not achieved and/or residual VOC contamination remains, it would be required that the building design incorporate a sub-slab vapor mitigation system into the proposed building structure. In addition, the Department requests that the post-IRM sampling effort include soil gas sampling. Such a sampling effort will ensure that there are no potential off-site soil gas exposure pathways.

Please provide this office with timely notice prior to the start of IRM field activities at the site. Should you have any questions, please contact Jeff Konsella, of my staff, at (716) 851-7220.

Sincerely,

Gregory P. Sutton, P.E.
Regional Hazardous Waste Remediation Engineer

cc: Mr. Jeff Konsella, Environmental Remediation
Mr. Michael Lesakowski, Benchmark

BENCHMARK
ENVIRONMENTAL
ENGINEERING &
SCIENCE, PLLC

March 29, 2007

Mr. Jeffrey Konsella
Project Manager
NYSDEC Region 9
Division of Environmental Remediation
270 Michigan Ave.
Buffalo, New York 14203-2999

Re: GLR Holdings, LLC
7503 Niagara Falls Blvd., Niagara Falls, New York

Dear Mr. Konsella:

On behalf of our client, GLR Holdings, LLC, Benchmark Environmental Engineering & Science, PLLC has prepared this letter and associated tables and figures to update you on the status of the interim remedial measures (IRM), implemented at the 7503 Niagara Falls Boulevard site (Site) (see Figures 1 and 2).

The IRM was completed in November 2006 and consisted of injection of Hydrogen Release Compounds (HRC) into the groundwater at two areas of the Site as described in the New York State Department of Environmental Conservation (NYSDEC) and New York State Department of Health (NYSDOH) approved IRM Work Plan, dated October 2006 (see Figure 3). Subsequent to HRC injection, groundwater monitoring was completed at sampling locations MW-14 and MW-19 to monitor the concentrations of chlorinated volatile organic compounds (cVOCs). Soil gas samples were also collected at four locations on-site (see Figure 2).

As summarized in Table 1 (attached), concentrations of cVOCs have significantly decreased at both monitoring locations subsequent to HRC injection. This evaluation is based on baseline cVOCs concentrations and three subsequent groundwater monitoring events. Groundwater monitoring will continue until site construction activities commence.

As summarized in Table 2 (attached), cVOCs were detected in soil gas samples on-Site. As such, Benchmark has provided a draft design of an active subslab depressurization (ASD) system, which will be constructed in the planned building. The draft design figures are also attached.

As site construction activities are planned to commence this April, GLR Holdings respectfully requests that the NYSDEC and NYSDOH review the attached documents and provide any comments or concerns prior to site construction.

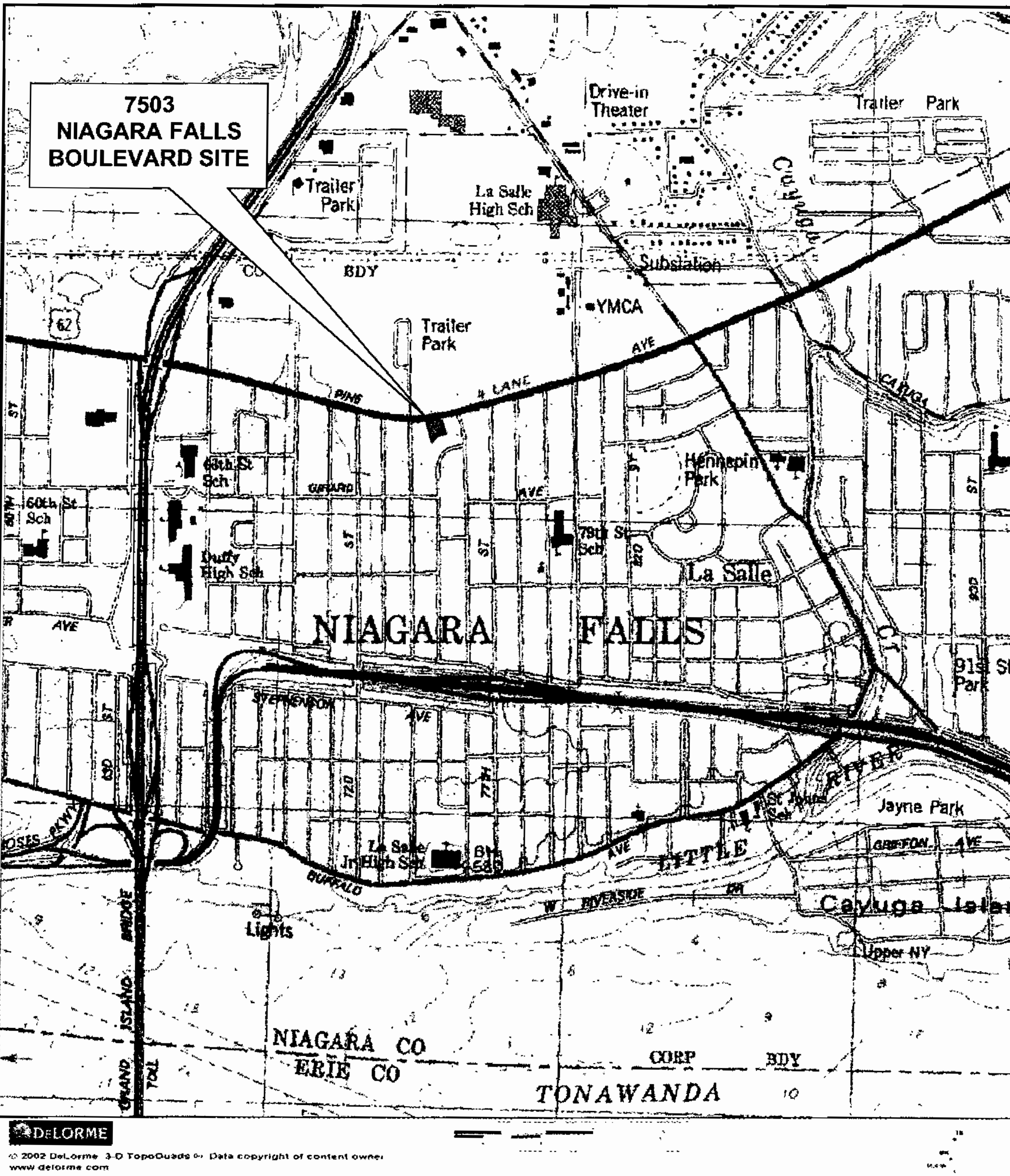
Please contact us with any questions.

Sincerely,
Benchmark Environmental Engineering & Science, PLLC

Michael Lesakowski
Project Manager

c. Greg Barkstrom, GLR Holdings, LLC
Matt Forcucci, NYSDOH
Greg Sutton, NYSDEC
File: 0101-002-500

FIGURE 1



BENCHMARK
ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

726 EXCHANGE STREET
SUITE 624
BUFFALO, NEW YORK 14210
(716) 856-0599

PROJECT NO. 0101-002-500

DATE: MARCH 2007

DRAFTED BY: BCH

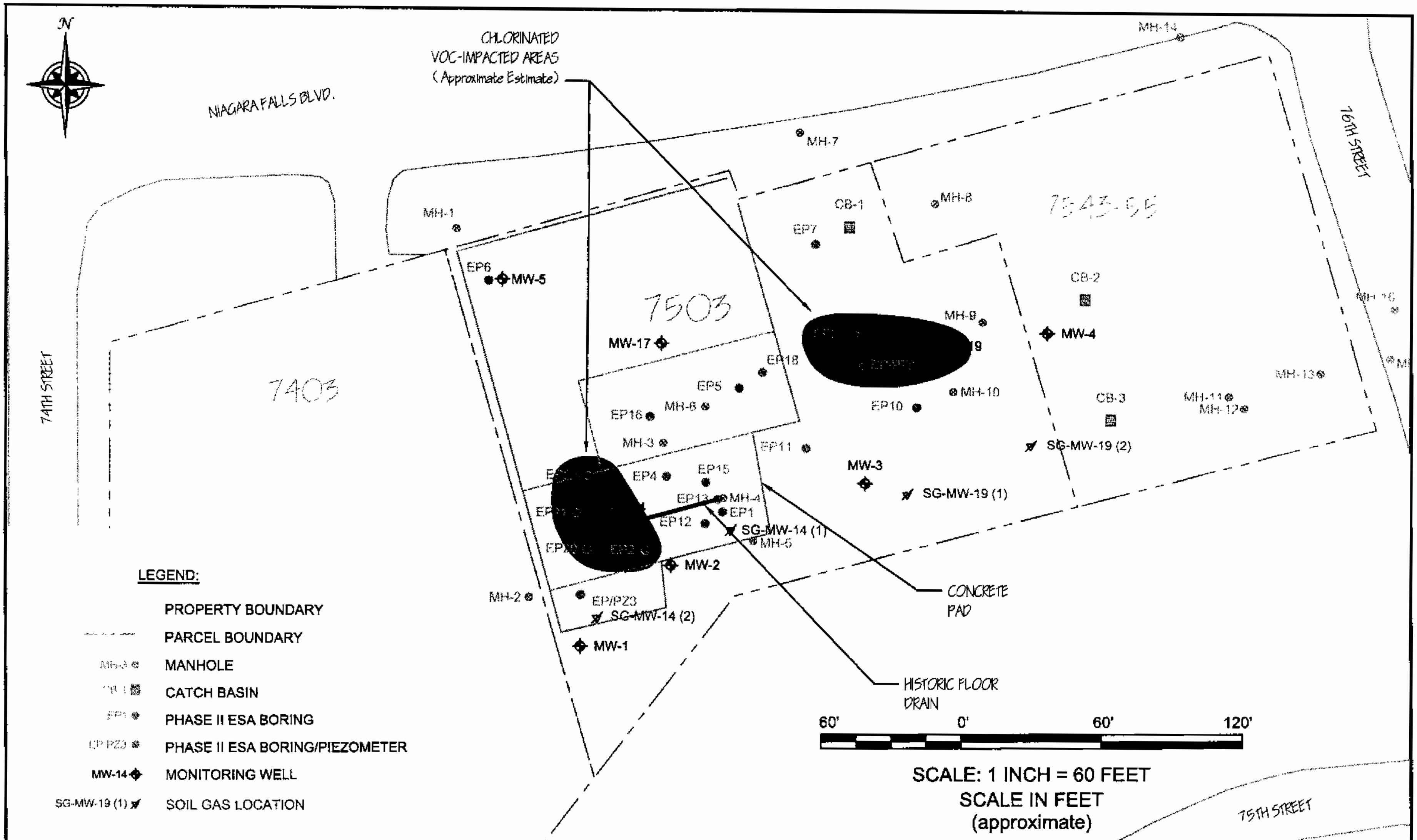
SITE LOCATION AND VICINITY MAP

IRM UPDATE

7503 NIAGARA FALLS BOULEVARD SITE
NIAGARA FALLS, NEW YORK

PREPARED FOR

GLR HOLDINGS, LLC



BENCHMARK
ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

726 EXCHANGE STREET
SUITE 624
BUFFALO, NEW YORK 14210
(716) 856-0599

PROJECT NO.: 0101-002-500

DATE: MARCH 2007

DRAFTED BY: BCH/NTM

SOIL-GAS SAMPLING LOCATIONS

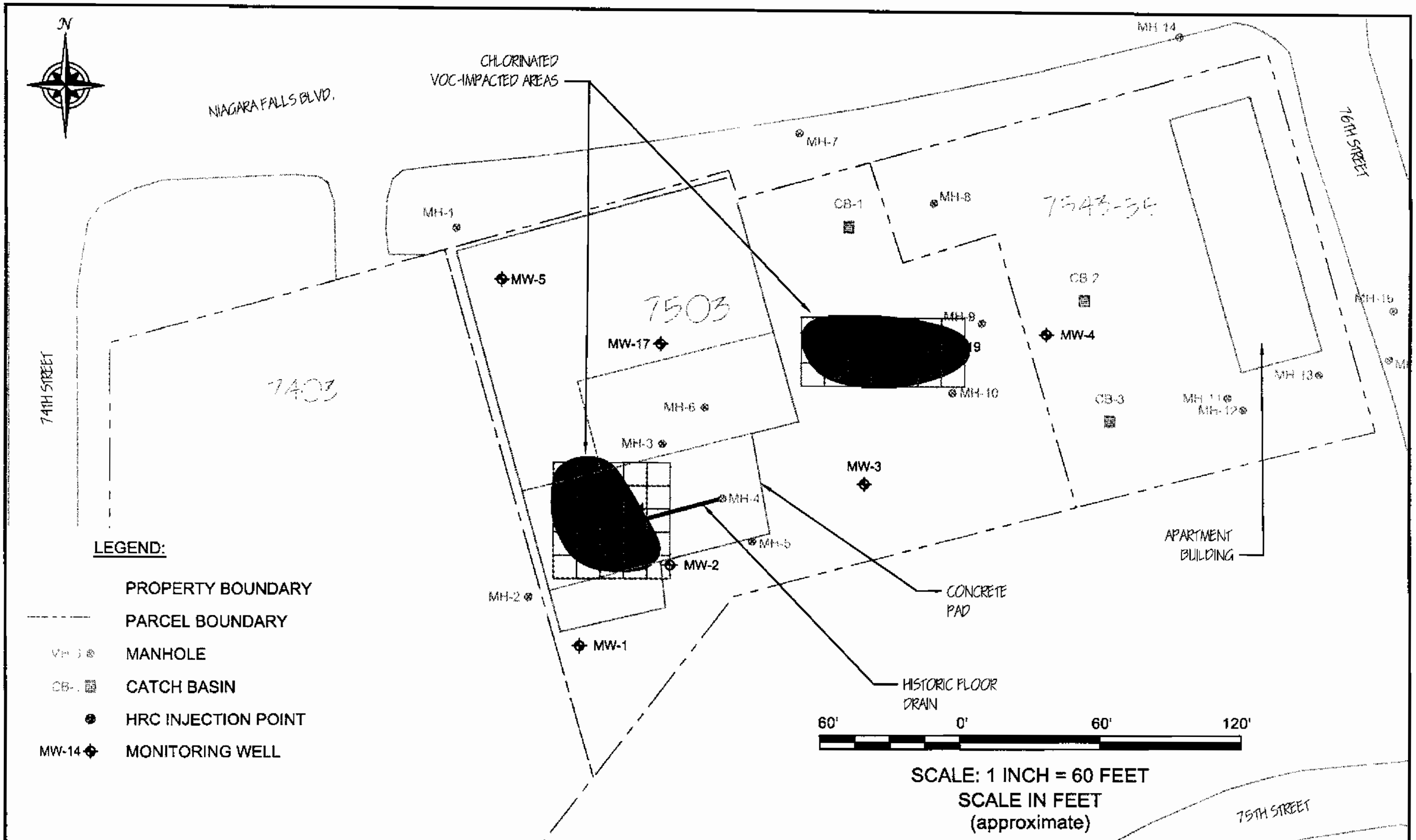
IRM UPDATE

7503 NIAGARA FALLS BOULEVARD SITE
NIAGARA FALLS, NEW YORK

PREPARED FOR
GLR HOLDINGS, LLC

FIGURE 2

F:\CAD\Benchmark\GLR Holdings - Wendy's\IRM Updates\Figure 2; Sample Locations.dwg



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(716) 856-0599

PROJECT NO.: 0101-002-500

DATE: MARCH 2007

DRAFTED BY: BCH

IN-SITU HRC INJECTION PLAN

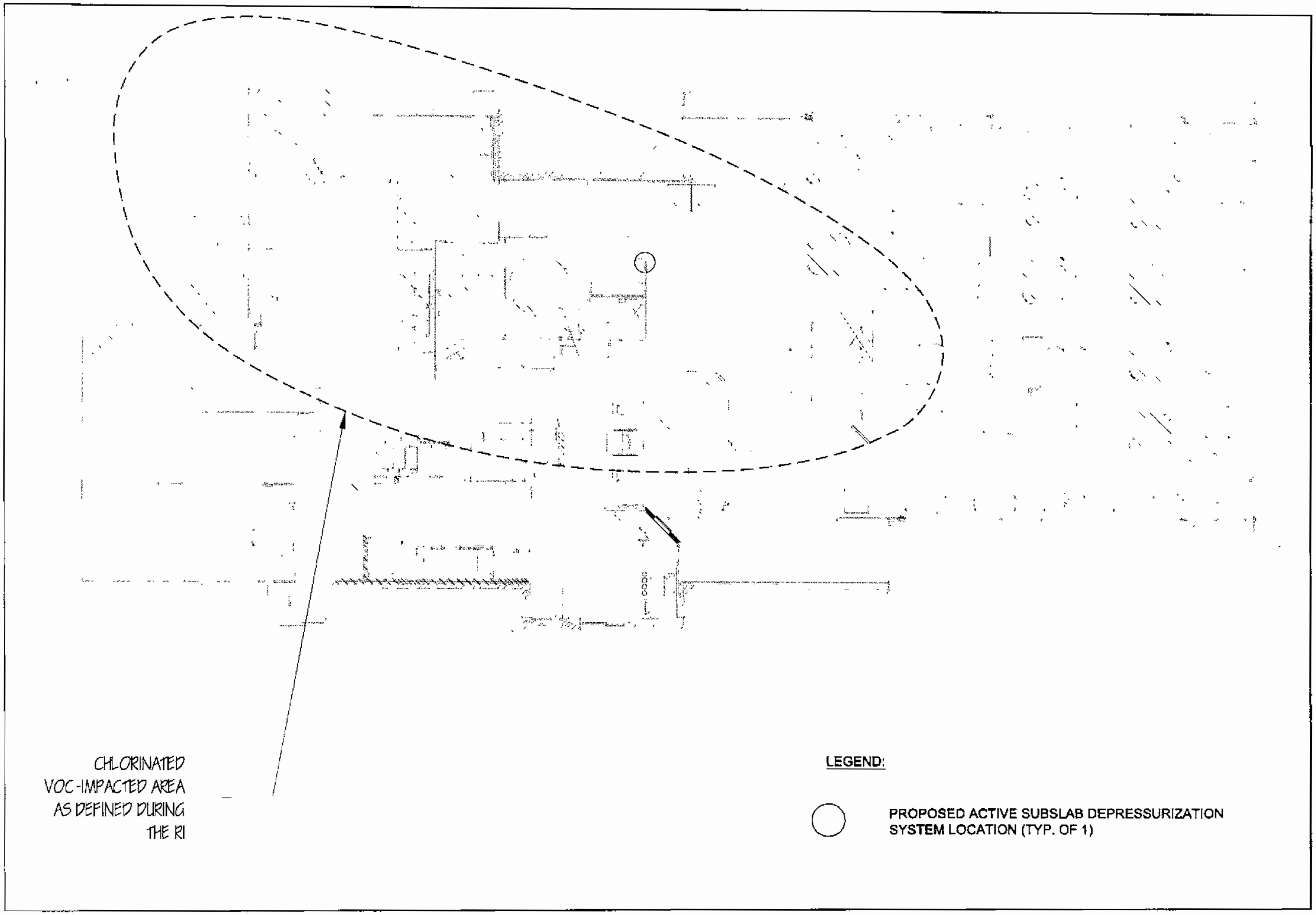
IRM UPDATE

7503 NIAGARA FALLS BOULEVARD SITE
NIAGARA FALLS, NEW YORK

PREPARED FOR
GLR HOLDINGS, LLC

FIGURE 3

F:\CAD\Benchmark\GLR Holdings - Wendy's\IRM Updates\Figure 3; In-Situ HRC Injection Plan.dwg



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FOUNDATION PLAN

IRM UPDATE

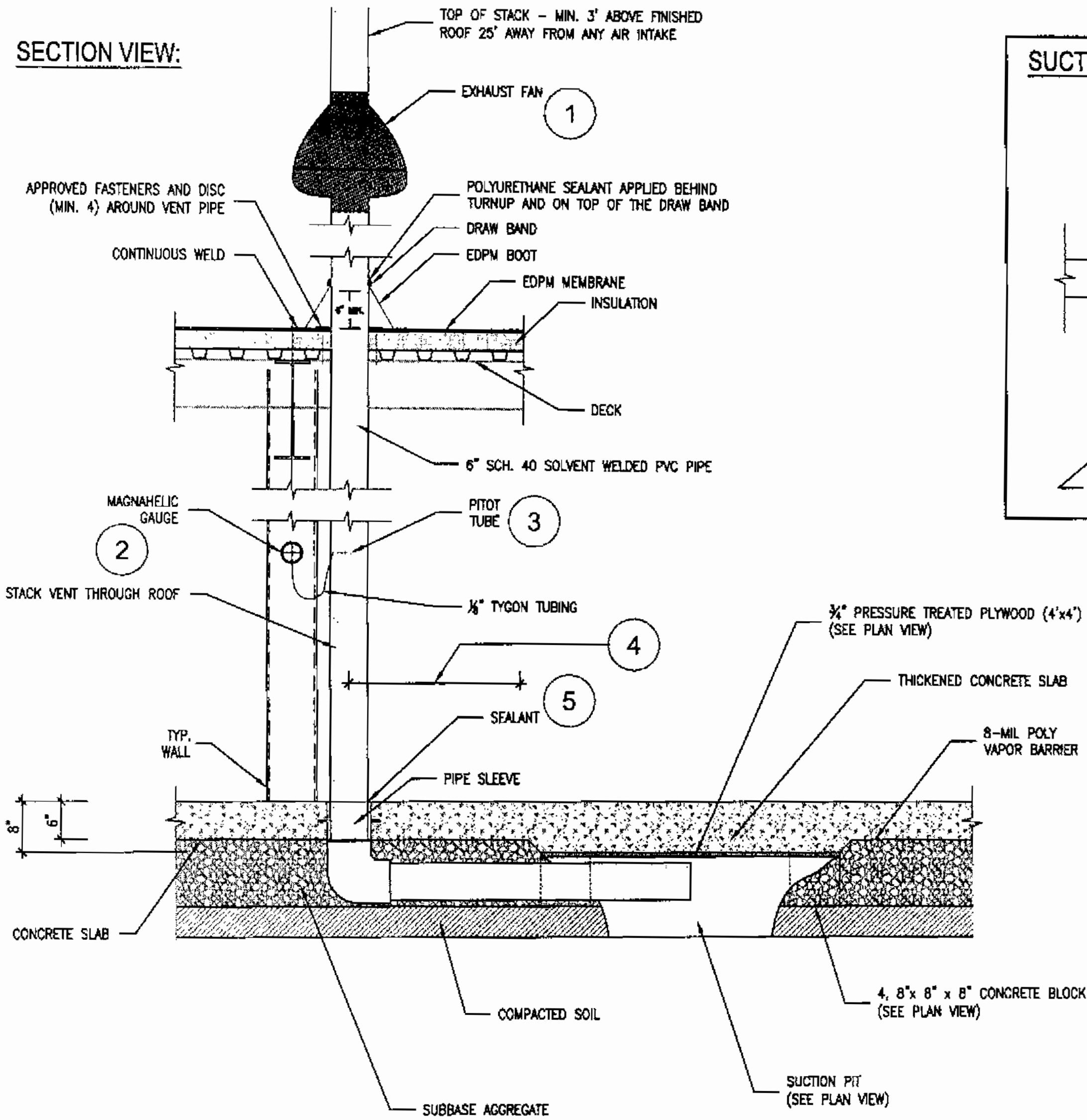
7503 NIAGARA FALLS BOULEVARD
NIAGARA FALLS, NEW YORK

PREPARED FOR

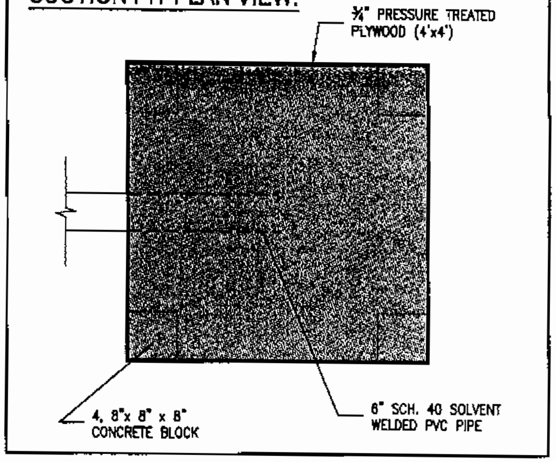
GLR HOLDINGS, INC

FIGURE 4

SECTION VIEW:



SUCTION PIT PLAN VIEW:



NOTES:

1. FANTECH MODEL FR 160. 115 VOLT 71 RATED WATTS CONT. DUTY
2. DWYER MODEL 2002 – AV MAGNAHELIC GAUGE; DWYER MODEL A-368 SURFACE MOUNT BRACKET. MOUNT ON COLUMN AT 5 FEET ABOVE FINISHED FLOOR.
3. DWYER MODEL 166-6CF ⅛" NPT PITOT TUBE WITH COMPRESSION FITTINGS
4. MINIMUM 18" AND MAXIMUM 24" FROM CENTERLINE OF WALL TO CENTERLINE OF OUTER ELBOW.
5. POLYURETHANE SEALANT APPLIED IN ACCORANCE WITH MANUFACTURERS INSTRUCTIONS TO SEAL ALL GAPS. USE OF SILICONE SEALANTS IS NOT PERMITTED.

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC
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(716) 856-0599

JOB NO.: 0101-002-500

ACTIVE SUBSLAB DEPRESSURIZATION SYSTEM

IRM UPDATE

7503 NIAGARA FALLS BOULEVARD SITE
NIAGARA FALLS, NEW YORK

PREPARED FOR
GLR HOLDINGS, INC.

FIGURE 5

Benchmark Environmental Engineering & Science PLLC

TABLE 1

SUMMARY OF GROUNDWATER ANALYTICAL DATA

IRM Groundwater Monitoring
7503 Niagara Falls Boulevard Site

Parameter [1]	MW-14			MW-19			GWQS/GV [3]
	Baseline	Dec-06	Jan-07	Baseline	Dec-06	Jan-07	
Vinyl chloride	910 D	380	150	58	24	22	2
1,1-Dichloroethene	85 D	140	21 J	1 J	ND	ND	5
Trichloroethene	540 D	1500	300	1 J	2 J	2 J	5
1,1,2-Trichloroethane	9 DJ	ND	ND	ND	ND	ND	1
Tetrachloroethene	640	480	120	1 J	ND	ND	5
trans-1,2-Dichloroethene	1300 D	520	240	ND	ND	ND	5
cis-1,2-Dichloroethene	1100 D	570	220	30	28	26	5
Total cVOCs	4584	3590	1051	91	54	50	NA

Notes:

1. Chlorinated volatile organics only are shown.
2. Baseline concentrations were collected in June 2006. Hydrogen Release Compound (HRC) injection was completed in November 2006.
3. NYSDEC Class "GA" Groundwater Quality Standards/Guidance Values (GWQS/GV), 6 NYCRR Part 703.

Definitions:

J = Estimated value; result is less than the sample quantitation limit but greater than zero.
D = Diluted sample result.
ND = parameter not detected above laboratory detection limit.
NA = Not Applicable

TABLE 2
SUMMARY OF SOIL VAPOR ANALYTICAL RESULTS

GLR HOLDINGS, LLC.
NIAGARA FALLS, NEW YORK

Parameter [1]	Sample Location			
	SG-MW-14 (1)	SG-MW-14 (2)	SG-MW-19 (1)	SG-MW-19 (2)
TCL Volatile Organic Compounds (VOCs) - ug/m³				
1,3-Butadiene	ND	24	ND	7.3
Acetone	23	19	ND	64
Carbon Disulfide	ND	3.1	40	97
Dichlorodifluoromethane	4.6	3.7	ND	ND
1,1-Dichloroethene	1.2	ND	52	20
trans 1,2-Dichloroethene	7.9	ND	110	44
cis 1,2-Dichloroethene	12	ND	230	110
n-Hexane	22	130	270	35
Methyl Ethyl Ketone	1.8	ND	ND	ND
Cyclohexane	6.9	55	24	7.6
Benzene	3.5	28	8.9	5.1
n-Heptane	16	70	82	12
Toluene	9.8	31	6.8	2.6
Tetrachloroethene	2.2	ND	240	53
Trichloroethene	8.1	ND	520	170
Trichlorofluoromethane	2.4	2.1	ND	ND
Ethylbenzene	1.7	6.9	ND	ND
Xylene (m,p)	6.1	27	13	ND
Xylene (o)	2	8.3	4.8	ND
Xylene (total)	8.3	35	17	ND
Styrene	0.85	ND	ND	ND
Vinyl Chloride	5.6	ND	380	140

Notes:

1. Only those compounds detected above the laboratory reporting limit are presented in this table.

Definitions:

ND= Not detected above laboratory detection limits.

New York State Department of Environmental Conservation
Division of Environmental Remediation, Region 9
270 Michigan Avenue, Buffalo, New York, 14203-2999
Phone: (716) 851-7220 • **FAX:** (716) 851-7226
Website: www.dec.state.ny.us

Alexander B. Grannis
Commissioner

April 11, 2007

Mr. Michael Lesakowski
Benchmark Environmental Engineering & Science
726 Exchange Street, Suite 624
Buffalo, New York 14210

Dear Mr. Lesakowski:

Brownfield Cleanup Project
Site No. C932126
7503 Niagara Falls Boulevard
Niagara Falls, Niagara County

The New York State Departments of Environmental Conservation (DEC) and Health (DOH) have reviewed Benchmark's letter of March 29, 2007 concerning the 7503 Niagara Falls Boulevard BCP site. In that letter, Benchmark requested that the DEC and DOH provide any comments or concerns on the VOC contaminants remaining at the site prior to the start of site development activities.

Benchmark completed an Interim Remedial Measure (IRM) at the site in November 2006. The IRM consisted of the injection of Hydrogen Release Compounds into groundwater within two small areas of the site containing VOC contamination. Your letter of March 29, 2007 includes a summary of groundwater data for monitoring wells MW-14 and MW-19, which are located within the existing two areas of VOC groundwater contamination. It also includes soil gas sampling data from four locations near the southern property line.

From the data presented in Table 1, the IRM appears to have significantly reduced the VOC concentrations in site groundwater at MW-14 and MW-19. However, it also appears that residual VOC groundwater contaminants in the area of MW-14 will persist above DEC Groundwater Quality Standards/Guidance Values. Benchmark should ensure that the Alternatives Analysis Report contains a discussion of any persistent VOCs in site groundwater, and includes institutional and/or engineering controls, as necessary.

From the data presented in Table 2, it appears that there are significant concentrations of VOCs within soil gas in the southeastern portion of the site. While the proposed "active subslab depressurization system" is intended to prevent potential future indoor air impacts to the proposed site building, the soil gas sampling conducted to date has not determined the limits of the VOCs present in soil gas.

Residential homes are located immediately south of the site. It, therefore, will be necessary to collect off-site soil gas samples in order to determine the limits of the VOCs in soil gas. DOH has requested that additional soil gas sampling be performed between the SG-MW-19 (1/2) locations and the nearest home(s). Specifically, DOH recommends locating several soil gas sampling points just south of the site property line, with additional sampling points located further south at approximately one half the distance to the nearest home(s). While this soil gas sampling does not need to be completed before site redevelopment begins, such data must be included in the Remedial Investigation (RI) Report. The RI Report must also include discussions and evaluations of potential impacts resulting from any off-site migration of site contaminants.

Should you have any questions, please contact me at (716) 851-7220.

Sincerely,

Jeffrey A. Konsella, P.E.
Environmental Engineer II

JAK:sz

cc: Mr. Gregory Sutton, DEC
Mr. Matthew Forcucci, DOH
Mr. Gregory Barkstrom, GLR Holdings, LLC
Mr. James Devald, Niagara County Health Department

Benchmark
Environmental Engineering & Science PLLC

June 15, 2007

Mr. Jeff Konsella, P.E.
New York State Dept. of Environmental Conservation
Division of Environmental Remediation
270 Michigan Avenue
Buffalo, New York 14203-2999

Re: 7503 Niagara Falls Boulevard Site
Niagara Falls, New York
Off-Site Soil Gas Sampling Plan

Dear Mr. Konsella:

We have prepared this letter in response to your April 11, 2007 letter requesting off-site soil gas sampling in the residential properties located south of the referenced site (Site) (see Figure 1).

Background
In accordance with the NYSDEC-approved *Interim Remedial Measures Work Plan* (IRM Work Plan) written by Benchmark Environmental Engineering & Science, PLLC (Benchmark) two areas with volatile organic compound (VOC) impacted groundwater were the subject of an in-situ groundwater treatment program using Hydrogen Release Compounds (HRC) in November 2006. Subsequent groundwater monitoring indicated that in-situ treatment successfully reduced VOC contaminant concentrations in groundwater. However, two soil gas samples collected in January 2007 from beneath the asphalt in the southeastern portion of the Site contained elevated concentrations of VOCs.

Benchmark has prepared this sampling and analysis plan to evaluate whether VOCs in soil gas have migrated off-site toward the adjacent residential homes.

Sampling Locations
Benchmark has been granted permission to access two of the three properties (i.e., 658 75th Street and 668 75th Street) that are located directly adjacent to the Site. Benchmark could not gain permission to access 664 75th Street. Therefore, sampling will not be conducted at that property.

Proposed off-Site soil gas sampling locations are shown on Figure 2- Off-Site Soil Gas Sampling Plan (attached).

Soil Gas Sampling Probes

Soil gas sampling probes will be installed at four off-Site locations (see Figure 2). Sampling probes will be installed in general conformance with the New York State Department of Health (NYSDOH) Soil Vapor Intrusion Guidance (October 2006). Figure 3 illustrates soil gas sampling probe construction that will be employed at each location.

Each soil gas sampling probe will be manually installed using specialized four-foot long stainless steel soil probe rods. Sampling equipment includes 6-inch long sampling screens, ¼" inside diameter inert sample tubing and dedicated 6 liter Summa canisters. Soil boreholes will be advanced to approximately three feet below ground surface (fbgs) using ¾" inside diameter steel rods. The steel rod will be equipped with an anchor point at the driving end of the rod. The anchor point will be connected to the sampling screen and tubing on the inside of the steel rod. Once the steel rod is advanced to the target depth (i.e., three fbgs), the steel rod will be retracted, leaving the anchor point, sampling screen and sampling tubing within the borehole annulus. Glass beads will be poured around the sampling screen in a manner to cover the entire length of the sampling screen. Bentonite or bentonite/soil mixture will be placed above the glass beads to the ground surface to create a seal to prohibit infiltration of ambient air into the sampling area.

Sampling and Analytical Methods

Once the sample probes are installed, the probe and tubing will be purged (three volumes) using a calibrated syringe as required by NYSDOH (2006) guidance and helium tracer gas will be used during the purging phase (in the same manner as recommended for soil vapor probes) to ensure that the probes are well sealed. Samples will be collected over an approximate 8-hour period.

All soil gas samples will be collected and analyzed by EPA Method TO-15. This method employs a 6-liter, passivated (inert), stainless-steel, evacuated sampling sphere for collecting the air samples. The canister is received from the laboratory, certified clean, evacuated, and prepared for sampling. The pressure in the canister is approximately 50 millitorr (compared to 760 torr of pressure in the atmosphere at sea level).

The canisters are then fitted with a sampling valve that uses a critical orifice and mass flow controller to regulate the air flow into the canister. The orifice is selected by size to allow for the selected 8-hour sampling period. The mass flow controller helps maintain relatively constant air flow rates throughout the sampling period. The canisters will then be placed at the soil-gas sampling locations for sampling.

Samples will be shipped to the laboratory within two days of sampling so that no sample will exceed the 30-day holding time (since receipt from the lab) for the TO-15 method. Full chain of custody will be maintained for all canisters from time of shipping from the laboratory to the time of analysis.

Project Scheduling

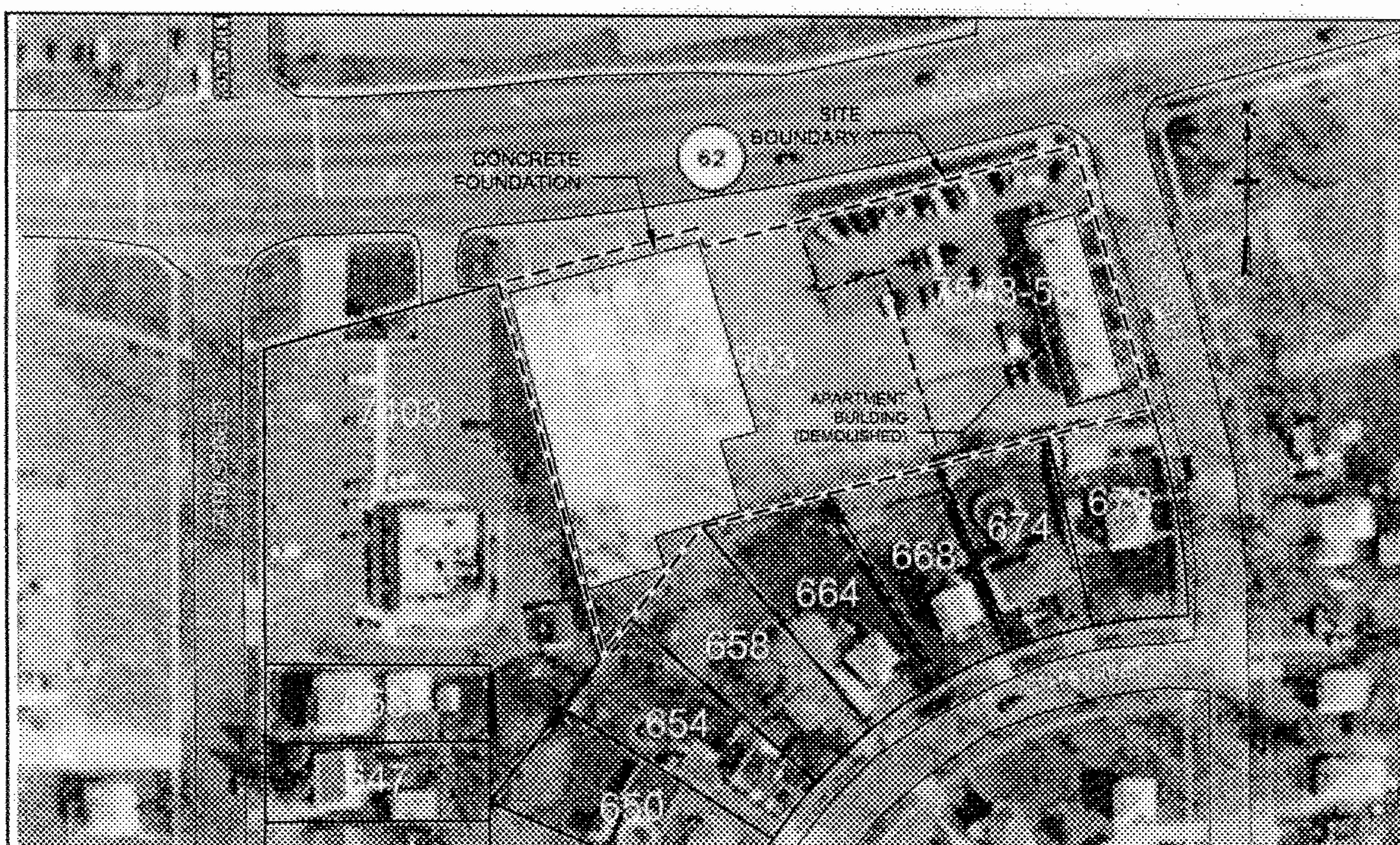
Fieldwork is currently scheduled for Thursday June 21, 2007. We anticipate that all of the sampling will be completed within one day.

We would appreciate a timely review, comment, and approval of our proposed soil gas sampling and analysis plan. Please contact us if you have any questions or wish to discuss our proposed plan further.

Sincerely,
Benchmark Environmental Engineering & Science, PLLC

Michael Lesakowski
Project Manager

c: M. Forcucci, NYSDOH
Greg Barkstrom, GLR
File 0101-002-600



BENCHMARK
ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

726 EXCHANGE STREET
SUITE 624
BUFFALO, NEW YORK 14210
(716) 856-0599

PROJECT NO.: 0101-002-600

DATE: JUNE 2007

DRAFTED BY: AJZ

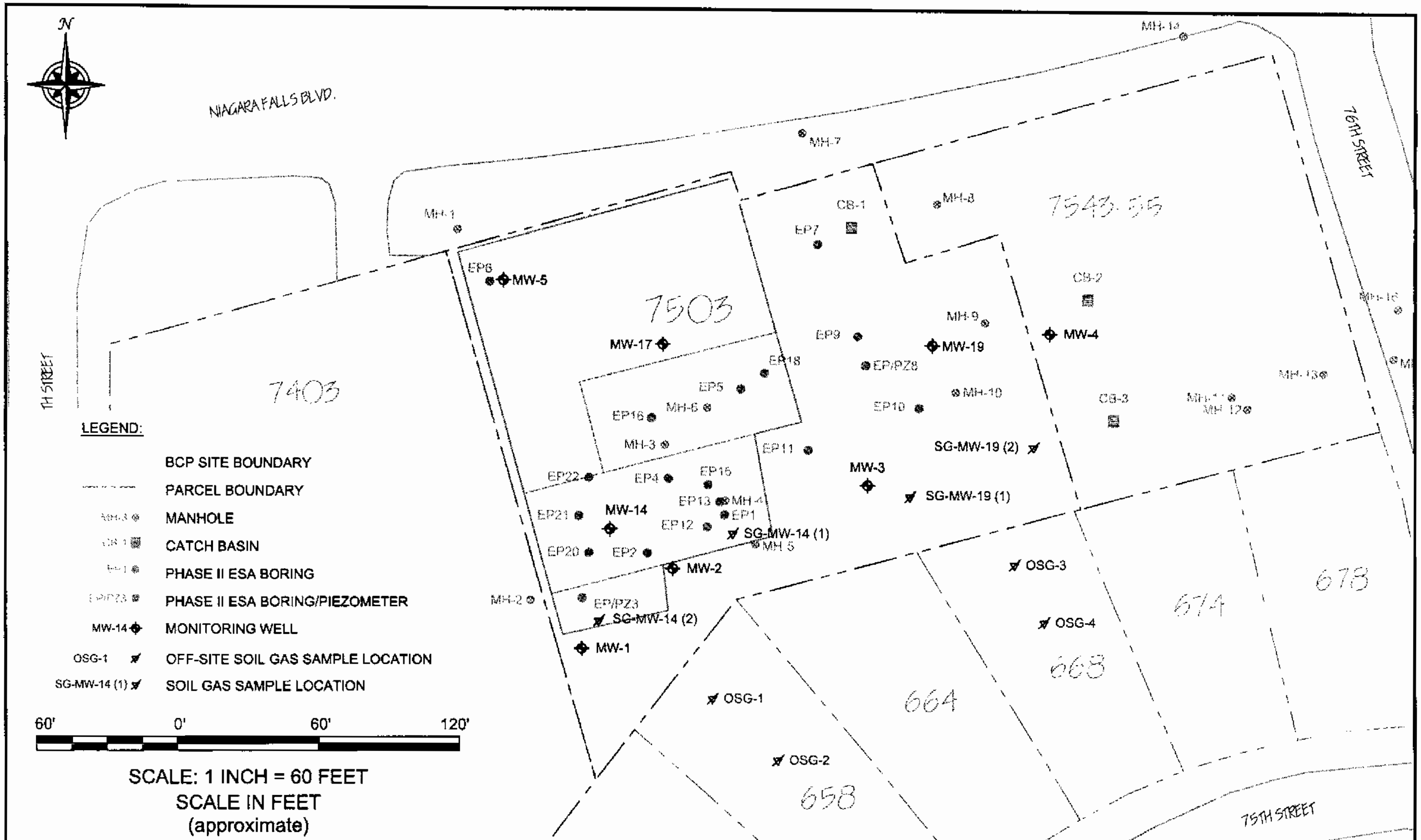
FILEPATH:

SITE MAP

7503 - 7555 NIAGARA FALLS BOULEVARD SITE
NIAGARA FALLS, NEW YORK

PREPARED FOR
GLR HOLDINGS, LLC

FIGURE 1



BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC
726 EXCHANGE STREET
SUITE 624
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(716) 856-0599

PROJECT NO.: 0101-002-600

DATE: JUNE 2007

DRAFTED BY: BCH/AJZ

OFF-SITE SOIL-GAS SAMPLING PLAN

7503 NIAGARA FALLS BOULEVARD SITE
NIAGARA FALLS, NEW YORK

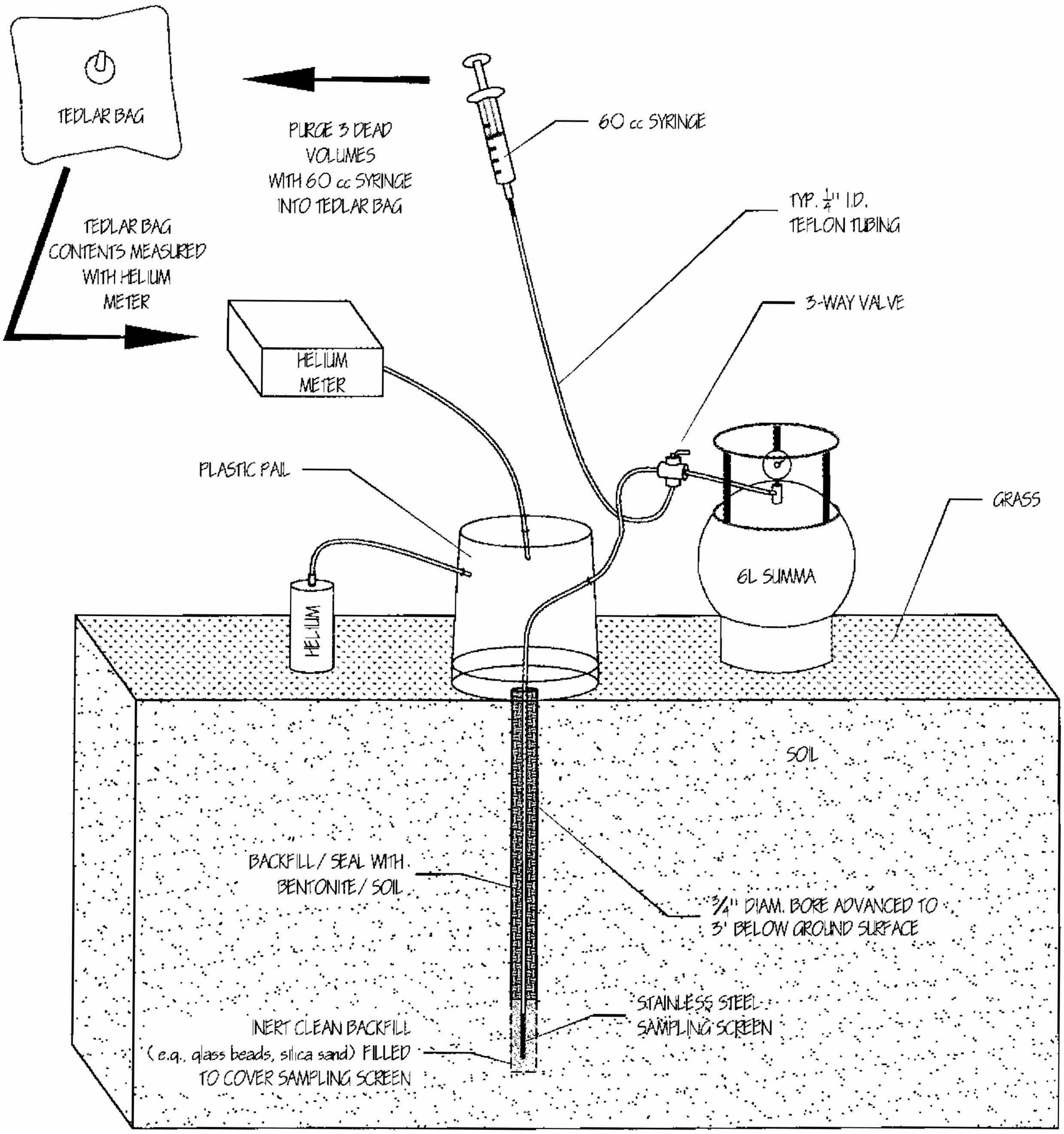
PREPARED FOR
GLR HOLDINGS, LLC

FIGURE 2

F:\CAD\Benchmark\GLR Holdings - Wendy's\Off-Site Soil Gas SAmpling (June 2007)\Figure 2; Soil - Gas Sampling Plan.dwg

F:\CAD\Benchmark\GLR Holdings - Wendy's\Off-Site Soil Gas SAmpling (June 2007)\Vapor Sampling Sketch.dwg

FIGURE 3



BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC 726 EXCHANGE STREET SUITE 624 BUFFALO, NEW YORK 14210 (716) 856-0599	**VAPOR SAMPLING APPARATUS** VAPOR SAMPLING 7503 NIAGARA FALLS BOULEVARD SITE NIAGARA FALLS, NEW YORK PREPARED FOR GLR HOLDINGS, LLC
PROJECT NO.: 0101-002-600	
DATE: JUNE 2007	
DRAFTED BY: BCH/AJZ	

APPENDIX E

DATA USABILITY SUMMARY REPORT (DUSR)

Data Validation Services

120 Cobble Creek Road P.O. Box 208
North Creek, NY 12853

Phone 518-251-4429
Facsimile 518-251-4428

August 24, 2006

Mike Lesakowski
Benchmark Env. Engineers
726 Exchange St. Suite 624
Buffalo, NY 14210

RE: **Data Usability Summary Report** for the 7503 Niagara Falls Boulevard site-soil samples
STL-Buffalo SDG Nos. A06-6735, A06-7205, and A06-8013

Dear Mr. Lesakowski:

Review has been completed for the data package generated by Severn Trent Laboratories that pertains to water samples collected 6/12/06 through 7/13/06 at the 7503 Niagara Falls Boulevard site. Three soil samples and a field duplicate were processed for TCL Volatiles, TCL Semivolatiles, TCL PCBs, and TAL metals. Six aqueous samples and a field duplicate were analyzed for TCL volatiles; three of these were also analyzed for total and dissolved iron and manganese, and for COD, nitrate, and sulfate. A trip blank was also processed. The wet chemistry data were not validated. The methodologies utilized are those of the 2000 NYSDEC ASP CLP.

The data packages submitted contain full deliverables for validation, but this usability report is generated from review of the summary form information, with review of sample raw data, and limited review of associated QC raw data. Full validation has not been performed. However, the reported summary forms have been reviewed for application of validation qualifiers, using guidance from the USEPA Region 2 validation SOPs, the USEPA National Functional Guidelines for Data Review, the specific laboratory methodologies, and professional judgment, as affects the usability of the data. The following items were reviewed:

* Laboratory Narrative Discussion
* Custody Documentation
* Holding Times
* Surrogate and Internal Standard Recoveries
* Matrix Spike Recoveries/Duplicate Correlations
* Field Duplicate Correlations
* Preparation/Calibration Blanks
* Control Spike/Laboratory Control Samples
* Instrumental Tunes
* Calibration Standards
* ICP Serial Dilution
* CRI/CRA Standards
* Instrument IDLs

Those items listed above which show deficiencies are discussed within the text of this narrative. All of the other items were determined to be acceptable for the DUSR level review.

In summary, sample analyte values/reporting limits are generally usable as reported, or usable with minor qualification as estimated ("J" qualifier) due to typical processing or matrix effects. No data are rejected. Some of the low level detections are considered external contamination. Results for several metals are qualified as estimated due to an apparent matrix effect.

Copies of the laboratory case narratives and the sample identification summary forms are attached to this text, and should be reviewed in conjunction with this report. Included with this submission are red-ink edited results forms, reflecting final sample results with edits and qualifications recommended within this report.

The following text discusses quality issues of concern.

General

Blind field duplicate evaluations were performed on soil sample MW-4-4-6 and aqueous sample MW-19, and show good correlations for all analytes.

Per the analytical protocol and deliverables requirements, laboratory raw data should include the client ID.

The collection dates for MW-4(2-4) and Blind Dup should have been shown as 6/13/06 (not 6/12/06) on the laboratory results forms and tracking summary forms. Holding times were met, and there is no effect on reported results.

TCL Volatiles

Results for analytes reported by the laboratory with the "E" flag are to be derived from the dilution analysis of the sample, thus reflecting responses within linear range of the instrumentation.

Matrix spikes for aqueous sample MW-14 and soil sample MW4(2-4) show acceptable accuracy and precision.

Sample holding time requirements were met, and surrogate and internal standard responses meet protocol requirements.

Results for the holding blank associated with the aqueous samples are qualified as estimated, with a low bias, due to the presence of headspace at analysis.

Results of the trip blank associated with the soil samples are qualified as estimated, with a low bias, due to the fact it was filled ten days before the sample collection, and analyzed beyond the allowable holding time.

The trip blank associated with the aqueous samples was not entered on the custody. Therefore, the date of collection is not known, and the results may have a similar bias.

Due to presence in associated method, trip, and/or holding blanks, results for methylene chloride, acetone, dichlorodifluoromethane, and trichlorofluoromethane in the soils, and for acetone in the aqueous sampes are considered external contamination.

Tentatively Identified Compounds (TICs) that are flagged as "B", or identified as silanes, siloxanes, or silanol are considered external contamination, as shown by presence in the associated blanks.

Calibrations standards showed acceptable responses.

Aqueous samples MW-1, MW-2, MW-4, and MW-5 were run at dilution due to a matrix effect of foaming in the undiluted analysis. The resultant reporting limits are therefore elevated fivefold.

TCL Semivolatile Analyses

Matrix spikes of MW-4(2-4) show accuracy and precision within validation guidelines, or elevated recoveries for analytes not detected in parent sample. No qualification is indicated.

Holding times were met. Surrogate and internal standard recoveries, and the instrumental tunes were acceptable.

Calibrations standards showed acceptable responses with laboratory requirements and validation guidelines, with the exception of those for caprolactum (30%D), 2,4-dinitrophenol (78%D), and 4,6-dinitro-2-methylphenol (39%D). Results for those three compounds in the samples are therefore qualified as estimated, and may have a low bias.

Due to presence in the associated method blank, results for bis(2-ethylhexyl)phthalate in the soil samples are considered external contamination.

Tentatively Identified Compounds (TICs) that are flagged as "B" and/or "A" are considered external contamination, as shown by presence in the associated blanks.

TCL PCB Analyses

Matrix spikes of Aroclors 1016 and 1260 in MW-4(2-4) show acceptable accuracy and precision.

Surrogate standard recoveries are acceptable. Holding times were met and blanks showed no contamination. Calibration standards meet protocol requirements.

Raw data indicate that the reporting limits for the samples can be one-tenth of those reported.

TAL Metals

Matrix spikes were performed for TAL elements on soil sample MW-4(2-4), and show outlying recoveries (-83% to 67%) for antimony, arsenic, lead, manganese, and zinc, and an elevated duplicate correlation for arsenic (109%RPD). Results for those five elements in the soil samples are therefore qualified as estimated.

Matrix spikes were performed for iron and manganese of the total and dissolved fractions of MW-19, and show acceptable accuracy and precision.

The ICP serial dilution evaluation of MW-4(2-4) shows outlying correlations for calcium, copper, cobalt, lead, iron, magnesium, nickel, vanadium, and zinc (all 11%D to 15%D). Detected results for those analytes in the soil samples are therefore qualified as estimated.

The ICP serial dilution of the total and dissolved fractions of MW-4(2-4) show acceptable correlations.

Holding times were met. Blanks associated with sample analyses show no contamination above the reporting limit. Total and dissolved fractions correlate well.

Please do not hesitate to contact me if you have comments or questions regarding this report.

Very truly yours,

Judy Harry

Data Validation Services

120 Cobble Creek Road P.O. Box 208
North Creek, NY 12853

Phone 518-251-4429
Facsimile 518-251-4428

October 4, 2007

Mike Lesakowski
Benchmark Env. Engineers
726 Exchange St. Suite 624
Buffalo, NY 14210

RE: **Data Usability Summary Report for the 7503 Niagara Falls Blvd. site**
STL-Buffalo SDG Nos. A06-E857, A07-0668, A07-0926, A07-1926, A07-7157, and A07-7470

Dear Mr. Lesakowski:

Review has been completed for the data packages generated by Severn Trent Laboratories (STL) that pertain to samples collected 12/11/06 through 6/29/07 at the 7503 Niagara Falls Blvd. site. Six aqueous samples and a field duplicate were processed for TCL volatiles by method NYSDEC ASP 2000. Eight soil vapor samples were analyzed for volatiles by USEPA method TO-15. Trip blanks and holding blanks were also processed.

The data packages submitted contain full deliverables for validation, but this usability report is generated from review of the summary form information, with review of sample raw data, and limited review of associated QC raw data. Full validation has not been performed. However, the reported summary forms have been reviewed for application of validation qualifiers, using guidance from the USEPA Region 2 validation SOPs, the USEPA National Functional Guidelines for Data Review, the specific laboratory methodologies, and professional judgment, as affects the usability of the data. The following items were reviewed:

* Laboratory Narrative Discussion
* Custody Documentation
* Holding Times
* Surrogate and Internal Standard Recoveries
* Matrix Spike Recoveries/Duplicate Correlations
* Field Duplicate Correlations
* Preparation/Calibration Blanks
* Control Spike/Laboratory Control Samples
* Instrumental Tunes
* Calibration Standards
* Instrument IDLs
* Method Compliance
* Sample Result Verification

Those items listed above which show deficiencies are discussed within the text of this narrative. All of the other items were determined to be acceptable for the DUSR level review.

In summary, sample analyte values/reporting limits are generally usable as reported, or usable with minor qualification as estimated ("J" qualifier) due to typical processing or matrix effects. One of the low level detections is considered external contamination.

Copies of the laboratory case narratives and the sample identification summary forms are attached to this text, and should be reviewed in conjunction with this report. Included with this submission are client results tables, reflecting the final sample results with edits and qualifications recommended within this report.

Data Package Completeness

Although required, the client ID is not provided on the STL-Buffalo raw sample data.

TCL Volatiles by NYSDEC ASP 2000

Results for analytes flagged as "E" by the laboratory are derived from the dilution analyses of the samples.

The matrix spikes (MS and MSD) for MW-14 (12/06). Recoveries of four of the five compounds were below recommended limits. Results for detected values 1,1-dichloroethene and trichloroethene in the parent sample are qualified as estimated due to outlying recoveries. The reporting limits of benzene and toluene are also to be qualified as estimated, with a slightly low bias, due to marginally outlying low recoveries (70% to 75%). For the other sampling events, accuracy and precision determinations involved spiked blank controls. Matrix effects are therefore not further evaluated.

Blind field duplicate correlations are evaluated for MW-14 (12/06), and are acceptable. The analysis of MW-14 was performed at an eightfold dilution due to high concentrations target compounds. Its duplicate was performed both at dilution and undiluted. This duplicate provides lower reporting limits for undetected compounds for that location.

Due to its presence in associated holding blank, the detected result for trichloroethene in MW-19 (12/06) is considered external contamination, and is edited to reflect non-detection.

Calibrations standards showed acceptable responses, with the following exception, results for which are to be qualified as estimated in the indicated samples:

- chloromethane and cyclohexane (29%D and 24%D) in the samples collected 12/06

Sample holding time requirements were met, and surrogate and internal standard responses meet protocol requirements.

Tentatively Identified Compounds (TICs) that are flagged as "B" are considered external contamination, as shown by presence in the associated blanks.

Volatiles by USEPA TO-15

Internal standards responses fall within validation guidelines. Blanks show no contamination.

Calibration standards meet protocol and validation requirements.

Accuracy and precision are evaluated with duplicate spiked blank controls. All were acceptable, with the exception of elevated recoveries for an analyte not detected in the project sample.

Reported results are substantiated by the raw data.

Please do not hesitate to contact me if you have comments or questions regarding this report.

Very truly yours,

Judy Harry

VALIDATION QUALIFIER DEFINITIONS

DATA QUALIFIER DEFINITIONS

The following definitions provide brief explanations of the national qualifiers assigned to results in the data review process. If the Regions choose to use additional qualifiers, a complete explanation of those qualifiers should accompany the data review.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

J - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

N - The analysis indicates the present of an analyte for which there is presumptive evidence to make a "tentative identification".

NJ - The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

UJ - The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R - The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

LABORATORY SAMPLE IDs AND CASE NARRATIVES

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE IDENTIFICATION
AND
ANALYTICAL REQUEST SUMMARY

LAB NAME: SEVERN TRENT LABORATORIES, INC.

CUSTOMER SAMPLE ID	LABORATORY SAMPLE ID	ANALYTICAL REQUIREMENTS						
		VOA GC/MS	BNA GC/MS	VOA GC	PEST PCB	METALS	TCLP HERB	WATER QUALITY
BLIND DUP	A6E85703	ASP00	-	-	-	-	-	-
MW-14	A6E85701	ASP00	-	-	-	-	-	-
MW-19	A6E85702	ASP00	-	-	-	-	-	-

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE IDENTIFICATION
AND
ANALYTICAL REQUEST SUMMARY

LAB NAME: SEVERN TRENT LABORATORIES, INC.

CUSTOMER SAMPLE ID	LABORATORY SAMPLE ID	ANALYTICAL REQUIREMENTS						
		VOA GC/MS	BNA GC/MS	VOA GC	PEST PCB	METALS	TCLP HERB	WATER QUALITY
MW-14	A7066801	ASP00	-	-	-	-	-	-
MW-19	A7066802	ASP00	-	-	-	-	-	-

SAMPLE SUMMARY

LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	SAMPLED DATE	SAMPLED TIME	RECEIVED DATE	RECEIVED TIME
A7192601	MW-14	WATER	03/01/2007	16:18	03/01/2007	17:15
A7192602	MW-19	WATER	03/01/2007	16:10	03/01/2007	17:15

NON-CONFORMANCE SUMMARY

Job#: A06-E857

STL Project#: NY7A9603
Site Name: Benchmark - 7503 Niagara Falls Blvd. Site

General Comments

The enclosed data may or may not have been reported utilizing data qualifiers (Q) as defined on the Data Comment Page.

Soil, sediment and sludge sample results are reported on "dry weight" basis unless otherwise noted in this data package.

According to 40CFR Part 136.3, pH, Chlorine Residual, Dissolved Oxygen, Sulfite, and Temperature analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. pH-Field), they were not analyzed immediately, but as soon as possible after laboratory receipt.

Sample dilutions were performed as indicated on the attached Dilution Log. The rationale for dilution is specified by the 3-digit code and definition.

Sample Receipt Comments

A06-E857
Sample Cooler(s) were received at the following temperature(s); 2.0 °C
Strict internal chain of custody required.

GC/MS Volatile Data

The spike recovery of the analytes 1,1-Dichloroethene, Benzene, Toluene, and Trichloroethene in the Matrix Spike and in the Matrix Spike Duplicate of sample MW-14 exceeded quality control limits. The Relative Percent Difference (RPD) between the Matrix Spike and the Matrix Spike Duplicate of sample MW-14 also exceeded quality control limits for the analyte Trichloroethene. The Matrix Spike Blank recoveries were compliant, so no corrective action was performed.

All samples were preserved to a pH less than 2.

****

The results presented in this report relate only to the analytical testing and condition of the sample at receipt. This report pertains to only those samples actually tested. All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.

"I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or his designee, as verified by the following signature."

Brian J. Fischer
Project Manager

12-29-06
Date

NON-CONFORMANCE SUMMARY

Job#: A07-0668

STL Project#: NY7A9603
Site Name: Benchmark - 7503 Niagara Falls Blvd. Site

General Comments

The enclosed data may or may not have been reported utilizing data qualifiers (Q) as defined on the Data Comment Page.

Soil, sediment and sludge sample results are reported on "dry weight" basis unless otherwise noted in this data package.

According to 40CFR Part 136.3, pH, Chlorine Residual, Dissolved Oxygen, Sulfite, and Temperature analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. pH-Field), they were not analyzed immediately, but as soon as possible after laboratory receipt.

Sample dilutions were performed as indicated on the attached Dilution Log. The rationale for dilution is specified by the 3-digit code and definition.

Sample Receipt Comments

A07-0668
Sample Cooler(s) were received at the following temperature(s); 4.2 °C
All samples were received in good condition.

GC/MS Volatile Data

The Volatile Holding Blank was analyzed prior to the samples in this job.

All samples were preserved to a pH less than 2.

****

The results presented in this report relate only to the analytical testing and condition of the sample at receipt. This report pertains to only those samples actually tested. All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.

"I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or his designee, as verified by the following signature."

Brian J. Fischer
Project Manager

2-12-07
Date

SEVERN TRENT STL

STL Burlington
208 South Park Drive, Suite 1
Colchester, VT 05446

Tel: 802 655 1203 Fax: 802 655 1248
www.stl-inc.com

February 6, 2007

Mr. Brian Fischer
Severn Trent Laboratories
10 Hazelwood Drive
Suite 106
Amherst, NY 14228

Re: Laboratory Project No. 27012
Case: BENCHMAR; SDG: A07-0956

Dear Mr. Fischer:

Enclosed are the analytical results for the samples that were received by STL Burlington on January 30th, 2007. Laboratory identification numbers were assigned, and designated as follows:

Lab ID	Client Sample ID	Sample Date	Sample Matrix
	Received: 01/30/07 ETR No: 118589		
699632	MW-19 (1)	01/22/07	AIR
699633	MW-19 (2)	01/22/07	AIR
699634	MW-14 (1)	01/22/07	AIR
699635	MW-14 (2)	01/22/07	AIR

Documentation of the condition of the samples at the time of their receipt and any exception to the laboratory's Sample Acceptance Policy is documented in the Sample Handling section of this submittal.

The samples consisted of air contained in a 6 L summa canisters, which supplied by STL Knoxville. The samples in this sample set were analyzed by the EPA Compendium Method TO-15 for specific volatile organic constituents.

Manual integration was employed in deriving certain of the analytical results. The values that have been derived from manual integration are qualified on the quantitation reports, and extracted ion current profiles are included in the data package.

The analytical results for the TO-15 analysis are reported both in terms of parts per billion on a volume/volume basis (PPBV) and ug/m^3. Based on the results of preliminary screening, sample MW-19 (1), MW-19 (2) and MW-14 (2) were analyzed at dilutions in order to provide quantification within the range of calibrated instrument response. Laboratory control sample was analyzed in duplicate in each analytical sequence. The target analytes were recovered well in these analyses, and there was good correlation of the results in the interanalysis comparison. The analyses of the method blanks associated with the analytical work were free of contamination.

STL

Each of the analyses associated with the sample set exhibited good internal standard responses. The responses in the initial calibration for each of the target analytes met the 30 percent relative standard deviation criterion. In the calibration check acquisition, the response for each of the target analytes met the 30 percent difference criterion relative to the average response in the initial calibration, with the exception of a high recovery for dichlorodifluoromethane.

The analytical results associated with the samples presented in this test report were generated under a quality system that adheres to requirements specified in the NELAC standard. Release of the data in this test report and any associated electronic deliverables is authorized by the Laboratory Director's designee as verified by the following signature.

If there are any questions regarding this submittal, please contact me at 802 655-1203.

Sincerely,

Kristine Dusablon

Kristine A. Dusablon
Project Manager

Enclosure

NON-CONFORMANCE SUMMARY

Job#: A07-1926

STL Project#: NY7A9603
Site Name: Benchmark - 7503 Niagara Falls Blvd. Site

General Comments

The enclosed data may or may not have been reported utilizing data qualifiers (Q) as defined on the Data Comment Page.

Soil, sediment and sludge sample results are reported on "dry weight" basis unless otherwise noted in this data package.

According to 40CFR Part 136.3, pH, Chlorine Residual, Dissolved Oxygen, Sulfite, and Temperature analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. pH-Field), they were not analyzed immediately, but as soon as possible after laboratory receipt.

Sample dilutions were performed as indicated on the attached Dilution Log. The rationale for dilution is specified by the 3-digit code and definition.

Sample Receipt Comments

A07-1926
Sample Cooler(s) were received at the following temperature(s); 2.0 °C
All samples were received in good condition.

GC/MS Volatile Data

All samples were preserved to a pH less than 2.

The analyte Methylene Chloride was detected in the Volatile Holding Blk (VHB) at a level below the project established reporting limit. Methylene Chloride was not detected in any of the associated samples, therefore there is no impact on data usability.

****

The results presented in this report relate only to the analytical testing and condition of the sample at receipt. This report pertains to only those samples actually tested. All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.

"I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or his designee, as verified by the following signature."

Brian J. Fischer
Project Manager

3-13-07
Date

SEVERN TRENT STL

STL Burlington
30 Community Drive, Suite 11
South Burlington, VT 05403

Tel: 802 660 1990 Fax: 802 660 1919
www.stl-inc.com

July 11, 2007

Mr. Brian Fischer
TestAmerica
10 Hazelwood Drive
Suite 106
Amherst, NY 14228

Re: Laboratory Project No. 27012
Case: BENCH; SDG: A07-7157

Dear Mr. Fischer:

Enclosed are the analytical results for the samples that were received by STL Burlington on June 26th, 2007. Laboratory identification numbers were assigned, and designated as follows:

Lab ID	Client Sample ID	Sample Date	Sample Matrix
	Received: 06/26/07 ETR No: 120669		
715692	GLR-SV-668A	06/25/07	AIR
715693	GLR-SV-668B	06/25/07	AIR

Documentation of the condition of the samples at the time of their receipt and any exception to the laboratory's Sample Acceptance Policy is documented in the Sample Handling section of this submittal.

The samples in this sample set were analyzed by the EPA Compendium Method TO-15 for specific volatile organic constituents.

Manual integration was employed in deriving certain of the analytical results. The values that have been derived from manual integration are qualified on the quantitation reports, and extracted ion current profiles are included in the data package.

Based on the results of preliminary screening, the samples were analyzed at dilutions in order to provide quantification within the range of calibrated instrument response. Laboratory control sample was analyzed in duplicate in each analytical sequence. The target analytes were recovered well in these analyses, and there was good correlation of the results in the interanalysis comparison. The analyses of the method blanks associated with the analytical work were free of contamination.

Each of the analyses associated with the sample set exhibited good internal standard responses. The responses in the initial calibration for each of the target analytes met the 30 percent relative standard deviation criterion. In the calibration check acquisition, the response for each of the target analytes met the 30 percent difference criterion relative to the average response in the initial calibration.

SEVERN TRENT STL

July 11, 2007
Mr. Brian Fischer
Page 2 of 2

The analytical results associated with the samples presented in this test report were generated under a quality system that adheres to requirements specified in the NELAC standard. Release of the data in this test report and any associated electronic deliverables is authorized by the Laboratory Director's designee as verified by the following signature.

If there are any questions regarding this submittal, please contact me at 802 660-1990.

Sincerely,

Kristin Dusablon

Kristine A. Dusablon
Project Manager

Enclosure

STL

STL Burlington
30 Community Drive, Suite 11
South Burlington, VT 05403

Tel: 802 660 1990 Fax: 802 660 1919
www.stl-inc.com

July 16, 2007

Mr. Brian Fischer
TestAmerica
10 Hazelwood Drive
Suite 106
Amherst, NY 14228

Re: Laboratory Project No. 27012
Case: BENCH; SDG: A077470

Dear Mr. Fischer:

Enclosed are the analytical results for the samples that were received by STL Burlington on July 3rd, 2007. Laboratory identification numbers were assigned, and designated as follows:

Lab ID	Client Sample ID	Sample Date	Sample Matrix
	Received: 07/03/07 ETR No: 120766		
716546	6LR-SV-658B	06/29/07	AIR
716547	6LR-SV-658A	06/29/07	AIR

Documentation of the condition of the samples at the time of their receipt and any exception to the laboratory's Sample Acceptance Policy is documented in the Sample Handling section of this submittal.

The samples in this sample set were analyzed by the EPA Compendium Method TO-15 for specific volatile organic constituents.

Manual integration was employed in deriving certain of the analytical results. The values that have been derived from manual integration are qualified on the quantitation reports, and extracted ion current profiles are included in the data package.

Based on the results of preliminary screening, the samples were analyzed at dilutions in order to provide quantification within the range of calibrated instrument response. Laboratory control sample was analyzed in duplicate in each analytical sequence. The target analytes were recovered well in these analyses, and there was good correlation of the results in the interanalysis comparison. The analyses of the method blanks associated with the analytical work were free of contamination.

Each of the analyses associated with the sample set exhibited good internal standard responses. The responses in the initial calibration for each of the target analytes met the 30 percent relative standard deviation criterion. In the calibration check acquisition, the response for each of the target analytes met the 30 percent difference criterion relative to the average response in the initial calibration.

SEVERN TRENT STL

July 16, 2007
Mr. Brian Fischer
Page 2 of 2

The analytical results associated with the samples presented in this test report were generated under a quality system that adheres to requirements specified in the NELAC standard. Release of the data in this test report and any associated electronic deliverables is authorized by the Laboratory Director's designee as verified by the following signature.

If there are any questions regarding this submittal, please contact me at 802 660-1990.

Sincerely,

Kristine Dusablon

Kristine A. Dusablon
Project Manager

Enclosure

ELECTRONIC ATTACHMENT 3

SITE MANAGEMENT PLAN

Site Management Plan

Brownfield Cleanup Program
7503 Niagara Falls Blvd. Site

Niagara Falls, New York
Site No. C932126

November 2007 0101-002-500

Prepared For:

GLR Holdings, LLC

Prepared By:

Benchmark Environmental Engineering & Science, PLLC

726 Exchange Street, Suite 624, Buffalo, New York | phone: (716) 856-0599 | fax: (716) 856-0583

Site Management Plan (SMP) Checklist
for BCP, ERP, SSF and VCP sites

Site Name: **7503 Niagara Falls Boulevard Site - GLR Holdings, LLC**
Location: **Niagara Falls, New York**
Site No.: **C932126**

Project Manager:

The SMP for a site remedial program must include at a minimum an Institutional and Engineering Control Plan as well as provision for the periodic certification of the institutional control and engineering controls (IC/EC certification) and may include, as required by the remedy, a Site Monitoring Plan and Operation & Maintenance Plan. Each of these individual areas of reporting will need to meet the minimum requirements detailed below.

The SMP being reviewed addresses:

☑ The entire site

An operable unit of the site identified as:_________________________________

An IRM for operable unit ___ identified as_______________________________

A groundwater restriction or short term engineering control for an otherwise unrestricted use site

The SMP period for this site, after an initial one year review, will be:

☑ **Annually** □ **Every 2 years** □ **Every 3 years** □ **Every 5 years** □ **Other**:___________

Institutional and Engineering Control Plan:

☑ Must include a complete description of all institutional and/or engineering controls employed at the site, including the mechanisms that will be used to continually implement, maintain, monitor, and enforce such controls both by the applicant, the applicant's successors and assigns, and by state or local government is presented. **[OM&M Plan (Part I) and SFMP (Part II)]**

☑ A copy of the environmental easement with proof of filing with the responsible municipal authority; **[Part III of SMP]**

☑ Appropriate plans for implementation of the engineering and institutional controls, such as for handling soils removed from beneath a soil cover or cap during maintenance or redevelopment of the site. This would include development of media-specific implementation plans, such as plans for:

- ☑ Soil management which detail procedures for handling soil excavated from below a soil cover or cap during maintenance or redevelopment of the site (e.g., a soils management plan); or **[SFMP (Part II)]**
- Treatment requirements to allow the use of contaminated groundwater, in lieu of

groundwater use restrictions; or

☑ Installation/operation of sub-slab vapor depressurization systems, or other types of systems to address vapor intrusion; **[OM&M Plan Attachment A1]**

☑ Engineering control inspection plans, for the remedy as implemented or to be installed as part of the site development, such as for a cap or cover system. **[OM&M Plan Section 2.3]**

☑ Provision for the preparation and submittal of a site monitoring plan, to include the IC/EC certification as well as all other reporting of the IC/ECs, site monitoring and/or operation and maintenance of the remedy. **[Attached]**

Institutional Control and Engineering Control (IC/EC) Certification: The applicant or site owner must make a periodic certification of the IC/EC to the Department. The requirements of this periodic IC/EC certification will be described in the SMP and the certification must be included in the site management report, which is prepared and submitted for the Department approved certification period. The IC/EC certification will: **[OM&M Plan Section 2.3 and Attachments A3 –A5]**

☑ Clearly identify the periodic certification period.

☑ Include a complete description of all institutional and/or engineering controls employed at the site, including the mechanisms that will be used to continually implement, maintain, monitor, and enforce such controls both by the applicant, the applicant's successors and assigns, and by state or local government.

☑ Include an evaluation of the plans developed for implementation of the engineering and institutional controls, regarding the continued effectiveness of any institutional and/or engineering controls required by the decision document for a site.

☑ Allow for access by the Department- to the site to evaluate continued maintenance of such controls.

☑ Provide a certification prepared by a professional engineer or other qualified environmental professional, which must certify that the institutional controls and/or engineering controls employed at such site are:

- unchanged from the previous certification, unless otherwise approved by the Department, consistent with the SMP;
- in place and effective;
- performing as designed; and
- that nothing has occurred that would impair the ability of the controls to protect the public health and environment; or constitute a violation or failure to comply with any operation and maintenance plan for such controls.

☑ For BCP sites: For those sites determined to be non-significant threat sites, but where contaminants in groundwater contravene drinking water standards at the site border, in addition to the items noted above; the remedial party will also have to certify: **[OM&M Plan Attachments A3-A5]**

☑ On a yearly basis that no new information has come to the site owner`s attention, including groundwater monitoring data from wells located at the site boundary, to indicate that the assumptions made in the qualitative exposure assessment of offsite contamination are no longer valid; and

☑ Every five years that the assumptions made in the qualitative exposure assessment remain valid.

<u>Site Monitoring Plan</u>: Includes, as appropriate for the site remedy, sampling and analysis plans for monitoring groundwater, soil vapor or another media as identified by the decision document for the site, designed to: **[OM&M Plan: Attachment A1 – ASD System Operations Manual and Attachment A2 – LTGWM Plan]**

<u>If none is required for the remedy which is the subject of this SMP check here:</u>

☑ Assess the remedy's compliance with groundwater standards.

Assess the remedy's compliance with the cleanup objectives of any other impacted media.

☑ Evaluate site information periodically to confirm that the remedy continues to be effective for the protection of public health and the environment.

☑ Prepare the necessary reports of the results of this monitoring for a period determined by the Department.

<u>Operation & Maintenance Plan:</u> Includes, as appropriate for the site remedy, a plan(s) which: **[OM&M Plan: Attachment A1 – ASD System Operations Manual and Attachment A2 – LTGWM Plan]**

<u>If none is required for the remedy which is the subject of this SMP check here</u>

☑ Identify the operation and maintenance activities necessary for the continued operation of the components of the remedy, including provision for evaluation of the systems and recommendations to optimize performance.

☑ Evaluating site information periodically to confirm that the remedy continues to be effective for the protection of public health and the environment.

☑ Preparing the necessary reports of the results of this evaluation for a period determined by the Department.

Completed by:____ Date:______________
Project Manager

Reviewed by: ____ Date:______________
Section Chief/Regional HWR Engineer

BROWNFIELD CLEANUP PROGRAM

SITE MANAGEMENT PLAN

7503 NIAGARA FALLS BOULEVARD SITE
NIAGARA FALLS, NEW YORK

BCP SITE NO. C932126

November 2007 0101-002-500

Prepared for:

GLR Holdings, LLC

Prepared by:

BENCHMARK
ENVIRONMENTAL
ENGINEERING &
SCIENCE, PLLC

1.0 INTRODUCTION

This Site Management Plan (SMP) has been has been prepared on behalf of GLR Holdings, LLC (GLR) for the 7503 Niagara Falls Boulevard Site in Niagara Falls, New York. GLR is redeveloping the 7503 Niagara Falls Boulevard Site and the east adjacent parcel, addressed as 7543-7555 Niagara Falls Boulevard, as a fast food restaurant. 7503 Niagara Falls Boulevard is subject to the BCP, while 7543-7555 Niagara Falls Blvd is not. For purposes of this SMP, reference to the Site from this point forward refers only to the 7503 Niagara Falls Boulevard parcel.

1.1 Site Description

The property located at 7503 Niagara Falls Boulevard, in the City of Niagara Falls, New York (Niagara County Tax Map No. 160.12-2-5) is an approximate 0.89-acre parcel owned by GLR. The property is generally bounded by Niagara Falls Boulevard to the north, a vacant lot to the east (i.e., 7543-7555 Niagara Falls Blvd owned by GLR), private residences to the south, and commercial (fast-food restaurant) property to the west (i.e., 7403 Niagara Falls Blvd.). The Site is currently under construction as a fast-food restaurant.

1.2 Site History

Beginning in the late 1960s and continuing through the mid-1990s, the Site was occupied by several commercial establishments. These included various restaurants, auto parts sales, and auto repair facilities. Based on previous environmental investigations at the Site, portions of the Site have been contaminated with volatile organic compounds (VOCs) that are believed to have been released during the property's previous use as an auto repair facility.

Based on the findings of historic site investigations, a Remedial Investigation (RI) was necessary to confirm the nature and extent of contamination at the Site, to identify a source area and to produce sufficient data to evaluate remedial alternatives for the Site. Benchmark Environmental Engineering & Science, PLLC (Benchmark) implemented RI activities per the approved RI Work Plan in June 2006. Upon evaluation of the RI data and subsequent meetings with the New York State Department of Environmental Conservation (NYSDEC), it was determined that an IRM would be implemented to address groundwater impacted with VOCs. An IRM Work Plan, which called for in-situ enhanced bioremediation of VOC-impacted groundwater, was submitted and approved by the NYSDEC in November 2006. As part of the IRM, the NYSDEC also required that soil gas samples be collected on-Site. The IRM field work was completed in November 2006 and the soil gas sampling was completed in January 2007. Based on the findings of the soil gas sampling, the NYSDEC and NYSDOH required off-site soil gas sampling at residential properties south of the Site, which was completed in June and July 2007. GLR initiated commercial redevelopment of the Site in September 2007.

The Final Engineering Report documents the details of the IRM, which was considered the final remedy, together with implementation of institutional controls as summarized in this SMP.

2.0 SMP Components

This SMP consists of the following three parts:

PART	TITLE
I	Operation, Monitoring, & Maintenance Plan
II	Soil/Fill Management Plan
III	Environmental Easements

PART I

OPERATION, MONITORING, & MAINTENANCE PLAN

SITE MANAGEMENT PLAN
PART I

OPERATION, MONITORING, & MAINTENANCE PLAN

7503 NIAGARA FALLS BOULEVARD SITE
NIAGARA FALLS, NEW YORK

November 2007 0101-002-500

Prepared for:

GLR Holdings, LLC

Prepared by:

BENCHMARK
ENVIRONMENTAL
ENGINEERING &
SCIENCE, PLLC

OPERATION, MONITORING & MAINTENANCE PLAN

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LIST OF FIGURES

LIST OF ATTACHMENTS

1.0 INTRODUCTION

1.1 Purpose and Scope

This Operation, Monitoring, & Maintenance Plan (OM&M Plan) has been prepared for inclusion in the Site Management Plan (SMP). The sole purpose of this Plan, and that of the Soil/Fill Management Plan (SFMP), is to ensure protection of both the environment and human health during redevelopment and use of the Site, subsequent to completion of Brownfield cleanup activities. Following completion of the Brownfield cleanup activities, post-remediation requirements will need to be implemented by subsequent owners or developers of the Site to comply with the Brownfield Cleanup Agreement terms and conditions. This Plan summarizes the tasks and obligations required by those parties.

1.2 Operation, Monitoring, and Maintenance Program Responsibility

The owner/developer, GLR Holdings, LLC, will be responsible for all monitoring, implementation, and reporting as required by the OM&M Plan. The New York State Department of Environmental Conservation (NYSDEC) will be informed of any change in ownership, redevelopment, site configuration, or subdivision of the property and the "Responsible Party" information below will be revised and resubmitted. The implementation of the OM&M Plan will continue until such time as the NYSDEC determines the long-term obligations and implementation of the Plan have been fulfilled.

The property owner/owner's representative will verify that any and all persons on-site will have an appropriate Health and Safety Plan prior to work and/or maintenance on the Site. Additionally, contact information for the party responsible for implementation of the OM&M program will be supplied to the NYSDEC for their files. Currently on file, the owner for the 7503 Niagara Falls Boulevard Site is:

GLR Holdings, LLC
20 North Union Street
Rochester, NY 14607
Attn: Gregory Barkstrom

2.0 OM&M PLAN COMPONENTS

The Operation, Maintenance, & Monitoring (OM&M) Plan for the Site consists of three major components that are described in the following sections:

- Active Sub-slab Depressurization System
- Long-Term Groundwater Monitoring (LTGWM) Plan
- Annual Inspection & Certification Program

2.1 Active Sub-slab Depressurization System OM & M Program

An Active Sub-slab Depressurization (ASD) system will be installed within the Wendy's fast-food restaurant. An ASD system is registered as an engineering control for this Site. The following text explains the general workings of an ASD system, and the required operation, maintenance, and monitoring. Certification and inspection forms referenced in this section are included in Attachment A1.

2.1.1 General

An ASD system creates a negative pressure zone beneath a building slab using a powered fan connected via piping. The low-pressure field prevents soil gas from entering the building. Generally, essential components of an ASD include:

- A clean layer of coarse aggregate beneath the slab.
- Installation of a suction pit beneath the slab for each building area separated by sub slab walls (i.e., footings).
- Installation of a vent stack from the suction pit(s) under the slab to the roof.
- Installation of a continuous operation fan(s) equipped with a pressure gauge to verify the system is under negative pressure.
- Sealed slab and foundation penetrations, including joints, cracks, and utility and pipe penetrations.

The ASD system used for this project was designed in accordance with the EPA design document entitled "Radon Prevention in the Design and Construction of Schools and Other Large Buildings" Third Printing with Addendum (June 1994), and the NYSDOH

"Guidance for Evaluating Soil Vapor Intrusion in the State of New York" (October 2006). The designed system also includes an 8-mil polyethylene vapor barrier extending to the limits of the building footprint. One assembly will be strategically placed within the footprint of the newly constructed building and contains one of each of the following items: a subslab suction pit; vertical piping vent stack and associated materials; exhaust fan; a magnehelic pressure gauge; and an air pressure sensing switch.

2.1.2 ASD System Operation, Maintenance, & Monitoring

2.1.2.1 ASD System Operation

The ASD system has been designed for continuous operation with minimal maintenance and/or operational oversight. It is imperative, however, that the system be inspected periodically to document operation.

Near the suction point, a magnehelic gauge (refer to Attachment A1 for specifications) will be mounted to the column where the vent stack is attached, approximately 5 feet above the finished floor elevation. When the ASD system is operational, the magnehelic gauge will display the effective sub-slab (negative) pressure.

A "normal" operating pressure will be established at the time of system initiation. If there is a significant change in pressure observed after system stabilization, the owner and/or responsible party will be notified.

2.1.2.2 Periodic Visual Inspection

On a periodic basis, the pressure at the suction point will be read and recorded to document that the fan is maintaining negative pressure and the system components will be visually inspected. Any large fluctuations or trends in pressure will be documented and brought to the attention of the owner/responsible party. Visible leaks in piping and/or cracks in the concrete slab will be identified and noted for repair. Changes in use of the space, modifications to the system, building renovations, and/or significant non-running time will be documented on the Inspection Log included as Attachment A3.

2.1.2.3 Annual Certification/Inspection

An annual system certification/inspection report, documenting that the system is performing properly and remains effective, will be submitted to the NYSDEC by a

Professional Engineer or environmental professional. The certification/inspection report will contain the monthly logs, as well as an annual inspection checklist (refer to Attachments A3-A5). The annual inspection of all system components must be conducted by a qualified individual and includes inspection of:

- The exhaust fan for signs of abnormal operation or bearing failure (service and/or replacement if necessary).
- The discharge location to verify no air intake near the vent pipe.
- The HVAC system to determine if it is being maintained and operated as designed.
- The floor, wall, and slab for cracks (resealing if necessary); smoke tubes may be used to check for leaks through floor joints and at suction points while the depressurization system is running.

2.2 Long-Term Groundwater Monitoring (LTGWM) Plan

Attachment A2 includes the LTGWM Plan that is required at the Site to monitor the effectiveness of the in-situ groundwater treatment. Groundwater quality trends shall continue to be monitored in one area of the Site in accordance with the LTGWM Plan.

2.3 Annual Inspection & Certification Program

The 7503 Niagara Falls Boulevard Site shall be inspected annually by a qualified person representing the owner or responsible party. This qualified person shall, at a minimum, hold a 4-year college degree in environmental sciences or engineering, and be supervised by a New York State Licensed Professional Engineer.

The Annual Certification shall be stamped and signed by a New York State Licensed Professional Engineer and must certify and attest that the institutional controls and/or engineering controls employed at the Site are unchanged from the previous certification and:

- Are in place and effective.
- Are performing as designed.

- That nothing has occurred that would impair the ability of the controls to protect the public health and environment.

- That nothing has occurred that would constitute a violation or failure to comply with any operation and maintenance plan for such controls.

- Access is available to the Site to evaluate continued maintenance of such controls.

The Annual Certification will primarily consist of a completed NYSDEC Institutional and Engineering Controls Certification Form stamped and signed by a New York State Licensed Professional Engineer (Attachment A5). In addition to this certification, the completed Environmental Inspection Form (Attachment A3) and associated supporting documents (e.g., ASD annual certification form and ORC Monitoring, & Maintenance Form, etc.) will be required. The Corrective Action Certification (Attachment A4) will be required only if the annual inspections document an inconsistency or malfunction of the engineering and/or institutional controls for the Site (e.g., ASD System malfunction). If maintenance, repair, or corrective action is required, the owner/owner's representative shall notify the NYSDEC, schedule repairs, and subsequently notify the NYSDEC when repairs have been completed.

The property owner/owner's representative shall also certify on an annual basis that no new information has come to the owner's attention, including groundwater monitoring data from the monitored well. This information can be included in either the Annual Certification documentation or the Long Term Groundwater Monitoring Annual Report.

FIGURES

FIGURE 1

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SCIENCE, PLLC

726 EXCHANGE STREET
SUITE 624
BUFFALO, NEW YORK 14210
(716) 856-0599

PROJECT NO.: 0101-002-500

DATE: OCTOBER 2007

DRAFTED BY: AJZ

SITE LOCATION AND VICINITY MAP

OPERATION, MONITORING, AND MAINTENANCE PLAN

7503 NIAGARA FALLS BOULEVARD SITE
NIAGARA FALLS, NEW YORK

PREPARED FOR

GLR HOLDINGS, LLC

FILEPATH:F:\CAD\Benchmark\GLR Holdings - Wendy's\Final Engineering Report\OM&M\figure 1; site location and vicinity map.dwg

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC
726 EXCHANGE STREET
SUITE 624
BUFFALO, NEW YORK 14210
(716) 856-0599

PROJECT NO.: 0101-002-500

DATE: OCTOBER 2007

DRAFTED BY: AJZ

SITE PLAN

OPERATION, MONITORING, & MAINTENANCE PLAN

7503 - 7555 NIAGARA FALLS BOULEVARD SITE
NIAGARA FALLS, NEW YORK

PREPARED FOR
GLR HOLDINGS, LLC

FIGURE 2

FILEPATH:

ATTACHMENT A1

ACTIVE SUB-SLAB DEPRESSURIZATION SYSTEM OPERATIONS MANUAL

BENCHMARK
ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

ACTIVE SUB-SLAB DEPRESSURIZATION SYSTEM OPERATIONS MANUAL (DESIGN, INSTALLATION, & TESTING)

7503 NIAGARA FALLS BOULEVARD SITE
NIAGARA FALLS, NEW YORK

November 2007 0101-002-500

Prepared for:

GLR Holdings, LLC

Prepared by:

BENCHMARK
ENVIRONMENTAL
ENGINEERING &
SCIENCE, PLLC

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1.0 INTRODUCTION

1.1 Background and History

GLR Holdings, LLC (GLR) is redeveloping the 7503 Niagara Falls Boulevard Site and the east adjacent parcel addressed at 7543-7555 Niagara Falls Boulevard as a fast food restaurant. 7503 Niagara Falls Boulevard is subject to the BCP, while 7543-7555 Niagara Falls Blvd is not. For purposes of this Active Sub-slab Depressurization (ASD) System Operations Manual, reference to the Site from this point forward refers only to 7503 Niagara Falls Boulevard parcel.

The Site encompasses approximately 0.89 acres of vacant land along Niagara Falls Boulevard in the City of Niagara Falls, New York (see Figure 1). The property is generally bounded by Niagara Falls Boulevard to the north, a vacant lot and apartment buildings to the east (i.e., 7543-7555 Niagara Falls Blvd owned by GLR), private residences to the south, and commercial (fast-food restaurant) property to the west (i.e., 7403 Niagara Falls Blvd.). A concrete slab remnant from a former building foundation was present across the majority of the western portion of the property. The remainder of the Site was generally covered by asphalt.

Based on the nature and extent of contamination as indicated by prior investigations, the most applicable remedial measure was in-situ enhanced bioremediation of impacted groundwater and saturated soils via direct injection of hydrogen releasing compounds (HRC®) into the impacted zones. The interim remedial measures (IRM) was completed in November 2006 and consisted of injection of Hydrogen Release Compounds (HRC) into the groundwater at two areas of the Site as described in the New York State Department of Environmental Conservation (NYSDEC) and New York State Department of Health (NYSDOH) approved IRM Work Plan, dated October 2006. Subsequent to HRC injection, groundwater monitoring was completed at sampling locations MW-14 and MW-19 to monitor the concentrations of chlorinated volatile organic compounds (cVOCs). Soil gas samples were also collected at four locations on-site (see Figure 2).

Concentrations of cVOCs have significantly decreased at both monitoring locations subsequent to HRC injection. This evaluation is based on baseline cVOCs concentrations and three subsequent groundwater monitoring events. Groundwater monitoring will continue until Site construction activities commence.

As summarized in the letter to NYSDEC dated March 29, 2007 concerning the status of the IRM, cVOCs were detected in soil gas samples on-site. As such, the remedial design for the Site includes provisions to design, install, monitor, and maintain an ASD system beneath all newly constructed on-site structures to mitigate intrusion of vapors from residual VOCs in soil and groundwater.

2.0 ACTIVE SUB-SLAB DEPRESSURIZATION (ASD) SYSTEM DESIGN & INSTALLATION

2.1 General

An ASD system creates a negative pressure zone beneath a building slab using a powered fan connected via piping. The low-pressure field prevents soil gas from entering the building. Generally, essential components of an ASD include:

- A clean layer of coarse aggregate beneath the slab.
- Installation of a suction pit beneath the slab for each building area separated by sub slab walls (i.e., footings).
- Installation of a vent stack from the suction pit(s) under the slab to the roof.
- Installation of a continuous operation fan(s) equipped with a pressure gauge to verify the system is under negative pressure.
- Sealed slab and foundation penetrations, including joints, cracks, and utility and pipe penetrations.

The ASD system used for this project was designed in accordance with the EPA design document entitled "Radon Prevention in the Design and Construction of Schools and Other Large Buildings" Third Printing with Addendum (June 1994), and the NYSDOH "Guidance for Evaluating Soil Vapor Intrusion in the State of New York" (October 2006). The designed system also includes an 8-mil polyethylene vapor barrier extending to the limits of the building footprint. One assembly has been strategically placed within the footprint of the newly constructed building and contains one of each of the following items: perforated pipe suction assembly; vertical piping vent stack and associated materials; exhaust fan; and magnehelic pressure gauges. The following sections detail portions of the design criteria, methodology, and critical installation methods.

2.2 ASD System Design

Structural requirements for the building will require a compacted aggregate beneath the concrete slab. The system will consist of one operating suction pit, blower, and vent stack located to optimize the area of influence with the choice of aggregate (see Figure 3).

An 8-mil polyethylene vapor barrier will be placed above the aggregate, prior to pouring the concrete floor slab, as a passive secondary engineering control and to assist in maintaining a sub-slab pressure differential. A suction pit will be constructed by creating a 4-ft x 4-ft x 8-inch (min. depth) void at the location indicated in Figure 3. The pit will then be covered by a ¾-inch pressure treated plywood panel supported by concrete blocks, and reinforced concrete flooring will be poured on top of the plywood and surrounding aggregate (refer to Figure 4).

Sub-slab, 6-inch Schedule 40 PVC piping will run laterally from the center of the suction pit as close as practicable to an adjacent roof column or wall, elbow 90° to vertical, and penetrate through a pipe sleeve in the slab. Once above the slab, the pipe will elbow 90° to horizontal and travel to the designated roof column or wall where it will again elbow 90° to rise vertically along the column. This formation will ensure that the vent piping will not interfere with column foundations and/or footings. The vent stack will penetrate the roof of the building, and exhaust a minimum of 12-inches above the finished roof elevation and 25 feet away from any air intake (refer to Figure 4).

A Fan Tech Model FR 160 (or similar fan; refer to Appendix A for specifications) will be installed inline with the vent pipe on the exterior of the building roof to provide negative pressure in the sub-slab soil. A Dwyer Model 2002 – AV Magnehelic Gauge will be mounted to the vent stack in the western maintenance area of the building, using a Dwyer Model A-368 Surface mount bracket. This magnehelic gauge will measure and display the instantaneous negative pressure produced by the fan and indicates the system is operational.

A Cleveland Controls Model AFS-222 air pressure sensing switch (or similar unit; refer to Appendix B for specifications) will be installed inline with the vent pipe as a warning device. A red light indicator will be attached to the sensing switch; if the vent pipe does not provide a negative pressure, the red light will illuminate indicating the system is not working properly.

2.3 ASD System Installation

The ASD system will be installed in accordance with the design criteria and specifications on Figure 4 and/or typical construction practices.

Installation of the suction pit, sub-slab piping, and the 8-mil polyethylene vapor barrier will be completed prior to pouring the slab. All other piping and fixtures will be installed following significant completion of the overall structure, and/or at the scheduling discretion of the owner and contractor. All 6-inch Schedule 40 PVC piping will be pitched toward the suction pit to promote drainage of any condensate below the fan.

The exhaust fan will be installed and vented a minimum of 12 inches above the finished roof elevation. The fan will be hard-wired to a dedicated electrical circuit for which a dedicated breaker will be installed and properly labeled in the breaker box.

The vent stack will extend above the exhaust fan to a point not less than 36 inches above the finished roof elevation to which a rain cap will be fastened. The vent pipe roof penetration will be sealed using a polyurethane sealant applied in accordance with manufacturer's instructions.

Upon system installation, all penetrations, expansion joints, cracks, and/or any other gaps in the slab and/or subsurface walls will require a polyurethane sealant applied in accordance with manufacturer's instructions.

3.0 POST MITIGATION/ CONFIRMATION TESTING

3.1 General

The ASD system will require performance testing to confirm proper installation and effectiveness. Post-mitigation testing will be conducted prior to building occupation and within 60 days of system installation. The following steps will be performed, documented, and reported.

3.2 Visual Inspection

All system components will be visually inspected by a qualified person to ensure proper installation. With the ASD system operating, smoke tubes may be used to check for leaks through floor joints and at suction points. Any leaks will be identified, noted, and repaired before continuing with testing and confirmation.

3.3 ASD System Confirmation

A field test will be conducted to confirm the negative pressure created beneath the slab. One-quarter inch diameter holes will be drilled through the concrete slab and into the sub-slab aggregate at points starting near the suction pit and continuing to points furthest from the suction pit that are accessible. With the ASD system operating, the vacuum will be measured using a handheld digital micro-manometer or comparable instrument at the test locations. If adequate depressurization is not occurring, the following procedures will be enacted:

- All testing procedures will be repeated to ensure proper testing protocol.
- Owner and NYSDEC personnel will be informed of inadequate vacuum results.

The following system troubleshooting will then be completed:

- Confirmation of fan operation.
- Inspection and sealing of all major entry routes and penetrations (if necessary).
- Location of potential sub-slab barriers.
- Inspection of aggregate.

- Inspection of the HVAC system and determination whether the HVAC system has a negative effect on the performance of the ASD system.

If re-testing sub-slab test points indicate insufficient communication, the following measures will be considered:

- Adjustment of the HVAC system, and/or
- Installation of additional suction points.

4.0 ASD SYSTEM OPERATION, MAINTENANCE, & MONITORING

4.1 ASD System Operation

This ASD system has been designed for continuous operation with minimal maintenance and/or operational oversight. It is imperative however, that the system be inspected monthly and annually to ensure consistent and optimal operation.

Near the suction point, a magnehelic gauge will be mounted to the column where the vent stack is attached, approximately 5 feet above the finished floor elevation. When the ASD system is operational, the magnehelic gauge will display the effective sub-slab (negative) pressure.

A "normal" operating pressure will be established by recording the displayed pressure approximately 4 hours after initial system start-up. Another reading will be taken and recorded after approximately 1 week of operation to check if a significant change in pressure is observed relative to the initial "normal" operating pressure. If there is a significant pressure difference, weekly inspections will be made until the pressure stabilizes, for up to four weeks. If readings do not stabilize within four weeks or a significant change in pressure is observed after system stabilization, the owner or owner's representative will be notified.

4.2 Monthly Visual Inspection

On a monthly basis, system components will be visually inspected and the pressure at the suction pit will be recorded to verify that the fan is maintaining adequate negative pressure. Any large fluctuations or trends in pressure will be documented and brought to the attention of the owner/owner's representative. Visible leaks in piping and/or the concrete slab will be identified and noted for repair. Changes in use of the space, modifications to the system, building renovations, and/or significant non-running time will be documented on the Monthly Inspection Log included in Appendix C).

4.3 Annual Certification/Inspection

An annual system certification/inspection report, documenting that the system is performing properly and remains effective, will be submitted to the NYSDEC by a

Professional Engineer or environmental professional. The certification/inspection report will contain the monthly logs, as well as an annual inspection checklist (refer to Attachments A3-A5). The annual inspection of all system components must be conducted by a qualified individual and includes inspection of:

- The exhaust fan for signs of abnormal operation or bearing failure (service and/or replacement if necessary).
- The discharge location to verify no air intake near the vent pipe.
- The HVAC system to determine if it is being maintained and operated as designed.
- The floor, wall, and slab for cracks (resealing if necessary); smoke tubes may be used to check for leaks through floor joints and at suction points while the depressurization system is running.

4.4 System Failure Protocols

In the event that the ASD system is not working properly, the warning light located in the maintenance area will illuminate indicating that there is insufficient vacuum in the associated vent pipe. The following protocols will be followed:

- Contact the building owner/operator and maintenance personnel immediately.
- Record the date and time of the system failure.
- Inspect the fan to confirm operation; if a circuit breaker was tripped causing the fan to cease operation, reset the circuit breaker.
- Visually inspect system components for signs of damage or dysfunction.

If the system failure is not remedied, the building owner should contact a qualified engineer or other person with experience in ASD systems to inspect the system and take the necessary measures to place the system back in service. The NYSDEC should be apprised of the system failure and what measures were taken to place the system back in service.

FIGURES

FIGURE 1

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726 EXCHANGE STREET
SUITE 624
BUFFALO, NEW YORK 14210
(716) 856-0599

PROJECT NO.: 0101-002-500

DATE: OCTOBER 2007

DRAFTED BY: AJZ

SITE LOCATION AND VICINITY MAP

ACTIVE SUBSLAB DEPRESSURIZATION SYSTEM

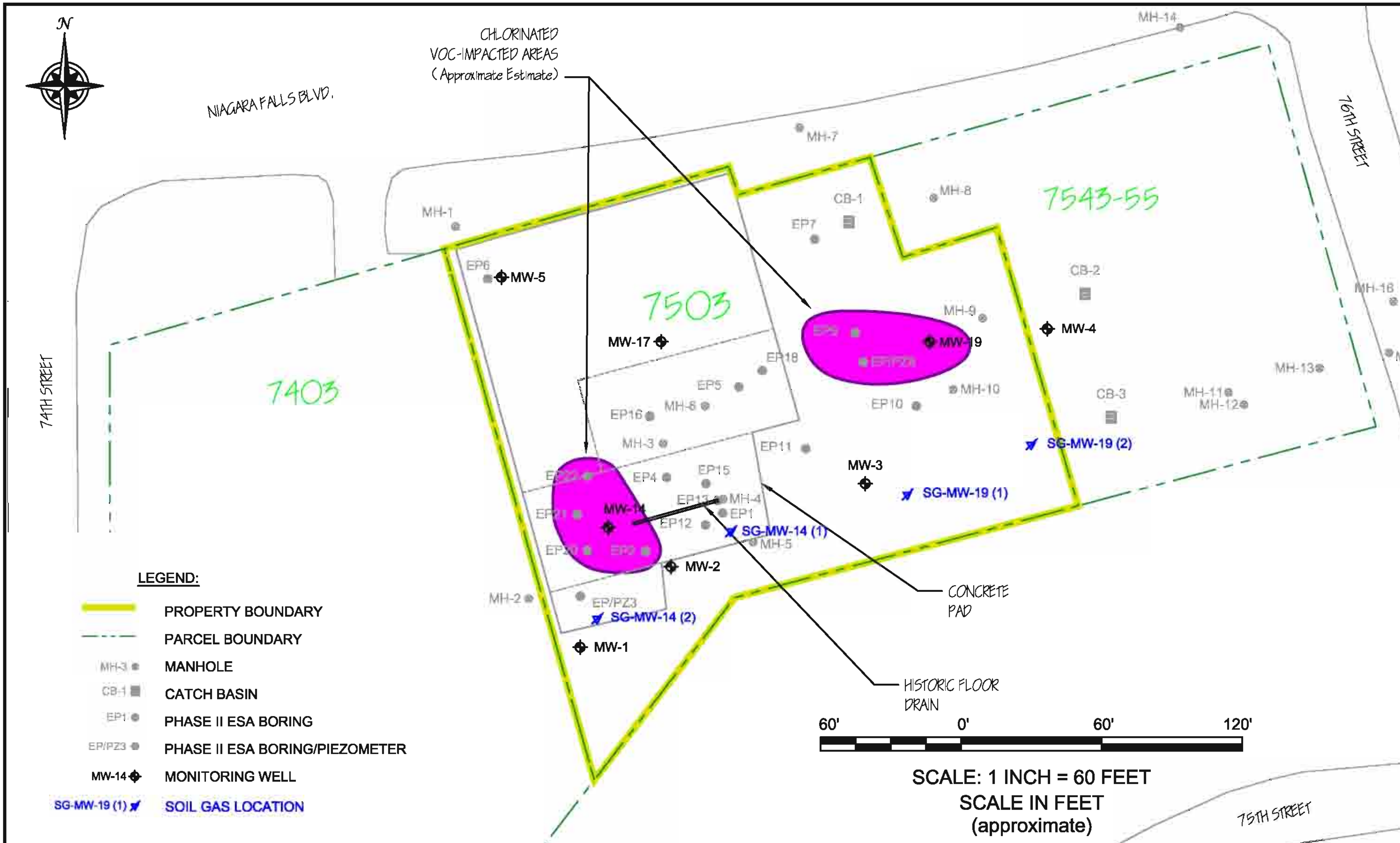
7503 NIAGARA FALLS BOULEVARD SITE
NIAGARA FALLS, NEW YORK

PREPARED FOR

GLR HOLDINGS, LLC

FILEPATH:F:\CAD\Benchmark\GLR Holdings - Wendy's\Final Engineering Report\ASD\figure 1; site location and vicinity map.dwg

F:\CAD\Benchmark\GLR Holdings - Wendy's\Final Engineering Report\ASD\Figure 2; On-Site Soil Gas Sample Locations.dwg, 10/29/2007 2:04:13 PM



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DATE: OCTOBER 2007

DRAFTED BY: BCH/NTM

SOIL-GAS SAMPLING LOCATIONS

ACTIVE SUBSLAB DEPRESSURIZATION SYSTEM

7503 NIAGARA FALLS BOULEVARD SITE
NIAGARA FALLS, NEW YORK

PREPARED FOR
GLR HOLDINGS, LLC

FIGURE 2

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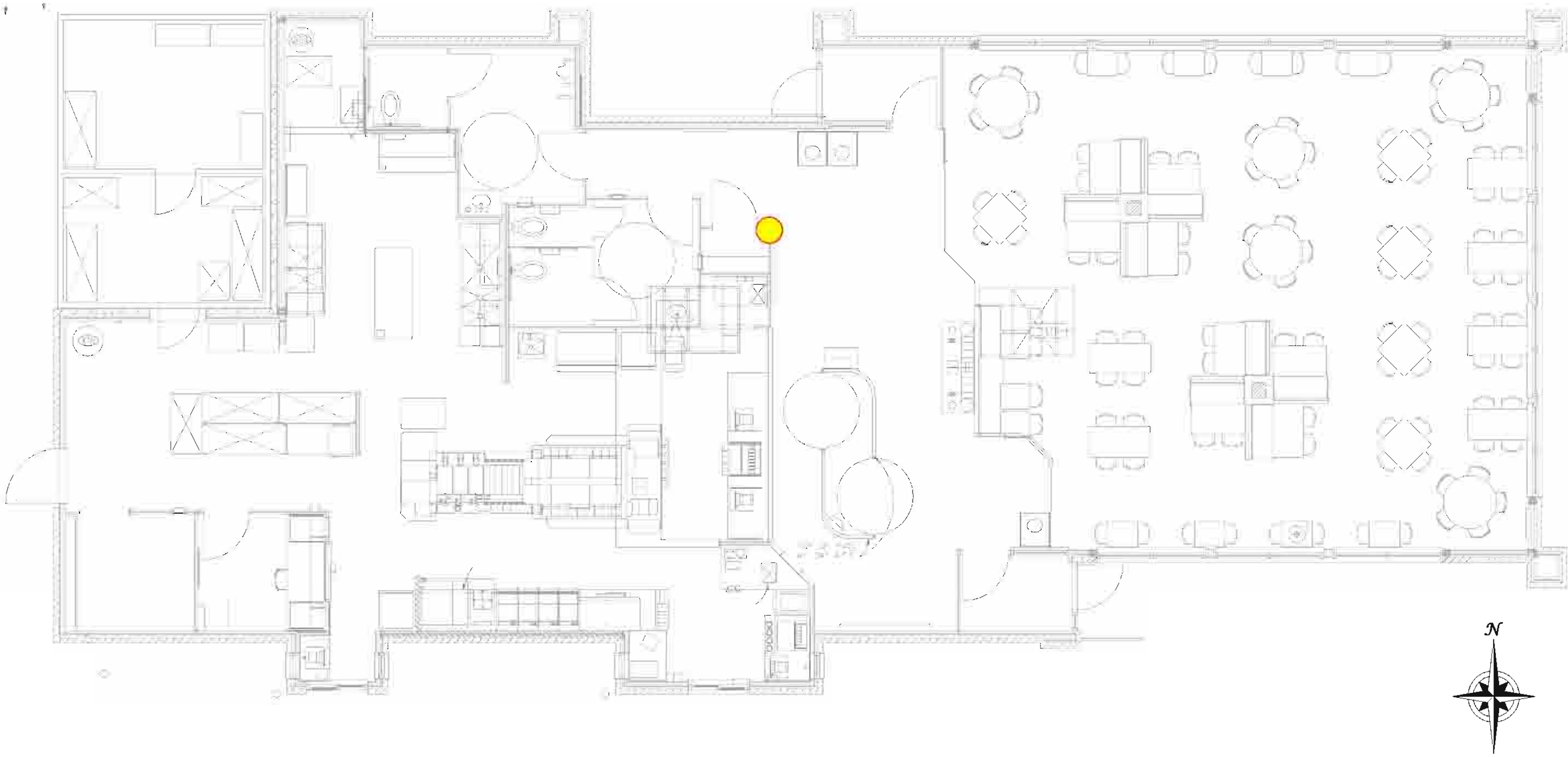

LEGEND:

PROPOSED ACTIVE SUBSLAB DEPRESSURIZATION SYSTEM LOCATION

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

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SUITE 624
BUFFALO, NEW YORK 14210
(716) 856-0599

PROJECT NO.: 0101-002-500

DATE: OCTOBER 2007

DRAFTED BY: AJZ

FOUNDATION PLAN

ACTIVE SUBSLAB DEPRESSURIZATION SYSTEM

7503 NIAGARA FALLS BOULEVARD SITE
NIAGARA FALLS, NEW YORK

PREPARED FOR

GLR HOLDINGS, LLC

FIGURE 3

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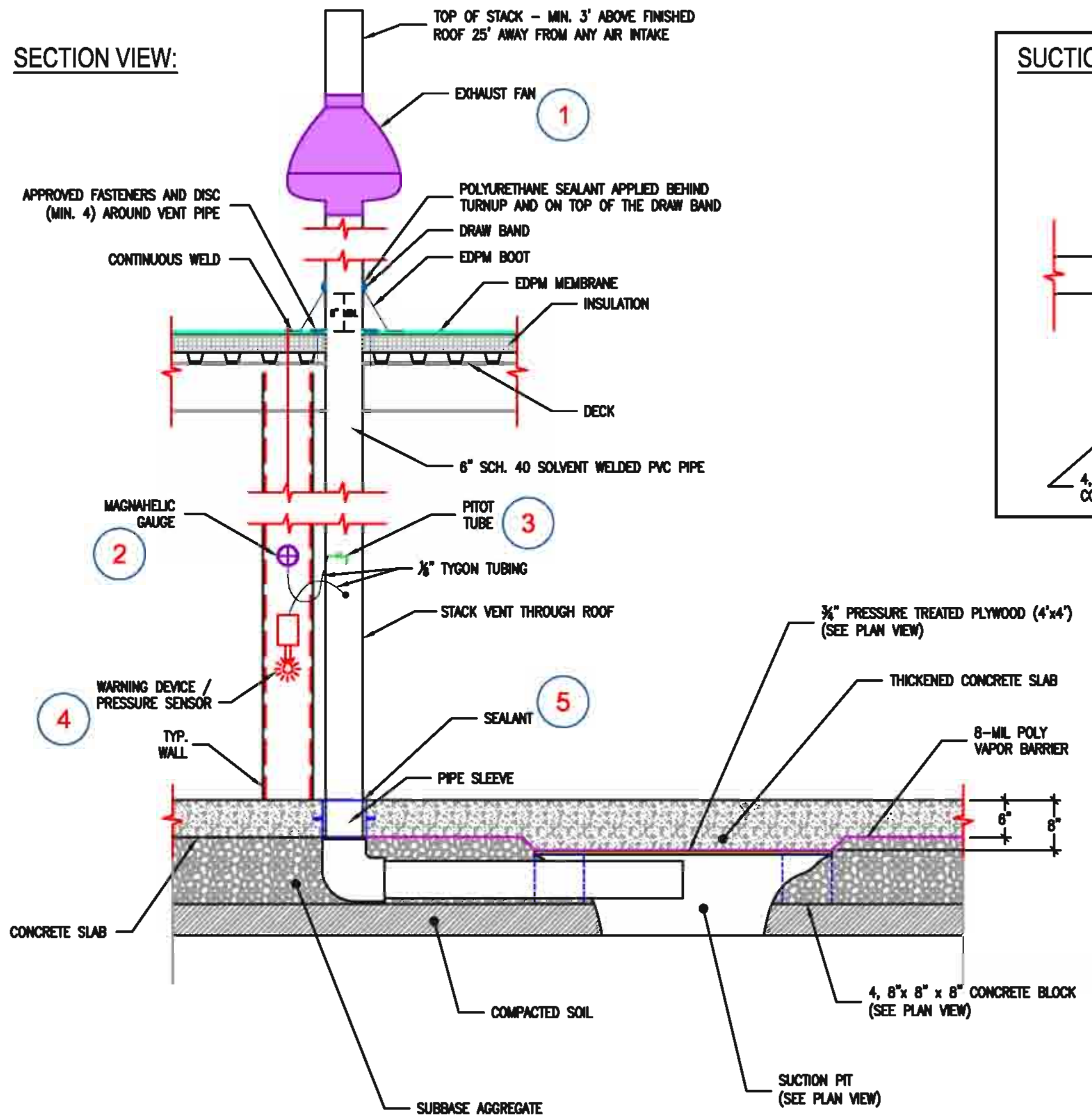

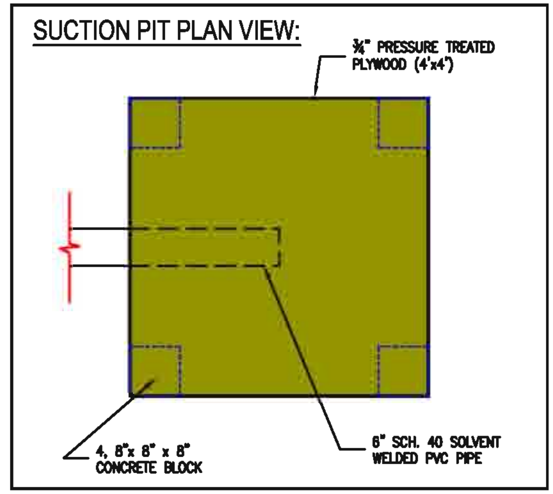

NOTES:

1. FANTECH MODEL FR 160. 115 VOLT 71 RATED WATTS CONT. DUTY
2. DWYER MODEL 2002 – AV MAGNAHELIC GAUGE; DWYER MODEL A-368 SURFACE MOUNT BRACKET. MOUNT ON COLUMN AT 5 FEET ABOVE FINISHED FLOOR.
3. DWYER MODEL 166-6CF ⅛" NPT PITOT TUBE WITH COMPRESSION FITTINGS
4. CLEVELAND CONTROLS MODEL AFS-222 AIR PRESSURE SWITCH WITH ADJUSTABLE SET POINT RANGE. MOUNT ON EXTERIOR WALL AT 5 FEET ABOVE FINISHED FLOOR.
5. POLYURETHANE SEALANT APPLIED IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS TO SEAL ALL GAPS. USE OF SILICONE SEALANTS IS NOT PERMITTED.

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PROJECT NO.: 0101-002-500

DATE: OCTOBER 2007

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ACTIVE SUBSLAB DEPRESSURIZATION SYSTEM DESIGN

ACTIVE SUBSLAB DEPRESSURIZATION SYSTEM

7503 NIAGARA FALLS BOULEVARD SITE
NIAGARA FALLS, NEW YORK

PREPARED FOR
GLR HOLDINGS, LLC

FIGURE 4

APPENDIX A

EXHAUST FAN PRODUCT INFORMATION

BENCHMARK
ENVIRONMENTAL
ENGINEERING &
SCIENCE, PLLC

Fantech FR Series

Versatility and Value

Fantech's versatile FR Series fans feature a plastic housing constructed of UL-recognized, UV-protected thermoplastic resin. This tough protective shell allows the fan to be mounted in outdoor and wet locations.* Ideal for multiple point exhaust, dual bathroom exhaust, or new room additions, Fantech's FR Series fans are caulked at the motor screws, the wiring cables and along the seams of the fan to prevent moisture from entering the housing. Fantech's FR Series fans have long been the choice of residential builders and remodelers but now can be used for commercial projects with our recent UL commercial applications rating.

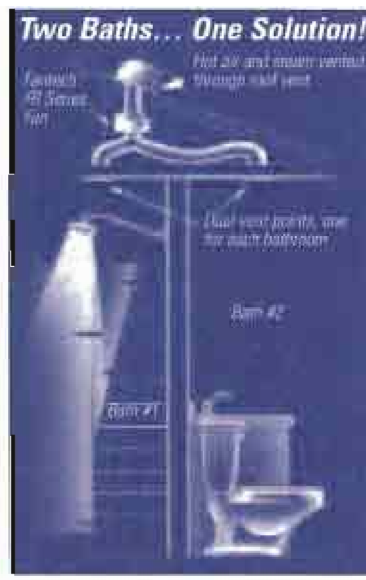
Easy to install
Loaded with features

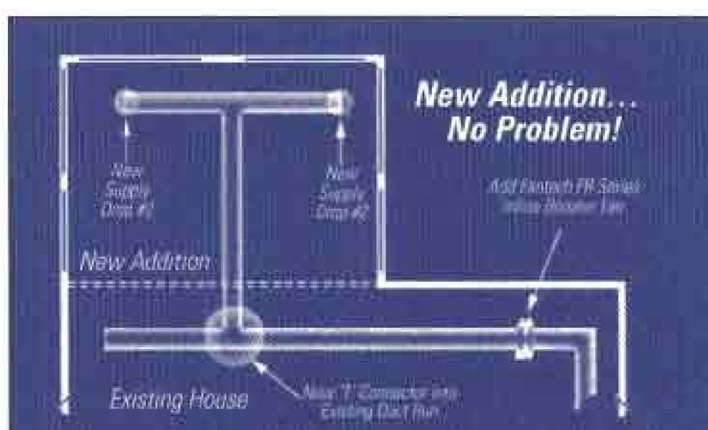
- Prewired and supplied with a mounting bracket for easy installation
- Available singularly with bracket or in a variety of kits for specific applications. Each kit includes the appropriate fan and accessories
- UL Listed; CSA Certified
- Approved for residential and commercial applications and for wet locations
- Suitable for airstream temperatures up to 140° F
- Easy connection using external wiring box with waterproof gasket
- 122-649 CFM
- 4" to 10" duct diameters
- 100% speed controllable
- Five-year factory warranty

Kits are available for the following applications:

- Regular Kits (REG 100 and REG 140) for single point exhaust applications
- Deluxe Kits (DLX 110, DLX 150, and DLX 200) designed for dual point exhaust applications
- Vent Light Kits (REG 100L, DLX 150L) for single and dual vent light exhaust applications

Typical attic installation





** The FR Series is not manufactured to operate with water running through the motor compartment, or to be used in applications where the fan would be buried underground. A UL-recognized waterproof conduit should be used for all outdoor applications to prevent moisture entry via knockout in wiring box.*

FR Kits

Pictured from left to right: DLX150 – Dual Point Ventilation Kit; REG100L – Single Vent Light Kit. Additional kits (not pictured) are available.

DLX150

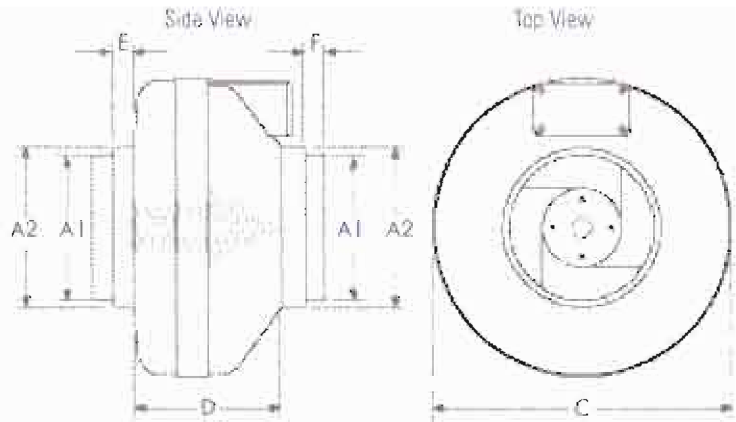
REG100L

Specifications

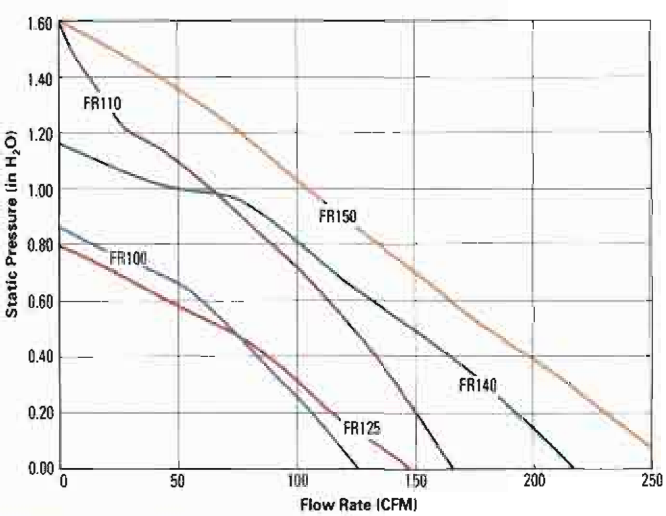
FR Series Dimensional Data

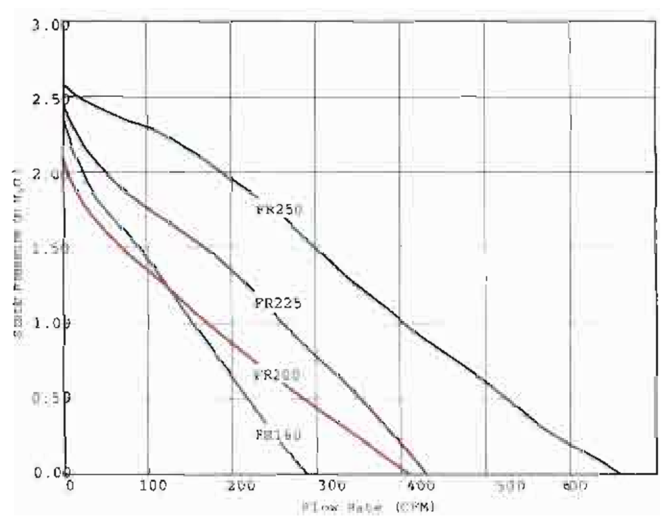
model	†A1	A2	C	D	E	F
FR 100	4	5	9½	6⅛	⅞	⅞
FR 110	4	5	9½	6⅛	⅞	⅞
FR 125	—	5	9½	6⅛	⅞	—
FR 140	6	6¼	11¾	5⅞	1	⅞
FR 150	6	6¼	11¾	5⅞	1	⅞
FR 160	6	6¼	11¾	6⅜	1	⅞
FR 200	8	10	13¼	6¼	1½	1½
FR 225	8	10	13¼	6¼	1½	1½
FR 250	—	10	13¼	6¼	1½	—

All dimensions in inches † Duct connections are ⅛" smaller than duct size.



FR Series Air Performance Graphs





FR Series Performance Data

Fan Model	Energy Star	RPM	Volts	Rated Watts	Wattage Range	Max. Amps	Static Pressure in Inches W.G. 0"	.2"	.4"	.6"	.8"	1.0"	1.5"	Max Ps	Duct Dia
FR 100	√	2900	115	19	13 - 19	0.18	122	100	78	55	15	—	—	0.87"	4"
FR 110	—	2900	115	80	62 - 80	0.72	167	150	133	113	88	63	4	1.60"	4"
FR 125	√	2950	115	18	15 - 18	0.18	148	120	88	47	—	—	—	0.79"	5"
FR 140	√	2850	115	61	47 - 62	0.53	214	190	162	132	99	46	—	1.15"	6"
FR 150	√	2750	120	71	54 - 72	0.67	263	230	198	167	136	106	17	1.58"	6"
FR 160	—	2750	115	129	103 - 130	1.14	289	260	233	206	179	154	89	2.32"	6"
FR 200	√	2750	115	122	106 - 128	1.11	408	360	308	259	213	173	72	2.14"	8"
FR 225	√	3100	115	137	111 - 152	1.35	429	400	366	332	297	260	168	2.48"	8"
FR 250	—	2850	115	241	146 - 248	2.40	649	600	553	506	454	403	294	2.58"	10"

FR Series performance is shown with ducted outlet. Per HVI's Certified Ratings Program, charted air flow performance has been derated by a factor based on actual test results and the certified rate at .2 inches WG

APPENDIX B

WARNING DEVICE PRODUCT INFORMATION

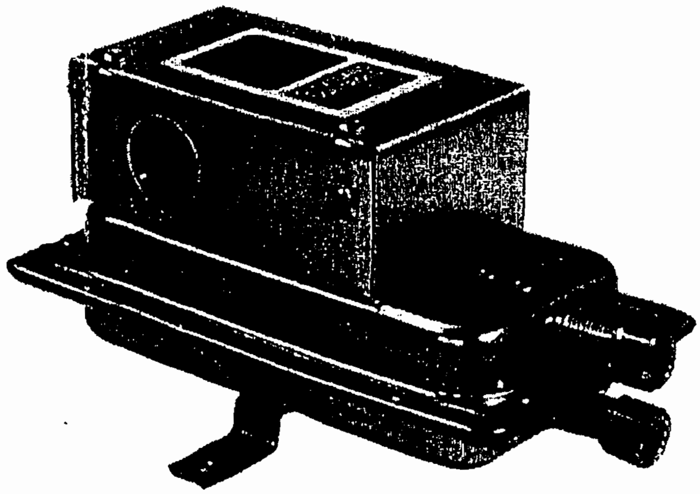
Cleveland Controls
Division of UniControl Inc.

Model AFS–222

AIR PRESSURE SENSING SWITCH WITH ADJUSTABLE SET POINT RANGE

APPLICATION

Model AFS-222 Air Pressure Sensing Switch is a general purpose proving switch designed for HVAC and Energy Management applications. It may be used to sense positive, negative, or differential air pressure.



GENERAL DESCRIPTION & OPERATION

The plated housing contains a diaphragm, a calibration spring and a snap-acting SPDT switch. The sample connections located on each side of the diaphragm accept ¼" OD metallic tubing via the integral compression ferrule and nut.

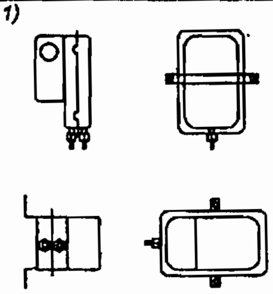
An enclosure cover guards against accidental contact with the live switch terminal screws and the set point adjusting screw. The enclosure cover will accept a ½" conduit connection.

MOUNTING (SEE FIGURE 1)

Select a mounting location which is free from vibration. The **AFS-222** must be mounted with the diaphragm in any vertical plane in order to obtain the lowest specified operating set point. Avoid mounting with the sample line connections in the "up" position. Surface mount via the two 3/16" diameter holes in the integral mounting bracket. The mounting holes are 3-7/8" apart.

The **AFS-222** is designed to accept firm-wall sample lines of ¼" OD tubing by means of ferrule and nut compression connections. For sample lines of up to 10 feet, ¼" OD tubing is acceptable. For lines up to 20 feet, use ¼" ID tubing. For lines up to 60 feet, use ½" ID tubing. A ¼" OD adapter, suitable for slip-on flexible tubing is available: order part number 18311.

(Fig. 1)



AIR SAMPLING CONNECTION (SEE FIGURE 2)

Locate the sampling probe a minimum of 1.5 duct diameters downstream from the air source. Install the sampling probe as close to the center of the airstream as possible. Refer to Figure 2 to identify the high pressure inlet (H) and the low pressure inlet (L). Select one of the five application options listed below, and connect the sample lines as recommended.

POSITIVE PRESSURE ONLY: Connect the sample line to inlet H; inlet L remains open to the atmosphere.

NEGATIVE PRESSURE ONLY: Connect the sample line to inlet L; inlet H remains open to the atmosphere.

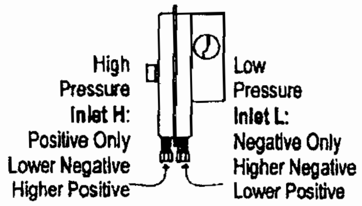
TWO NEGATIVE SAMPLES: Connect the higher negative sample to inlet L. Connect the lower negative sample to inlet H.

TWO POSITIVE SAMPLES: Connect the higher positive sample to inlet H. Connect the lower positive sample to inlet L.

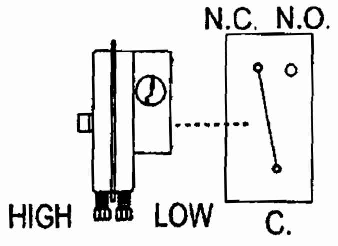
ONE POSITIVE AND ONE NEGATIVE SAMPLE: Connect the positive sample to inlet H. Connect the negative sample to inlet L.

Cleveland Controls
DIVISION OF UNICONTROL INC.
1111 Brookpark Rd
Cleveland OH 44109
Tel: 216-398-0330
Fax: 216-398-8558
Email: saleshvac@unicontrolinc.com
Web page: http://www.clevelandcontrols.com

(Figure 2)

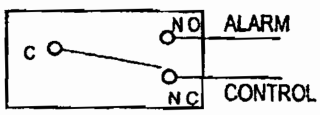


(Figure 3)

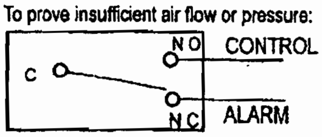


(Figure 4)

To prove excessive air flow or pressure:



To prove insufficient air flow or pressure:



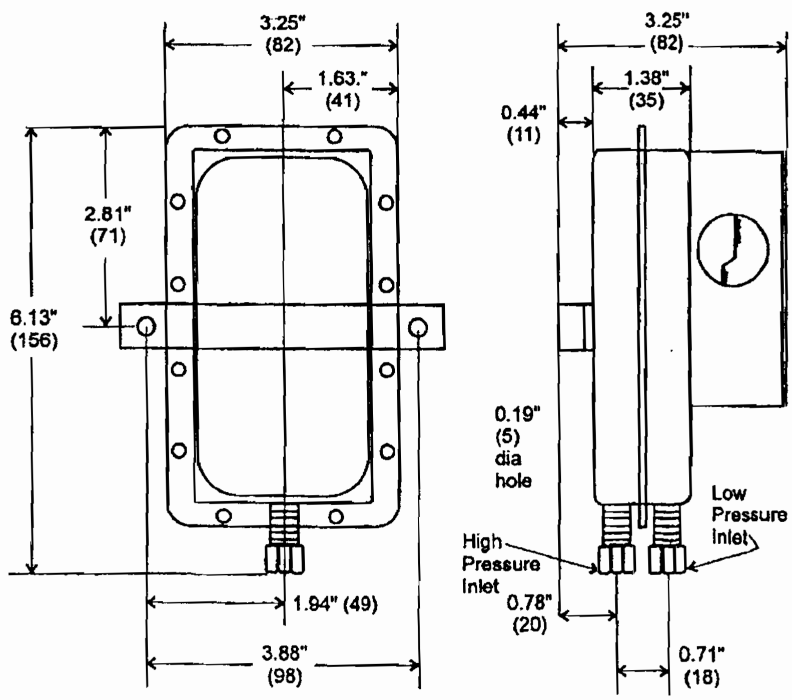
ELECTRICAL CONNECTIONS (SEE FIGURE 3)

Before pressure is applied to the diaphragm, the switch contacts will be in the normally closed (NC) position. The snap switch has screw top terminals with cup washers. Wire alarm and control applications as shown in Figure 4.

FIELD ADJUSTMENT

The adjustment range of an **AFS-222** Air Switch is 0.05±.02" w.c. to 12.0" w.c. To adjust the set point, turn the adjusting screw counterclockwise until motion has stopped. Next, turn the adjusting screw 4 complete turns in a clockwise direction to engage the spring. From this point, the next ten turns will be used for the actual calibration. **Each full turn represents approximately 1.2" w.c.**

Please note: To properly calibrate an air switch, a digital manometer or other measuring device should be used to confirm the actual set point.



Nominal Dimensions in Inches (Millimeters)

SPECIFICATIONS

MODEL AFS-222 AIR PRESSURE SENSING SWITCH WITH ADJUSTABLE SET POINT RANGE

Mounting Position: Mount with the diaphragm in any vertical plane.

Set Point Range: 0.05±0.02" w.c. to 12.0" w.c.

Field Adjustable Operate Range: [illegible] to 12.0" w.c.

Field Adjustable Release Range: [illegible]

Approximate Switching Differential: Progressively increasing from 0.02 ±0.015" w.c. at minimum set point to approximately [illegible] w.c. at maximum set point.

Measured Media: Air or combustion by-products that will not degrade silicone.

Maximum Pressure: [illegible]

Operating Temperature Range: -40F to 180F (-40 to 82C).

Life: 100,000 cycles minimum at 1/2 psi maximum pressure each cycle and at maximum rated electrical load.

Electrical Rating: 300 VA pilot duty at 115 to 277 VAC; 15 amps noninductive to 277 VAC; [illegible] 60 Hz.

Contact Arrangement: SPDT.

Electrical Connections: Screw-type terminals with cup washers.

Conduit Opening: 7/8" diameter opening accepts 1/2" conduit.

Sample Line Connectors: Male, externally threaded 7/16"-24 UNS 2A thread complete with nuts and self-aligning ferrules.

Sample Line Connections: Connectors will accept 1/4" OD rigid or semi-rigid tubing.

Approvals: UL, FM, CSA

Shipping Weight: 1.2 lbs.

Accessories:

- P/N 18311 Slip-on 1/4" OD Tubing Adapter, suitable for slipping on flexible plastic tubing.
- Sample line probes.
- Orifice plugs (pulsation dampers).

APPENDIX C

OPERATIONS AND MAINTENANCE LOGS

BENCHMARK
ENVIRONMENTAL
ENGINEERING &
SCIENCE, PLLC

BENCHMARK
ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

Monthly Operation & Maintenance Log
Active Sub-Slab Depressurization System

Project Name:	Project No.:
Project Location:	Client:
Preparer's Name:	Date/Time:

Notes:

Monthly Operating Status:

System(s) currently running? ☐ yes ☐ no

Has the system been off-line in the past month? ☐ yes ☐ no

If yes, please list the dates and brief description why (i.e. maintenance, part replacement, etc.):

What is the current Vacuum reading? ☐

Visual Inspection:

Any piping disconnected?	☐ yes	☐ no
Any cracks visible in piping?	☐ yes	☐ no
Any new cracks visible in slab floor?	☐ yes	☐ no
Magnehelic guage reading 0?	☐ yes	☐ no

If yes to any question above, please provide more information below.

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

Monthly Operation & Maintenance Log
Active Sub-Slab Depressurization System

Change in Occupancy / Use of Space:

Please indicate general use of floor space? ______________________

Has this general use changed in the past month? ☐ yes ☐ no

If yes, please explain:

System Modifications:

Have any modifications been made to the Sub-Slab Depressurization System? ☐ yes ☐ no

If so, please list with date:

BENCHMARK
ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

Annual Operation & Maintenance
Active Sub-Slab Depressurization System
Certification Checklist

Project Name:	Project No.:
Project Location:	Client:
Preparer's Name:	Date/Time:

Notes:

System Information

Has monthly system inspection been completed regularly?	☐ yes	☐ no
Are last 11 inspection logs attached for the past 12 months?	☐ yes	☐ no

What is the current Vacuum reading? ☐

System Updates, Maintenance, Part Replacement

Benchmark Environmental Engineering & Science, PLLC

Annual Operation & Maintenance Active Sub-Slab Depressurization System Certification Checklist

Change in Occupancy / Use of Space:

Please indicate general use of floor space? ______________________

Has this general use changed in the past year? ☐ yes ☐ no

If yes, please explain:

Building Renovations:

Have any building renovations taken place in the last month? ☐ yes ☐ no

If yes, please provide more information below, and sketch any basement floor plan modifications on the floor plan sketch below.

System Modifications:

Have any modifications been made to the Sub-Slab Depressurization System? ☐ yes ☐ no

If so, please list with date:

BENCHMARK
ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

Annual Operation & Maintenance
Active Sub-Slab Depressurization System
Certification Checklist

Floor Plan Sketch:

Draw a plan view sketch of the basement of the building. Indicate Sub-Slab Depressurization system location. Please also note and include, any alterations to the system, locations of visible cracks and/or repairs needed, and changes or alterations to the usage of this space.

ATTACHMENT A2

LONG-TERM GROUNDWATER MONITORING PLAN

BENCHMARK
ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

LONG-TERM GROUNDWATER MONITORING PLAN

7503 NIAGARA FALLS BOULEVARD SITE
NIAGARA FALLS, NEW YORK

November 2007 | 0101-002-500

Prepared for:

GLR Holdings, LLC

Prepared by:

Benchmark Environmental Engineering & Science, PLLC

LONG-TERM GROUNDWATER MONITORING PLAN

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF APPENDICES

1.0 INTRODUCTION

This Long-Term Groundwater Monitoring Plan (LTGWM Plan) has been prepared for the 7503 Niagara Falls Boulevard Site in Niagara Falls, New York (see Figure 1). Benchmark Environmental Engineering & Science, PLLC (Benchmark) has prepared this report on behalf of the Site owner, GLR Holdings, LLC (GLR). This LTGWM Plan is required to monitor the effectiveness of the source area removals, treatment, and controls implemented in accordance with the Brownfield Cleanup Agreement. The proposed LTGWM Plan will provide for the comprehensive monitoring, documentation, and evaluation of groundwater quality at the Site.

2.0 GROUNDWATER MONITORING PROGRAM

2.1 Monitoring Network

The long-term groundwater monitoring network for this program will include only one monitoring well, identified on Figure 1 as MW-14R. The "R" suffix indicates a replacement of the original well, MW-14, that, along with all other on-site monitoring wells, will be decommissioned during construction activities. The replacement well will be installed as close as possible to the location of existing well MW-14 within 30 days of completion of construction activities. If replacement well MW-14R becomes damaged or unusable during the long-term groundwater monitoring program, it will be replaced within 30 days of discovery.

2.2 Sampling Frequency

Monitoring well MW-14 will be sampled on an annual basis for the first 5 years. Following a review of the data after the 5-year monitoring program, a determination will be made as to whether the well will continue to be sampled and at what frequency.

2.3 Sampling Method

Due to low permeability of the Site soils, groundwater monitoring will be performed using conventional purge and sample techniques via disposable polyethylene bailer. Benchmark's Field Operating Procedures (FOPs) entitled "Groundwater Purging Prior to Sample Collection" and "Groundwater Sample Collection Procedures" are provided as Appendix A.

2.4 Analyses

For the first year, groundwater samples will be analyzed for Target Compound List (TCL) volatile organic compounds (VOCs) via Method 8260 using SW-846 protocol. After the first year, the parameter list will be reviewed to determine whether it can be reduced based on the analytical results as well as the proposed activities for the Site.

3.0 REPORTING

Annual monitoring reports will be provided to the NYSDEC Region 9 Office by March 1 of each calendar year and will include, at a minimum, the data collected during each monitoring event. Any and all changes to the Monitoring Program will be approved by the NYSDEC prior to implementation.

FIGURES

FIGURE 1

FILEPATH:F:\CAD\Benchmark\GLR Holdings - Wendy's\Final Engineering Report\LTGWM Plan\figure 1; site location and vicinity map.dwg

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC
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BUFFALO, NEW YORK 14210
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PROJECT NO.: 0101-002-500

DATE: OCTOBER 2007

DRAFTED BY: AJZ

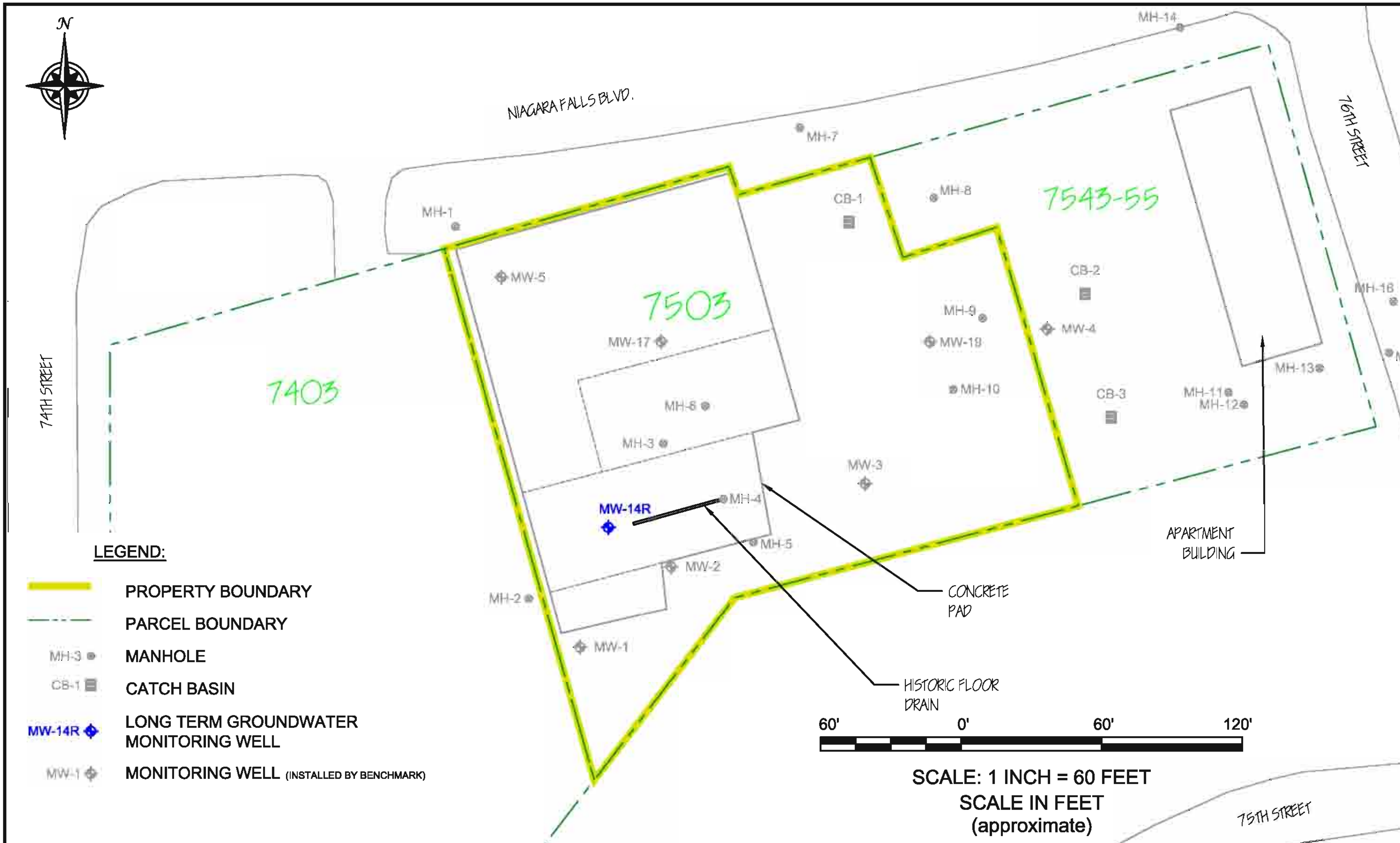
SITE LOCATION AND VICINITY MAP

LONG-TERM GROUNDWATER MONITORING PLAN

7503 NIAGARA FALLS BOULEVARD SITE
NIAGARA FALLS, NEW YORK

PREPARED FOR

GLR HOLDINGS, LLC



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BUFFALO, NEW YORK 14210
(716) 856-0599

PROJECT NO.: 0101-002-500

DATE: OCTOBER 2007

DRAFTED BY: AJZ

GROUNDWATER MONITORING NETWORK

LONG-TERM GROUNDWATER MONITORING PLAN

7503 NIAGARA FALLS BOULEVARD SITE
NIAGARA FALLS, NEW YORK

PREPARED FOR
GLR HOLDINGS, LLC

FIGURE 2

APPENDIX A

FIELD OPERATING PROCEDURES

Benchmark Environmental Engineering & Science, PLLC

Field Operating Procedures

Groundwater Purging Procedures Prior to Sample Collection

FOP 023.0

GROUNDWATER PURGING PROCEDURES PRIOR TO SAMPLE COLLECTION

PURPOSE

This procedure describes the methods for monitoring well/piezometer purging prior to groundwater sample collection in order to collect representative groundwater samples. The goal of purging is to remove stagnant, non-representative groundwater from the well and/or prevent stagnant water from entering collected samples. Purging involves the removal of at least three to five volumes of water in wells with moderate yields and at least one well volume from wells with low yields (slow water level recovery).

Purge and sample wells in order of least-to-most contaminated (this is not necessary if dedicated or disposable equipment is used). If you do not know this order, sample the upgradient wells first, then the furthest down-gradient or side-gradient wells, and finally the wells closest to, but down-gradient of the most contaminated area. Sampling should commence immediately following purging or as soon as the well has adequately recharged and not more than 24-hours following end time of evacuation.

PROCEDURE

1. Prepare the electronic water level indicator (e-line) in accordance with the procedures referenced in the Benchmark Field Operating Procedure for Groundwater Level Measurement and decontaminate the e-line probe and a lower portion of cable following the procedures referenced in the Benchmark Field Operating Procedure for Non-disposable and Non-dedicated Sampling Equipment Decontamination. Store the e-line in a protected area until use. This may include wrapping the e-line in clean plastic until the time of use.

2. Inspect the interior and exterior of the well/piezometer for signs of vandalism or damage and record condition on the Groundwater Well Purge & Sample Collection Log and/or Groundwater Well Inspection Form (samples

attached). Specifically, inspect the integrity of the following: concrete surface seal, lock, protective casing and well cover, well riser and J-plug/cap. Report any irregular findings to the Project Manager.

3. Unlock and remove the well protective cap or cover and place on clean plastic to avoid introducing foreign material into the well.

4. Calibrate the photoionization detector (PID) in accordance with the Benchmark Field Operating Procedure for Calibration and Maintenance of Portable Photoionization Detector.

5. Monitor the well for organic vapors using a PID, as per the Work Plan. If a reading of greater than 5 ppm is recorded, the well should be allowed to vent until levels drop below 5 ppm before proceeding with purging.

6. Lower the e-line probe slowly into the monitoring well and record the initial water level in accordance with the procedures referenced in the Benchmark Field Operating Procedure for Groundwater Level Measurement.

7. Following static water level determinations, slowly lower the e-line to the bottom of the well/piezometer. Record the total depth to the nearest 0.01-foot and compare to the previous total depth measurement. If a significant discrepancy exists, re-measure the total depth. Continue with purging activities observing purge water to determine whether the well/piezometer had become silted due to inactivity or damaged (i.e., well sand within purge water). Upon confirmation of the new total depth and determination of the cause (i.e., siltation or damage), notify the Project Manager following field activities.

8. Calculate the volume of water in the well based on the water level below the top of riser and the total depth of the well using the following equation:

$$V = 0.0408[(B)^2 \times \{(A) - (C)\}]$$

Where,

A = Total Depth of Well (feet below measuring point)
B = Casing diameter (inches)
C = Static Water Level (feet below measuring point)

9. **For wells where the water level is 20 feet or less below the top of riser**, a peristaltic pump may be used to purge the well. Measure the purged volume using a calibrated container (i.e., graduated 5-gallon bucket) and record measurements on the attached Groundwater Well Development and Purge Log. Use new and dedicated tubing for each well. During the evacuation of shallow wells, the intake opening of the pump tubing should be positioned just below the surface of the water. As the water level drops, lower the tubing as needed to maintain flow. For higher yielding wells, the intake level should not be lowered past the top of the screen. Pumping from the top of the water column will ensure proper flushing of the well. Continue pumping until the required volumes are removed (typically three well volumes). For higher yielding wells, adjust the purging rate to maintain the water level above the screen. For lower yielding wells or wells where the screen straddles the water table, maintain purging at a rate that matches the rate of recovery of the well (well yield). If the well purges to dryness and is slow to recharge (greater than 15 minutes), terminate evacuation.

10. **For wells where the water level is initially below 20 feet,** or drawn down to this level because of slow recharge rate, conduct purging using one of three devices listed below:

    - <u>Bailer</u> – A bottom filling dedicated polyethylene bailer attached to a length of dedicated hollow-braid polypropylene rope. Purging a well utilizing a bailer should be conducted smoothly and slowly as not to agitate the groundwater or damage the well.

    - <u>Well Wizard Purge Pump (or similar)</u> – This pneumatic bladder pump uses compressed air to push water to the surface. Groundwater is not in contact with the drive air during the pumping process, therefore the pump may be used for sample collection.

- Waterra™ Pump – This manually operated pump uses dedicated polyethylene tubing and a check valve that can be used as an optional method for purging deeper wells. The pump utilizes positive pressure to evacuate the well, therefore the pump may be used for sample collection, and however over-agitation groundwater should be avoided.

Prior to use in a well, non-dedicated bailers, exterior pump bodies and pump tubing should be cleaned in accordance with the Benchmark Field Operating Procedure for Non-Disposable and Non-Dedicated Sampling Equipment Decontamination. Dedicated and/or disposable equipment should be contained within the sealed original manufacturers packaging and certified pre-cleaned by the manufacturer with a non-phosphate laboratory detergent and rinsed using de-ionized water.

8. Purging will continue until a predetermined volume of water has been removed (typically three well volumes) or to dryness. Measurements for pH, temperature, specific conductance, dissolved oxygen (optional), Eh (optional) and turbidity will be recorded following removal of each well volume. Purge the well to dryness or until the readings for indicator parameters listed above (or well-specific indicator parameters) stabilize within the following limits for each parameter measured:

Field Parameter	Stabilization Criteria
Dissolved Oxygen	± 0.3 mg/L
Turbidity	± 10 %
Specific Conductance	± 3 %
Eh	± 10 mV
PH	± 0.1 unit

Stabilization criteria presented within the project Work Plan will take precedence.

DOCUMENTATION AND SAMPLE COLLECTION

This section pertains to the documentation of collected field data during and following purging activities and sample collection.

1. Record all data including the final three stable readings for each indicator parameter on the attached Groundwater Well Purge & Sample Log.

2. Record, at a minimum, the "volume purged," "purging stop-time," "purged dry (Y/N)," "purged below sand pack (Y/N)," and any problems purging on the attached Groundwater Well Purge & Sample Log.

3. Collect groundwater samples in accordance with the Benchmark Field Operating Procedure for Groundwater Sample Collection. Record "sample flow rate" as an average, "time sample collected," and any other pertinent information related to the sampling event on the attached Groundwater Well Purge & Sample Log.

4. Restore the well to its capped/covered and locked condition.

ALTERNATIVE METHODS

Alternative purging and sampling methods and equipment, other than those described herein are acceptable if they provide representative groundwater samples. The purging and sampling method and equipment must not adversely affect sample integrity, chemistry, temperature and turbidity. In addition, alternative equipment must have minimal or no effect on groundwater geochemistry, aquifer permeability and well materials. Equipment materials must also minimize sorption and leaching. The field team is responsible for documenting and describing any alternative equipment and procedures used to purge a well and collect samples.

Attachments

Groundwater Well Purge & Sample Collection Log
Groundwater Well Inspection Form

References

Benchmark FOPs:
011 *Calibration and Maintenance of Portable Photoionization Detector*
022 *Groundwater Level Measurement*
024 *Groundwater Sample Collection Procedures*
040 *Non-disposable and Non-dedicated Sampling Equipment Decontamination*

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

GROUNDWATER WE
PURGE & SAMPLE COLLECTION L

Project Name:	WELL NUMBER:
Project Number:	Sample Matrix:
Client:	Weather:

WELL DATA: DATE: TIME:

Casing Diameter (inches):	Casing Material:
Screened interval (fbTOR):	Screen Material:
Static Water Level (fbTOR):	Bottom Depth (fbTOR):
Elevation Top of Well Riser (fmsl):	Ground Surface Elevation (fmsl):
Elevation Top of Screen (fmsl):	Stick-up (feet):

PURGING DATA: DATE: START TIME: END TIME:

Method:	Is purge equipement dedicated to sample location?	yes
No. of Well Volumes Purged:	Was well purged to dryness?	yes
Standing Volume (gallons):	Was well purged below top of sand pack?	yes
Volume Purged (gallons):	Condition of Well:	
Purge Rate (gal/min):	Field Personnel:	

VOLUME CALCULATION:

(A) Total Depth of Well (fbTOR):	
(B) Casing Diameter (inches):	
(C) Static Water Level (fbTOR):	
One Well Volume (V, gallons):	
$V = 0.0408 [(B)^2 \times \{ (A) - (C) \}]$	

* Use the table to the right to calculate one well volume by subtracting C from A, then multiplying by the volume calculation in the table per well diamter.

Volume Calculation

Well Diameter	Volume gal/ft
1"	0.041
2"	0.163
3"	0.367
4"	0.653
5"	1.020
6"	1.469

Stabilization Criteria

Parameter	Criteria
pH	+/- 0.1 un
SC	+/- 3%
Turbidity	+/- 10%
DO	+/- 0.3 mg
ORP	+/- 10 mV

EVACUATION STABILIZATION TEST DATA:

Time	Water Level (fbTOR)	Accumulated Volume (gallons)	pH (units)	Temperature (deg. C)	Specific Conductance (uS/cm)	Turbidity (NTU)	DO (mg/L)	ORP (mV)	Appearance Odor
		initial							

SAMPLING DATA: DATE: START TIME: END TIME:

Method:	Is sampling equipement dedicated to sample location?	yes
Initial Water Level (fbTOR):	Was well sampled to dryness?	yes
Final Water Level (fbTOR):	Was well sampled below top of sand pack?	yes
Air Temperature (°F):	Field Personnel:	
Source and type of water used in the field for QC purposes:		

PHYSICAL & CHEMICAL DATA:

DESCRIPTION OF WATER SAMPLE		
Odor		
Color		
NAPL		
Contains Sediment?	yes	no

WATER QUALITY MEASUREMENTS

Sample	Time	pH (units)	TEMP. (°C)	SC (uS)	TURB. (NTU)	DO (ppm)	ORP (mV)
initial							
final							

REMARKS:

PREPARED BY:

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

GROUNDWATER WELL INSPECTION FORM

Project:	**WELL I.D.:**
Client:	
Job No.:	
Date:	
Time:	

EXTERIOR INSPECTION

Protective Casing:	
Lock:	
Hinge/Lid:	
Concrete Surface Seal:	
Bollards:	
Label/I.D.:	
Other:	

INTERIOR INSPECTION

Well Riser:	
Annular Space:	
Well Cap:	
Water Level (fbTOR):	
Total Depth (fbTOR):	
Other:	

Comments/Corrective Actions:

PREPARED BY: DATE:

BENCHMARK
ENVIRONMENTAL
ENGINEERING &
SCIENCE, PLLC

FIELD OPERATING PROCEDURES

Groundwater Sample Collection Procedures

GROUNDWATER SAMPLE COLLECTION PROCEDURES

PURPOSE

This procedure describes the methods for collecting groundwater samples from monitoring wells and domestic supply wells following purging and sufficient recovery. This procedure also includes the preferred collection order in which water samples are collected based on the volatilization sensitivity or suite of analytical parameters required.

PROCEDURE

Allow approximately 3 to 10 days following well development before performing purge and sample activities at any well location. Conversely, perform sampling as soon as practical after sample purging at any time after the well has recovered sufficiently to sample, or within 24 hours after evacuation, if the well recharges slowly. If the well does not yield sufficient volume for all required laboratory analytical testing (including quality control), a decision should be made to prioritize analyses based on contaminants of concern at the site. If the well takes longer than 24 hours to recharge, the Project Manager should be consulted. The following two procedures outline sample collection activities for monitoring and domestic type wells.

Monitoring Wells

1. Purge the monitoring well in accordance with the Benchmark FOPs for Groundwater Purging Procedures Prior to Sample Collection or Low Flow (Minimal Drawdown) Groundwater Purging & Sampling Procedures. Perform sampling as soon as practical after purging at any time after the well has recovered sufficiently to sample, or within 24 hours after evacuation, if the well recharges slowly. If the well does not yield sufficient volume for all required laboratory analytical testing (including quality control), a decision should be made to prioritize analyses based on contaminants of concern at the site. Analyses will be prioritized in the order of the parameters volatilization sensitivity. After volatile organics have been collected, field parameters

must be measured from the next sample collected. If a well takes longer than 24 hours to recharge, the Project Manager should be consulted.

2. Sampling equipment that is not disposable or dedicated to the well will be decontaminated in accordance with the Benchmark Field Operating Procedure for Non-Disposable and Non-Dedicated Sampling Equipment Decontamination.

3. Calibrate all field meters (i.e., pH/Eh, turbidity, specific conductance, dissolved oxygen, PID etc.) in accordance with the Benchmark Field Operating Procedure for Calibration and Maintenance of the specific field meter.

4. Prepare the electronic water level indicator (e-line) in accordance with the procedures referenced in the Benchmark Field Operating Procedure for Groundwater Level Measurement and decontaminate the e-line probe and a lower portion of cable following the procedures referenced in the Benchmark Field Operating Procedure for Non-disposable and Non-dedicated Sampling Equipment Decontamination. Store the e-line in a protected area until use. This may include wrapping the e-line in clean plastic until the time of use.

5. Inspect the well/piezometer for signs of vandalism or damage and record condition on the Groundwater Well Purge & Sample Collection Log (sample attached). Specifically, inspect the integrity of the following: concrete surface seal, lock, protective casing and well cover, well casing and J-plug/cap. Report any irregular findings to the Project Manager.

6. Unlock and remove the well protective cap or cover and place on clean plastic to avoid introducing foreign material into the well.

7. Calibrate the photoionization detector (PID) in accordance with the Benchmark Field Operating Procedure for Calibration and Maintenance of Portable Photoionization Detector.

8. Monitor the well for organic vapors using a PID, as per the Work Plan. If a reading of greater than 5 ppm is recorded, the well should be allowed to vent until levels drop below 5 ppm before proceeding with purging. Record PID measurements on a well-specific Groundwater Well Purge & Sample Collection Log (sample attached).

9. Lower the e-line probe slowly into the monitoring well and record the measurement on a well-specific Groundwater Well Purge & Sample Collection Log (sample attached).

10. Groundwater samples will be collected directly from the sampling valve on the flow through cell (low-flow), discharge port of a standard pump assembly (peristaltic, pneumatic, submersible, or Waterra™ pump) or bailer (stainless steel, PVC or polyethylene) into appropriate laboratory provided containers. In low-yielding wells at which the flow through cell is not used, the samples may be collected using a disposable bailer.

11. If disposable polyethylene bailers are used, the bailer should be lowered *slowly* below the surface of the water to minimize agitation and volatilization. For wells that are known to produce turbid samples (values greater than 50 NTU), the bailer should be lowered and retrieved at a rate that limits surging of the well.

12. Sampling data will be recorded on a Groundwater Well Purge & Sample Collection Log (sample attached).

13. Pre-label all sample bottles in the field using a waterproof permanent marker in accordance with the Benchmark Sample Labeling, Storage and Shipment FOP. The following information, at a minimum, should be included on the label:

    - Project Number;
    - Sample identification code (as per project specifications);
    - Date of sample collection (mm, dd, yy);
    - Time of sample collection (military time only) (hh:mm);
    - Specify "grab" or "composite" sample type;
    - Sampler initials;
    - Preservative(s) (if applicable); and
    - Analytes for analysis (if practicable).

14. Collect a separate sample of approximately 200 ml into an appropriate container prior to collecting the first and following the last groundwater sample collected to measure the following field parameters:

Parameter	Units
Dissolved Oxygen	parts per million (ppm)
Specific Conductance	μmhos/cm or μS or mS
pH	pH units
Temperature	^oC or ^oF
Turbidity	NTU
Eh (*optional*)	mV
PID VOCs (*optional*)	ppm

Record all field measurements on a Groundwater Well Purge & Sample Collection Log (sample attached).

15. Collect samples into pre-cleaned bottles provided by the analytical laboratory with the appropriate preservative(s) added based on the volatilization sensitivity or suite of analytical parameters required, as designated in the **Sample Collection Order** section below.

16. Lower the e-line probe slowly into the monitoring well and record the measurement on a well-specific Groundwater Well Purge & Sample Collection Log (sample attached).

17. The samples will be labeled, stored and shipped in accordance with the Benchmark Field Operating Procedure for Sample Labeling, Storage and Shipment Procedures.

Domestic Supply Wells

1. Calculate or estimate the volume of water in the well. It is desirable to purge at least one casing volume before sampling. This is controlled, to some extent, by the depth of the well, well yield and the rate of the existing pump. If the volume of water in the well cannot be calculated, the well should be purged continuously for no less than 15 minutes.

2. Connect a sampling tap to an accessible fitting between the well and the pressure tank where practicable. A hose will be connected to the device and the hose discharge located 25 to 50 feet away. The well will be allowed to pump until the lines and one well volume is removed. Flow rate will be measured with a container of known volume and a stopwatch.

3. Place a clean piece of polyethylene or Teflon™ tubing on the sampling port and collect the samples in the order designated below and in the sample containers supplied by the laboratory for the specified analytes. ***DO NOT*** use standard garden hose to collect samples.

4. Sampling results and measurements will be recorded on a Groundwater Well Purge & Sample Collection Log (sample attached) as described in the previous section.

5. Collect samples into pre-cleaned bottles provided by the analytical laboratory with the appropriate preservative(s) added based on the volatilization sensitivity or suite of analytical parameters required, as designated in the **Sample Collection Order** section below.

6. The samples will be labeled, stored and shipped in accordance with the Benchmark Field Operating Procedure for Sample Labeling, Storage and Shipment Procedures.

SAMPLE COLLECTION ORDER

All groundwater samples, from monitoring wells and domestic supply wells, will be collected in accordance with the following.

1. Samples will be collected preferentially in recognition of volatilization sensitivity. The preferred order of sampling if no free product is present is:

    - Field parameters
    - Volatile Organic Compounds (VOCs)
    - Purgeable organic carbons (POC)
    - Purgeable organic halogens (POH)
    - Total Organic Halogens (TOX)
    - Total Organic Carbon (TOC)

- Extractable Organic Compounds (i.e., BNAs, SVOCs, etc.)
- Total petroleum hydrocarbons (TPH) and oil and grease
- PCBs and pesticides
- Total metals (Dissolved Metals)
- Total Phenolic Compounds
- Cyanide
- Sulfate and Chloride
- Turbidity
- Nitrate (as Nitrogen) and Ammonia
- Preserved inorganics
- Radionuclides
- Unpreserved inorganics
- Bacteria
- Field parameters

2. Document the sampling procedures and related information in the Project Field Book and on a Groundwater Well Purge & Sample Collection Log (sample attached).

DOCUMENTATION

The three words used to ensure adequate documentation for groundwater sampling are accountability, controllability, and traceability. Accountability is undertaken in the sampling plan and answers the questions who, what, where, when, and why to assure that the sampling effort meets its goals. Controllability refers to checks (including QA/QC) used to ensure that the procedures used are those specified in the sampling plan. Traceability is documentation of what was done, when it was done, how it was done, and by whom it was done, and is found in the field forms, Project Field Book, and chain-of-custody forms. At a minimum, adequate documentation of the sampling conducted in the field consists of an entry in the Project Field Book (with sewn binding), field data sheets for each well, and a chain-of-custody form.

As a general rule, if one is not sure whether the information is necessary, it should nevertheless be recorded, as it is impossible to over-document one's fieldwork. Years may go by before the documentation comes under close scrutiny, so the documentation must be capable of defending the sampling effort without the assistance or translation of the sampling crew.

The minimum information to be recorded daily with an indelible pen in the Project Field Book and/or field data sheets includes date and time(s), name of the facility, name(s) of the sampling crew, site conditions, the wells sampled, a description of how the sample shipment was handled, and a QA/QC summary. After the last entry for the day in the Project Field Book, the Field Team Leader should sign the bottom of the page under the last entry and then draw a line across the page directly under the signature.

PRECAUTIONS/RECOMMENDATIONS

The following precautions should be adhered to prior to and during sample collection activities:

- Field vehicles should be parked downwind (to avoid potential sample contamination concerns) at a minimum of 15 feet from the well and the engine turned off prior to PID vapor analysis and VOC sample collection.

- Ambient odors, vehicle exhaust, precipitation, or windy/dusty conditions can potentially interfere with obtaining representative samples. These conditions should be minimized and should be recorded in the field notes. Shield sample bottles from strong winds, rain, and dust when being filled.

- The outlet from the sampling device should discharge below the top of the sample's air/water interface, when possible. The sampling plan should specify how the samples will be transferred from the sample collection device to the sample container to minimize sample alterations.

- The order of sampling should be from the least contaminated to the most contaminated well to reduce the potential for cross contamination of sampling equipment (see the Sampling Plan or Work Plan).

- Samples should not be transferred from one sampling container to another.

- Sampling equipment must not be placed on the ground, because the ground may be contaminated and soil contains trace metals. Equipment and supplies should be removed from the field vehicle only when needed.

- Smoking and eating should not be allowed until the well is sampled and hands are washed with soap and water, due to safety and possibly sample contamination concerns. These activities should be conducted beyond a 15-foot radius of the well.

- No heat-producing or electrical instruments should be within 15 feet of the well, unless they are intrinsically safe, prior to PID vapor analysis.

- Minimize the amount of time that the sample containers remain open.

- Do not touch the inside of sample bottles or the groundwater sample as it enters the bottle. Disposable gloves may be a source of phthalates, which could be introduced into groundwater samples if the gloves contact the sample.

- Sampling personnel should use a new pair of disposable gloves for each well sampled to reduce the potential for exposure of the sampling personnel to contaminants and to reduce sample cross contamination. In addition, sampling personnel should change disposable gloves between purging and sampling operations at the same well.

- Sampling personnel should not use perfume, insect repellent, hand lotion, etc., when taking groundwater samples. If insect repellent must be used, then sampling personnel should not allow samples or sampling equipment to contact the repellent, and it should be noted in the documentation that insect repellent was used.

- Complete the documentation of the well. A completed assemblage of paperwork for a sampling event includes the completed field forms, entries in the Project Field Book (with a sewn binding), transportation documentation (if required), and possibly chain-of-custody forms.

ATTACHMENTS

Groundwater Well Purge & Sample Collection Log (sample)

REFERENCES

1. Wilson, Neal. *Soil Water and Ground Water Sampling*, 1995

Benchmark FOPs:

007 Calibration and Maintenance of Portable Dissolved Oxygen Meter
008 Calibration and Maintenance of Portable Field pH/Eh Meter
009 Calibration and Maintenance of Portable Field Turbidity Meter
011 Calibration and Maintenance of Portable Photoionization Detector
012 Calibration and Maintenance of Portable Specific Conductance Meter
022 Groundwater Level Measurement
023 Groundwater Purging Procedures Prior to Sample Collection (optional)
031 Low Flow (Minimal Drawdown) Groundwater Purging & Sampling Procedures (optional)
040 Non-Disposable and Non-Dedicated Sampling Equipment Decontamination
046 Sample Labeling, Storage and Shipment Procedures

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

GROUNDWATER WE
PURGE & SAMPLE COLLECTION L

Project Name:	WELL NUMBER:
Project Number:	Sample Matrix:
Client:	Weather:

WELL DATA: DATE: TIME:

Casing Diameter (inches):	Casing Material:
Screened interval (fbTOR):	Screen Material:
Static Water Level (fbTOR):	Bottom Depth (fbTOR):
Elevation Top of Well Riser (fmsl):	Ground Surface Elevation (fmsl):
Elevation Top of Screen (fmsl):	Stick-up (feet):

PURGING DATA: DATE: START TIME: END TIME:

Method:	Is purge equipement dedicated to sample location?	yes
No. of Well Volumes Purged:	Was well purged to dryness?	yes
Standing Volume (gallons):	Was well purged below top of sand pack?	yes
Volume Purged (gallons):	Condition of Well:	
Purge Rate (gal/min):	Field Personnel:	

VOLUME CALCULATION:

(A) Total Depth of Well (fbTOR):	
(B) Casing Diameter (inches):	
(C) Static Water Level (fbTOR):	
One Well Volume (V, gallons):	
$V = 0.0408 [(B)^2 \times \{ (A) - (C) \}]$	

* Use the table to the right to calculate one well volume by subtracting C from A, then multiplying by the volume calculation in the table per well diamter.

Volume Calculation

Well Diameter	Volume gal/ft
1"	0.041
2"	0.163
3"	0.367
4"	0.653
5"	1.020
6"	1.469

Stabilization Criteria

Parameter	Criteria
pH	+/- 0.1 ur
SC	+/- 3%
Turbidity	+/- 10%
DO	+/- 0.3 m
ORP	+/- 10 m

EVACUATION STABILIZATION TEST DATA:

Time	Water Level (fbTOR)	Accumulated Volume (gallons)	pH (units)	Temperature (deg. C)	Specific Conductance (µS/cm)	Turbidity (NTU)	DO (mg/L)	ORP (mV)	Appearance Odor
		initial							

SAMPLING DATA: DATE: START TIME: END TIME:

Method:	Is sampling equipement dedicated to sample location?	yes
Initial Water Level (fbTOR):	Was well sampled to dryness?	yes
Final Water Level (fbTOR):	Was well sampled below top of sand pack?	yes
Air Temperature (°F):	Field Personnel:	
Source and type of water used in the field for QC purposes:		

PHYSICAL & CHEMICAL DATA:

DESCRIPTION OF WATER SAMPLE		
Odor		
Color		
NAPL		
Contains Sediment?		yes no

WATER QUALITY MEASUREMENTS

Sample	Time	pH (units)	TEMP. (°C)	SC (uS)	TURB. (NTU)	DO (ppm)	ORP (mV)
initial							
final							

REMARKS:

PREPARED BY:

ATTACHMENT A3

ENVIRONMENTAL INSPECTION FORM

BENCHMARK
ENVIRONMENTAL
ENGINEERING &
SCIENCE, PLLC

Environmental Inspection Form
Operation, Monitoring, & Maintenance Plan

Property Name:	Project No.:	
Client:		
Property Address:	City, State:	Zip Code:
Property ID: (Tax Assessment Map) Section:	Block:	Lot(s):
Preparer's Name:	Date/Time:	

CERTIFICATION

The results of this inspection were discussed with the owner and/or owner's representative. Any corrective actions required have been identified and noted in this report, and a supplemental Corrective Action Form has been completed. Proper implementation of these corrective actions have been discussed with the owner, agreed upon, and scheduled.

Preparer / Inspector: **Date:**

Signature: ______________________

Next Scheduled Inspection Date: ☐

Final Surface Cover / Vegetation

In accordance with the Soil/Fill Management Plan, the integrity of the vegetative soil cover or other surface coverage (e.g., asphalt, concrete) over the entire Site must be maintained. The following documents the condition of the above.

1. Final Cover is in Place and in good condition? ☐ yes ☐ no ☐ N/A

   Cover consists of (mainly): ______________________

2. Evidence of erosion? ☐ yes ☐ no ☐ N/A
3. Cracks visible in pavement? ☐ yes ☐ no ☐ N/A
4. Evidence of distressed vegetation/turf? ☐ yes ☐ no ☐ N/A
5. Evidence of unintended traffic and/or rutting? ☐ yes ☐ no ☐ N/A
6. Evidence of uneven settlement and/or ponding? ☐ yes ☐ no ☐ N/A
7. Damage to any surface coverage? ☐ yes ☐ no ☐ N/A

If yes to any question above, please provide more information below.

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

Environmental Inspection Form
Operation, Monitoring, & Maintenance Plan

Property Use Changes / Site Development

Has the property usage changed, or site been redeveloped since the last inspection?

☐ yes ☐ no ☐ N/A

If so, please list with date: ______________________

Active Sub-Slab Depressurization (ASD) System

Is there an ASD present on-site?

yes no N/A

If yes, is it currently operating?

yes no N/A

Is the ASD annual inspection checklist completed and enclosed?

yes no N/A

Long-Term Ground Water Monitoring

☐ ☐ ☐

Is there a plan in place and currently being followed?

☐ yes ☐ no ☐ N/A

Are the wells currently intact and operational?

☐ yes ☐ no ☐ N/A

When was the most recent sampling event report and submittal? Date: ____________

When is the next projected sampling event? Date: ____________

New Information

Has any new information been brought to the owner/engineer's attention regarding any and/or all engineering and institutional controls and their operation and effectiveness?

☐ yes ☐ no ☐ N/A

Comments: ______________________

Environmental Inspection Form
Operation, Monitoring, & Maintenance Plan

This space for Notes and Comments

Please include the following Attachments:

1. Site Sketch
2. Photographs

ATTACHMENT A4

CORRECTIVE ACTION CERTIFICATION

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

Corrective Action Certification
Operation, Monitoring, & Maintenance Plan

Property Name:	Project No.:	
Client:		
Property Address:	City, State:	Zip Code:
Property ID: (Tax Assessment Map) Section:	Block:	Lot(s):
Preparer's Name:	Date/Time:	

Issue Addressed

The Environmental Inspection of the above property determined the need for corrective action. This form has been completed to document the required corrective action and it's implementation.

Description of Site Issue identified during Environmental Inspection (include sketch & photographs):

Corrective Action Taken

Date Completed:

Describe Action Taken (include sketch & photographs):

Certification of Implementation

The signatory hereby certifies that the corrective action as described in this form has been completed in accordance with all relevant requirements of the Soil/Fill Management Plan and other applicable documents.

Preparer / Inspector: **Date:**

Signature: ____________________

Please verify inclusion of the following Attachments:

1. Site Sketch
2. Photographs

ATTACHMENT A5

NYSDEC INSTITUTIONAL AND ENGINEERING CONTROLS CERTIFICATION FORM

Enclosure 1
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Site Management Periodic Review Report Notice
Institutional and Engineering Controls Certification Form

Site Details **Box 1**

Site No. C932126

Site Name 7503 Niagara Falls Boulevard Site

Site Address: 7503 Niagara Falls Boulevard Zip Code: 14302

City/Town: Niagara Falls

County: Niagara

Current Use: Vacant

Intended Use: Commercial – fast food restaurant with parking

Box 2

Verification of Site Details

		YES	NO
1.	Are the Site Details above, correct?	☐	☐
	If NO, are changes handwritten above or included on a separate sheet?	☐	☐
2.	Has some or all of the site property been sold, subdivided, merged, or undergone a tax map amendment since the initial/last certification?	☐	☐
	If YES, is documentation or evidence that documentation has been previously submitted included with this certification?	☐	☐
3.	Have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property since the initial/last certification?	☐	☐
	If YES, is documentation or evidence that documentation has been previously submitted included with this certification?	☐	☐
4.	Has a change-of-use occurred since the initial/last certification?	☐	☐
	If YES, is documentation or evidence that documentation has been previously submitted included with this certification?	☐	☐
5.	For non-significant-threat Brownfield Cleanup Program Sites subject to ECL 27-1415.7(c), has any new information revealed that assumptions made in the Qualitative Exposure Assessment for offsite contamination are no longer valid?	☐	☐
	If YES, is the new information or evidence that new information has been previously submitted included with this Certification?	☐	☐
6.	For non-significant-threat Brownfield Cleanup Program Sites subject to ECL 27-1415.7(c), are the assumptions in the Qualitative Exposure Assessment still valid (must be certified every five years) ?	☐	☐

SITE NO. C932126 **Box 3**

Description of Institutional Control Certification

	YES	NO
1. Compliance with the Site Management Plan (SMP) for the implemented remedy:	☐	☐
2. The groundwater beneath the Site is not used as a potable water source or for any other use without prior written permission of the Department:	☐	☐
3. Groundwater monitoring as specified in the SMP:	☐	☐
4. Operation and maintenance of the ASD system as specified in the SMP:	☐	☐

Description of Engineering Control Certification **Box 4**

	YES	NO
1. Maintenance of the cover systems over the Site:	☐	☐

Control Certification Statement

For each Institutional or Engineering control listed above, I certify by checking "Yes" that all of the following statements are true:

(a) the Institutional Control and/or Engineering Control employed at this site is unchanged since the date that the Control was put in-place, or was last approved by the Department;

(b) nothing has occurred that would impair the ability of such Control, to protect public health and the environment;

(c) nothing has occurred that would constitute a violation or failure to comply with the Site Management Plan for this Control; and

(d) access to the site will continue to be provided to the Department, to evaluate the remedy, including access to evaluate the continued maintenance of this Control.

(e) if a financial assurance mechanism is required by the oversight document for the site, the mechanism remains valid and sufficient for its intended purpose established in the document.

IC/EC CERTIFICATIONS
SITE NO. C932126

Box 5

SITE OWNER OR DESIGNATED REPRESENTATIVE SIGNATURE

I certify that all information and statements in Boxes 2 & 3 are true. I understand that a false statement made herein is punishable as a Class “A” misdemeanor, pursuant to Section 210.45 of the Penal Law.

I ________________________________ at ____,
print name print business address

am certifying as ____(Owner or Remedial Party)

for the Site named in the Site Details Section of this form.

____ __________________
Signature of Owner or Remedial Party Rendering Certification Date

Box 6

QUALIFIED ENVIRONMENTAL PROFESSIONAL (QEP) SIGNATURE

I certify that all information and statements in Box 4 are true. I understand that a false statement made herein is punishable as a Class “A” misdemeanor, pursuant to Section 210.45 of the Penal Law.

I ________________________________ at ____,
print name print business address

am certifying as a Qualified Environmental Professional for the _______________________________

(Owner or Remedial Party) for the Site named in the Site Details Section of this form.

____ ________________ _________
Signature of Qualified Environmental Professional, for the Owner or Remedial Party, Rendering Certification Stamp (if Required) Date

Enclosure 2

Certification of Institutional Controls/ Engineering Controls (ICs/ECs)
Step-by-Step Instructions, Certification Requirements and Definitions

The Owner, or Remedial Party, and when necessary, a Professional Engineer (P.E.), or the Qualified Environmental Professional (QEP), must review and complete the IC/EC Certification Form, sign the IC/EC Certifications Signature Page, and return it, along with the Periodic Review Report (PRR), within 45 days of the date of this notice.

Please use the following instructions to complete the IC/EC Certification.

I. Verification of Site Details (Box 1 and Box 2):

Answer the six questions in the Verification of Site Details Section. Questions 5 and 6 refer to only sites in the Brownfield Cleanup Program. ECL Section 27-1415-7(c) is included in
IV. IC/EC Certification Requirements. The Owner and/or your P.E. or QEP may include handwritten changes and/or other supporting documentation, as necessary.

II. Verification of Institutional / Engineering Controls (Box 3 and Box 4)

Review the listed Institutional / Engineering Controls, confirming that all existing controls are listed, and that all existing controls are still applicable. If there is a control that is no longer applicable the Owner / Remedial Party is to petition the Department requesting approval to remove the control.

2. Select "YES" or "NO" for **Control Certification** for each IC/EC, based on Sections (a)-(e) of the **Control Certification Statement**.

   If the Department concurs with the explanation, the corrective measures, and the proposed schedule, a letter authorizing the implementation of those corrective measures will be issued by the Project Manager. If the Department has any questions or concerns regarding the completion of the certification, the Project Manager will contact you.

3. If you cannot certify "Yes" for each Control, please continue to complete the remainder of this **Control Certification** form. Attach supporting documentation that explains why the **Control Certification** cannot be rendered, as well as a statement of proposed corrective measures, and an associated schedule for completing the corrective measures. Note that this **Control Certification** form must be submitted even if an IC or EC cannot be certified; however, the certification process will not be considered complete until corrective action is conducted.

   If the Department concurs with the explanation, the corrective measures, and the proposed schedule, a letter authorizing the implementation of those corrective measures will be issued by the Project Manager. Once the corrective measures are complete a new Periodic Review Report (with IC/EC Certification) is to be submitted within 45 days to the Department. If the Department has any questions or concerns regarding the PRR and/or completion of the IC/EC Certification, the Project Manager will contact you.

III. IC/EC Certification by Signature (Box 5 and Box 6):

1. If you certified "Yes" for each Control, please complete and sign the IC/EC Certifications page. To determine WHO signs the **IC/EC Certification,** please use Table 1. Signature Requirements for the IC/EC Certification, which follows.

Table 1. Signature Requirements for Control Certification Page

Type of Control	Example of IC/EC	Required Signatures
IC only	Environmental Easement Deed Restriction.	A site or property owner or remedial party.
IC with an EC which does not include a treatment system or engineered caps.	Fence, Clean Soil Cover, Individual House Water Treatment System, Vapor Mitigation System	A site or property owner or remedial party, and a QEP. (P.E. license not required)
IC with an EC that includes treatment system or an engineered cap.	Pump & Treat System providing hydraulic control of a plume, Part 360 Cap.	A site or property owner or remedial party, and a QEP with a P.E. license.

IV. IC/EC Certification Requirements:

Division of Environmental Remediation Program Policy requires periodic certification of IC(s) and EC(s) as follows:

<u>For Environmental Restoration Projects</u>: N.Y. Envtl Conserv.Law Section 56-0503 (Environmental restoration projects; state assistance)

<u>For State Superfund Projects</u>: Envtl Conserv.Law Section 27-1318. (Institutional and engineering controls)

<u>For Brownfields Cleanup Program Projects</u>: Envtl Conserv.Law Section 27-1415. (Remedial program requirements)

Envtl Conserv.Law Section 27-1415-7(c) states:

(c) At non-significant threat sites where contaminants in groundwater at the site boundary contravene drinking water standards, such certification shall also certify that no new information has come to the owner’s attention, including groundwater monitoring data from wells located at the site boundary, if any, to indicate that the assumptions made in the qualitative exposure assessment of offsite contamination are no longer valid. Every five years the owner at such sites shall certify that the assumptions made in the qualitative exposure assessment remain valid. The requirement to provide such certifications may be terminated by a written determination by the Commissioner in consultation with the Commissioner of Health, after notice to the parties on the brownfield site contact list and a public comment period of thirty days.

<u>Voluntary Cleanup Program</u>: Applicable program guidance.

<u>Petroleum Remediation Program</u>: Applicable program guidance.

<u>Federal Brownfields</u>: Applicable program guidance.

Manufactured Gas Plant Projects: Applicable program guidance (including non-registry listed MGPs).

WHERE to mail the signed Certification Form by Thursday, May 24, 2007 (45 days of the date of the notice):

New York State Department of Environmental Conservation
Division of Environmental Remediation

Attn: Jeffery A. Konsella, P.E., Project Manager
270 Michigan Avenue
Buffalo, NY 14203

Please note that extra postage may be required.

V. Definitions

“Engineering Control” (EC), means any physical barrier or method employed to actively or passively contain, stabilize, or monitor contamination, restrict the movement of contamination to ensure the long-term effectiveness of a remedial program, or eliminate potential exposure pathways to contamination. Engineering controls include, but are not limited to, pavement, caps, covers, subsurface barriers, vapor barriers, slurry walls, building ventilation systems, fences, access controls, provision of alternative water supplies via connection to an existing public water supply, adding treatment technologies to such water supplies, and installing filtration devices on private water supplies.

“Institutional Control” (IC), means any non-physical means of enforcing a restriction on the use of real property that limits human and environmental exposure, restricts the use of groundwater, provides notice to potential owners, operators, or members of the public, or prevents actions that would interfere with the effectiveness of a remedial program or with the effectiveness and/or integrity of operation, maintenance, or monitoring activities at or pertaining to a remedial site.

“Professional Engineer” (P.E.) means an individual or firm licensed or otherwise authorized under article 145 of the Education Law of the State of New York to practice engineering.

“Property Owner” means, for purposes of an IC/EC certification, the actual owner of a property. If the site has multiple properties with different owners, the Department requires that the owners be represented by a single representative to sign the certification.

“Oversight Document” means any document the Department issues pursuant to each Remedial Program (see below) to define the role of a person participating in the investigation and/or remediation of a site or area(s) of concern. Examples for the various programs are as follows:

> **BCP** (after approval of the BCP application by DEC) - Brownfield Site Cleanup Agreement.
> **ERP** (after approval of the ERP application by DEC) - State Assistance Contract.
> **Federal Superfund Sites** - Federal Consent Decrees, Administrative Orders on Consent or Unilateral Orders issued pursuant to CERCLA.
> **Oil Spill Program** - Order on Consent, or Stipulation pursuant to Article 12 of the Navigation Law (and the New York Environmental Conservation Law).
> **State Superfund Program** - Administrative Consent Order, Record of Decision.
> **VCP** (after approval of the VCP application by DEC) - Voluntary Cleanup Agreement.
> **RCRA Corrective Action Sites**- Federal Consent Decrees, Administrative Orders on Consent or permit conditions issued pursuant to RCRA.

“Qualified Environmental Professional” (QEP), means a person who possesses sufficient specific education, training, and experience necessary to exercise professional judgment to develop opinions and conclusions regarding the presence of releases or threatened releases to the surface or subsurface of a property or off-site areas, sufficient to meet the objectives and performance factors for the areas of practice identified by this Part. Such a person must:

(1) hold a current professional engineer’s or a professional geologist’s license or registration issued by the State or another state, and have the equivalent of three years of full-time relevant experience in site investigation and remediation of the type detailed in this Part; or

(2) be a site remediation professional licensed or certified by the federal government, a state or a recognized accrediting agency, to perform investigation or remediation tasks consistent with Department guidance, and have the equivalent of three years of full-time relevant experience.

“Qualitative Exposure Assessment” means a qualitative assessment to determine the route, intensity, frequency, and duration of actual or potential exposures of humans and/or fish and wildlife to contaminants.

“Remedial Party” means a person implementing a remedial program at a remedial site pursuant to an order, agreement or State assistance contract with the Department.

“Site Management” (SM) means the activities undertaken as the last phase of the remedial program at a site, which continue after a Certificate of Completion is issued. Site management is conducted in accordance with a site management plan, which identifies and implements the institutional and engineering controls required for a site, as well as any necessary monitoring and/or operation and maintenance of the remedy.

“Site Management Plan” (SMP) means a document which details the steps necessary to assure that the institutional and engineering controls required for a site are in-place, and any physical components of the remedy are operated, maintained and monitored to assure their continued effectiveness, developed pursuant to Section 6 (DER10 Technical Guide).

“Site Owner” means the actual owner of a site. If the site has multiple owners of multiple properties with ICs and/or ECs, the Department requires that the owners designate a single representative for IC/EC Certification activities.

PART II

SOIL / FILL MANAGEMENT PLAN

SITE MANAGEMENT PLAN
PART II

SOIL/FILL MANAGEMENT PLAN FOR BROWNFIELD CLEANUP PROGRAM

7503 NIAGARA FALLS BOULEVARD SITE
NIAGARA FALLS, NEW YORK

November 2007 0101-002-500

Prepared for:

GLR Holdings, LLC

Prepared by:

Benchmark Environmental Engineering & Science, PLLC

SOIL/FILL MANAGEMENT PLAN

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SOIL/FILL MANAGEMENT PLAN

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1.0 INTRODUCTION

1.1 Background and History

The 7503 Niagara Falls Boulevard Site encompasses approximately 0.89 acres of vacant land along Niagara Falls Boulevard in the City of Niagara Falls, New York (see Figure 1). As shown on Figure 2, the property is generally bounded by Niagara Falls Boulevard to the north, a vacant lot and apartment buildings to the east (i.e., 7543-7555 Niagara Falls Blvd owned by GLR), private residences to the south, and commercial (fast-food restaurant) property to the west (i.e., 7403 Niagara Falls Blvd.).

GLR is redeveloping the 7503 Niagara Falls Boulevard Site and the east adjacent parcel addressed at 7543-7555 Niagara Falls Boulevard as a fast food restaurant. The 7503 Niagara Falls Boulevard Site is subject to the BCP, while 7543-7555 Niagara Falls Blvd is not. For purposes of this Soil/Fill Management Plan (SFMP), reference to the Site from this point forward refers only to the 7503 Niagara Falls Boulevard parcel.

Beginning in the late 1960s and continuing through the mid-1990s, the Site was occupied by several commercial establishments. These included various restaurants, auto parts sales and auto repair facilities. The property has been vacant since approximately 1998.

1.2 Environmental Investigations and Remedial Efforts

The nature and distribution of chemical constituents in soil/fill and groundwater at the Site and adjacent site were described during the following six historic investigations (Refs. 1-6):

- July 2004 Phase I Environmental Site Assessment (ESA) conducted by GZA GeoEnvironmental (GZA).
- September 2004 Subsurface Phase II Environmental Assessment conducted by Nature's Way Environmental Consultants and Contractors (NWEC&C).
- May 2005 Focused Phase II Type Environmental Investigation conducted by NWEC&C.
- August 2005 Downgradient Groundwater Characterization study conducted by Benchmark.

- October 2005 Supplemental Site Characterization Adjacent to Site study conducted by Benchmark.
- October 2006 BCP Remedial Investigation (RI) conducted by Benchmark.

Based on the results of the 2006 RI data and previous investigations, it was determined that groundwater and saturated soils were impacted by chlorinated VOCs (cVOCs) in to two discrete areas (see Figure 3). Although the previous investigations completed by others reported soil/fill exceedances of cVOCs on-site, historic soil samples were collected within the saturated zone. Since these samples did represent unsaturated soil/fill impacts, the impacted soil/fill was addressed via a groundwater remediation approach. As such, an Interim Remedial Measure (IRM) was completed in November 2006 and consisted of injecting Hydrogen Release Compounds (HRC) into the groundwater at those two discrete areas, as described in the New York State Department of Environmental Conservation (NYSDEC) and New York State Department of Health (NYSDOH) approved IRM Work Plan, dated October 2006 (Ref. 7). Subsequent to HRC injection, groundwater monitoring was completed at sampling locations MW-14 and MW-19 to monitor the concentrations of cVOCs. Concentrations of cVOCs significantly decreased at both monitoring locations subsequent to HRC injection, as compared to baseline cVOCs concentrations and three subsequent groundwater monitoring events. cVOCs were also detected in soil gas samples collected on-site. As such, an active sub-slab depressurization (ASD) system will be installed in the planned building.

1.3 Purpose and Scope

The purpose of this SFMP is to protect both the environment and human health during redevelopment of the Site and subsequent to completion of Brownfield Cleanup activities.

While assessments of surface and subsurface soil/fill and groundwater at the Site have already been performed, subsurface information is never 100 percent complete or accurate, especially on a site with a long and diverse history. As such, it is not unreasonable to anticipate the possibility that some quantity of impacted subsurface soil/fill may be encountered following completion of the IRM activities. In particular, soil/fill impacts may be encountered during development activities such as infrastructure construction (i.e., roads, waterline, sewers, electric cable, etc.) or foundation excavation and site grading.

Compliance with this SFMP is required to properly manage any impacted subsurface soil/fill encountered during redevelopment activities at the Site. This SFMP was developed with the express purpose of addressing unknown subsurface impacts if and when encountered. The SFMP also facilitates the transfer of responsibilities with property ownership.

This SFMP provides protocols for the proper handling of Site soil/fill during development activities, including:

- Excavation, grading, sampling and handling of Site soils.
- Acceptability of soil/fill from off-site sources for backfill or subgrade fill.
- Erosion and dust control measures.
- Fencing and other access controls.
- Health and safety procedures for subsurface construction work and the protection of the surrounding community.
- Acceptability and placement of final cover.
- Deed restrictions.
- BCP responsibilities.
- Notification and reporting requirements.

1.4 Soil/Fill Management Program Responsibility

As the developer and property owner, GLR Holdings, LLC will be responsible for all monitoring, implementing, and reporting requirements of this Plan. GLR Holdings (or subsequent owners) will not perform, nor contract/permit their employees, agents, or assigns to perform any excavations or disturbance of Site soils, except as delineated in this Plan. The property owner(s) or their agents will be responsible for proper notification and reporting to regulatory agencies (i.e., NYSDEC Region 9, Division of Environmental Remediation and NYS Department of Health) before and after Site redevelopment as described in Section 2.9 of this Plan. As an environmental easement will be in place at the Site, the NYSDEC may provide periodic monitoring of construction activities during Site redevelopment to verify adherence to the requirements of this SFMP.

2.0 SOIL/FILL MANAGEMENT

2.1 Excavation and Handling of On-Site Soil/Fill

Saturated soil/fill at the Site was characterized as impacted with cVOCs. The known and suspected cVOC saturated soil/fill hot spots were addressed with HRC injection as discussed in Section 1.2. If suspect impacted materials are encountered during Site redevelopment by GLR Holdings or during future excavation work on the Site (excluding minor landscaping maintenance), Benchmark Environmental Engineering & Science, PLLC personnel or an environmental professional with experience in environmental site remediation and the NYSDEC will inspect soil/fill excavations or disturbances on behalf of the property owner.

If the suspect soil/fill is visibly stained, discolored, or produces elevated PID readings (i.e., sustained readings of 5 ppm above background or greater), NYSDEC will be contacted and the excavation will be advanced to remove the impacted soils, to the extent feasible. The soil/fill as well as the excavation sidewalls and floor will be inspected for staining or discoloration, and will be field screened for the presence of VOCs with a photoionization detector (PID). A MiniRae 2000 PID equipped with a 10.6 eV lamp, or other appropriate instrument(s), will be calibrated as per the manufacturer's requirements. Benchmark's field operating procedure (FOP) for PID screening is included in Appendix A.

Impacted material, if encountered, will be placed on plastic sheeting in an area away from the primary work activities, and covered to prevent the infiltration of precipitation and wind erosion. The impacted material will be sampled to determine whether it is subject to special disposal/reuse requirements[1]. The on-site storage of stockpiled material will be limited to 90 days due to potential hazardous waste storage requirement concerns.

Sampling and analyses to verify excavation limits and analysis for disposal purposes will be in accordance with the protocols delineated in Section 2.3 of this Plan.

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[1] The presence of subsurface construction and demolition debris, such as brick, concrete, wood, miscellaneous metal products, etc. does not necessitate stockpiling in accordance with this SFMP.

2.2 Subgrade Backfill Material

2.2.1 Use Criteria

Subgrade material used to backfill excavations or to increase Site grades or elevations may be comprised of excavated on-site soil/fill or off-site soil/fill. The criteria under which these materials may be used as subgrade backfill are presented below.

- **Excavated, On-Site Soil/Fill:** Soil/fill that is excavated from the Site, including soils excavated for the purpose of accessing impacted soils (e.g., shallow soils overlying deeper impacted soils) may be used on-site as subgrade backfill provided the analytical results meet the NYSDEC Part 375 restricted-commercial Soil Cleanup Objectives (SCOs). On-site soils that exhibit visible or olfactory evidence of contamination, or elevated PID readings (i.e., >5 ppm) shall be staged on plastic sheeting or in roll-off containers covered with plastic sheeting while awaiting analytical results. Soil that does not exhibit evidence of staining, discoloration or elevated PID readings will not require special handling.

- **Off-Site Soil/Fill:** Off-site soil/fill material will be documented as having originated from locations having no evidence of disposal or releases of hazardous, toxic, or radioactive substances, or petroleum products. The soil/fill material must be tested and meet the criteria identified on Table 1. In addition, no off-site materials meeting the definition of a solid waste as defined in 6 NYCRR, Part 360-1.2 (a) shall be used as backfill.

2.2.2 Borrow Source Sampling Requirements

If an off-site soil/fill borrow source is of unknown origin or originates from a commercial, industrial or urban site, then it must be tested to meet the criteria identified on Table 1. A tiered approach based on the volume of borrow source material imported will be used to determine the frequency of characterization sampling. A minimum of one sample will be collected for each 250 cubic yards (CY) up to 1,000 CY of material excavated. If more than 1,000 CY of borrow source material from the same general vicinity is utilized and all samples of the first 1,000 CY meet the criteria listed in Table 1, the sample collection frequency may be reduced to one sample for each additional 1,000 CY of borrow source material from the same general vicinity, up to 5,000 CY. For borrow sources greater than

5,000 CY, sampling frequency may be reduced to one sample per 5,000 CY, provided all earlier samples met Table 1 criteria.

Grab samples will be collected for VOC analysis. For all other analyses, a minimum of four grab samples will be collected per composite sample. Approximately equal aliquots of the grab samples will be composited in the field using a stainless steel trowel and bowl. The trowel and bowl shall be decontaminated with a non-phosphate detergent (i.e., Alconox®) and potable water wash solution followed by a distilled water rinse between sampling locations. The soil/fill samples will be analyzed in accordance with USEPA SW-846 Methodology by a NYSDOH ELAP-certified laboratory.

2.3 Soil/Fill Sampling and Analysis Protocol

Excavated soil/fill that is designated for off-site disposal (i.e., soil/fill that exhibits evidence of staining, discoloration or elevated PID readings as described in Section 2.1 of this plan) shall be sampled in accordance with the requirements of the off-site disposal facility and the appropriate regulatory authorities. In addition, the resulting excavation following removal of impacted soil/fill will require verification sampling and analysis to determine the limits of impact. Both characterization and verification sampling and analysis are discussed in the following sections.

2.3.1 Impacted Soil/Fill Characterization

The following procedure represents a suggested method for determining off-site disposal requirements for impacted soil/fill designated for off-site disposal. The sampling procedures, frequency, and parameter list must be coordinated with the off-site disposal facility before undertaking characterization work.

Excavated soil/fill should be separately stockpiled in 250 CY or smaller piles. A single grab sample will be collected from each stockpile, with the grab biased toward the zone displaying the most elevated field PID reading. If the stockpiles are from a single source area, sampling may be reduced to one sample per 1,000 CY following receipt of data from four 250 CY stockpiles.

The grab samples will be analyzed by a NYSDOH ELAP-certified laboratory for Target Compound List (TCL) VOCs. If the results are below the concentrations in Table 1, the soil can be re-used on-site. If the analysis of the soil/fill samples reveals concentrations of VOCs greater than the concentrations in Table 1, then a duplicate sample will be analyzed by the Toxicity Characteristic Leaching Procedure (TCLP) method determine the appropriate off-site disposal method. If TCLP hazardous waste characteristic values are exceeded, the soil/fill will be disposed in a permitted hazardous waste disposal facility. If TCLP analytical results are below hazardous waste characteristic values, the soil/fill will be disposed off-site in a permitted sanitary landfill.

2.3.2 Verification Sampling

Verification sampling will be performed on the excavation sidewalls and bottom of the excavation after lateral and vertical excavation limits have been achieved and visibly impacted soil/fill has been removed. Lateral and vertical excavation will continue until NYSDEC Part 375 restricted-commercial SCOs are met, or NYSDEC agrees that no further excavation is required. All field decisions concerning the limits of excavation shall be approved by the NYSDEC site representative. In general, one sidewall sample will be collected on each of the four sides of the excavation and one sample will be collected from the bottom of the excavation. The samples will be collected by retrieving a discrete sample from across the excavation face. The backhoe bucket will be used to assist in sample collection and avoid the need for confined space entry. For excavations having lengths greater than 100 feet, an additional discrete sample will be collected for each additional 100 feet of excavation length. Verification samples will be analyzed for TCL VOCs in accordance with NYSDEC SW-846 Methodology with a 48-hour turnaround time. The laboratory will be required to furnish an equivalent ASP Category B deliverables package to facilitate data evaluation by a third-party validation expert.

2.4 Groundwater Management

Water removed from excavations during redevelopment will be pumped into a holding tank and tested to determine whether treatment is necessary prior to discharge. In general, water removed from excavations will be stored/settled in a portable steel tank (Baker Open/Closed Top Tank or equivalent) and analyzed for TCL VOCs. If elevated concentrations of VOCs are present, the water will be pumped through a bag or cartridge filter prior to treatment using granular activated carbon (GAC). If treatment is required, two GAC vessels will be plumbed in series to allow for organic breakthrough monitoring between the lead and lag vessels. Upon completion of excavation work, settled solids remaining in the tank and spent filter bags will be containerized for off-site disposal. Spent GAC will be characterized (TCLP VOC testing) and regenerated off-site, or disposed at a permitted TSDF in accordance with applicable federal and state regulations. The tank will be decontaminated via pressure washing. The property owner or general contractor will coordinate with the City of Niagara Falls to obtain any necessary temporary discharge permits.

2.5 Erosion Controls

An important element of soil/fill management on this Site is the mitigation and control of surface erosion from stormwater runoff. For this reason a Master Erosion Control Plan to be used by all owners/developers has been developed and incorporated as Appendix B of this Plan.

2.6 Dust Controls

Particulate monitoring will be performed continuously at downwind locations of the Site if excavation and handling of impacted soil/fill is necessary. If required, such monitoring activities will be conducted in accordance with the generic Community Air Monitoring Plan, presented as Appendix C. Dust suppression techniques will be employed as necessary to mitigate fugitive dust from unvegetated or disturbed soil/fill during post-remediation construction and redevelopment. Techniques to be used include one or more of the following:

- Applying water on haul roads.
- Wetting equipment and excavation faces.
- Spraying water on buckets during excavation and dumping.
- Hauling materials in properly tarped containers or vehicles.
- Restricting vehicle speeds on-site.
- Covering excavated areas and materials after excavation activity ceases.
- Reducing the excavation size and/or number of excavations.

All reasonable attempts will be made to keep visible and/or fugitive dust to a minimum.

2.7 Fencing, Access Control, and Signage

Temporary fencing shall be erected and maintained as necessary by the property owner as remediation/redevelopment proceeds to control access to open excavations and construction areas. Temporary fencing will be relocated by the property owner(s) as necessary as development proceeds. Construction fencing and warning symbols (i.e., construction cones and flags) and signage will be erected around the site to alert the general public to the on-going remediation activities.

2.8 Property Use Limitations

Requirements for surface coverage over the Site (building, asphalt or criteria of Table 1) and limitations placed on the type of buildings to be constructed will be enforced through the issuance of building permits by the City of Niagara Falls. The City has zoned the Site for commercial, office, and light industrial use. Commercial use includes retail and wholesale establishments (e.g., shoe stores, gasoline service stations, food stores, etc.) while light industrial use includes manufacturing, warehousing, storing, etc. The zoning specifically prohibits residential use. An environmental easement restricting the use of and contact with Site groundwater and soil will be recorded with the county. The environmental easement will be binding for the current property owner and all subsequent property owners and occupants.

2.9 Notification and Reporting Requirements

The NYSDEC and NYSDOH will be notified that subgrade activities are being initiated a minimum of 5 working days in advance of construction. A NY State Licensed P.E. or his designated representative shall inspect all subsurface excavation work for conformance with this SFMP.

The site Owner shall complete and submit to the NYSDEC an annual report by January 15 of each year. Such annual report shall contain certification that: the institutional and/or engineering controls put in place are still in place, have not been altered and are still effective; the remedy and protective cover have been maintained; and the conditions at the site are fully protective of public health and the environment. If sub-grade excavation activities are completed during the year covered by the Annual Report, the owner shall include a certification that all work was performed in conformance with the SFMP.

3.0 HEALTH AND SAFETY PROCEDURES

During redevelopment activities, the developer shall be responsible for implementing suitable procedures to prevent both site construction workers and the community from adverse exposure to residual parameters of concern and other potential hazards posed by the redevelopment work. This will be accomplished through adherence to a written, parcel-specific worker Health and Safety Plan (HASP), prepared in accordance with the regulations contained in OSHA 29CFR 1910.120 and the NYSDOH Generic CAMP (see Appendix C).

Although Brownfield Cleanup remedial measures are anticipated to reduce the potential for encountering parameters of concern above SCOs, the redevelopment activities governed by this SFMP are a required element of the BCA for the Site. Thus, 29 CFR 1910.120(a)(1)(iii) indicates that these activities are subject to OSHA's hazardous waste operations and emergency response (Hazwopper) standard. This includes the requirement for preparation and implementation of a site-specific worker Health and Safety Plan addressing the following items:

- A safety and health or hazard analysis for each site task and operation.
- Employee training requirements.
- Personal protective equipment (PPE) to be used by employees for the site tasks.
- Medical surveillance requirements.
- Frequency and type of air monitoring, personnel monitoring, and environmental sampling techniques and instrumentation to be used, including methods of maintenance and calibration of equipment.
- Site control measures.
- Decontamination procedures.
- An emergency response plan.
- Confined space entry procedures.
- A spill containment program.

As an integral component of the worker HASP, the developer or site owner will be responsible for implementing a CAMP designed to prevent the surrounding community from adverse exposures due to potential release/migration of airborne particulates or vapors. The community as referenced herein includes potential receptors located off-site (e.g., neighboring residents or businesses) as well as on-site receptors not directly involved in redevelopment activities (e.g., contractors occupying the site prior to final redevelopment). The CAMP will be implemented during redevelopment work involving disturbance or handling of impacted soil/fill (see Appendix C).

4.0 REFERENCES

1. *Phase I Environmental Site Assessment (ESA),* prepared by GZA GeoEnvironmental (GZA) July, 2004.

2. *Subsurface Phase II Environmental Assessment at Vacant Property located at 7503 Niagara Falls Boulevard, Niagara Falls, New York*, prepared by Nature's Way Environmental Consultants & Contractors, Inc., September 20, 2004.

3. *Focused Phase II Type Environmental Investigation of Vacant Property located at 7503-75555 Niagara Falls Boulevard, Niagara Falls, New York*, prepared by Nature's Way Environmental Consultants & Contractors, Inc., May 18, 2005.

4. *Downgradient Groundwater Characterization Letter Report at 7503 Niagara Falls Boulevard, Niagara Falls, New York*, prepared by Benchmark Environmental Engineering & Science, PLLC, August 11, 2005.

5. *Supplemental Site Characterization Adjacent to Site Study, Niagara Falls, New York,* prepared by Benchmark Environmental Engineering & Science, PLLC, October, 2005.

6. *Remedial Investigation (RI) Report, 7503 Niagara Falls Boulevard Site*, *Niagara Falls, New York*, prepared by Benchmark Environmental Engineering & Science, PLLC, October, 2006.

7. *Interim Remedial Measures (IRM) Work Plan for Brownfield Cleanup Program, 7503 Niagara Falls Boulevard Site*, *Niagara Falls, New York*, prepared by Benchmark Environmental Engineering & Science, PLLC, October, 2006.

TABLES

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

TABLE 1

CRITERIA FOR USE OF OFF-SITE SOIL

Soil/Fill Management Plan
7503 Niagara Falls Boulevard Site
Niagara Falls, New York

Parameter	TRACK 2 Restricted-Commercial or Industrial SCOs
Volatile Organic Compounds (mg/kg)	
1,1,1-Trichloroethane	0.68
1,1-Dichloroethane	0.27
1,1-Dichloroethene	0.33
1,2-Dichlorobenzene	1.1
1,2-Dichloroethane	0.02
1,2-Dichloroethene(cis)	0.25
1,2-Dichloroethene(trans)	0.19
1,3-Dichlorobenzene	2.4
1,4-Dichlorobenzene	1.8
1,4-Dioxane	0.1
Acetone	0.05
Benzene	0.06
Butylbenzene	12
Carbon tetrachloride	0.76
Chlorobenzene	1.1
Chloroform	0.37
Ethylbenzene	1
Hexachlorobenzene	3.2
Methyl ethyl ketone	0.12
Methyl tert-butyl ether	0.93
Methylene chloride	0.05
Propylbenzene-n	3.9
Sec-Butylbenzene	11
Tert-Butylbenzene	5.9
Tetrachloroethene	1.3
Toluene	0.7
Trichloroethene	0.47

TABLE 1

CRITERIA FOR USE OF OFF-SITE SOIL

Soil/Fill Management Plan
7503 Niagara Falls Boulevard Site
Niagara Falls, New York

Parameter	TRACK 2 Restricted-Commercial or Industrial SCOs
Volatile Organic Compounds (mg/kg)	
Trimethylbenzene-1,2,4	3.6
Trimethylbenzene-1,3,5	8.4
Vinyl chloride	0.02
Xylene (mixed)	1.6
Semi-Volatile Organic Compounds (mg/kg)	
Acenaphthene	98
Acenaphthylene	107
Anthracene	500
Benzo(a)anthracene	1
Benzo(a)pyrene	1
Benzo(b)fluoranthene	1.7
Benzo(g,h,i)perylene	500
Benzo(k)fluoranthene	1.7
Chrysene	1
Dibenz(a,h)anthracene	0.56
Fluoranthene	500
Fluorene	386
Indeno(1,2,3-cd)pyrene	5.6
m-Cresol(s)	0.33
Naphthalene	12
o-Cresol(s)	0.33
p-Cresol(s)	0.33
Pentachlorophenol	0.8
Phenanthrene	500
Phenol	0.33
Pyrene	500

TABLE 1

CRITERIA FOR USE OF OFF-SITE SOIL

Soil/Fill Management Plan
7503 Niagara Falls Boulevard Site
Niagara Falls, New York

Parameter	TRACK 2 Restricted-Commercial or Industrial SCOs
Metals (mg/kg)	
Arsenic	16
Barium	400
Beryllium	47
Cadmium	7.5
Chromium, Hexavalent[1]	19
Chromium, Trivalent[1]	1500
Copper	270
Cyanide	27
Lead	450
Manganese	2000
Mercury (total)	0.73
Nickel	130
Selenium	4
Silver	8.3
Zinc	2480
PCBs/Pesticides (mg/kg)	
2,4,5-TP Acid (Silvex)	3.8
4,4'-DDE	17
4,4'-DDT	47
4,4'-DDD	14
Aldrin	0.19
Alpha-BHC	0.02
Beta-BHC	0.09
Chlordane (alpha)	2.9
Delta-BHC	0.25
Dibenzofuran	210
Dieldrin	0.1
Endosulfan I	102

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

TABLE 1

CRITERIA FOR USE OF OFF-SITE SOIL

Soil/Fill Management Plan
7503 Niagara Falls Boulevard Site
Niagara Falls, New York

Parameter	TRACK 2 Restricted-Commercial or Industrial SCOs
PCBs/Pesticides (mg/kg)	
Endosulfan II	102
Endosulfan sulfate	200
Endrin	0.06
Heptachlor	0.38
Lindane	0.1
Polychlorinated biphenyls	1

Notes:

1. The SCO for Hexavalent or Trivalent Chromium is considered to be met if the analysis for the total species of this contaminant is below the specific SCO for Hexavalent Chromium.

FIGURES

FIGURE 1

BENCHMARK
ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

726 EXCHANGE STREET
SUITE 624
BUFFALO, NEW YORK 14210
(716) 856-0599

PROJECT NO.: 0101-002-500

DATE: OCTOBER 2007

DRAFTED BY: AJZ

SITE LOCATION AND VICINITY MAP

SOIL / FILL MANAGEMENT PLAN

7503 NIAGARA FALLS BOULEVARD SITE
NIAGARA FALLS, NEW YORK

PREPARED FOR
GLR HOLDINGS, LLC

FILEPATH:F:\CAD\Benchmark\GLR Holdings - Wendy's\Final Engineering Report\Soil-Fill Management Plan\figure 1; site location and vicinity map.dwg

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

726 EXCHANGE STREET
SUITE 624
BUFFALO, NEW YORK 14210
(716) 856-0599

PROJECT NO.: 0101-002-500

DATE: OCTOBER 2007

DRAFTED BY: AJZ

FILEPATH:

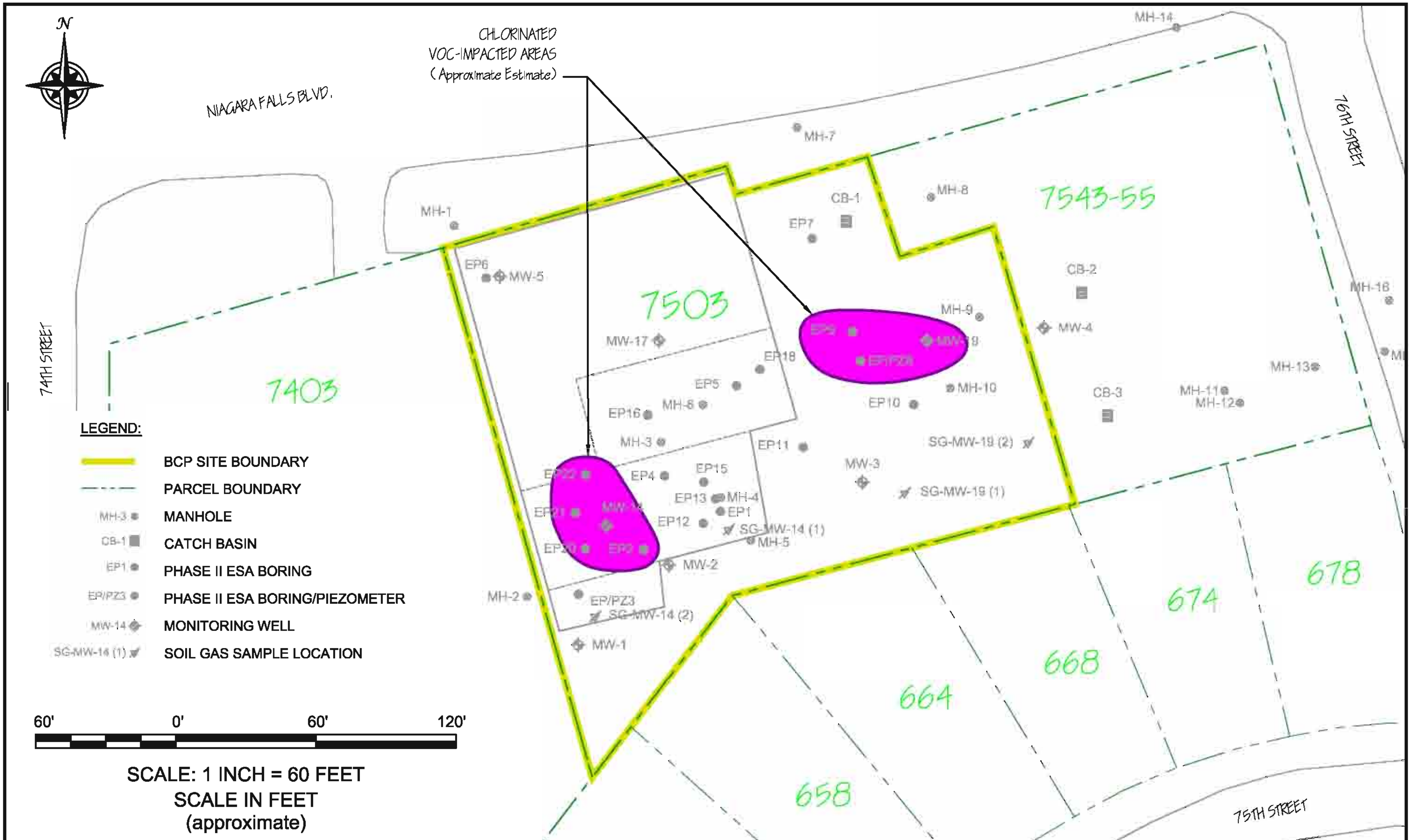
SITE MAP

SOIL / FILL MANAGEMENT PLAN

7503 - 7555 NIAGARA FALLS BOULEVARD SITE
NIAGARA FALLS, NEW YORK

PREPARED FOR
GLR HOLDINGS, LLC

FIGURE 2



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ENVIRONMENTAL
ENGINEERING &
SCIENCE, PLLC

726 EXCHANGE STREET
SUITE 624
BUFFALO, NEW YORK 14210
(716) 856-0599

PROJECT NO.: 0101-002-500

DATE: OCTOBER 2007

DRAFTED BY: AJZ

CHLORINATED VOC IMPACTED AREAS

SOIL / FILL MANAGEMENT PLAN

7503 NIAGARA FALLS BOULEVARD SITE
NIAGARA FALLS, NEW YORK

PREPARED FOR
GLR HOLDINGS, LLC

FIGURE 3

APPENDIX A

FIELD OPERATING PROCEDURES

Benchmark Environmental Engineering & Science, PLLC

Field Operating Procedures

Screening of Soil Samples for Organic Vapors During Impacted Soil Removal Activities

FOP 048.0

SCREENING OF SOIL SAMPLES FOR ORGANIC VAPORS DURING IMPACTED SOIL REMOVAL ACTIVITIES

PURPOSE

This procedure is used to screen soil samples for the presence of volatile organic constituents (VOCs) using a field organic vapor meter. The field meter should either be a photoionization detector (PID) or flame-ionization detector (FID) type. This type of screening is generally performed during underground storage tank (UST) and/or impacted soil removal activities as a procedure for ensuring the health and safety of the community and personnel at the site as well as to identify potential VOC-impacted soil samples for laboratory analysis (i.e., confirmatory or verification samples). Soil samples are also screened in the field to provide assessment criteria to determine horizontal and vertical extents of VOC-impacts in order to ensure soils that may have been impacted by volatile organic substances are removed.

PROCEDURE

1. Calibrate air-monitoring equipment in accordance with the appropriate Benchmark's Field Operating Procedures or manufacturers recommendations for calibration of field meters.

2. Perform community air monitoring in accordance with the Project Work Plan and/or Benchmark's FOP: Real-Time Air Monitoring During Intrusive Activities.

3. Upon proper removal of any identified UST in accordance with NYSDEC Division of Environmental Remediation, Spill Response Unit or Bulk Storage Unit guidelines and/or Benchmark's FOP: Underground Storage Tank Removal Procedures; examine the four sidewalls and bottom of the excavation for visually impacted (i.e., stained) soils.

4. If visually impacted soils are identified, direct the excavating equipment operator to scrape the impacted area (i.e., sidewall or bottom of the excavation) and present the scraped soil for evaluation. NOTE: Under no circumstances should anyone enter an excavation greater than 4 feet in depth, unless absolutely necessary. Excavation entry may only occur under strict confined space entry procedures following implementation of specific engineering controls (i.e., continuous air monitoring, excavation shoring, trench box installation, benching).

5. Visually inspect and perform an open air PID/FID scan of the scraped soil sample noting stratification, visible staining, or other evidence of impact (i.e., presence of non-aqueous phase liquid, NAPL).

6. Collect a representative sample (approximately 100 milligrams (mg)) of soil using a decontaminated or dedicated stainless steel sampling tool (i.e., spoon, spatula, scoop, or approved equivalent), for field headspace determination of VOC-impact. Place the representative soil sample into a labeled wide-mouth glass jar approximately ½ to ¾ full and seal with aluminum foil and a screw top cap. Alternatively, the soil sample may be placed into a clean, re-sealable plastic bag and sealed. Be sure to leave adequate headspace above the soil sample within either sealed container.

7. Place the field screening sample (i.e., jar or bag) in a location where the ambient temperature is at least 70^{o} Fahrenheit for at least 15 minutes, but no more than 60 minutes.

8. Carefully remove the screw top cap from the jar and slowly insert the tip of the organic vapor meter (PID or FID) through the aluminum foil seal making the smallest hole possible. Alternatively, unseal a portion of the plastic bag just big enough to insert the probe of a calibrated PID.

9. Record the depth, sample location (i.e., sidewall, bottom) and <u>maximum</u> reading in parts per million by volume (ppmv) in the Project Field Book and Impacted Soil Excavation Log (sample attached), at the depth interval corresponding to the depth of sample collection.

10. The representative soil samples collected from the excavation will be used to assess the vertical and horizontal limits of VOC-impact and guide the impacted soil removal activities in accordance with project requirements (i.e., PID scans less than 20 ppm will not require removal unless laboratory analytical results exceed regulatory limits).

11. Collect verification/confirmation samples in accordance with NYSDEC Division of Environmental Remediation, Spill Response Unit or Bulk Storage Unit guidelines and/or Benchmark's FOP: Surface and Subsurface Soil Sampling Procedures.

ATTACHMENTS

Impacted Soil Excavation Log (sample)

REFERENCES

Benchmark FOPs:
010 Calibration and Maintenance of Portable Flame Ionization Detector
011 Calibration and Maintenance of Portable Photoionization Detector
063 Surface and Subsurface Soil Sampling Procedures
073 Real-Time Air Monitoring During Intrusive Activities
074 Underground Storage Tank Removal Procedures

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

IMPACTED SOIL EXCAVATION LOG

Project:	EXCAVATION I.D.:
Project No.:	Excavation Date:
Client:	Excavation Method:
Location:	CQA Observer:

Excavation Location: *NOT TO SCALE* *(approximate)*

Excavation Cross Section:

Grade - 0'
2'
4'
6'
8'
10'
12'
14'
16'
18'
20'

TIME		
Start:	Length:	(approx.)
End:	Width:	(approx.)
	Depth:	(approx.)

Verification Sample I.D.	Depth (fbgs)	Location Within Excavation (sidewall/bottom)	PID Scan (ppm)	PID Headspace (ppm)	Photos Y / N	

COMMENTS:

UST ENCOUNTERED:	☐ yes	☐ no	If yes, Describe (type, material, size, capacity etc.):
GROUNDWATER ENCOUNTERED:	☐ yes	☐ no	If yes, depth to GW:
VISUAL IMPACTS:	☐ yes	☐ no	Describe:
OLFACTORY OBSERVATIONS:	☐ yes	☐ no	Describe:
NON-NATIVE FILL ENCOUNTERED:	☐ yes	☐ no	
OTHER OBSERVATIONS:	☐ yes	☐ no	Describe:
QUANTITY OF IMPACTED SOIL REMOVED:			
FINAL DESTINATION OF IMPACTED SOIL:			
TYPE OF BACKFILL:			
SURFACE COMPLETION:			

APPENDIX B

MASTER EROSION CONTROL PLAN (MECP)

SOIL/FILL MANAGEMENT PLAN
APPENDIX B

MASTER EROSION CONTROL PLAN (MECP)

7503 NIAGARA FALLS BOULEVARD SITE
NIAGARA FALLS, NEW YORK

SITE NO. C932126

November 2007 0101-002-500

Prepared for:

GLR Holdings, LLC

Prepared by:

BENCHMARK
ENVIRONMENTAL
ENGINEERING &
SCIENCE, PLLC

MASTER EROSION CONTROL PLAN

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1.0 INTRODUCTION

1.1 Background and History

The 7503 Niagara Falls Boulevard Site encompasses approximately 0.89 acres of vacant land along Niagara Falls Boulevard in the City of Niagara Falls, New York (see Figure 1 of the SFMP). As shown on Figure 2 of the SFMP, the property is generally bounded by Niagara Falls Boulevard to the north, a vacant lot to the east (i.e., 7543-7555 Niagara Falls Blvd owned by GLR), private residences to the south, and commercial (fast-food restaurant) property to the west (i.e., 7403 Niagara Falls Blvd.). A concrete slab remnant from a former building foundation is present across the majority of the western portion of the property. The remainder of the Site is generally covered by asphalt.

GLR is redeveloping the 7503 Niagara Falls Boulevard Site and the east adjacent parcel addressed at 7543-7555 Niagara Falls Boulevard as a fast food restaurant. The 7503 Niagara Falls Boulevard Site is subject to the BCP, while 7543-7555 Niagara Falls Blvd is not. For purposes of this Soil/Fill Management Plan (SFMP) reference to the Site from this point forward refers only to 7503 Niagara Falls Boulevard parcel.

Beginning in the late 1960s and continuing through the mid-1990s, the Site was occupied by several commercial establishments. These included various restaurants, auto parts sales and auto repair facilities. The property has been vacant since approximately 1998.

1.2 Purpose and Scope

The Soil/Fill Management Plan (SFMP) describes protocols for the proper handling of Site soil/fill during redevelopment activities. The property owner at the time of development will be responsible for all monitoring, implementing, and reporting requirements of the SFMP.

Since erosion control will be a critical component of preventing the potential migration of contaminants onto developed property or off-site during development of the Site, this Master Erosion Control Plan (MECP) was prepared to provide guidance to developers during build-out activities on the property. This MECP is a critical component of the SFMP. This document is generic in nature and provides minimum erosion control practices to be used by site owners and/or developers.

2.0 GENERAL PERMIT REQUIREMENTS

Redevelopment of the Site will be in accordance with the SFMP and Brownfield Cleanup Agreement (BCA). Since development activities at the Site will not disturb more than five acres of land, the Federal Water Pollution Control Act (as amended, 33 U.S.C. 1251 et. seq.) and the New York State Environmental Conservation Law (Article 17, Titles 7 and 8, and Article 70) do not apply.

3.0 POTENTIAL EROSION CONTROL CONCERNS

Potential areas and items of concern during Site redevelopment activities include the following:

- Remediated areas or off-site properties adjacent to unremediated parcels need protection so they do not become impacted by Site operations.
- Storm water inlets will require protective measures to limit sediment transfer to storm sewers.
- Runoff from soil stockpiles will require erosion controls.
- Surface slopes need to be minimized as much as practical to control sediment transfer.
- Soil/fill excavated during development will require proper handling and disposal.

4.0 EROSION CONTROL MEASURES

4.1 Background

Standard soil conservation practices need to be incorporated into the construction and development plans to mitigate soil erosion damage, off-site sediment migration, and water pollution from erosion. These practices combine vegetative and structural measures, many of which will be permanent in nature and become part of the completed project (i.e., drainage channels and grading). Other measures will be temporary and serve only during the construction stage. Selected erosion and sediment control measures will meet the following criteria:

- Minimize erosion through project design (max. slopes, phased construction, etc.).
- Incorporate temporary and permanent erosion control measures.
- Remove sediment from sediment-laden storm water before it leaves the Site.

4.2 Temporary Measures

Temporary erosion and sedimentation control measures and facilities will be used during construction. They will be installed by the site developer and will be maintained until they are either no longer needed or until such time as permanent measures are installed and become effective. Erosion and sediment controls shall be installed in accordance with the standards and specifications presented in Appendix B-1. At a minimum, the following temporary measures will be used:

- Silt fencing
- Straw/hay bales
- Temporary vegetation/mulching
- Temporary sedimentation basins
- Cautious placement, compaction and grading of stockpiles

4.2.1 Silt Fencing

Construction and regrading activities will result in surface water flow to drainage ditches and swales, storm sewers, and adjacent properties. Silt fencing will be the primary sediment control measure used in these areas. Prior to extensive soil excavation or grading activities, silt fences will be installed along the perimeter of all construction areas. The orientation of the fencing will be adjusted as necessary as the work proceeds to accommodate changing Site conditions.

Intermediate fencing will be used upgradient of the perimeter fencing to help lower surface water runoff velocities and reduce the volume of sediment to perimeter fencing. Stockpiles (if any) will also be surrounded with silt fencing.

As sediment collects, the silt fences will be cleaned as necessary to maintain their integrity. Removed sediment will be used elsewhere on-site as general fill. All perimeter silt fences will remain in place until construction activities in an area are completed and vegetative cover has been established.

4.2.2 Straw and/or Hay Bales

Straw and/or hay bales will be used to intercept sediment laden storm water runoff in drainage channels during construction. The use of either hay or straw will be based on the availability of materials at the time of construction.

Bales will be placed in swales and ditches where the anticipated flow velocity is not expected to be greater than 5 feet/second (fps). Intermediate bales will be placed upgradient of the final barrier to reduce flow velocities and sediment loadings where higher velocities are anticipated.

As with silt fencing, sediment will be removed as necessary from behind the bales and disposed of on-site. Bales that have become laden with sediment or that have lost their structural integrity or effectiveness due to the weather will be replaced.

4.2.3 Cautious Placement of Stockpiles

As development occurs, excavation activities may produce stockpiles of soil and subgrade soil/fill materials. Careful placement and construction of stockpiles will be required to control erosion. Stockpiles will be placed no closer than fifty feet from storm water inlets and parcel boundaries, if feasible. Additionally, stockpiles will be graded and compacted as necessary for positive surface water runoff and dust control. Impacted stockpiles will be underlain and covered with secured polyethylene tarpaulin until proper disposal has been secured.

4.3 Permanent Control Measures During Site Redevelopment

Permanent erosion and sedimentation control measures and structures will be installed as soon as practical during construction for long-term erosion protection. Since the detailed development approach for the site has not been determined, specific design features are yet to be selected. Examples of permanent erosion control measures could include:

- Using maximum slopes in erosion prone areas to limit erosion.
- Minimizing the potential contact with, and migration of, impacted subsurface soil/fill through the placement of a "clean" soil in all areas not covered with structures, roads, parking areas, sidewalks, etc.
- Planting and maintaining vegetation.
- Limiting runoff flow velocities to the extent practical.
- Lining collection channels with riprap, erosion control fabric, vegetation, or similar materials.

5.0 CONSTRUCTION MANAGEMENT PRACTICES

5.1 General

The following general construction practices should be evaluated for erosion and sedimentation control purposes during site development activities:

- Clearing and grading only as much area as is necessary to accommodate the construction needs to minimize disturbance of areas subject to erosion (i.e. phasing the work).

- Covering exposed or disturbed areas of the site as quickly as practical.

- Installing erosion and sediment control measures before disturbing the site subgrade.

- Minimizing on-site and off-site tracking of soil by vehicles using routine entry/ exit routes.

5.2 Monitoring, Inspection, and Maintenance Plan

All erosion and sedimentation controls described in this Plan will be inspected by a qualified representative of the site developer within 24 hours of a heavy rainfall event and repaired or modified as necessary to effectively control erosion of turbidity problems. Inspections should include areas under construction, stockpile areas, erosion control devices (i.e., silt fences, hay bales, etc.) and locations where vehicles enter and leave the site. Routine inspections of the entire site should also be made on a monthly basis during development.

If inspections indicate problems, corrective measures should be implemented within 24 hours. A report summarizing the scope of the inspection, name of the inspector, date, observations made, and a description of the corrective actions taken should be completed. Examples of inspection forms to be completed are included in Appendix B-2.

APPENDIX B-1

EROSION CONTROL DETAILS

- *Temporary Critical Area Plantings*
- *Mulching*
- *Temporary Swale*
- *Perimeter Dike/Swale*
- *Straw Bale Dike*
- *Silt Fence*
- *Sediment Trap*

BENCHMARK
ENVIRONMENTAL
ENGINEERING &
SCIENCE, PLLC

New York State
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Water

New York State Standards and Specifications for Erosion and Sediment Control

August 2005

New York State
Department of Environmental Conservation

George E. Pataki, Governor

STANDARD AND SPECIFICATIONS FOR TEMPORARY CRITICAL AREA PLANTINGS

Definition

Providing erosion control protection to a critical area for an interim period. A critical area is any disturbed, denuded slope subject to erosion.

Purpose

To provide temporary erosion and sediment control. Temporary control is achieved by covering all bare ground areas that exist as a result of construction or a natural event.

Conditions Where Practice Applies

Temporary seedings may be necessary on construction sites to protect an area, or section, where final grading is complete, when preparing for winter work shutdown, or to provide cover when permanent seedings are likely to fail due to mid-summer heat and drought. The intent is to provide temporary protective cover during temporary shutdown of construction and/or while waiting for optimal planting time.

Criteria

Water management practices must be installed as appropriate for site conditions. The area must be rough graded and slopes physically stable. Large debris and rocks are usually removed. Seedbed must be seeded within 24 hours of disturbance or scarification of the soil surface will be necessary prior to seeding.

Fertilizer or lime are not typically used for temporary seedings.

IF: Spring or summer or early fall, then seed the area with ryegrass (annual or perennial) at 30 lbs. per acre (Approximately 0.7 lb./1000 sq. ft. or use 1 lb./1000 sq. ft.).
IF: Late fall or early winter, then seed Certified 'Aroostook' winter rye (cereal rye) at 100 lbs. per acre (2.5 lbs./1000 sq. ft.).

Any seeding method may be used that will provide uniform application of seed to the area and result in relatively good soil to seed contact.

Mulch the area with hay or straw at 2 tons/acre (approx. 90 lbs./1000 sq. ft. or 2 bales). Quality of hay or straw mulch allowable will be determined based on long term use and visual concerns. Mulch anchoring will be required where wind or areas of concentrated water are of concern. Wood fiber hydromulch or other sprayable products approved for erosion control (nylon web or mesh) may be used if applied according to manufacturers' specification. Caution is advised when using nylon or other synthetic products. They may be difficult to remove prior to final seeding.

STANDARD AND SPECIFICATIONS FOR MULCHING

Definition

Applying coarse plant residue or chips, or other suitable materials, to cover the soil surface.

Purpose

The primary purpose is to provide initial erosion control while a seeding or shrub planting is establishing. Mulch will conserve moisture and modify the surface soil temperature and reduce fluctuation of both. Mulch will prevent soil surface crusting and aid in weed control. Mulch is also used alone for temporary stabilization in non-growing months.

Conditions Where Practice Applies

On soils subject to erosion and on new seedings and shrub plantings. Mulch is useful on soils with low infiltration rates by retarding runoff.

Criteria

Site preparation prior to mulching requires the installation of necessary erosion control or water management practices and drainage systems.

Slope, grade and smooth the site to fit needs of selected mulch products.

Remove all undesirable stones and other debris to meet the needs of the anticipated land use and maintenance required.

Apply mulch after soil amendments and planting is accomplished or simultaneously if hydroseeding is used.

Select appropriate mulch material and application rate or material needs. Determine local availability.

Select appropriate mulch anchoring material.

NOTE: The best combination for grass/legume establishment is straw (cereal grain) mulch applied at 2 ton/acre (90 lbs./1000sq.ft.) and anchored with wood fiber mulch (hydromulch) at 500 – 750 lbs./acre (11 – 17 lbs./1000 sq. ft.). The wood fiber mulch must be applied through a hydroseeder immediately after mulching.

Table 3.7
Guide to Mulch Materials, Rates, and Uses

Mulch Material	Quality Standards	per 1000 Sq. Ft.	per Acre	Depth of Application	Remarks
Wood chips or shavings	Air-dried. Free of objectionable coarse material	500-900 lbs.	10-20 tons	2-7”	Used primarily around shrub and tree plantings and recreation trails to inhibit weed competition. Resistant to wind blowing. Decomposes slowly.
Wood fiber cellulose (partly digested wood fibers)	Made from natural wood usually with green dye and dispersing agent	50 lbs.	2,000 lbs.	—	Apply with hydromulcher. No tie down required. Less erosion control provided than 2 tons of hay or straw.
Gravel, Crushed Stone or Slag	Washed; Size 2B or 3A—1 1/2”	9 cu. yds.	405 cu. yds.	3”	Excellent mulch for short slopes and around plants and ornamentals. Use 2B where subject to traffic. (Approximately 2,000 lbs./cu. yd.). Frequently used over filter fabric for better weed control.
Hay or Straw	Air-dried; free of undesirable seeds & coarse materials	90-100 lbs. 2-3 bales	2 tons (100-120 bales)	cover about 90% surface	Use small grain straw where mulch is maintained for more than three months. Subject to wind blowing unless anchored. Most commonly used mulching material. Provides the best micro-environment for germinating seeds.
Jute twisted yarn	Undyed, unbleached plain weave. Warp 78 ends/yd., Weft 41 ends/ yd. 60-90 lbs./roll	48” x 50 yds. or 48” x 75 yds.	—	—	Use without additional mulch. Tie down as per manufacturers specifications. Good for center line of concentrated water flow.
Excelsior wood fiber mats	Interlocking web of excelsior fibers with photodegradable plastic netting	8” x 100” 2-sided plastic, 48” x 180” 1-sided plastic	—	—	Use without additional mulch. Excellent for seeding establishment. Tie down as per manufacturers specifications. Approximately 72 lbs./roll for excelsior with plastic on both sides. Use two sided plastic for centerline of waterways.
Compost	Up to 3” pieces, moderately to highly stable	3-9 cu. yds.	134-402 cu. yds.	1-3”	Coarser textured mulches may be more effective in reducing weed growth and wind erosion.
Straw or coconut fiber, or combination	Photodegradable plastic net on one or two sides	Most are 6.5 ft. x 3.5 ft.	81 rolls	—	Designed to tolerate higher velocity water flow, centerlines of waterways, 60 sq. yds. per roll.

Table 3.8
Mulch Anchoring Guide

Anchoring Method or Material	Kind of Mulch to be Anchored	How to Apply
1. Peg and Twine	Hay or straw	After mulching, divide areas into blocks approximately 1 sq. yd. in size. Drive 4-6 pegs per block to within 2” to 3” of soil surface. Secure mulch to surface by stretching twine between pegs in criss-cross pattern on each block. Secure twine around each peg with 2 or more tight turns. Drive pegs flush with soil. Driving stakes into ground tightens the twine.
2. Mulch netting	Hay or straw	Staple the light-weight paper, jute, wood fiber, or plastic nettings to soil surface according to manufacturer’s recommendations. Should be biodegradable. Most products are not suitable for foot traffic.
3. Wood cellulose fiber	Hay or straw	Apply with hydroseeder immediately after mulching. Use 500 lbs. wood fiber per acre. Some products contain an adhesive material (“tackifier”), possibly advantageous.
4. Mulch anchoring tool	Hay or straw	Apply mulch and pull a mulch anchoring tool (blunt, straight discs) over mulch as near to the contour as possible. Mulch material should be “tucked” into soil surface about 3”.
5. Tackifier	Hay or straw	Mix and apply polymeric and gum tackifiers according to manufacturer’s instructions. Avoid application during rain. A 24-hour curing period and a soil temperature higher than 45^0 Fahrenheit are required.

STANDARD AND SPECIFICATIONS FOR TEMPORARY SWALE

Definition

A temporary excavated drainage way.

Purpose

The purpose of a temporary swale is to prevent runoff from entering disturbed areas by intercepting and diverting it to a stabilized outlet or to intercept sediment laden water and divert it to a sediment trapping device.

Conditions Where Practice Applies

Temporary swales are constructed:

1. to divert flows from entering a disturbed area.

2. intermittently across disturbed areas to shorten overland flow distances.

3. to direct sediment laden water along the base of slopes to a trapping device.

4. to transport offsite flows across disturbed areas such as rights-of-way.

Swales collecting runoff from disturbed areas shall remain in place until the disturbed areas are permanently stabilized.

Design Criteria

See Figure 5A.2 on page 5A.5 for details.

	Swale A	Swale B
Drainage Area	<5 Ac	5-10 Ac
Bottom Width of Flow Channel	4 ft	6 ft
Depth of Flow Channel	1 ft	1 ft
Side Slopes	2:1 or flatter	2:1 or flatter
Grade	0.5% Min. 20% Max.	0.5% Min. 20% Max.

For drainage areas larger than 10 acres, refer to the Standard and Specification for Waterways on page 5B.11.

Stabilization

Stabilization of the swale shall be completed within 7 days of installation in accordance with the appropriate standard and specifications for vegetative stabilization or stabilization with mulch as determined by the time of year. The flow channel shall be stabilized as per the following criteria:

Type of Treatment	Channel Grade[1]	Flow Channel A (<5 Ac.)	Flow Channel B (5-10 Ac)
1	0.5-3.0%	Seed & Straw Mulch	Seed & Straw Mulch
2	3.1-5.0%	Seed & Straw Mulch	Seed and cover with RECP, Sod, or lined with plastic or 2 in. stone
3	5.1-8.0%	Seed and cover with RECP, Sod, or line with plastic or 2 in. stone	Line with 4-8 in. or stone or Recycled Concrete Equivalent[2] or geotextile
4	8.1-20%	Line with 4-8 in. stone or Recycled Concrete Equivalent[2] or geotextile	Site Specific Engineering Design

[1] In highly erodible soils, as defined by the local approving agency, refer to the next higher slope grade for type of stabilization.
[2] Recycled Concrete Equivalent shall be concrete broken into the required size, and shall contain no steel reinforcement.

Outlet

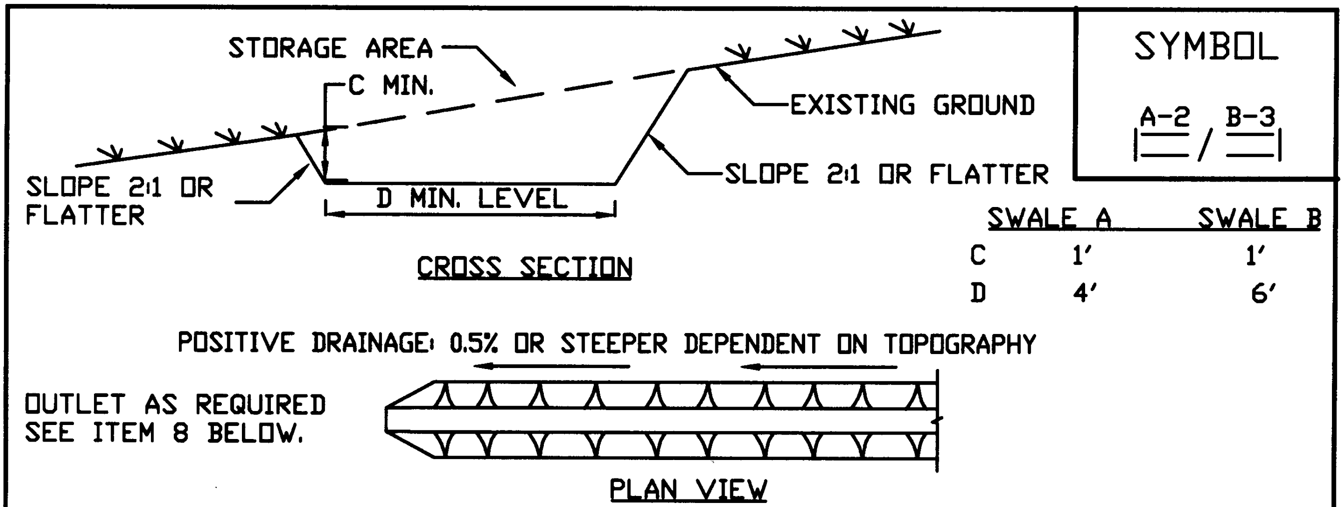
Swale shall have an outlet that functions with a minimum of erosion, and dissipates runoff velocity prior to discharge off the site.

Runoff shall be conveyed to a sediment trapping device such as a sediment trap or sediment basin until the drainage area above the swale is adequately stabilized.

The on-site location may need to be adjusted to meet field conditions in order to utilize the most suitable outlet condition.

If a swale is used to divert clean water flows from entering a disturbed area, a sediment trapping device may not be needed.

Figure 5A.2
Temporary Swale



CONSTRUCTION SPECIFICATIONS

1. ALL TEMPORARY SWALES SHALL HAVE UNINTERUPTED POSITIVE GRADE TO AN OUTLET.
2. DIVERTED RUNOFF FROM A DISTURBED AREA SHALL BE CONVEYED TO A SEDIMENT TRAPPING DEVICE.
3. DIVERTED RUNOFF FROM AN UNDISTURBED AREA SHALL OUTLET DIRECTLY INTO AN UNDISTURBED STABILIZED AREA AT NON-EROSIVE VELOCITY.
4. ALL TREES, BRUSH, STUMPS, OBSTRUCTIONS, AND OTHER OBJECTIONABLE MATERIAL SHALL BE REMOVED AND DISPOSED OF SO AS NOT TO INTERFERE WITH THE PROPER FUNCTIONING OF THE SWALE.
5. THE SWALE SHALL BE EXCAVATED OR SHAPED TO LINE, GRADE, AND CROSS SECTION AS REQUIRED TO MEET THE CRITERIA SPECIFIED HEREIN AND BE FREE OF BANK PROJECTIONS OR OTHER IRREGULARITIES WHICH WILL IMPEDE NORMAL FLOW.
6. FILLS SHALL BE COMPACTED BY EARTH MOVING EQUIPMENT.
7. ALL EARTH REMOVED AND NOT NEEDED FOR CONSTRUCTION SHALL BE PLACED SO THAT IT WILL NOT INTERFERE WITH THE FUNCTIONING OF THE SWALE.
8. STABILIZATION SHALL BE AS PER THE FLOW CHANNEL STABILIZATION CHART BELOW:

TYPE OF TREATMENT	CHANNEL GRADE	A(5 AC. OR LESS)	B(5 AC -10AC)
1	0.5-3.0%	SEED AND STRAW MULCH	SEED AND STRAW MULCH
2	3.1-5.0%	SEED AND STRAW MULCH	SEED AND COVER USING RECP
3	5.1-8.0%	SEED AND COVER WITH RECP	LINED WITH 4-8' RIP-RAP OR GEOTEXTILE
4	8.1-20.%	LINED WITH 4-8' RIP-RAP OR GEOTEXTILE	ENGINEERED DESIGN

9. PERIODIC INSPECTION AND REQUIRED MAINTENANCE MUST BE PROVIDED AFTER EACH RAIN EVENT.

ADAPTED FROM DETAILS PROVIDED BY: USDA - NRCS, NEW YORK STATE DEPARTMENT OF TRANSPORTATION, NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE

TEMPORARY SWALE

STANDARD AND SPECIFICATIONS FOR PERIMETER DIKE/SWALE

Definition

A temporary ridge of soil excavated from an adjoining swale located along the perimeter of the site or disturbed area.

Purpose

The purpose of a perimeter dike/swale is to prevent off site storm runoff from entering a disturbed area and to prevent sediment laden storm runoff from leaving the construction site or disturbed area.

Conditions Where Practice Applies

Perimeter dike/swale is constructed to divert flows from entering a disturbed area, or along tops of slopes to prevent flows from eroding the slope, or along base of slopes to direct sediment laden flows to a trapping device.

The perimeter dike/swale shall remain in place until the disturbed areas are permanently stabilized.

Design Criteria

See Figure 5A.3 on page 5A.8 for details.

The perimeter dike/swale shall not be constructed outside the property lines without obtaining legal easements from affected adjacent property owners. A design is not required for perimeter dike/swale. The following criteria shall be used:

Drainage area – Less than 2 acres (for drainage areas larger than 2 acres but less than 10 acres, see earth dike or temporary swale; for drainage areas larger than 10 acres, see standard and specifications for diversion).

Height – 18 inches minimum from bottom of swale to top of dike evenly divided between dike height and swale depth.

Bottom width of dike – 2 feet minimum.

Width of swale – 2 feet minimum.

Grade – Dependent upon topography, but shall have positive drainage (sufficient grade to drain) to an adequate outlet. Maximum allowable grade not to exceed 8 percent.

Stabilization – The disturbed area of the dike and swale shall be stabilized within 7 days of installation, in accordance with the standard and specifications for temporary swales.

Outlet

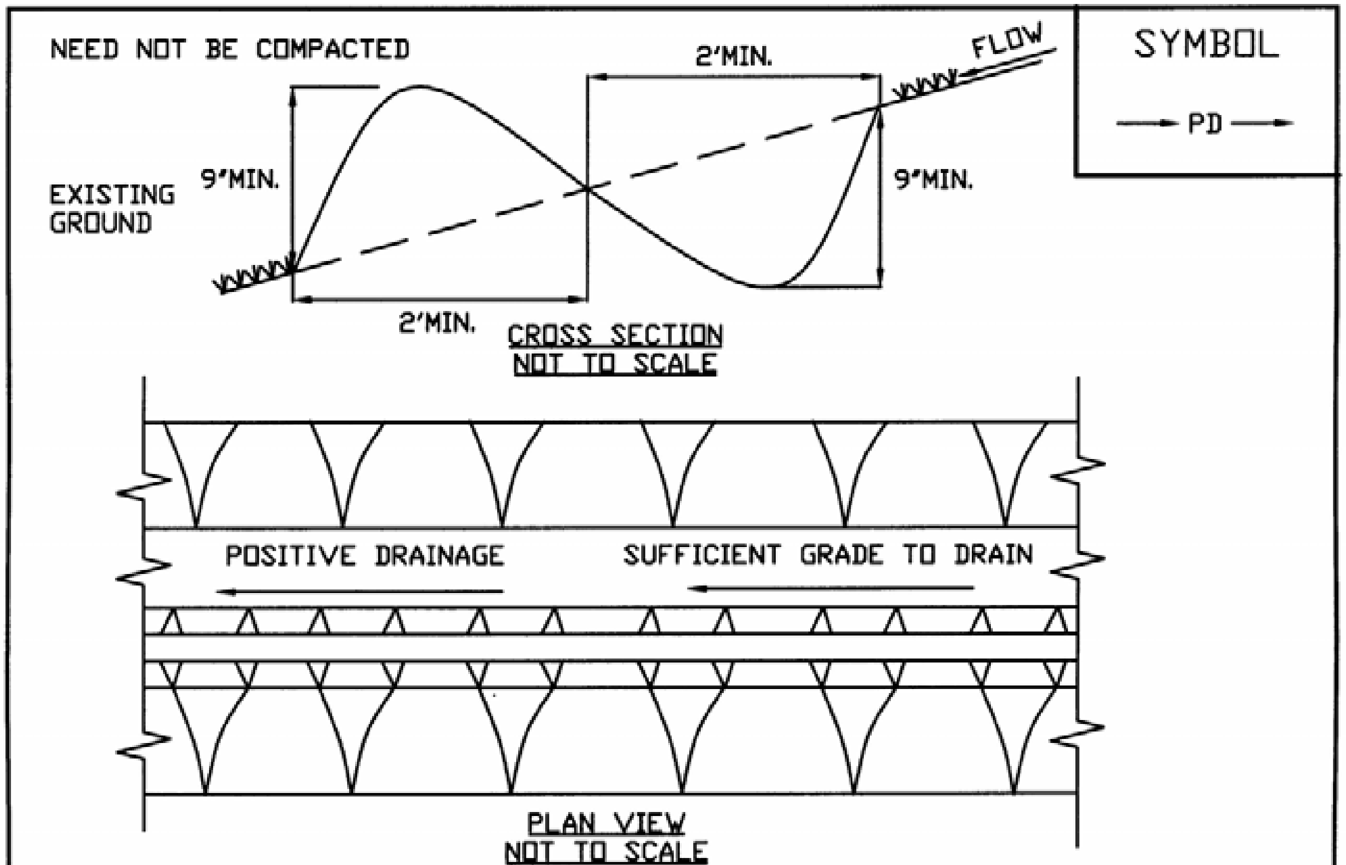
1. Perimeter dike/swale shall have a stabilized outlet.

2. Diverted runoff from a protected or stabilized upland area shall outlet directly onto an undisturbed stabilized area.

3. Diverted runoff from a disturbed or exposed upland area shall be conveyed to a sediment trapping device such as a sediment trap, sediment basin, or to an area protected by any of these practices.

4. The on-site location may need to be adjusted to meet field conditions in order to utilize the most suitable outlet.

Figure 5A.3
Perimeter Dike/Swale



CONSTRUCTION SPECIFICATIONS

1. ALL PERIMETER DIKE/SWALE SHALL HAVE UNINTERRUPTED POSITIVE GRADE TO AN OUTLET.
2. DIVERTED RUNOFF FROM A DISTURBED AREA SHALL BE CONVEYED TO A SEDIMENT TRAPPING DEVICE.
3. DIVERTED RUNOFF FROM AN UNDISTURBED AREA SHALL OUTLET INTO AN UNDISTURBED STABILIZED AREA AT NON-EROSION VELOCITY.
4. THE SWALE SHALL BE EXCAVATED OR SHAPED TO LINE GRADE, AND CROSS SECTION AS REQUIRED TO MEET THE CRITERIA SPECIFIED IN THE STANDARD.
5. STABILIZATION OF THE AREA DISTURBED BY THE DIKE AND SWALE SHALL BE DONE IN ACCORDANCE WITH THE STANDARD AND SPECIFICATIONS FOR TEMPORARY SEEDING AND MULCHING, AND SHALL BE DONE WITHIN 10 DAYS.
6. PERIODIC INSPECTION AND REQUIRED MAINTENANCE MUST BE PROVIDED AFTER EACH RAIN EVENT.

MAX. DRAINAGE AREA LIMIT: 2 ACRES

ADAPTED FROM DETAILS PROVIDED BY: USDA - NRCS, NEW YORK STATE DEPARTMENT OF TRANSPORTATION, NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE	PERIMETER DIKE OR SWALE

STANDARD AND SPECIFICATIONS FOR STRAW BALE DIKE

Definition

A temporary barrier of straw, or similar material, used to intercept sediment laden runoff from small drainage areas of disturbed soil.

Purpose

The purpose of a bale dike is to reduce runoff velocity and effect deposition of the transported sediment load. Straw bale dikes have an estimated design life of three (3) months.

Conditions Where Practice Applies

The straw bale dike is used where:

1. No other practice is feasible.
2. There is no concentration of water in a channel or other drainage way above the barrier.
3. Erosion would occur in the form of sheet erosion.
4. Length of slope above the straw bale dike does not exceed these limits.

Constructed Slope	Percent Slope	Slope Length (ft.)
2:1	50	25
3:1	33	50
4:1	25	75

Where slope gradient changes through the drainage area, steepness refers to the steepest slope section contributing to the straw bale dike.

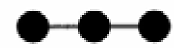
The practice may also be used for a single family lot if the slope is less than 15 percent. The contributing drainage areas in this instance shall be less than one quarter of an acre per 100 feet of fence and the length of slope above the dike shall be less than 200 feet.

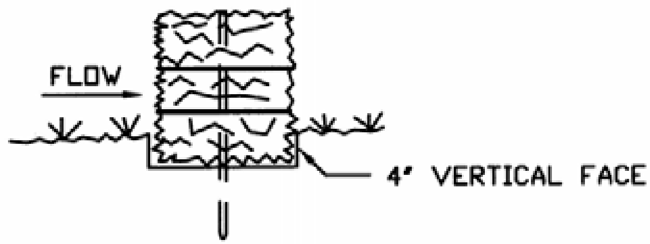
Design Criteria

The above table is adequate, in general, for a one-inch rainfall event. Larger storms could cause failure of this practice. Use of this practice in sensitive areas for longer than one month should be specifically designed to store expected runoff. All bales shall be placed on the contour with cut edge of bale adhering to the ground. See Figure 5A.7 on page 5A.18 or details.

Figure 5A.7
Straw Bale Dike

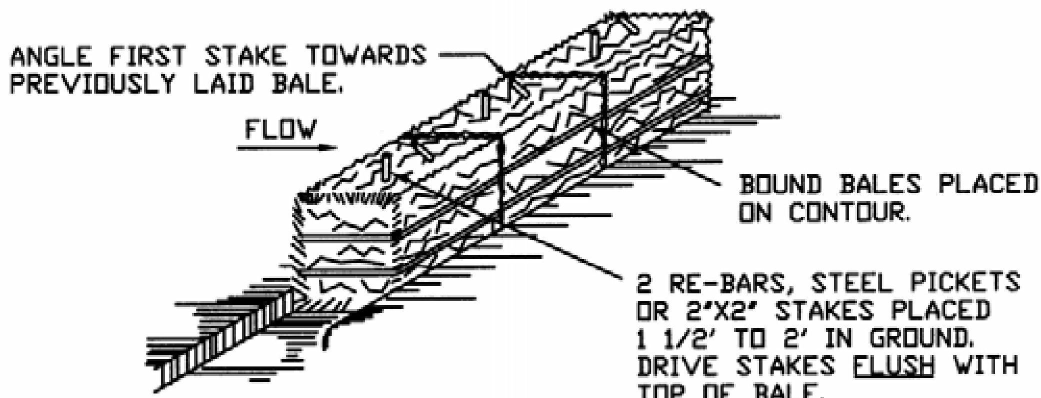
SYMBOL





BEDDING DETAIL
NOT TO SCALE

DRAINAGE AREA NO MORE THAN 1/4 ACRE PER 100 FEET OF STRAW BALE DIKE FOR SLOPES LESS THAN 25%.



ANCHORING DETAIL
NOT TO SCALE

CONSTRUCTION SPECIFICATIONS

1. BALES SHALL BE PLACED AT THE TOE OF A SLOPE OR ON THE CONTOUR AND IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT BALES.
2. EACH BALE SHALL BE EMBEDDED IN THE SOIL A MINIMUM OF (4) INCHES, AND PLACED SO THE BINDINGS ARE HORIZONTAL.
3. BALES SHALL BE SECURELY ANCHORED IN PLACE BY EITHER TWO STAKES OR RE-BARS DRIVEN THROUGH THE BALE. THE FIRST STAKE IN EACH BALE SHALL BE DRIVEN TOWARD THE PREVIOUSLY LAID BALE AT AN ANGLE TO FORCE THE BALES TOGETHER. STAKES SHALL BE DRIVEN FLUSH WITH THE BALE.
4. INSPECTION SHALL BE FREQUENT AND REPAIR REPLACEMENT SHALL BE MADE PROMTLY AS NEEDED.
5. BALES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFULLNESS SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

ADAPTED FROM DETAILS PROVIDED BY: USDA - NRCS, NEW YORK STATE DEPARTMENT OF TRANSPORTATION, NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE	STRAW BALE DIKE

STANDARD AND SPECIFICATIONS FOR SILT FENCE

Definition

A temporary barrier of geotextile fabric installed on the contours across a slope used to intercept sediment laden runoff from small drainage areas of disturbed soil.

Purpose

The purpose of a silt fence is to reduce runoff velocity and effect deposition of transported sediment load. Limits imposed by ultraviolet stability of the fabric will dictate the maximum period the silt fence may be used (approximately one year).

Conditions Where Practice Applies

A silt fence may be used subject to the following conditions:

1. Maximum allowable slope lengths contributing runoff to a silt fence placed on a slope are:

Slope Steepness	Maximum Length (ft.)
2:1	25
3:1	50
4:1	75
5:1 or flatter	100

2. Maximum drainage area for overland flow to a silt fence shall not exceed ¼ acre per 100 feet of fence, with maximum ponding depth of 1.5 feet behind the fence; and

3. Erosion would occur in the form of sheet erosion; and

4. There is no concentration of water flowing to the barrier.

Design Criteria

Design computations are not required for installations of 1 month or less. Longer installation periods should be designed for expected runoff. All silt fences shall be placed as close to the areas as possible, but at least 10 feet from the toe of a slope to allow for maintenance and roll down. The area beyond the fence must be undisturbed or stabilized.

Sensitive areas to be protected by silt fence may need to be reinforced by using heavy wire fencing for added support to prevent collapse.

Where ends of filter cloth come together, they shall be overlapped, folded and stapled to prevent sediment bypass. A detail of the silt fence shall be shown on the plan.
See Figure 5A.8 on page 5A.21 for details.

Criteria for Silt Fence Materials

1. Silt Fence Fabric: The fabric shall meet the following specifications unless otherwise approved by the appropriate erosion and sediment control plan approval authority. Such approval shall not constitute statewide acceptance.

Fabric Properties	Minimum Acceptable Value	Test Method
Grab Tensile Strength (lbs)	90	ASTM D1682
Elongation at Failure (%)	50	ASTM D1682

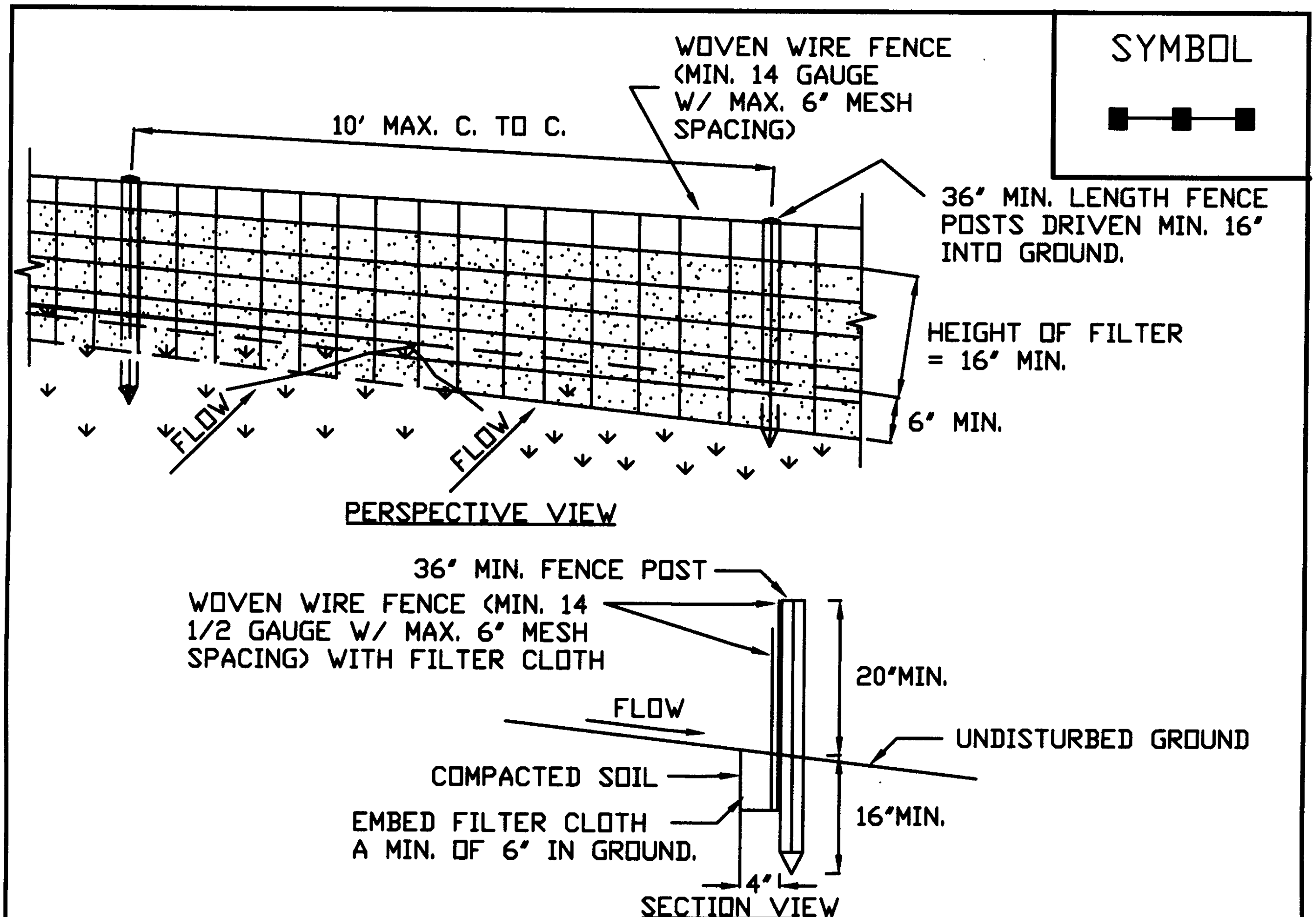
Mullen Burst Strength (PSI)	190	ASTM D3786
Puncture Strength (lbs)	40	ASTM D751 (modified)
Slurry Flow Rate (gal/min/sf)	0.3	
Equivalent Opening Size	40-80	US Std Sieve CW-02215
Ultraviolet Radiation Stability (%)	90	ASTM G-26

2. Fence Posts (for fabricated units): The length shall be a minimum of 36 inches long. Wood posts will be of sound quality hardwood with a minimum cross sectional area of 3.0 square inches. Steel posts will be standard T and U section weighing not less than 1.00 pound per linear foot.

3. Wire Fence (for fabricated units): Wire fencing shall be a minimum 14 gage with a maximum 6 in. mesh opening, or as approved.

4. Prefabricated Units: Envirofence, Geofab, or approved equal, may be used in lieu of the above method providing the unit is installed per details shown in Figure 5A.8.

Figure 5A.8
Silt Fence



CONSTRUCTION SPECIFICATIONS

1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES. POSTS SHALL BE STEEL EITHER "T" OR "U" TYPE OR HARDWOOD.
2. FILTER CLOTH TO BE TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION. FENCE SHALL BE WOVEN WIRE, 6" MAXIMUM MESH OPENING.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVER-LAPPED BY SIX INCHES AND FOLDED. FILTER CLOTH SHALL BE EITHER FILTER X, MIRAFI 100X, STABILINKA T140N, OR APPROVED EQUIVALENT.
4. PREFABRICATED UNITS SHALL BE GEOFAB, ENVIROFENCE, OR APPROVED EQUIVALENT.
5. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.

ADAPTED FROM DETAILS PROVIDED BY: USDA - NRCS, NEW YORK STATE DEPARTMENT OF TRANSPORTATION, NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE	SILT FENCE

STANDARD AND SPECIFICATIONS FOR SEDIMENT TRAP

Definition

A temporary sediment control device formed by excavation and/or embankment to intercept sediment laden runoff and retain the sediment.

Purpose

The purpose of the structure is to intercept sediment-laden runoff and trap the sediment in order to protect drainage ways, properties, and rights-of-way below the sediment trap from sedimentation.

Conditions Where Practice Applies

A sediment trap is usually installed in a drainage way, at a storm drain inlet, or other points of collection from a disturbed area.

Sediment traps should be used to artificially break up the natural drainage area into smaller sections where a larger device (sediment basin) would be less effective.

Design Criteria

If any of the design criteria presented here cannot be met, see Standard and Specification for Sediment Basin on page 5A.49.

Drainage Area

The drainage area for sediment traps shall be in accordance with the specific type of sediment trap used (Type I through V).

Location

Sediment traps shall be located so that they can be installed prior to grading or filling in the drainage area they are to protect. Traps must not be located any closer than 20 feet from a proposed building foundation if the trap is to function during building construction. Locate traps to obtain maximum storage benefit from the terrain and for ease of cleanout and disposal of the trapped sediment.

Trap Size

The volume of a sediment trap as measured at the elevation of the crest of the outlet shall be at least 3,600 cubic feet per acre of drainage area. The volume of a constructed trap shall be calculated using standard mathematical procedures. The volume of a natural sediment trap may be approximated by the equation: Volume (cu.ft.) = 0.4 x surface area (sq.ft.) x maximum depth (ft.).

Trap Cleanout

Sediment shall be removed and the trap restored to the original dimensions when the sediment has accumulated to ½ of the design depth of the trap. Sediment removed from the trap shall be deposited in a protected area and in such a manner that it will not erode.

Embankment

All embankments for sediment traps shall not exceed five (5) feet in height as measured at the low point of the original ground along the centerline of the embankment. Embankments shall have a minimum four (4) foot wide top and side slopes of 2:1 or flatter. The embankment shall be compacted by traversing with equipment while it is being constructed. The embankment shall be stabilized with seed and mulch as soon as it is completed

The elevation of the top of any dike directing water to any sediment trap will equal or exceed the maximum height of the outlet structure along the entire length of the trap.

Excavation

All excavation operations shall be carried out in such a manner that erosion and water pollution shall be minimal. Excavated portions of sediment traps shall have 1:1 or flatter slopes.

Outlet

The outlet shall be designed, constructed, and maintained in such a manner that sediment does not leave the trap and that erosion at or below the outlet does not occur.

Sediment traps must outlet onto stabilized (preferable undisturbed) ground, into a watercourse, stabilized channel, or into a storm drain system. Distance between inlet and outlet should be maximized to the longest length practicable.

Trap Details Needed on Erosion and Sediment Control Plans

Each trap shall be delineated on the plans in such a manner that it will not be confused with any other features. Each trap on a plan shall indicate all the information necessary to properly construct and maintain the structure. If the drawings are such that this information cannot be delineated on the drawings, then a table shall be developed. If a table is developed, then each trap on a plan shall have a number and the numbers shall be consecutive.

The following information shall be shown for each trap in a summary table format on the plans.

1. Trap number
2. Type of trap
3. Drainage area
4. Storage required
5. Storage provided (if applicable)
6. Outlet length or pipe sizes
7. Storage depth below outlet or cleanout elevation
8. Embankment height and elevation (if applicable)

Type of Sediment Traps

There are five (5) specific types of sediment traps which vary according to their function, location, or drainage area.

I. Pipe Outlet Sediment Trap
II. Grass Outlet Sediment Trap
III. Catch Basin Sediment Trap
IV. Stone Outlet Sediment Trap
V. Riprap Outlet Sediment Trap

I. Pipe Outlet Sediment Trap

A Pipe Outlet Sediment Trap consists of a trap formed by embankment or excavation. The outlet for the trap is through a perforated riser and a pipe through the embankment. The outlet pipe and riser shall be made of steel, corrugated metal or other suitable material. The top of the embankment shall be at least 1 ½ feet above the crest of the riser. The top 2/3 of the riser shall be perforated with one (1) inch nominal diameter holes or slits spaced six (6) inches vertically and horizontally placed in the concave portion of the corrugated pipe.

No holes or slits will be allowed within six (6) inches of the top of the horizontal barrel. All pipe connections shall be watertight. The riser shall be wrapped with ½ to ¼ inch hardware cloth wire then wrapped with filter cloth with a sieve size between #40-80 and secured with strapping or connecting band at the top and bottom of the cloth. The cloth shall cover an area at least six (6) inches above the highest hole and six (6) inches below the lowest hole. The top of the riser pipe shall not be covered with filter cloth. The riser shall have a base with sufficient weight to prevent flotation of the riser. Two approved bases are:

1. A concrete base 12 in. thick with the riser embedded 9 in. into the concrete base, or

2. One quarter inch, minimum, thick steel plate attached to the riser by a continuous weld around the circumference of the riser to form a watertight connection. The plate shall have 2.5 feet of stone, gravel, or earth placed on it to prevent flotation. In either case, each side of the square base measurement shall be the riser diameter plus 24 inches.

Pipe outlet sediment traps shall be limited to a five (5) acre maximum drainage area. Pipe outlet sediment traps may be interchangeable in the field with stone outlet or riprap sediment traps provided that these sediment traps are constructed in accordance with the detail and specifications for that trap.

Select pipe diameter from the following table:

Minimum Sizes

Barrel Diameter[1] (in.)	Riser Diameter[1] (in.)	Maximum Drainage Area (ac.)
12	15	1
15	18	2
18	21	3
21	24	4
21	27	5

[1] Barrel diameter may be same size as riser diameter.

See details for Pipe Outlet Sediment Trap ST-I in Figure 5A.16 (1) and 5A.16 (2) on pages 5A.38 and 5A.39.

II. Grass Outlet Sediment Trap

A Grass Outlet Sediment Trap consists of a trap formed by excavating the earth to create a holding area. The trap has a discharge point over natural existing grass. The outlet crest width (feet) shall be equal to four (4) times the drainage area (acres) with a minimum width of four (4) feet. The outlet shall be free of any restrictions to flow. The outlet lip must remain undisturbed and level. The volume of this trap shall be computed at the elevation of the crest of the outlet. Grass outlet sediment traps shall be limited to a five (5) acre maximum drainage area.

See details for Grass Outlet Sediment Trap ST-II in Figure 5A.17 on page 5A.40.

III. Catch Basin Sediment Trap

A Catch Basin Sediment Trap consists of a basin formed by excavation on natural ground that discharges through an opening in a storm drain inlet structure. This opening can either be the inlet opening or a temporary opening made by omitting bricks or blocks in the inlet.

A yard drain inlet or an inlet in the median strip of a dual highway could use the inlet opening for the type outlet. The trap should be out of the roadway so as not to interfere with future compaction or construction. Placing the trap on the opposite side of the opening and diverting water from the roadway to the trap is one means of doing this. Catch basin sediment traps shall be limited to a three (3) acre maximum drainage area. The volume of this trap is measured at the elevation of the crest of the outlet (invert of the inlet opening).

See details for Catch Basin Sediment Trap ST-III in Figure 5A.18 on page 5A.41.

IV. Stone Outlet Sediment Trap

A Stone Outlet Sediment Trap consists of a trap formed by an embankment or excavation. The outlet of this trap is over a stone section placed on level ground. The minimum length (feet) of the outlet shall be equal to four (4) times the drainage area (acres).

Required storage shall be 3,600 cubic feet per acre of drainage area.

The outlet crest (top of stone in weir section) shall be level, at least one (1) foot below top of embankment and no more than one (1) foot above ground beneath the outlet. Stone used in the outlet shall be small riprap (4 in. x 8 in.). To provide more efficient trapping effect, a layer of filter cloth should be embedded one (1) foot back into the upstream face of the outlet stone or a one (1) foot thick layer of two (2) inch or finer aggregate shall be placed on the upstream face of the outlet.

Stone Outlet Sediment Traps may be interchangeable in the field with pipe or riprap outlet sediment traps provided they are constructed in accordance with the detail and specifications for those traps. Stone outlet sediment traps shall be limited to a five (5) acre maximum drainage area.

See details for Stone Outlet Sediment Trap ST-IV in Figure 5A.19 on page 5A.42.

V. Riprap Outlet Sediment Trap

A Riprap Outlet Sediment Trap consists of a trap formed by an excavation and embankment. The outlet for this trap shall be through a partially excavated channel lined with riprap. This outlet channel shall discharge onto a stabilized area or to a stable watercourse. The riprap outlet sediment trap may be used for drainage areas of up to a maximum of 15 acres.

Design Criteria for Riprap Outlet Sediment Trap

1. The total contributing drainage area (disturbed or undisturbed either on or off the developing property) shall not exceed 15 acres.
2. The storage needs for this trap shall be computed using 3600 cubic feet of required storage for each acre of drainage area. The storage volume provided can be figured by computing the volume of storage area available behind the outlet structure up to an elevation of one (1) foot below the level weir crest.
3. The maximum height of embankment shall not exceed five (5) feet.
4. The elevation of the top of any dike directing water to a riprap outlet sediment trap will equal or exceed the minimum elevation of the embankment along the entire length of this trap.

<u>Riprap Outlet Sediment Trap ST-V</u>
<u>(for Stone Lined Channel)</u>

Contributing Drainage Area (ac.)	Depth of Channel (a) (ft.)	Length of Weir (b) (ft.)
1	1.5	4.0
2	1.5	5.0
3	1.5	6.0
4	1.5	10.0
5	1.5	12.0
6	1.5	14.0
7	1.5	16.0
8	2.0	10.0
9	2.0	10.0
10	2.0	12.0
11	2.0	14.0
12	2.0	14.0
13	2.0	16.0
14	2.0	16.0
15	2.0	18.0

See details for Riprap Outlet Sediment Trap ST-V on Figures 5A.20(1) and 5A.20(2) on pages 5A.43 and 5A.44.

Optional Dewatering Methods

Optional dewatering devices may be designed for use with sediment traps. Included are two methods, which may be used. See Figure 5A.21 on page 5A.45 for details.

Figure 5A.16(1)
Pipe Outlet Sediment Trap: ST-I

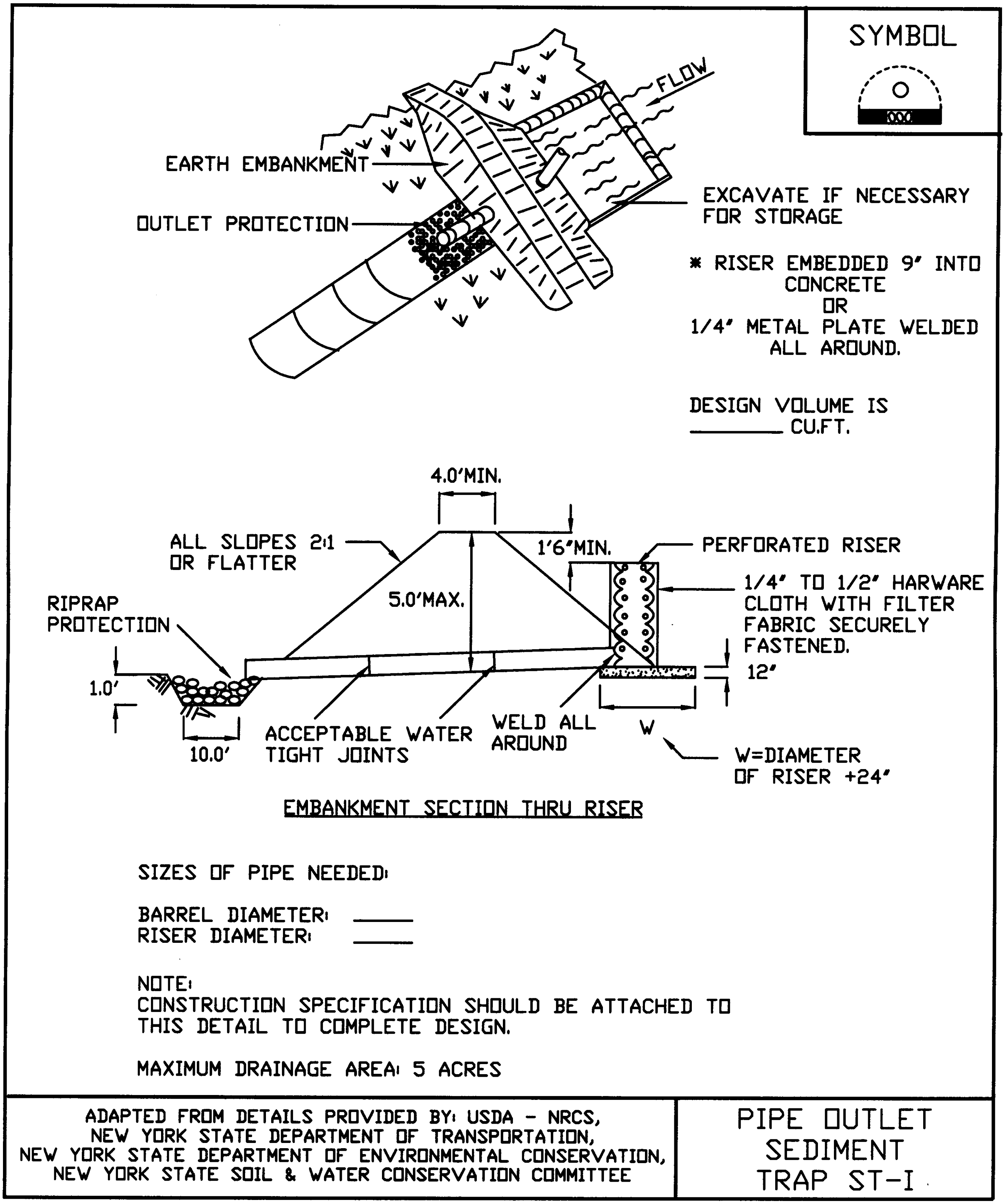


Figure 5A.16(2)
Pipe Outlet Sediment Trap: ST-I—Construction Specifications

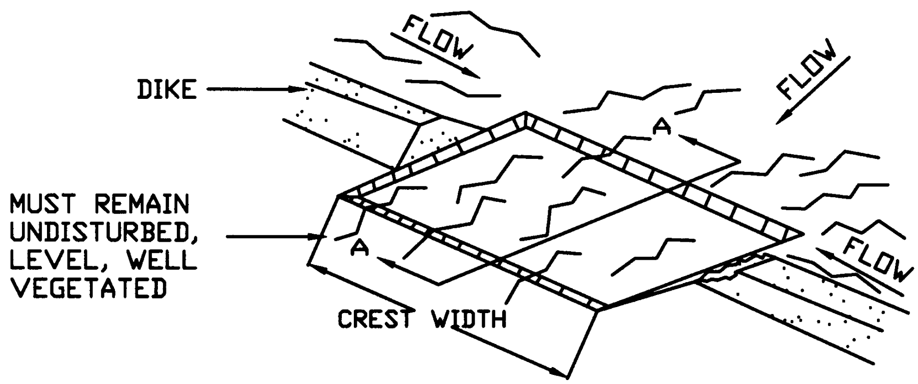
SYMBOL

CONSTRUCTION SPECIFICATIONS

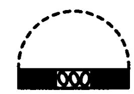
1. AREA UNDER EMBANKMENT SHALL BE CLEARED, GRUBBED AND STRIPPED OF ANY VEGETATION AND ROOT MAT. THE POOL AREA SHALL BE CLEARED.
2. THE FILL MATERIAL FOR THE EMBANKMENT SHALL BE FREE OF ROOTS OR OTHER WOODY VEGETATION AS WELL AS OVER-SIZED STONES, ROCKS, ORGANIC MATERIAL, OR OTHER OBJECTIONABLE MATERIAL. THE EMBANKMENT SHALL BE COMPACTED BY TRAVERSING WITH EQUIPMENT WHILE IT IS BEING CONSTRUCTED.
3. VOLUME OF SEDIMENT STORAGE SHALL BE 3600 CUBIC FEET PER ACRE OF CONTRIBUTORY DRAINAGE.
4. SEDIMENT SHALL BE REMOVED AND TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO 1/2 THE DESIGN DEPTH OF THE TRAP. REMOVED SEDIMENT SHALL BE DEPOSITED IN A SUITABLE AREA AND STABILIZED.
5. THE STRUCTURE SHALL BE INSPECTED AFTER EACH RAIN AND REPAIRS MADE AS NEEDED.
6. CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER THAT EROSION AND SEDIMENT ARE CONTROLLED.
7. THE STRUCTURE SHALL BE REMOVED AND AREA STABILIZED WHEN THE DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.
8. ALL FILL SLOPES SHALL BE 2:1 OR FLATTER; CUT SLOPES 1:1 OR FLATTER.
9. ALL PIPE CONNECTIONS SHALL BE WATERTIGHT.
10. THE TOP 2/3 OF THE RISER SHALL BE PERFORATED WITH ONE (1) INCH DIAMETER HOLES OR SLITS SPACED SIX (6) INCHES VERTICALLY AND HORIZONTALLY AND PLACED IN THE CONCAVE PORTION OF PIPE. NO HOLES WILL BE ALLOWED WITHIN SIX (6) INCHES OF THE HORIZONTAL BARREL.
11. THE RISER SHALL BE WRAPPED WITH 1/4 TO 1/2 INCH HARDWARE CLOTH WIRE THEN WRAPPED WITH FILTER CLOTH (HAVING AN EQUIVALENT SIEVE SIZE OF 40-80). THE FILTER CLOTH SHALL EXTEND SIX (6) INCHES ABOVE THE HIGHEST HOLE AND SIX (6) INCHES BELOW THE LOWEST HOLE. WHERE ENDS OF THE FILTER CLOTH COME TOGETHER, THEY SHALL BE OVER-LAPPED, FOLDED AND STAPLED TO PREVENT BYPASS.
12. STRAPS OR CONNECTING BANDS SHALL BE USED TO HOLD THE FILTER CLOTH AND WIRE FABRIC IN PLACE. THEY SHALL BE PLACED AT THE TOP AND BOTTOM OF THE CLOTH.
13. FILL MATERIAL AROUND THE PIPE SPILLWAY SHALL BE HAND COMPACTED IN FOUR (4) INCH LAYERS. A MINIMUM OF TWO (2) FEET OF HAND COMPACTED BACKFILL SHALL BE PLACED OVER THE PIPE SPILLWAY BEFORE CROSSING IT WITH CONSTRUCTION EQUIPMENT.
14. THE RISER SHALL BE ANCHORED WITH EITHER A CONCRETE BASE OR STEEL PLATE BASE TO PREVENT FLOTATION. FOR CONCRETE BASED THE DEPTH SHALL BE TWELVE (12) INCHES WITH THE RISER EMBEDDED NINE (9) INCHES. A 1/4 INCH MINIMUM THICKNESS STEEL PLATE SHALL BE ATTACHED TO THE RISER BY A CONTINUOUS WELD AROUND THE BOTTOM TO FORM A WATERTIGHT CONNECTION AND THEN PLACE TWO (2) FEET OF STONE, GRAVEL, OR TAMPED EARTH ON THE PLATE.

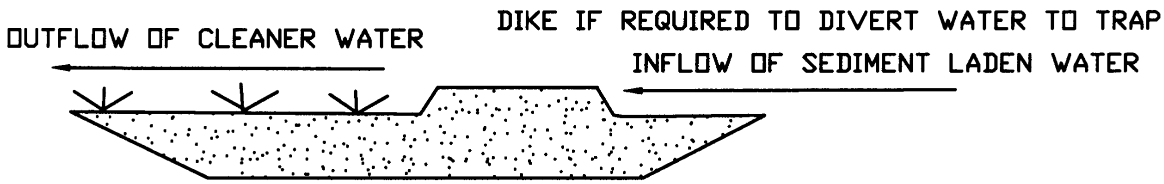
ADAPTED FROM DETAILS PROVIDED BY: USDA - NRCS, NEW YORK STATE DEPARTMENT OF TRANSPORTATION, NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE	PIPE OUTLET SEDIMENT TRAP ST-I

Figure 5A.17
Grass Outlet Sediment Trap: ST-II



SYMBOL





CREST WIDTH (FT)=4xDRAINAGE AREA (ACRES)

SECTION A - A
EXCAVATED GRASS OUTLET SEDIMENT TRAP

CONSTRUCTION SPECIFICATIONS

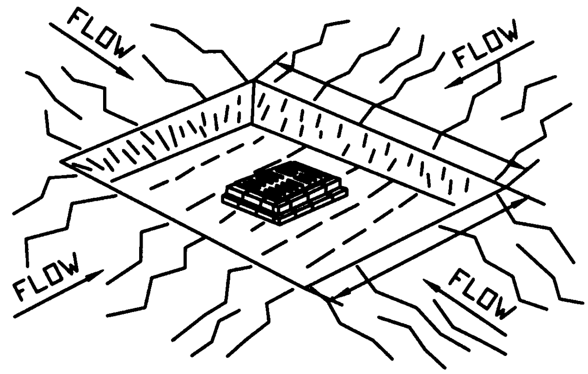
1. VOLUME OF SEDIMENT STORAGE SHALL BE 3600 CUBIC FEET PER ACRE OF CONTRIBUTORY DRAINAGE AREA.
2. MINIMUM CREST WIDTH SHALL BE 4 x DRAINAGE AREA
3. SEDIMENT SHALL BE REMOVED AND TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO 1/2 THE DESIGN DEPTH OF THE TRAP. REMOVED SEDIMENT SHALL BE DEPOSITED IN A SUITABLE AREA AND STABILIZED.
4. THE STRUCTURE SHALL BE INSPECTED AFTER EACH RAIN AND REPAIRS MADE AS NEEDED.
5. CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER THAT EROSION AND SEDIMENT ARE CONTROLLED.
6. THE SEDIMENT TRAP SHALL BE REMOVED AND AREA STABILIZED WHEN THE REMAINING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.
7. ALL CUT SLOPES SHALL BE 1:1 OR FLATTER.

MAXIMUM DRAINAGE AREA: 5 ACRES

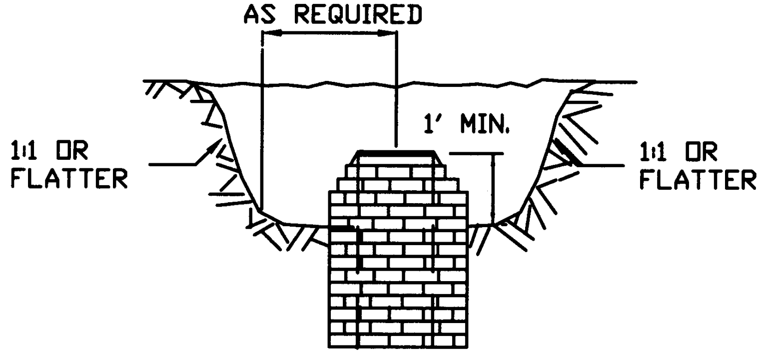
ADAPTED FROM DETAILS PROVIDED BY: USDA - NRCS, NEW YORK STATE DEPARTMENT OF TRANSPORTATION, NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE	GRASS OUTLET SEDIMENT TRAP ST-II

Figure 5A.18
Catch Basin Sediment Trap: ST-III

SYMBOL



YARD DRAIN



CROSS SECTION

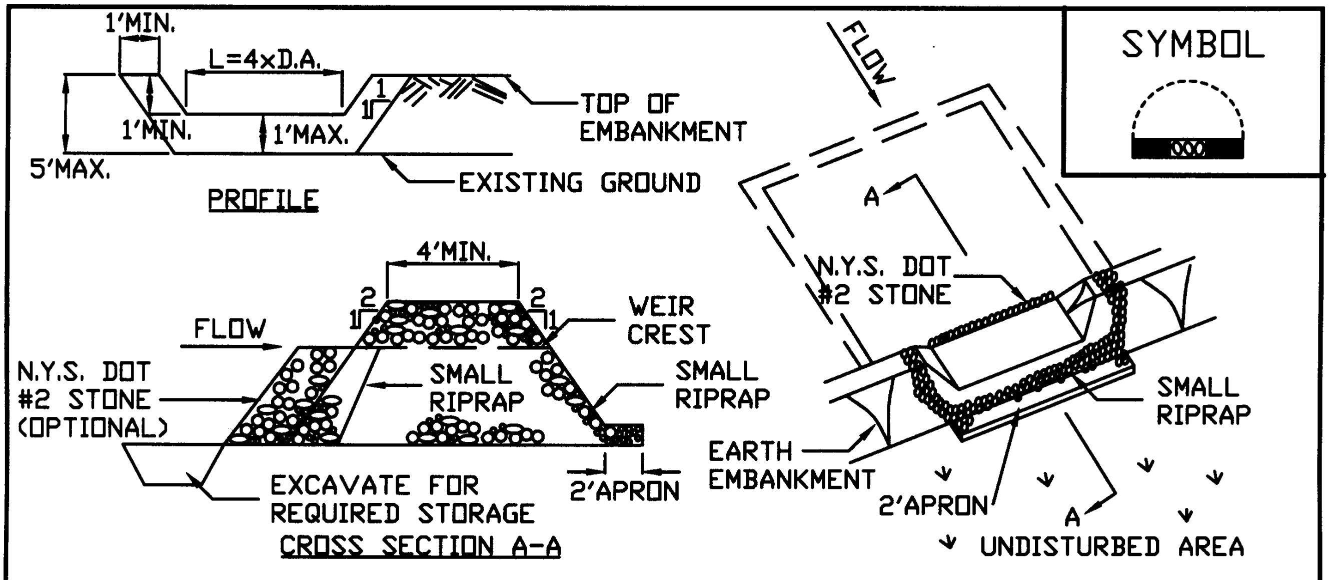
CONSTRUCTION SPECIFICATIONS

1. SEDIMENT SHALL BE REMOVED AND THE TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO 1/2 THE DESIGN DEPTH OF THE TRAP. REMOVED SEDIMENT SHALL BE DEPOSITED IN A SUITABLE AREA AND STABILIZED.
2. THE VOLUME OF SEDIMENT STORAGE SHALL BE 3600 CUBIC FEET PER ACRE OF CONTRIBUTORY DRAINAGE.
3. THE STRUCTURE SHALL BE INSPECTED AFTER EACH RAIN AND REPAIRS MADE AS NEEDED.
4. CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER THAT EROSION AND SEDIMENT ARE CONTROLLED.
5. THE SEDIMENT TRAP SHALL BE REMOVED AND THE AREA STABILIZED WHEN THE CONSTRUCTED DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.
6. ALL CUT SLOPES SHALL BE 1:1 OR FLATTER.

MAXIMUM DRAINAGE AREA: 3 ACRES

ADAPTED FROM DETAILS PROVIDED BY: USDA - NRCS, NEW YORK STATE DEPARTMENT OF TRANSPORTATION, NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE	CATCH BASIN SEDIMENT TRAP ST-III

Figure 5A.19
Stone Outlet Sediment Trap: ST-IV



OPTION: A ONE FOOT LAYER OF N.Y.S. DOT #2 STONE MAY BE PLACED ON THE UPSTREAM SIDE OF THE RIPRAP INPLACE OF THE EMBEDDED FILTER CLOTH.

CONSTRUCTION SPECIFICATIONS

1. AREA UNDER EMBANKMENT SHALL BE CLEARED, GRUBBED AND STRIPPED OF ANY VEGETATION AND ROOT MAT. THE POOL AREA SHALL BE CLEARED.
2. THE FILL MATERIAL FOR THE EMBANKMENT SHALL BE FREE OF ROOTS AND OTHER WOODY VEGETATION AS WELL AS OVER-SIZED STONES, ROCKS, ORGANIC MATERIAL OR OTHER OBJECTIONABLE MATERIAL. THE EMBANKMENT SHALL BE COMPACTED BY TRAVERSING WITH EQUIPMENT WHILE IT IS BEING CONSTRUCTED.
3. ALL CUT AND FILL SLOPES SHALL BE 2:1 OR FLATTER.
4. THE STONE USED IN THE OUTLET SHALL BE SMALL RIPRAP 4"-8" ALONG WITH A 1' THICKNESS OF 2" AGGREGATE PLACED ON THE UP-GRADE SIDE ON THE SMALL RIPRAP OR EMBEDDED FILTER CLOTH IN THE RIPRAP.
5. SEDIMENT SHALL BE REMOVED AND TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO 1/2 THE DESIGN DEPTH OF THE TRAP. IT SHALL BE PLACED ON SITE AND STABILIZED.
6. THE STRUCTURE SHALL BE INSPECTED AFTER EACH RAIN AND REPAIRS MADE AS NEEDED.
7. CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER THAT EROSION AND SEDIMENT ARE CONTROLLED.
8. THE STRUCTURE SHALL BE REMOVED AND THE AREA STABILIZED WHEN THE DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.

MAXIMUM DRAINAGE AREA 5 ACRES

ADAPTED FROM DETAILS PROVIDED BY: USDA - NRCS, NEW YORK STATE DEPARTMENT OF TRANSPORTATION, NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE	STONE OUTLET SEDIMENT TRAP ST-IV

Figure 5A.20(1)
Riprap Outlet Sediment Trap: ST-V

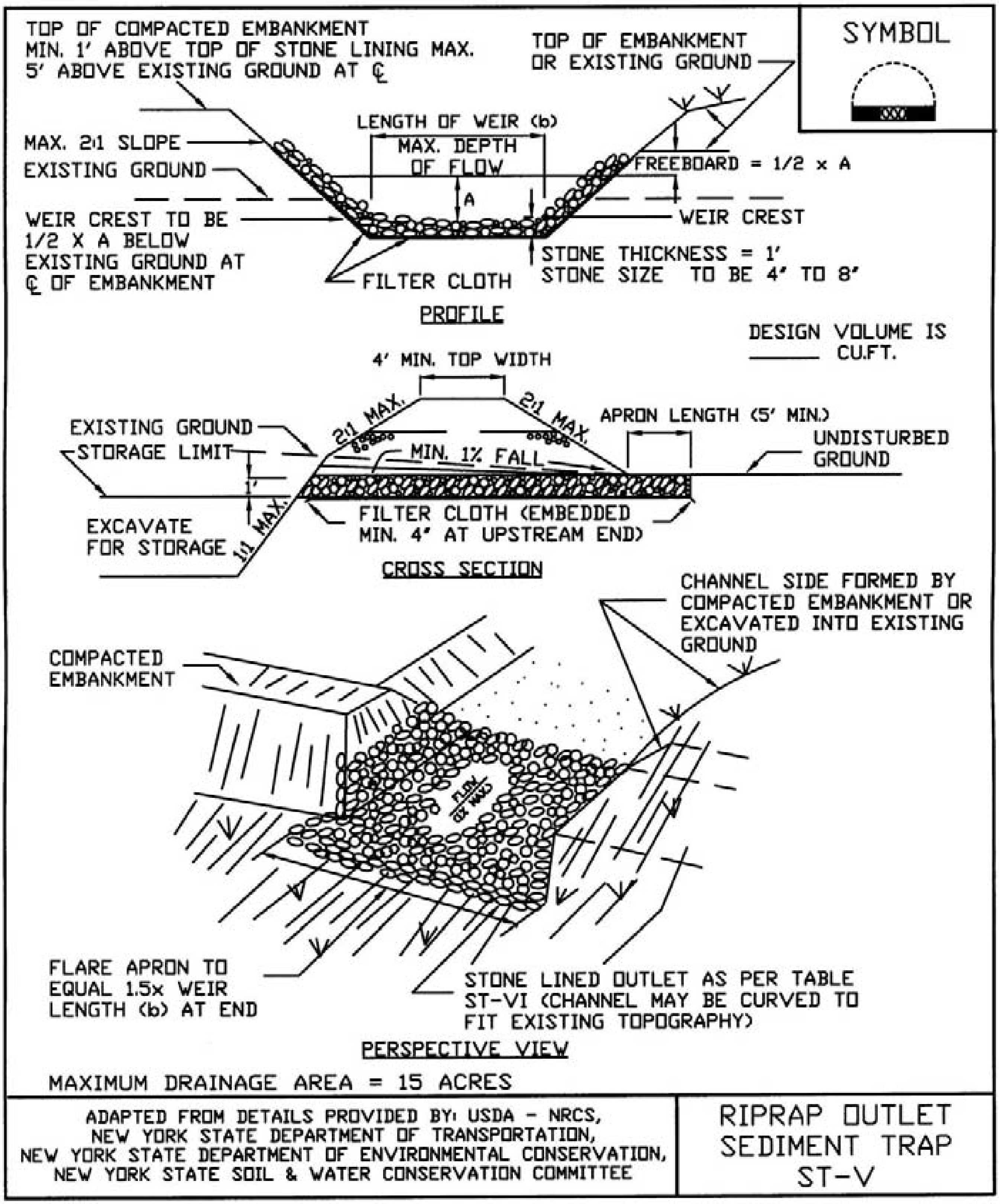


Figure 5A.202)
Riprap Outlet Sediment Trap: ST-V—Construction Specifications

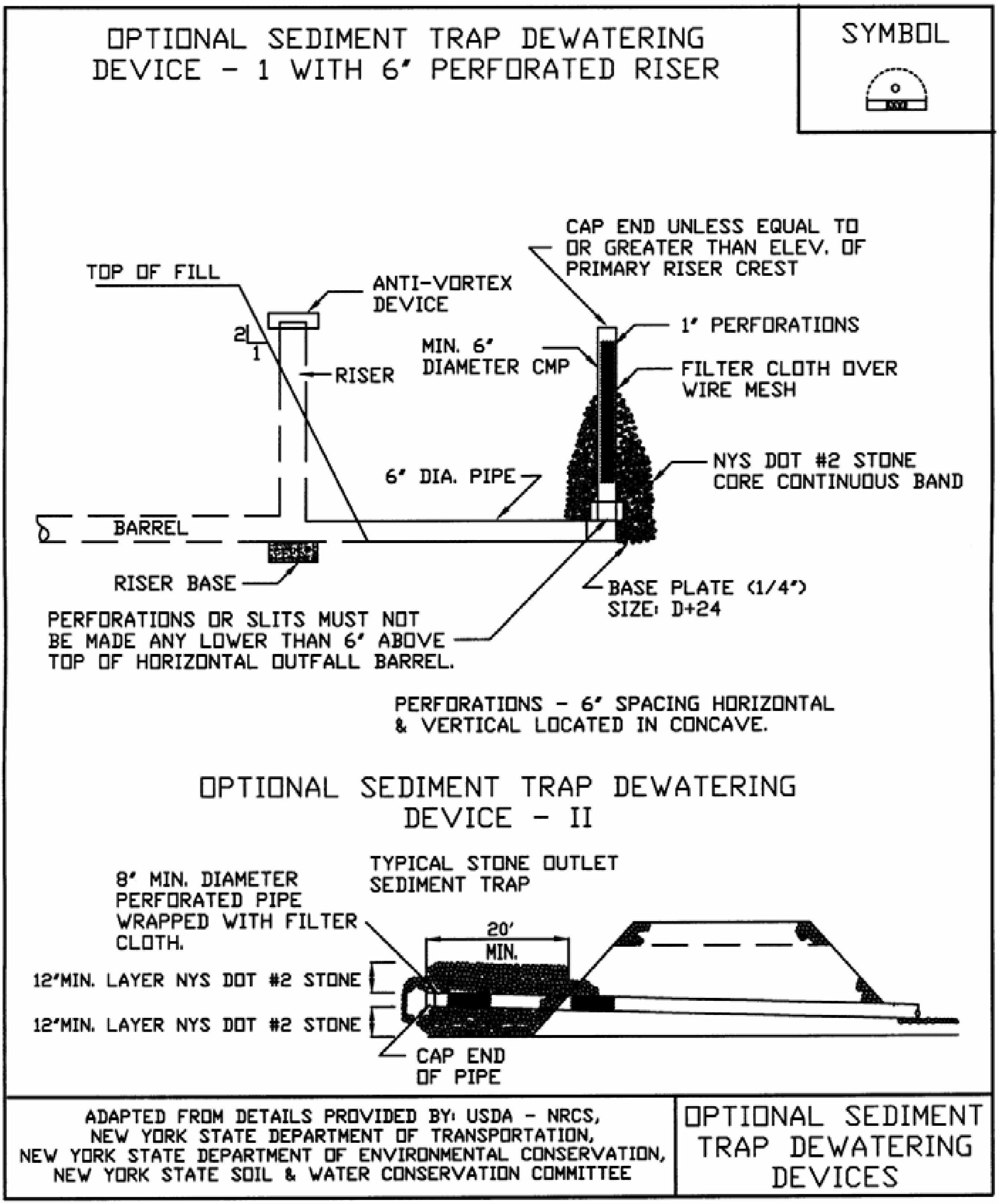
SYMBOL

CONSTRUCTION SPECIFICATIONS

1. THE AREA UNDER EMBANKMENT SHALL BE CLEARED, GRUBBED AND STRIPPED OF ANY VEGETATION AND ROOT MAT. THE POOL AREA SHALL BE CLEARED.
2. THE FILL MATERIAL FOR THE EMBANKMENT SHALL BE FREE OF ROOTS OR OTHER WOODY VEGETATION AS WELL AS OVER-SIZED STONES, ROCKS, ORGANIC MATERIAL OR OTHER OBJECTIONABLE MATERIAL. THE EMBANKMENT SHALL BE COMPACTED BY TRAVERSING WITH EQUIPMENT WHILE IT IS BEING CONSTRUCTED. MAXIMUM HEIGHT OF OF EMBANKMENT SHALL BE FIVE (5) FEET, MEASURED AT CENTERLINE OF EMBANKMENT.
3. ALL FILL SLOPES SHALL BE 2:1 OR FLATTER, CUT SLOPES 1:1 OR FLATTER.
4. ELEVATION OF THE TOP OF ANY DIKE DIRECTING WATER INTO TRAP MUST EQUAL OR EXCEED THE HEIGHT OF EMBANKMENT.
5. STORAGE AREA PROVIDED SHALL BE FIGURED BY COMPUTING THE VOLUME AVAILABLE BEHIND THE OUTLET CHANNEL UP TO AN ELEVATION OF ONE (1) FOOT BELOW THE LEVEL WEIR CREST.
6. FILTER CLOTH SHALL BE PLACED OVER THE BOTTOM AND SIDES OF THE OUTLET CHANNEL PRIOR TO PLACEMENT OF STONE. SECTIONS OF FABRIC MUST OVERLAP AT LEAST ONE (1) FOOT WITH SECTION NEAREST THE ENTRANCE PLACED ON TOP. FABRIC SHALL BE EMBEDDED AT LEAST SIX (6) INCHES INTO EXISTING GROUND AT ENTRANCE OUTLET CHANNEL.
7. STONE USED IN THE OUTLET CHANNEL SHALL BE FOUR (4) TO EIGHT (8) INCH RIPRAP. TO PROVIDE A FILTERING EFFECT, A LAYER OF FILTER CLOTH SHALL BE EMBEDDED ONE (1) FOOT WITH SECTION NEAREST ENTRANCE PLACED ON TOP. FABRIC SHALL BE EMBEDDED AT LEAST SIX (6) INCHES INTO EXISTING GROUND AT ENTRANCE OF OUTLET CHANNEL.
8. SEDIMENT SHALL BE REMOVED AND TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN SEDIMENT HAS ACCUMULATED TO 1/2 THE DESIGN DEPTH OF THE TRAP. REMOVED SEDIMENT SHALL BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE.
9. THE STRUCTURE SHALL BE INSPECTED AFTER EACH RAIN AND REPAIRED AS NEEDED.
10. CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER THAT EROSION AND WATER POLLUTION ARE MINIMIZED.
11. THE STRUCTURE SHALL BE REMOVED AND THE AREA STABILIZED WHEN DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.
12. DRAINAGE AREA FOR THIS PRACTICE IS LIMITED TO 15 ACRES OR LESS.

ADAPTED FROM DETAILS PROVIDED BY: USDA - NRCS, NEW YORK STATE DEPARTMENT OF TRANSPORTATION, NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE	RIPRAP OUTLET SEDIMENT TRAP ST-V

Figure 5A.21
Optional Sediment Trap Dewatering Devices



APPENDIX B-2

INSPECTION AND MAINTENANCE REPORT FORM

Inspection and Maintenance Report Form

To be completed every 7 days and within 24 hours of a rainfall event of 0.5 inches or more

Regular Inspector:_______________Rainfall Event Inspector:_____________Rainfall (inches):_____

Contractor Activities	OK	NO	N/A	Notes
Are construction onsite traffic routes, parking, and storage of equipment and supplies restricted to areas specifically designated for those uses?				
Are locations of temporary soil stock piles of construction materials in approved areas?				
Is there any evidence of spills and resulting cleanup procedures?				
General Erosion & Sediment Controls				
Are sediment and erosion BMPs installed in the proper location and according to the specifications set out in the SWM & ECP?				
Are all operational storm drain inlets protected from sediment inflow?				
Do any seeded or landscaped areas require maintenance, irrigation, fertilization, seeding or mulching?				
Is there any evidence that sediment is leaving the site?				
Is there any evidence of erosion or cut fill slopes?				
Perimeter Road Use				
Does much sediment get tracked on to the perimeter road? Is the gravel clean or is it filled with sediment? Does all traffic use the perimeter road to leave the site? Is maintenance or repair required for the perimeter road?				

______________________________ ______________________________

Inspected by (Signature) Date

Inspection and Maintenance Report Form

To be completed every 7 days and within 24 hours of a rainfall event of 0.5 inches or more

Inspector:______________________________

STABILIZATION MEASURES					
Area	Date Since Last Disturbed	Date of Next Disturbance	Stabilized? Yes/No	Stabilized with	Condition

Stabilization Required: ____
____
____
____
____
____
To be performed by: ____________________ On or before: ____________________

APPENDIX C

NYSDOH GENERIC COMMUNITY AIR MONITORING PLAN

BENCHMARK
ENVIRONMENTAL
ENGINEERING &
SCIENCE, PLLC

APPENDIX C

New York State Department of Health
Generic Community Air Monitoring Plan [1]

A Community Air Monitoring Plan (CAMP) requires real-time monitoring for volatile organic compounds (VOCs) and particulates (i.e., dust) at the downwind perimeter of each designated work area when certain activities are in progress at contaminated sites. The CAMP is not intended for use in establishing action levels for worker respiratory protection. Rather, its intent is to provide a measure of protection for the downwind community (i.e., off-site receptors including residences and businesses and on-site workers not directly involved with the subject work activities) from potential airborne contaminant releases as a direct result of investigative and remedial work activities. The action levels specified herein require increased monitoring, corrective actions to abate emissions, and/or work shutdown. Additionally, the CAMP helps to confirm that work activities did not spread contamination off-site through the air.

The generic CAMP presented below will be sufficient to cover many, if not most, sites. Specific requirements should be reviewed for each situation in consultation with NYSDOH to ensure proper applicability. In some cases, a separate site-specific CAMP or supplement may be required. Depending upon the nature of contamination, chemical- specific monitoring with appropriately-sensitive methods may be required. Depending upon the proximity of potentially exposed individuals, more stringent monitoring or response levels than those presented below may be required. Special requirements will be necessary for work within 20 feet of potentially exposed individuals or structures and for indoor work with co-located residences or facilities. These requirements should be determined in consultation with NYSDOH.

Reliance on the CAMP should not preclude simple, common-sense measures to keep VOCs, dust, and odors at a minimum around the work areas.

Community Air Monitoring Plan

Depending upon the nature of known or potential contaminants at each site, real-time air monitoring for volatile organic compounds (VOCs) and/or particulate levels at the perimeter of the exclusion zone or work area will be necessary. Most sites will involve VOC and particulate monitoring; sites known to be contaminated with heavy metals alone may only require particulate monitoring. If radiological contamination is a concern, additional monitoring requirements may be necessary per consultation with appropriate NYSDEC/NYSDOH staff.

Continuous monitoring will be required for all ground intrusive activities and during the demolition of contaminated or potentially contaminated structures. Ground intrusive activities include, but are not limited to, soil/waste excavation and handling, test pitting or trenching, and the installation of soil borings or monitoring wells.

[1] Taken from Appendix 1A of the Draft DER-10 Technical Guidance for Site Investigation and Remediation, December 2002.

APPENDIX C
(continued)

Periodic monitoring for VOCs will be required during non-intrusive activities such as the collection of soil and sediment samples or the collection of groundwater samples from existing monitoring wells. "Periodic" monitoring during sample collection might reasonably consist of taking a reading upon arrival at a sample location, monitoring while opening a well cap or overturning soil, monitoring during well baling/purging, and taking a reading prior to leaving a sample location. In some instances, depending upon the proximity of potentially exposed individuals, continuous monitoring may be required during sampling activities. Examples of such situations include groundwater sampling at wells on the curb of a busy urban street, in the midst of a public park, or adjacent to a school or residence

VOC Monitoring, Response Levels, and Actions

Volatile organic compounds (VOCs) must be monitored at the downwind perimeter of the immediate work area (i.e., the exclusion zone) on a continuous basis or as otherwise specified. Upwind concentrations should be measured at the start of each workday and periodically thereafter to establish background conditions. The monitoring work should be performed using equipment appropriate to measure the types of contaminants known or suspected to be present. The equipment should be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate. The equipment should be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below.

- If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities must be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities can resume with continued monitoring.
- If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities must be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less - but in no case less than 20 feet, is below 5 ppm over background for the 15-minute average.
- If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shutdown.

All 15-minute readings must be recorded and be available for State (DEC and DOH) personnel to review. Instantaneous readings, if any, used for decision purposes should also be recorded.

Particulate Monitoring, Response Levels, and Actions

Particulate concentrations should be monitored continuously at the upwind and downwind perimeters of the exclusion zone at temporary particulate monitoring stations. The particulate monitoring should be performed using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) for comparison to the airborne particulate action level. The equipment must be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration should be visually assessed during all work activities.

- If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/m3) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques must be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 mcg/m3 above the upwind level and provided that no visible dust is migrating from the work area.

- If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 mcg/m3 above the upwind level, work must be stopped and a re-evaluation of activities initiated. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 mcg/m3 of the upwind level and in preventing visible dust migration.

All readings must be recorded and be available for State (DEC and DOH) personnel to review.

PART III

ENVIRONMENTAL EASEMENTS

SITE MANAGEMENT PLAN
PART III

ENVIRONMENTAL EASEMENTS

7503 NIAGARA FALLS BOULEVARD SITE
NIAGARA FALLS, NEW YORK

November 2007 0101-002-500

Prepared for:

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Prepared by:

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