

# Periodic Review Report

**FORMER BUFFALO SERVICE CENTER, BURA WEST &  
4 NEW SEVENTH STREET SITES  
(SITE NOS. C915194, C915195, & C915203)**

**BUFFALO, NEW YORK**

July 2011

0235-001-900

Prepared By:



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**PERIODIC REVIEW REPORT**  
for the

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4 NEW SEVENTH STREET SITES  
(SITE NOS. C915194, C915195, & C915203)**

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July 2011

0235-001-900

Prepared for:

**257 W. GENESEE, LLC**

Prepared By:



Benchmark Environmental Engineering & Science, PLLC  
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**PERIODIC REVIEW REPORT**  
**FORMER BUFFALO SERVICE CENTER, BURA WEST &**  
**4 NEW SEVENTH STREET SITES**

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Appendix C	4 New 7 <sup>th</sup> Street Monitoring Results Collected During Reporting Period
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## 1.0 INTRODUCTION

Benchmark Environmental Engineering and Science, PLLC (Benchmark) has prepared this Periodic Review Report (PRR), on behalf of 257 W. Genesee, LLC, to summarize the post-remedial status of New York State Department of Environmental Conservation (NYSDEC) Brownfield Cleanup Program (BCP) Site Nos. C915194, C915195, and C915203.

This PRR has been prepared in accordance with NYSDEC's DER-10 *Technical Guidance for Site Investigation and Remediation* (May 2010) whereby one PRR is prepared when multiple parcels comprise the redeveloped Site. The NYSDEC's Institutional and Engineering Controls Certification Forms have been prepared for each individual Site (see Section 3.0). This PRR and the associated inspections forms have been completed for the April 1, 2010 to June 15, 2011 reporting period<sup>1</sup>.

### 1.1 Background

The 257 W. Genesee, LLC property (Site) encompasses three adjoining BCP Sites. The three parcels include: (1) the Former Buffalo Service Center Site (C915194); (2) the Buffalo Urban Renewal Agency (BURA) West Site (C915195); and (3) the 4 New Seventh Street Site (C915203) (see Figures 1 and 2).

The Former Buffalo Service Center (C915194) and the BURA West (C915195) parcels were the former location of the Buffalo Gas Light Company's (predecessor to National Fuel Gas) Manufactured Gas Plant (MGP). The MGP plant operated from approximately 1848 to 1948. Site investigations revealed that the century of industrial use on these parcels resulted in contamination of the soil/fill and groundwater with certain petroleum organics and cyanide. The 4 New Seventh Street (C915203) parcel was the location of a former coal storage yard until approximately 1900; a gasoline service station from 1927-1966; and various commercial / industrial operations. Impacts at this parcel were primarily related to former petroleum storage and distribution operations.

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<sup>1</sup> Following completion of the April 2010 PRR report, the NYSDEC approved modification of the annual reporting period to June 15<sup>th</sup> to avoid need for site inspection during snow-covered conditions. Consequently this PRR covers a period greater than 12 months.

The three parcels were remediated concurrently under the NYSDEC Brownfield Cleanup Program (BCP) for redevelopment as an office building complex (currently occupied by HealthNow) with a parking garage. Additional details relative to the history and remedial activities conducted at each of the parcels is discussed below.

## 2.0 SITE OVERVIEW

The Site is comprised of three former industrial/commercial properties located in the City of Buffalo, New York. The Site is bordered by Fourth Street to the west, West Genessee Street to the south, and Seventh Street to the east (see Figure 2). The Waterfront School borders the Site to the north (see Figure 2). A brief description of the three parcels is presented below.

### 2.1 Former Buffalo Service Center & Bura West Properties

The former Buffalo Service Center (BSC) property (Site No. C915194) is an approximately 4.9-acre parcel, located at the corner of West Genessee and Seventh Streets. The BURA West property (Site No. C915195) is an approximately 1.7-acre parcel, located west of the BSC property along Fourth Street. The BSC and Bura West properties were the location of the former Manufactured Gas Plant (MGP) which operated from approximately 1848 to 1948 by Buffalo Gas Light Company.

The environmental site investigations revealed the presence of volatile organic compounds (VOCs), specifically benzene, toluene, ethylbenzene, and xylene (BTEX); semi-volatile organic compounds (SVOCs) primarily polycyclic aromatic hydrocarbons (PAHs) and cyanide in on-site soil and groundwater.

In June 2005, remedial efforts under the BCP began with the excavation and off-site disposal of approximately 153,000-tons of contaminated soil/fill, and backfilling of excavation with clean material. Remedial activities at the former BSC and BURA West properties were completed in September 2006. All impacted soil/fill above cleanup levels was removed, and in 2006 NYSDEC determined that the Site “no longer poses a significant threat to the environment.” Certificate of Completions (COCs) were issued for the two properties in November 2006.

### 2.2 4 New Seventh Street Property

The 4 New Seventh Street property (Site No. C915203) is an approximately 1.7-acre parcel located east of the BSC property along New Seventh Street. The 4 New Seventh Street parcel was formerly a coal shed and storage yard until approximately 1900; gasoline

service stations from 1927-1966; and various commercial/industrial operations have been located on the property. Environmental site investigations conducted on-Site revealed the presence of petroleum-based VOCs and SVOCs in soil/fill and groundwater.

Remedial activities under the BCP began in May 2006 with excavation and off-site disposal of approximately 6,600-tons of contaminated soil/fill, and backfilling of the excavation with clean material. All impacted soil/fill above cleanup levels was removed within the property boundaries. A Certificate of Completion (COC) was issued for the Site in December 2006.



### **3.0 SITE MANAGEMENT PLAN**

A combined Site Management Plan (SMP) was prepared by ESC Engineering of New York, P.C., for the Buffalo Service Center and BURA West properties and approved by the Department in October 2006. A separate SMP was prepared by Lender Consulting Services (LCS) for the 4 New Seventh Street Site in December 2006. The SMPs include a Groundwater Monitoring Plan, a Soil/Fill Management Plan, and a copy of the Environmental Easements. A brief description of the components of the SMP is presented below.

#### **3.1 Groundwater Monitoring Plan**

As a component of the Department approved SMPs, post-remedial groundwater monitoring was required for the Buffalo Service Center/BURA West parcels and 4 New Seventh Street parcel on a quarterly basis for two (2) years following completion of the remedial activities. A total of 10 monitoring wells on and outside of the combined Site were sampled and analyzed for petroleum-based organic compounds per the SMP requirements, with quarterly groundwater monitoring results forwarded to the NYSDEC following each event. Wells on the Buffalo Service Center/ BURA West parcel were also analyzed for cyanide. Groundwater monitoring began in August 2007, and the eighth quarterly groundwater monitoring event was completed by WSP Engineering (WSP) in May 2009. Because wells MW-03 and MW-09 were slated for sampling under both the ESC SMP for the former BSC and BURA West parcels and the LCS SMP for the 4 New Seventh Street parcel, they were sampled under both programs. As such, duplicate samples were collected from these well locations each quarter. Also, MW-04 exhibited a thin layer of light non-aqueous phase liquid (LNAPL) during the initial monitoring event and was therefore excluded from subsequent sampling due to the likelihood for positive bias from this layer. The LNAPL is believed to be attributable to residual off-site impact west of the property boundary and is expected to be addressed by the NYSDEC and/or other responsible parties at a future date.

## 3.2 Groundwater Monitoring Results

### *3.2.1 Former Buffalo Service Center & BURA West Properties*

As part of the eighth quarterly groundwater monitoring report WSP presented trend analyses for MW-01, MW-03, and MW-09. Excluding MW-04 (where LNAPL was present), the remaining locations exhibited non-detectable or sufficiently low concentrations to preclude the need for trend evaluation. In general, concentrations were reported at non-detectable levels or dropped over the 2-year period at most locations, with notable exception at MW-09 where the concentration trend analysis showed an increase in benzene concentration over the 2-year monitoring period. A subset of the report, including figures, tables, and trend analysis charts are attached in Appendix A.

Based on the results related to MW-09, a Pre-Design Investigation Report and Chemical Oxidation/Enhanced Bioremediation Work Plan (July 2009) was prepared by WSP. The work plan proposed the injection of Klozur CR® in the vicinity of MW-09. NYSDEC approved the subsequent work plan, and the injection was performed in August 2009. Post-injection groundwater monitoring was initiated as part of the work plan, whereby quarterly monitoring for one year at MW-09 and semi-annual monitoring for one year at MW-01 and MW-03 was initiated. The first round of groundwater monitoring was conducted for MW-09, MW-01, and MW-03 in November 2009 by WSP. The fourth quarterly event was undertaken in August 2010. These latter results indicated a drop in benzene levels at MW-03 and MW-09. (See Appendix B), suggesting that insitu enhanced benzene degradation is occurring. In response, the NYSDEC issued correspondence acknowledging the benzene reduction but requiring continued semi-annual monitoring at MW-09 and annual monitoring at MW-01 and MW-03.

### *3.2.2 4 New Seventh Street Site*

Under the eighth quarterly monitoring report WSP also completed trend analyses for wells BCP-MW-04 and BCP-MW-05. Well BCP-MW-02 historically exhibited low or non-detectable concentrations. Accordingly, it was decommissioned with NYSDEC approval in January 2010. Based on the results of the quarterly groundwater monitoring previously conducted and ongoing remediation at MW-09, the NYSDEC requested that BCP-MW-04

and BCP-MW-05 be monitored for Spill Technology and Remediation Series (STARS) List volatile organic compounds (VOCs) on an annual basis. Samples were collected from both well locations in May 2010. Monitoring results are included in Appendix C. As indicated, trace level petroleum VOC detections were recorded at both locations but at levels well below the associated Class GA Groundwater Quality Standards and Guidance Values. In June 2010 257 W. Genesee St., LLC requested approval to decommission these wells. The NYSDEC approved the request for BCP-MW-05, but required continued monitoring at BCP-MW-04 for 1-2 additional annual sampling events. BCP-MW-05 and a piezometer (PZ-10) which remained on the 4 New Seventh Street Site from the earlier remedial investigation were decommissioned by a qualified driller (Earth Dimensions, Inc.) with oversight by Benchmark Environmental Engineering & Science on June 29, 2010.

In May 2011 a sample was collected from BCP-MW-04 and analyzed for NYSDEC STARS List VOCs. Results were reported as non-detectable for all parameters (see Appendix C). The NYSDEC subsequently approved decommissioning of BCP-MW-04 in June 2011. The decommissioning work is expected to occur in summer of 2011; the NYSDEC will be informed of the work in advance of mobilization to allow inspection by Department personnel, if desired.

### **3.3 Soil/Fill Management Plan**

A Soil/Fill Management Plan (SFMP) was included in the approved-SMP for the Site. The SFMP provides guidelines for the management of soil and fill material during any future intrusive activities which disturb soil/fill greater than 12-inches below surface-grade. A passive vapor barrier was installed into the foundation slab of the office buildings during construction.

To the best of Benchmark's knowledge, no intrusive activities requiring management of on-Site soil or fill material; or the placement of backfill materials occurred during the monitoring period.

### 3.4 Institutional Control Requirements and Compliance

As detailed in the Environmental Easements, filed with the Erie County, New York, several Institutional Controls (ICs) need to be maintained as a requirement of the BCAs for the Site. Specifically, all three properties encompassing the Site are subject to the same ICs as listed below:

- Land-Use Restriction: The controlled property may be used for commercial and/or industrial use;
- Implementation of the SMP including the Groundwater Monitoring Plan, Soil/Fill Management Plan, and Monitoring Plan; and
- Groundwater-Use Restriction – the use of groundwater for potable and non-potable purposes is prohibited.

A Site Inspection of the exterior of the property was conducted by Benchmark on July 7, 2011. At the time of the inspection, the property remained in use as a large office building complex (occupied by the tenant, HealthNow) with elevated parking ramp, surface parking, paved walkways and landscaped shrubbery and mowed lawn areas. No observable indication of intrusive activities was noted during the Site Inspection, nor were any uses inconsistent with or less restrictive than commercial use observed. The office complex is on municipal water supply, and no observable use of groundwater was noted during the site inspection. Completed Institutional Control Certification Forms for the Site are provided in Appendix D. A photolog is presented in Appendix E.

#### 4.0 CONCLUSIONS AND RECOMMENDATIONS

At the time of the site inspection, the Site was in compliance with the Site Management Plan and all IC/EC requirements. No changes in Site use or known environmental conditions were identified that would create new exposure pathways. Accordingly, no corrective measures are required at this time.

## 5.0 DECLARATION/LIMITATION

Benchmark Environmental Engineering and Science, PLLC, personnel conducted the annual site inspections for Brownfield Cleanup Program Site Nos. C915194, C915195, C915203, Buffalo, New York, according to generally accepted practices. This report complied with the scope of work provided to 257 W. Genesee, LLC by Benchmark Environmental Engineering and Science, PLLC.

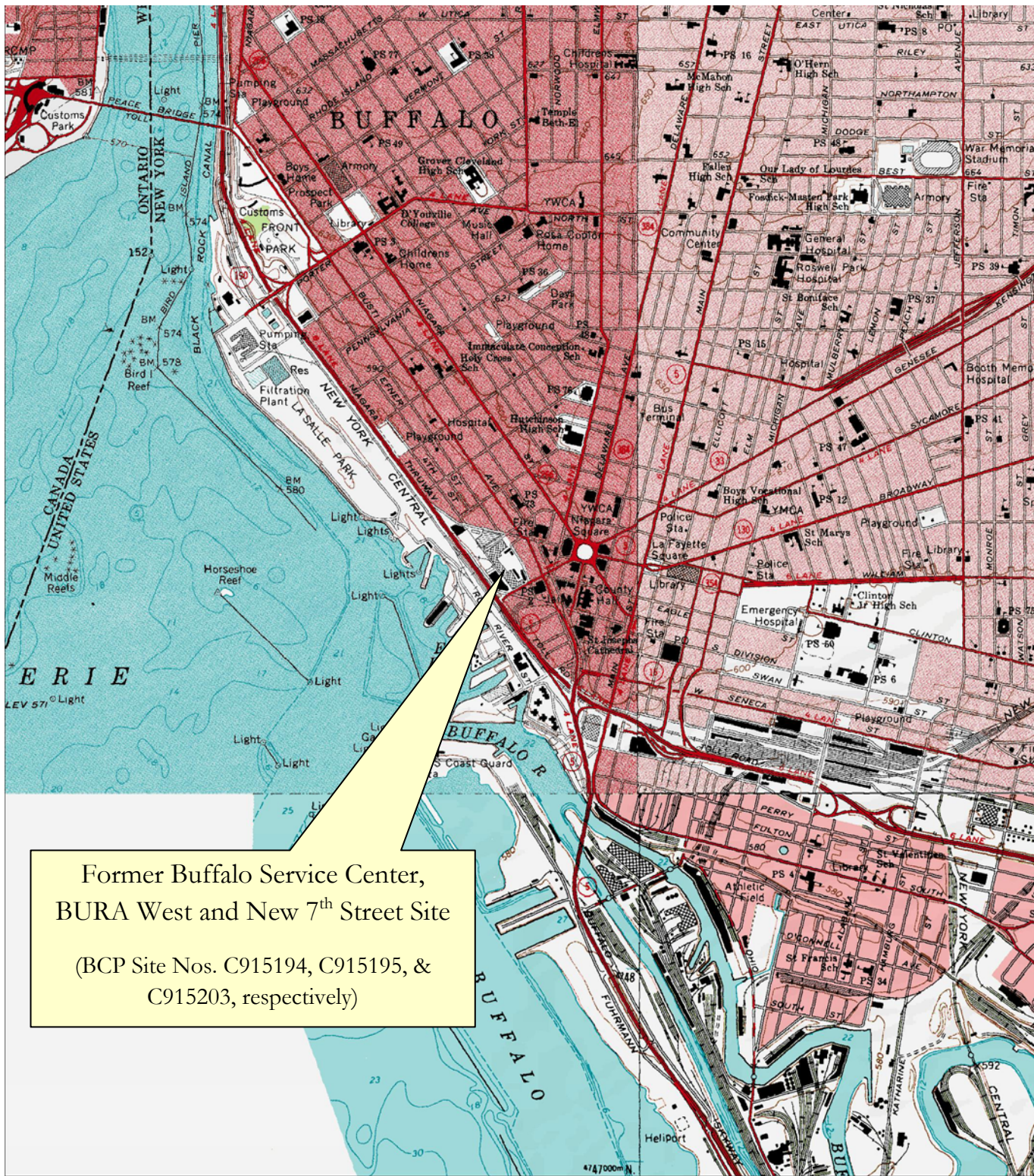
This report has been prepared for the exclusive use of 257 W. Genesee, LLC. The contents of this report are limited to information available at the time of the site inspection. The findings herein may be relied upon only at the discretion of 257 W. Genesee, LLC. Use of or reliance upon this report or its findings by any other person or entity is prohibited without written permission of Benchmark Environmental Engineering and Science, PLLC.

## 6.0 REFERENCES

1. *Pre-Design Investigation Report, Buffalo Service Center, Buffalo, NY*, dated February 2004, prepared by The RETEC Group, Inc.
2. *Limited and Focused Subsurface Investigation, Seventh Street Site and Fourth Street Site, Buffalo, New York*, dated February 2005, prepared by LCS, Inc.
3. *Limited and Focused Subsurface Investigation, Seventh Street Site and Fourth Street Site, Buffalo, New York*, dated April 2005, prepared by LCS, Inc.
4. *Remedial Investigation Work Plan for 4 New Seventh Street, Buffalo, New York*, prepared by LCS, Inc. and Benchmark Environmental Engineering & Science, PLLC, January 2006.
5. *Interim Remedial Measures Work Plan for Brownfield Cleanup Program - 4 New Seventh Street, Buffalo, New York*, prepared by LCS, Inc. and Benchmark Environmental Engineering & Science, PLLC, February 2006.
6. *Final Engineering Report for Interim Remedial Measures - 4 New Seventh Street, Buffalo, New York*, prepared by LCS, Inc. and Benchmark Environmental Engineering & Science, PLLC, August 2006
7. *Final Remedial Action Report Brownfield Cleanup Program – Former Buffalo Service Center Site (C915194), Buffalo Urban Renewal Agency West Site (C915195) Buffalo, New York*, prepared by ESC Engineering of New York, P.C., October 2006
8. *Final Site Management Plan – Former Buffalo Service Center Site (C915194), Buffalo Urban Renewal Agency West Site (C915195), Fourth and West Genesee Streets, Buffalo, New York*, prepared by ESC Engineering of New York, P.C., October 2006
9. *Site Management Plan - 4 New Seventh Street, Buffalo, New York*, prepared by LCS, Inc. and Benchmark Environmental Engineering & Science, PLLC, December 2006.
10. New York State Department of Environmental Conservation. *Draft DER-10; Technical Guidance for Site Investigation and Remediation*. November 2009.

# FIGURES

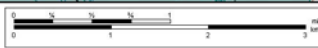




Former Buffalo Service Center,  
 BURA West and New 7<sup>th</sup> Street Site  
 (BCP Site Nos. C915194, C915195, &  
 C915203, respectively)



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 www.delorme.com



2558 HAMBURG TURNPIKE  
 SUITE 300  
 BUFFALO, NY 14218  
 (716) 856-0599

## SITE LOCATION AND VICINITY MAP

PERIODIC REVIEW REPORT

FORMER BUFFALO SERVICE CENTER, BURA WEST  
 AND NEW SEVENTH STREET SITE  
 BUFFALO, NEW YORK

PREPARED FOR

257 W. GENESEE STREET, LLC

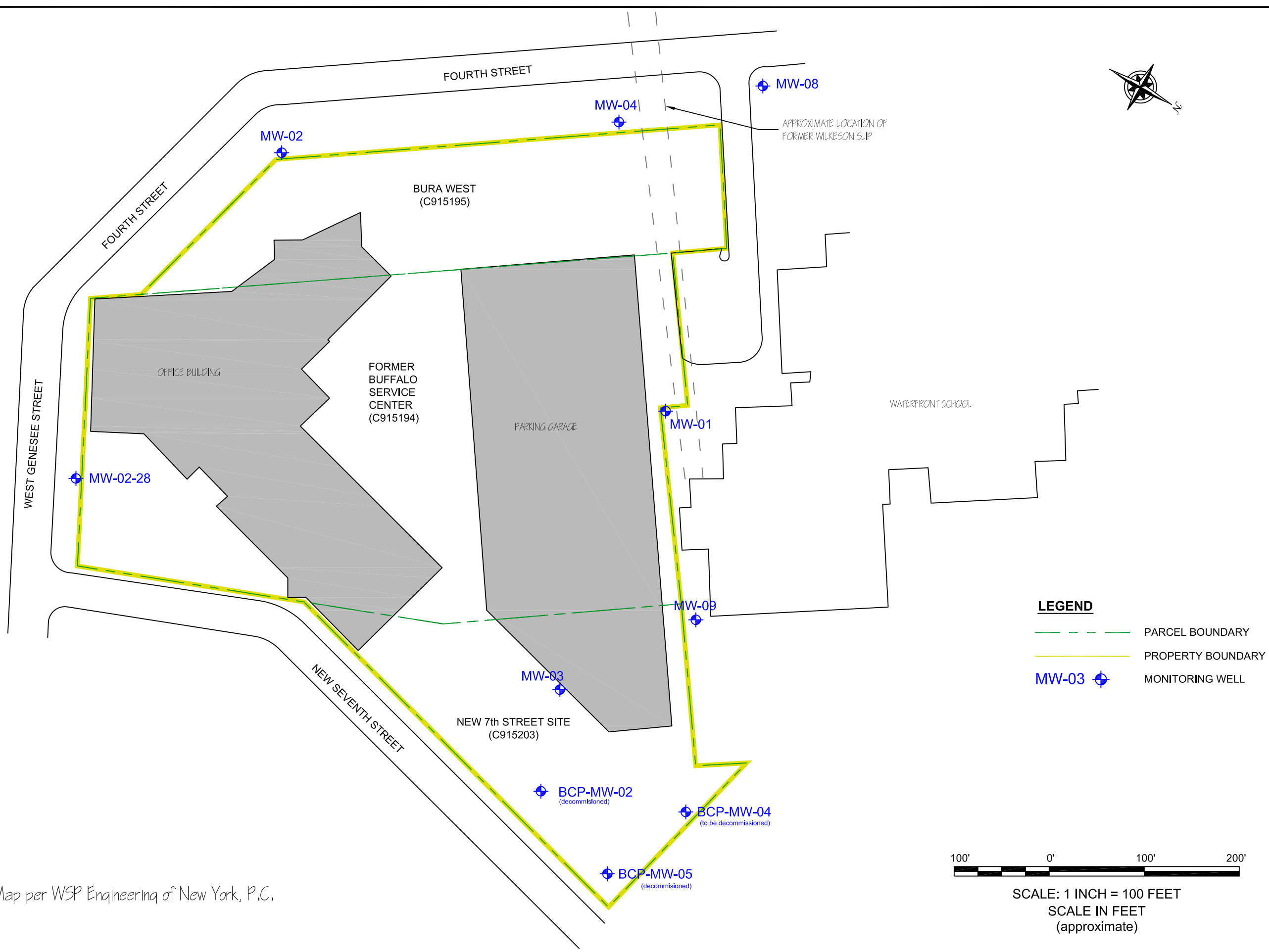
PROJECT NO.: 0184-002-100

DATE: MARCH 2010



DRAFTED BY: NTM

DATE: JULY 2011  
DRAFTED BY: NTM

Note:  
Base Map per WSP Engineering of New York, P.C.



**LEGEND**

	PARCEL BOUNDARY
	PROPERTY BOUNDARY
 MW-03	MONITORING WELL

100' 0' 100' 200'

SCALE: 1 INCH = 100 FEET  
SCALE IN FEET  
(approximate)

### SITE PLAN

PERIODIC REVIEW REPORT  
FORMER BUFFALO SERVICE CENTER, BURA WEST  
AND NEW SEVENTH STREET SITES  
BUFFALO, NEW YORK  
PREPARED FOR  
257 W. GENESEE STREET, LLC

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JOB NO.: 0184-002-100

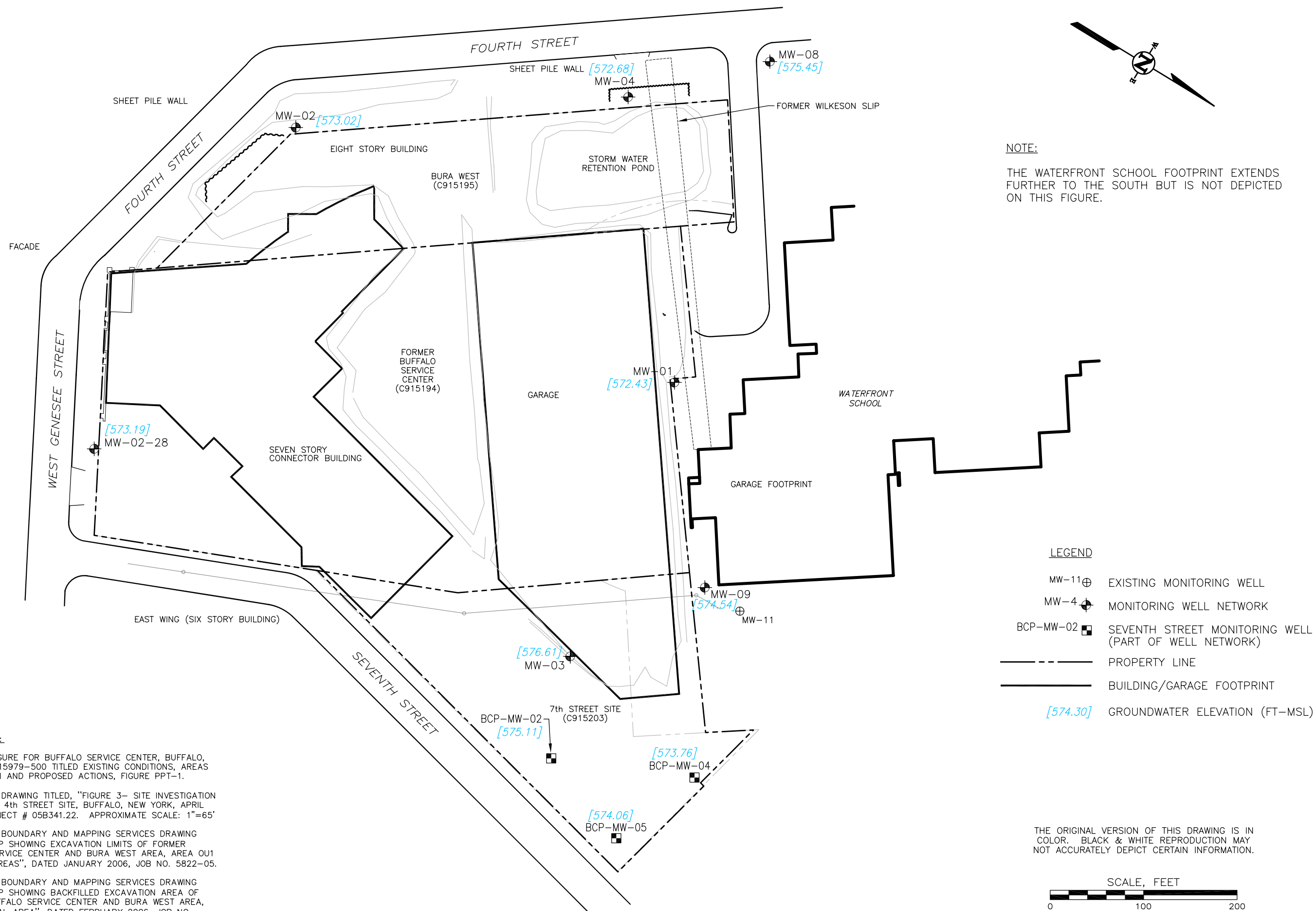
**FIGURE 2**

# APPENDIX A

## EIGHTH QUARTERLY GROUNDWATER MONITORING REPORT WSP ENGINEERING OF NEW YORK, P.C.

### FIGURES, TABLES AND TREND ANALYSIS CHARTS

R:\AutoCAD DWGs\1901198012 QLT Bura West\198012B27.dwg, 7/8/2009 3:30:45 PM



**NOTE:**  
THE WATERFRONT SCHOOL FOOTPRINT EXTENDS FURTHER TO THE SOUTH BUT IS NOT DEPICTED ON THIS FIGURE.

- LEGEND**
- MW-11 ⊕ EXISTING MONITORING WELL
  - MW-4 ⊕ MONITORING WELL NETWORK
  - BCP-MW-02 ⊕ SEVENTH STREET MONITORING WELL (PART OF WELL NETWORK)
  - PROPERTY LINE
  - BUILDING/GARAGE FOOTPRINT
  - [574.30] GROUNDWATER ELEVATION (FT-MSL)

- REFERENCES:**
1. RETEC FIGURE FOR BUFFALO SERVICE CENTER, BUFFALO, NY, NFGD1-15979-500 TITLED EXISTING CONDITIONS, AREAS OF CONCERN AND PROPOSED ACTIONS, FIGURE PPT-1.
  2. LCS INC. DRAWING TITLED, "FIGURE 3- SITE INVESTIGATION PLAN, BURA 4th STREET SITE, BUFFALO, NEW YORK, APRIL 2005", PROJECT # 05B341.22. APPROXIMATE SCALE: 1"=65'
  3. NIAGARA BOUNDARY AND MAPPING SERVICES DRAWING TITLED, "MAP SHOWING EXCAVATION LIMITS OF FORMER BUFFALO SERVICE CENTER AND BURA WEST AREA, AREA OUI REMEDIAL AREAS", DATED JANUARY 2006, JOB NO. 5822-05.
  4. NIAGARA BOUNDARY AND MAPPING SERVICES DRAWING TITLED, "MAP SHOWING BACKFILLED EXCAVATION AREA OF FORMER BUFFALO SERVICE CENTER AND BURA WEST AREA, OUI REMEDIAL AREA", DATED FEBRUARY 2006, JOB NO. 5822-05.

THE ORIGINAL VERSION OF THIS DRAWING IS IN COLOR. BLACK & WHITE REPRODUCTION MAY NOT ACCURATELY DEPICT CERTAIN INFORMATION.

SCALE, FEET

0 100 200

Drawn By: *RAZ-06009*  
 Checked:  
 Approved:  
 DWG Name: 198012-B27

FORMER BUFFALO SERVICE CENTER SITE  
 BURA WEST SITE - BUFFALO, NEW YORK  
 PREPARED FOR  
 QLT BUFFALO LLC  
 BUFFALO, NEW YORK

FIGURE 1  
 SITE LAYOUT AND GROUNDWATER  
 ELEVATIONS (MAY 2009)

**WSP**  
**Engineering of**  
**New York, P.C.**  
 750 Holiday Drive, Suite 410  
 Pittsburgh, PA 15220 412-604-1040

Table 1

Summary of Monitoring Well Construction Details and Groundwater Elevations  
 QLT Buffalo  
 Buffalo, New York (a)

Location	New York State Plane Coordinates		Ground Surface Elevation (ft-MSL)	Top-of-Casing Elevation (ft-MSL)	August 2007		November 2007		March 2008		May 2008	
	Easting	Northing			Groundwater Elevation (ft-TOC)	Groundwater Elevation (ft-MSL)	Groundwater Elevation (ft-TOC)	Groundwater Elevation (ft-MSL)	Groundwater Elevation (ft-TOC)	Groundwater Elevation (ft-MSL)	Groundwater Elevation (ft-TOC)	Groundwater Elevation (ft-MSL)
MW-01	1067826.8	1051781.5	581.32	580.98	9.75	571.23	9.5	571.48	9.24	571.74	8.56	572.42
MW-02	1067805.0	1051293.6	585.97	585.53	10.79	574.74	9.73	575.80	10.33	575.20	10.7	574.83
MW-03	1068135.0	1051838.9	584.30	584.28	7.94	576.34	8.08	576.20	7.37	576.91	7.41	576.87
MW-04	1067592.0	1051580.3	588.37	590.82	19.49 (b)	571.33	18.77 (b)	572.05	18.95 (b)	571.87	18.64 (b)	572.18
MW-08	1067480.7	1051690.0	581.22	583.35	8.77	574.58	7.21	576.14	7.05	576.30	7.96	575.39
MW-09	1067997.2	1051923.5	580.59	580.25	5.89	574.36	5.41	574.84	4.09	576.16	5.81	574.44
MW-02-28	1068210.8	1051288.4	583.10	582.73	11.61	571.12	9.73	573.00	10.10	572.63	9.81	572.92
BCP-MW-02	1068238.9	1051878.3	584.53	583.9	8.84	575.06	8.56	575.34	7.89	576.01	8.72	575.18
BCP-MW-04	1068176.5	1052019.9	586.99	586.69	13.11	573.58	12.55	574.14	12.92	573.77	13.09	573.60
BCP-MW-05	1068275.5	1051982.3	586.09	585.67	11.74	573.93	11.41	574.26	11.34	574.33	11.67	574.00

Location	New York State Plane Coordinates		Ground Surface Elevation (ft-MSL)	Top-of-Casing Elevation (ft-MSL)	August 2008		November 2008		February 2009		May 2009	
	Easting	Northing			Groundwater Elevation (ft-TOC)	Groundwater Elevation (ft-MSL)	Groundwater Elevation (ft-TOC)	Groundwater Elevation (ft-MSL)	Groundwater Elevation (ft-TOC)	Groundwater Elevation (ft-MSL)	Groundwater Elevation (ft-TOC)	Groundwater Elevation (ft-MSL)
MW-01	1067826.8	1051781.5	581.32	580.98	9.01	571.97	9.41	571.57	9.17	571.81	8.55	572.43
MW-02	1067805.0	1051293.6	585.97	585.53	12.31	573.22	11.74	573.79	10.71	574.82	12.51	573.02
MW-03	1068135.0	1051838.9	584.30	584.28	8.16	576.12	8.79	575.49	7.11	577.17	7.67	576.61
MW-04	1067592.0	1051580.3	588.37	590.82	18.68 (b)	572.14	19.06 (b)	571.76	18.77 (b)	572.05	18.14 (b)	572.68
MW-08	1067480.7	1051690.0	581.22	583.35	7.98	575.37	7.49	575.86	6.87	576.48	7.90	575.45
MW-09	1067997.2	1051923.5	580.59	580.25	5.6	574.65	5.59	574.66	5.65	574.6	5.71	574.54
MW-02-28	1068210.8	1051288.4	583.10	582.73	11.32	571.41	10.51	572.22	10.15	572.58	9.54	573.19
BCP-MW-02	1068238.9	1051878.3	584.53	583.9	8.89	575.01	8.94	574.96	8.07	575.83	8.79	575.11
BCP-MW-04	1068176.5	1052019.9	586.99	586.69	12.91	573.78	12.72	573.97	12.39	574.3	12.93	573.76
BCP-MW-05	1068275.5	1051982.3	586.09	585.67	11.66	574.01	11.61	574.06	11.20	574.47	11.61	574.06

a/ ft-msl = feet mean sea level; ft-TOC = feet top of casing.

b/ Non-aqueous phase liquid present at time of groundwater elevation measurement.

Less than 0.01 ft-TOC was measured at the surface of MW-04.

**Table 2**

**Summary of Field Monitoring Results for May 2009 Groundwater Sampling Event  
QLT Buffalo  
Buffalo, New York (a)**

<u>Well</u>	<u>Temperature (°C)</u>	<u>Specific Conductance (mS/cm)</u>	<u>Dissolved Oxygen (mg/l)</u>	<u>pH (s.u.)</u>	<u>ORP (mV)</u>	<u>Turbidity (NTUs)</u>	<u>Purge Volume (gal)</u>
MW-01	10.9	1.682	2.05	7.36	-160.3	1,253	6.5
MW-02	13.77	2.005	1.87	7.52	-98.2	284	5.2
MW-02-28	10.32	2.296	2.10	7.19	-52.1	287	5
MW-03	10.3	1.603	2.81	7.22	-86.5	600	6
MW-04	- (b)	- (b)	- (b)	- (b)	- (b)	- (b)	- (b)
MW-08	11.77 (c)	1.11 (c)	3.27 (c)	7.21 (c)	-99.6 (c)	274 (c)	7 (c)
MW-09	9.86	1.412	2.04	7.05	-77.6	241	6.3
BCP-MW-02	12.41	1.627	1.82	6.92	-38.5	220	2.7
BCP-MW-04	10.74	2.439	3.58	7.10	-10.6	1,457	0.792
BCP-MW-05	11.44	2.141	2.60	8.71	-188.9	174	1.6

a/ °C = degrees Celsius; mS/cm = milliSiemens per centimeter; mg/l = milligrams per liter; s.u. standard units; mV = milliVolts

NTUs = nephelometric turbidity units; gal = gallon.

b/ Well not purged due to presence of non-aqueous phase liquid.

c/ Well purged dry at 7 gallons. The field parameters were recorded from the final purge volume.

**Table 3**  
**Summary of Groundwater Sampling Results**  
**QLT Buffalo**  
**Buffalo, New York (a)**

Sample ID:	MW-01										MW-02						MW-02-28											
Sample Date:	08/21/07 (b)	08/21/07 (b)	11/28/07	03/03/08	05/28/08	08/25/08	11/20/08	02/24/09	05/19/09	08/21/07	11/28/07	03/04/08	05/28/08	08/26/08	11/21/08	02/25/09	05/19/09	Pre-Remediation		Post-Remediation								
																		Oct 2002	Nov 2003	08/21/07	11/28/07	03/04/08	05/28/08	08/26/08	11/21/08 (b)	11/21/08 (b)		
<b>Parameters</b>	<b>NSYDEC Values (c)</b>																											
<b>Volatile Organic Compounds (µg/l)</b>																												
Benzene	1	270	270	300	340	290	210	240	52	180	4.6	1 U (d)	1 U	1 U	0.43 J	1 U	1 U	2.2	3,300	7,100	1 U	2 U	1 U	1 U	0.52 J	1 U	1 U	
Ethylbenzene	5	130	130	130	140	110	84	76	55	38	4.1	1 U	1 U	1 U	0.53 J	1 U	1 U	0.81 J	740	550	1 U	2 U	1 U	1 U	0.71 J	1 U	1 U	
Toluene	5	1.8	1.7	5 U	5 U	5 U	5 U	5 U	0.98 J	0.83 J	0.89 J	1 U	0.52 J	1 U	1 U	1 U	1 U	1 U	190	690	1 U	2 U	1 U	1 U	1 U	1 U	1 U	
Total Xylenes	5	17	16	7.6 J	8.4 J	6.1 J	8.9 J	15 U	4.1	3.7	6.2	3 U	3 U	3 U	3 U	3 U	2 U	2 U	1,100	1,200	3 U	6 U	3 U	3 U	3 U	3 U	3 U	
<b>Semi-Volatile Organic Compounds (µg/l)</b>																												
Acenaphthene	20 (e)	26	24	27	19	23	18	13	25	18	5 U	5 U	5 U	5 U	5 U	2 U	4.8 U	10 U	19	190 U	5 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U
Acenaphthylene	-	0.4 J	0.3 J	0.4 J	0.3 J	0.3 J	0.3 J	1 U	0.36 J	10 U	5 U	5 U	5 U	5 U	5 U	2 U	4.8 U	10 U	3 J	190 U	5 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U
Anthracene	50 (e)	0.9 J	0.8 J	0.7 J	0.5 J	0.7 J	0.4 J	1 U	0.97 J	10 U	5 U	5 U	5 U	5 U	5 U	2 U	4.8 U	10 U	ND	190 U	0.2 J	5 U	5 U	5 U	5 U	5 U	1 U	1 U
Benzo(a)anthracene	0.002 (e)	5 U	5 U	5 U	0.1 U	5 U	5 U	1 U	5 U	10 U	5 U	5 U	5 U	5 U	5 U	2 U	4.84 U	10 U	ND	190 U	5 U	5 U	0.1 U	5 U	5 U	5 U	1 U	1 U
Benzo(a)pyrene	0.002 (e,f)	5 U	5 U	5 U	5 U	5 U	5 U	1 U	5 U	10 U	5 U	5 U	5 U	5 U	5 U	2 U	4.8 U	10 U	ND	190 U	5 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U
Benzo(b)fluoranthene	0.002 (e)	5 U	5 U	5 U	5 U	5 U	5 U	1 U	5 U	10 U	5 U	5 U	5 U	5 U	5 U	2 U	4.8 U	10 U	ND	190 U	5 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U
Benzo(ghi)perylene	-	5 U	5 U	5 U	5 U	5 U	5 U	1 U	5 U	10 U	5 U	5 U	5 U	5 U	5 U	2 U	4.8 U	10 U	ND	190 U	5 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U
Benzo(k)fluoranthene	0.002 (e)	5 U	5 U	5 U	5 U	5 U	5 U	1 U	5 U	10 U	5 U	5 U	5 U	5 U	5 U	2 U	4.8 U	10 U	ND	190 U	5 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U
Chrysene	0.002 (e)	5 U	5 U	5 U	5 U	5 U	5 U	1 U	5 U	10 U	5 U	5 U	5 U	5 U	5 U	2 U	4.8 U	10 U	ND	190 U	5 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U
Dibenzo(a,h)anthracene	-	5 U	5 U	5 U	5 U	5 U	5 U	1 U	5 U	10 U	5 U	5 U	5 U	5 U	5 U	2 U	4.8 U	10 U	ND	190 U	5 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U
Fluoranthene	50 (e)	0.2 J	0.2 J	5 U	0.2 J	5 U	5 U	1 U	0.28 J	10 U	5 U	5 U	5 U	5 U	5 U	2 U	4.8 U	10 U	ND	190 U	0.2 J	5 U	5 U	5 U	5 U	5 U	1 U	1 U
Fluorene	50 (e)	10	9	12 J	7	8	6	3	8.7	6.7 J	5 U	5 U	5 U	5 U	5 U	2 U	4.8 U	10 U	2 J	190 U	0.3 J	5 U	5 U	5 U	5 U	5 U	1 U	1 U
Indeno(1,2,3-cd)pyrene	0.002 (e)	5 U	5 U	5 U	5 U	5 U	5 U	1 U	5 U	10 U	5 U	5 U	5 U	5 U	5 U	2 U	4.8 U	10 U	ND	190 U	5 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U
2-Methylnaphthalene	-	5 U	23	5 U	8	5 U	5	-	5 U	10 U	5 U	5 U	5 U	5 U	5 U	-	4.8 U	10 U	91	140 J	0.4 J	5 U	5 U	5 U	5 U	5 U	-	-
Naphthalene	10 (e)	5	5	8	3 J	2 J	2 J	4	1.8 J	10 U	5 U	8	0.9 J	1 J	0.4 J	2 U	0.34 J	10 U	2,000	3,800	5 U	2 U	5 U	5 U	5 U	5 U	1 U	1 U
Phenanthrene	50 (e)	5	5	4 J	2 J	2 J	0.6 J	1 U	0.3 J	10 U	5 U	5 U	5 U	5 U	5 U	2 U	4.8 U	10 U	ND	190 U	1 J	5 U	0.2 J	5 U	5 U	5 U	1 U	1 U
Pyrene	50 (e)	5 U	5 U	5 U	5 U	5 U	0.1 J	1 U	0.16 J	10 U	5 U	5 U	5 U	5 U	5 U	2 U	4.8 U	10 U	ND	190 U	5 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U
<b>Total cyanide (mg/l)</b>	0.2	0.077	0.074	0.01 U	0.15	0.1	0.01 U	0.01 U	0.039	0.0469	0.15	0.01 U	0.083	0.13	0.09 J	0.01 U	0.078	0.0628	0.41	0.29	0.029	0.023	0.014	0.028	0.027	0.01 U	0.01 U	

Boxed value greater than the NYSDEC Ambient Water Quality value

Table 3 (continued)  
 Summary of Groundwater Sampling Results  
 QLT Buffalo  
 Buffalo, New York

Sample ID.:	MW-08									MW-09																								
										Quarterly Monitoring Event																								
										QLT Buffalo Sites																								
Sample Date:	08/21/07	11/28/07	03/03/08	05/27/08	08/25/08	11/20/08	02/24/09	05/19/09	Pre-Remediation				Post-Remediation																					
									April 2000	Aug 2001	Oct 2002	Nov 2003	08/20/07 (h)	08/21/07	11/27/07 (g)	03/03/08 (g)	05/27/08 (g)	08/25/08 (g)	11/20/08 (g)	02/24/09 (g)	05/19/09 (g)													
Parameters	NSYDEC Values																																	
<b>Volatile Organic Compounds (µg/l)</b>																																		
Benzene	1	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	3,600	1,700	420	3,600	4,000 D	980	1,700	3,300	12,000	7,600	3,600	13,000	10,000												
Ethylbenzene	5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	ND	15	6	12	6	1.3	10 U	20 U	40 U	100 U	50 U	12 J	8.2 J												
Toluene	5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	ND	2 J	2 J	3 J	2	0.74 J	10 U	20 U	40 U	100 U	50 U	4.7 J	20 U												
Total Xylenes	5	3 U	3 U	3 U	3 U	3 U	3 U	2 U	2 U	ND	24	31	13 J	3.1	3 U	30 U	60 U	120 U	300 U	150 U	12 J	40 U												
<b>Semi-Volatile Organic Compounds (µg/l)</b>																																		
Acenaphthene	20	5 U	5 U	5 U	5 U	5 U	1 U	5.1 U	9.8 U	11	17	16	13	6	7	11	4 J	2 J	4 J	6	3.8 J	3 J												
Acenaphthylene	-	5 U	5 U	5 U	5 U	5 U	1 U	5.1 U	9.8 U	ND	ND	ND	10 U	5 U	5 U	5 U	5 U	5 U	5 U	1 U	4.9 U	9.9 U												
Anthracene	50	5 U	5 U	5 U	5 U	5 U	1 U	5.1 U	9.8 U	ND	ND	ND	10 U	5 U	5 U	5 U	5 U	5 U	5 U	1 U	0.11 J	9.9 U												
Benzo(a)anthracene	0.002	5 U	5 U	0.1 U	5 U	5 U	1 U	5.1 U	9.8 U	ND	ND	ND	10 U	5 U	5 U	5 U	0.2 U	5 U	5 U	1 U	4.9 U	9.9 U												
Benzo(a)pyrene	0.002	5 U	5 U	5 U	5 U	5 U	1 U	5.1 U	9.8 U	ND	ND	ND	10 U	5 U	5 U	5 U	5 U	5 U	5 U	1 U	4.9 U	9.9 U												
Benzo(b)fluoranthene	0.002	5 U	5 U	5 U	5 U	5 U	1 U	5.1 U	9.8 U	ND	ND	ND	10 U	5 U	5 U	5 U	5 U	5 U	5 U	1 U	4.9 U	9.9 U												
Benzo(ghi)perylene	-	5 U	5 U	5 U	5 U	5 U	1 U	5.1 U	9.8 U	ND	ND	ND	10 U	5 U	5 U	5 U	5 U	5 U	5 U	1 U	4.9 U	9.9 U												
Benzo(k)fluoranthene	0.002	5 U	5 U	5 U	5 U	5 U	1 U	5.1 U	9.8 U	ND	ND	ND	10 U	5 U	5 U	5 U	5 U	5 U	5 U	1 U	4.9 U	9.9 U												
Chrysene	0.002	5 U	5 U	5 U	5 U	5 U	1 U	5.1 U	9.8 U	ND	ND	ND	10 U	5 U	5 U	5 U	5 U	5 U	5 U	1 U	4.9 U	9.9 U												
Dibenzo(a,h)anthracene	-	5 U	5 U	5 U	5 U	5 U	1 U	5.1 U	9.8 U	ND	ND	ND	10 U	5 U	5 U	5 U	5 U	5 U	5 U	1 U	4.9 U	9.9 U												
Fluoranthene	50	5 U	5 U	5 U	5 U	5 U	1 U	5.1 U	9.8 U	ND	1 J	1 J	10 U	5 U	0.2 J	0.3 J	0.2 J	5 U	5 U	1 U	0.22 J	9.9 U												
Fluorene	50	5 U	5 U	5 U	5 U	5 U	1 U	5.1 U	9.8 U	ND	5 J	5 J	4 J	5 U	2 J	4 J	1 J	0.6 J	0.9 J	1 J	0.73 J	9.9 U												
Indeno(1,2,3-cd)pyrene	0.002	5 U	5 U	5 U	5 U	5 U	1 U	5.1 U	9.8 U	ND	ND	ND	10 U	5 U	5 U	5 U	5 U	5 U	5 U	1 U	4.9 U	9.9 U												
2-Methylnaphthalene	-	5 U	5 U	5 U	5 U	5 U	-	5.1 U	9.8 U	ND	ND	ND	10 U	5 U	5 U	5 U	0.4 J	5 U	5 U	-	4.9 U	9.9 U												
Naphthalene	10	5 U	1 U	0.6 J	5 U	5 U	1 U	5.1 U	9.8 U	ND	5 J	2 J	7 J	5	1 J	1 U	1 J	10	3 J	1 U	5.5	9.9 U												
Phenanthrene	50	5 U	5 U	5 U	5 U	5 U	1 U	5.1 U	9.8 U	ND	6 J	6 J	5 J	5 U	5 U	5 U	0.2 J	5 U	5 U	1 U	4.9 U	9.9 U												
Pyrene	50	5 U	5 U	5 U	5 U	5 U	1 U	5.1 U	9.8 U	ND	1 J	1 J	10 U	5 U	5 U	5 U	5 U	0.2 J	5 U	1 U	0.17 J	9.9 U												
<b>Total cyanide (mg/l)</b>	0.2	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.165	0.14	0.11	-	-	0.2	0.1	0.066	0.24	0.22	0.01 U	0.18	0.0938												

Sample ID.:	MW-09 (continued)								Supplemental Investigation
	Quarterly Monitoring Event								
	7th Street Site								
Sample Date:	11/27/07 (g)	03/03/08 (g)	05/27/08 (g)	08/25/08 (g)	11/20/08 (g)	02/24/09 (g)	05/19/09 (g)	12/18/08	
Parameters	NSYDEC Values								
<b>Volatile Organic Compounds (µg/l)</b>									
Benzene	1	1,000	2,900	6,300	6,800	3,300	7,700	13,000	670
Ethylbenzene	5	10 U	20 U	40 U	130	50 U	12	25 U	0.73 J
Toluene	5	10 U	20 U	40 U	80 U	50 U	4.9	25 U	1 U
Total Xylenes	5	30 U	60 U	120 U	96 J	150 U	11	50 U	3 U
<b>Semi-Volatile Organic Compounds (µg/l)</b>									
Acenaphthene	20	-	-	-	-	-	-	-	9
Acenaphthylene	-	-	-	-	-	-	-	-	5 U
Anthracene	50	-	-	-	-	-	-	-	0.2 J
Benzo(a)anthracene	0.002	-	-	-	-	-	-	-	0.1 J
Benzo(a)pyrene	0.002	-	-	-	-	-	-	-	5 U
Benzo(b)fluoranthene	0.002	-	-	-	-	-	-	-	5 U
Benzo(ghi)perylene	-	-	-	-	-	-	-	-	5 U
Benzo(k)fluoranthene	0.002	-	-	-	-	-	-	-	5 U
Chrysene	0.002	-	-	-	-	-	-	-	5 U
Dibenzo(a,h)anthracene	-	-	-	-	-	-	-	-	5 U
Fluoranthene	50	-	-	-	-	-	-	-	0.4 J
Fluorene	50	-	-	-	-	-	-	-	2 J
Indeno(1,2,3-cd)pyrene	0.002	-	-	-	-	-	-	-	5 U
2-Methylnaphthalene	-	-	-	-	-	-	-	-	5 U
Naphthalene	10	-	-	-	-	-	-	-	5 U
Phenanthrene	50	-	-	-	-	-	-	-	5 U
Pyrene	50	-	-	-	-	-	-	-	0.2 J
<b>Total cyanide (mg/l)</b>	0.2	-	-	-	-	-	-	-	-

Boxed value greater than the NYSDEC Ambient Water Quality value

- a/ I.D. = identification; NYSDEC = New York State Department of Environmental Conservation; µg/l = micrograms per liter; ND = not detected; mg/l = milligrams per liter; 'U' indicates standard not developed or constituent not analyzed.
- b/ Sample and duplicate.
- c/ NYSDEC Ambient Water Quality Standards and Guidance Values. Technical and Operational Guidance Series (1.1.1). June 1998 and as updated.
- d/ Data Qualifiers:  
 U = constituent not detected at reported detection limit  
 J = estimated concentration  
 D = result from diluted aliquot
- e/ Comparison criterion is a guidance value.
- f/ Guidance value protective of drinking water source from surface water.
- g/ Monitoring wells MW-03 and MW-09 are included in both the Former BSC and BURA West sites sampling program and the Seventh Street site sampling program. Split samples were collected at these wells and submitted for separate analyses per the individual Site Management Plans.
- h/ Results from sample collected by the NYSDEC.



Table 4

Summary of the Seventh Street Site Groundwater Sampling Results  
4 New Seventh Street Site  
Buffalo, New York (a)

Table with columns for Sample I.D., Sample Date, and various parameters (Benzene, n-Butylbenzene, etc.) across monitoring wells BCP-MW-02, BCP-MW-04, and BCP-MW-05. Values are provided in boxes or as 'U' (undetectable) or 'J' (estimated).

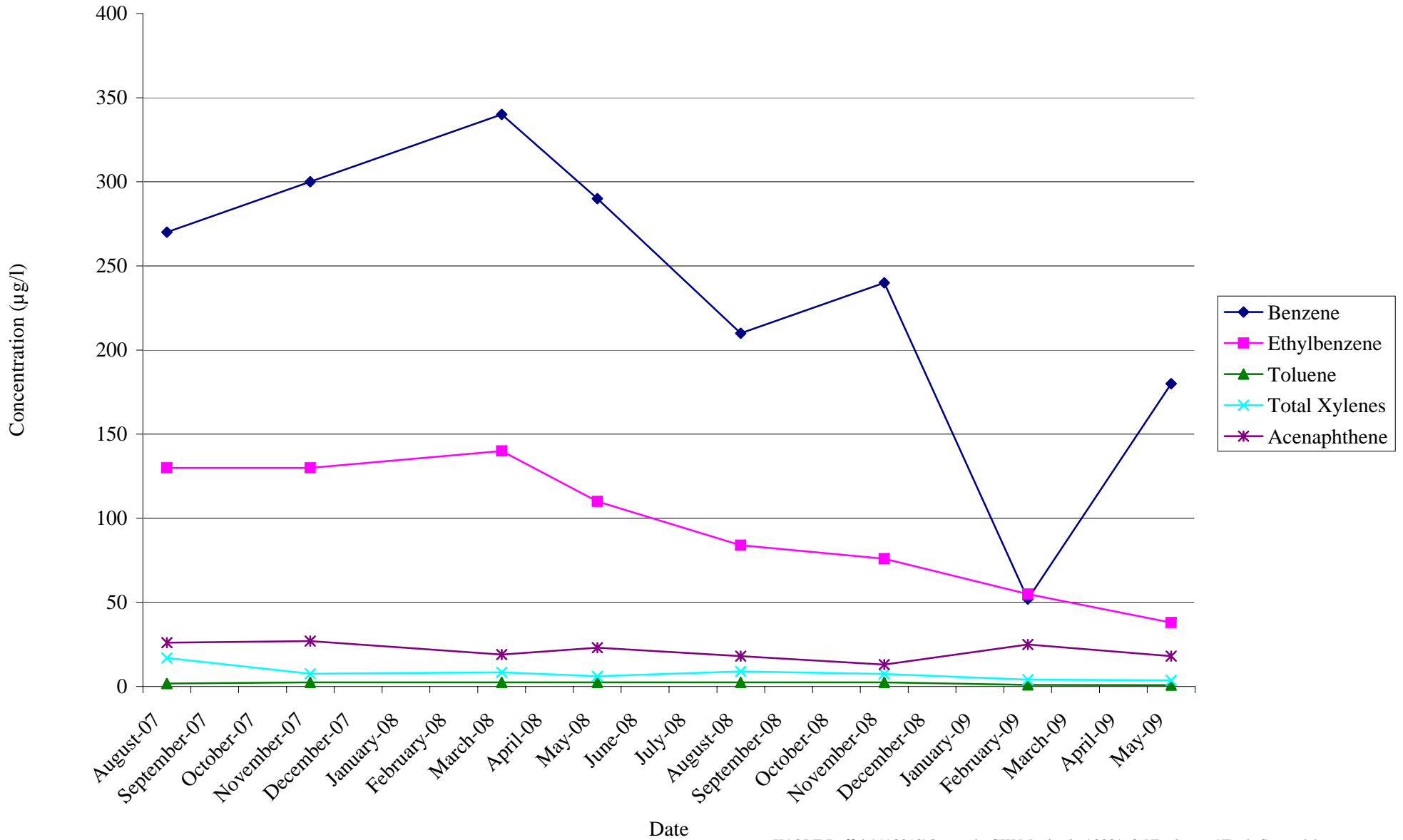
Table with columns for Sample I.D., Sample Date, and various parameters across monitoring wells MW-03 (Seventh Street Site and QLT Buffalo Sites) and Supplemental Investigation. Values are provided in boxes or as 'U' or 'J'.

Table with columns for Sample I.D., Sample Date, and various parameters across monitoring wells MW-09 (Seventh Street Site and QLT Buffalo Sites) and Supplemental Investigation. Values are provided in boxes or as 'U' or 'J'.

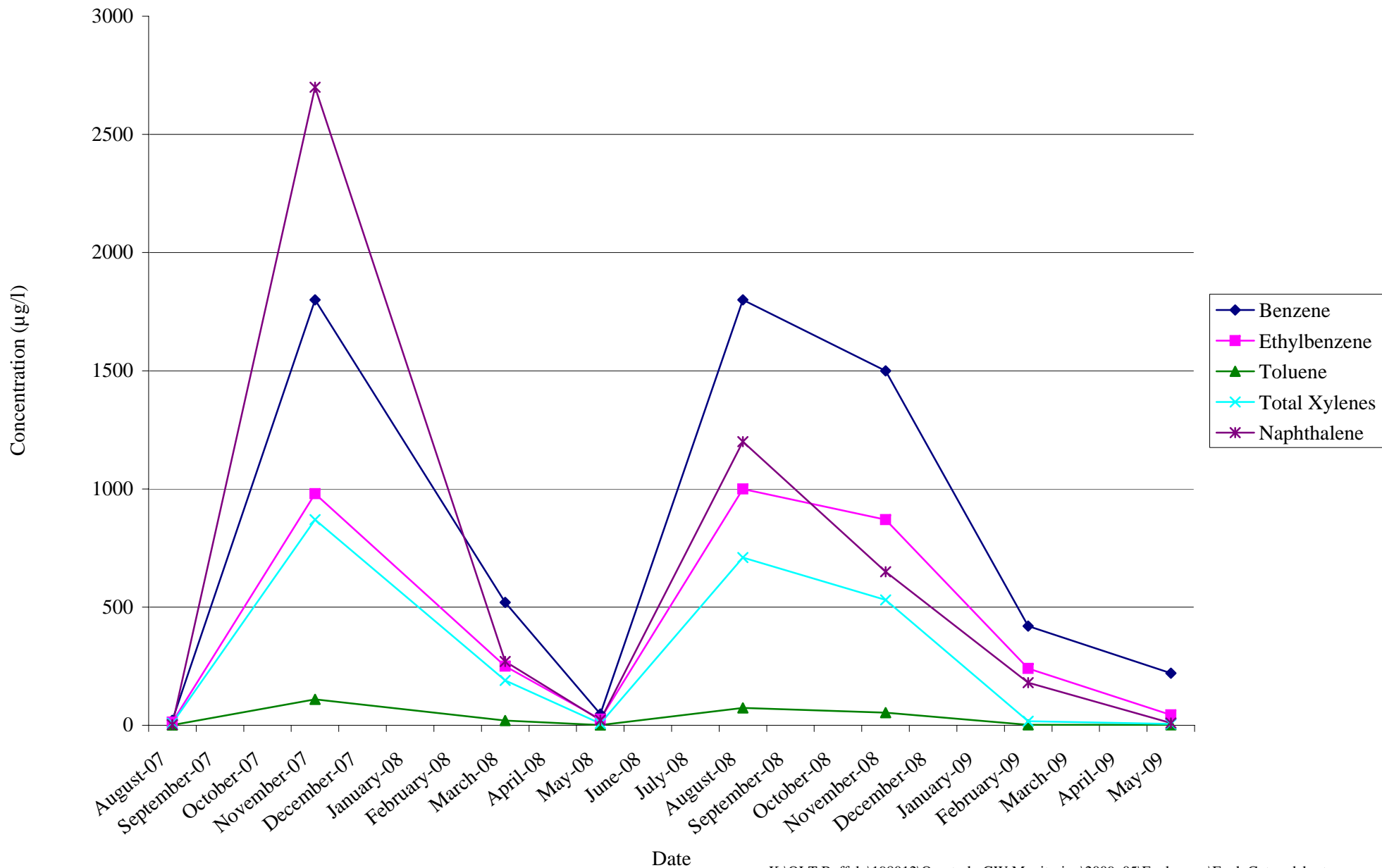
Boxed value greater than the NYSDEC Ambient Water Quality value

a/ I.D. = identification; NYSDEC = New York State Department of Environmental Conservation; µg/l = micrograms per liter; '-' indicates not analyzed.  
b/ Monitoring wells MW-03 and MW-09 are included in both the Former BSC and BURA West sites sampling program and the Seventh Street site sampling program. Split samples were collected at these wells and submitted for separate analyses per the individual Site Management Plans.  
c/ Sample and duplicate.  
d/ NYSDEC Ambient Water Quality Standards and Guidance Values. Technical and Operational Guidance Series (1.1.1). June 1998 and as updated.  
e/ Data Qualifiers:  
U = constituent not detected at reported detection limit  
J = estimated concentration

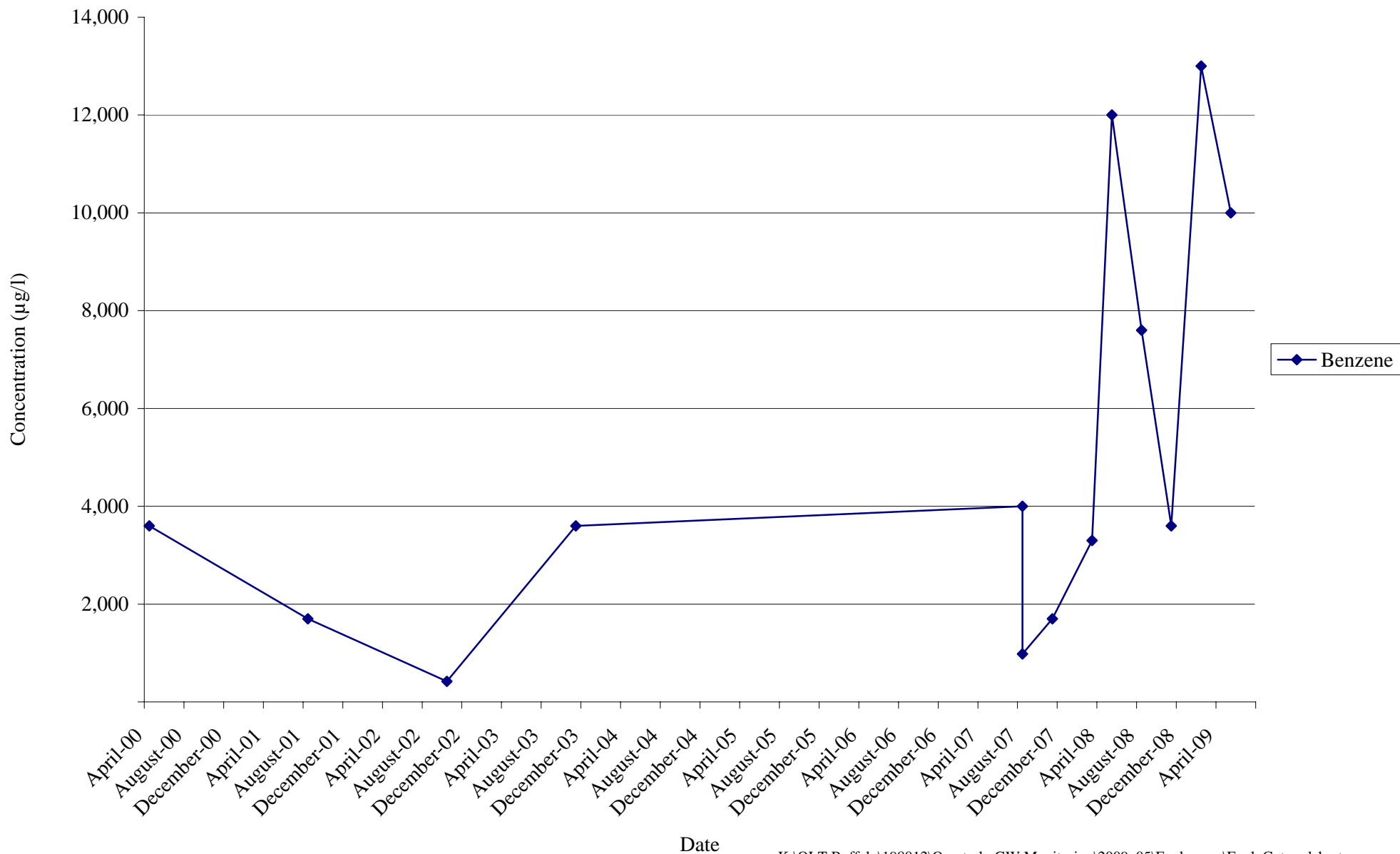
**Historical Groundwater Sampling Results**  
**MW-01**  
**Former BSC and BURA West Sites**  
**Buffalo, New York**



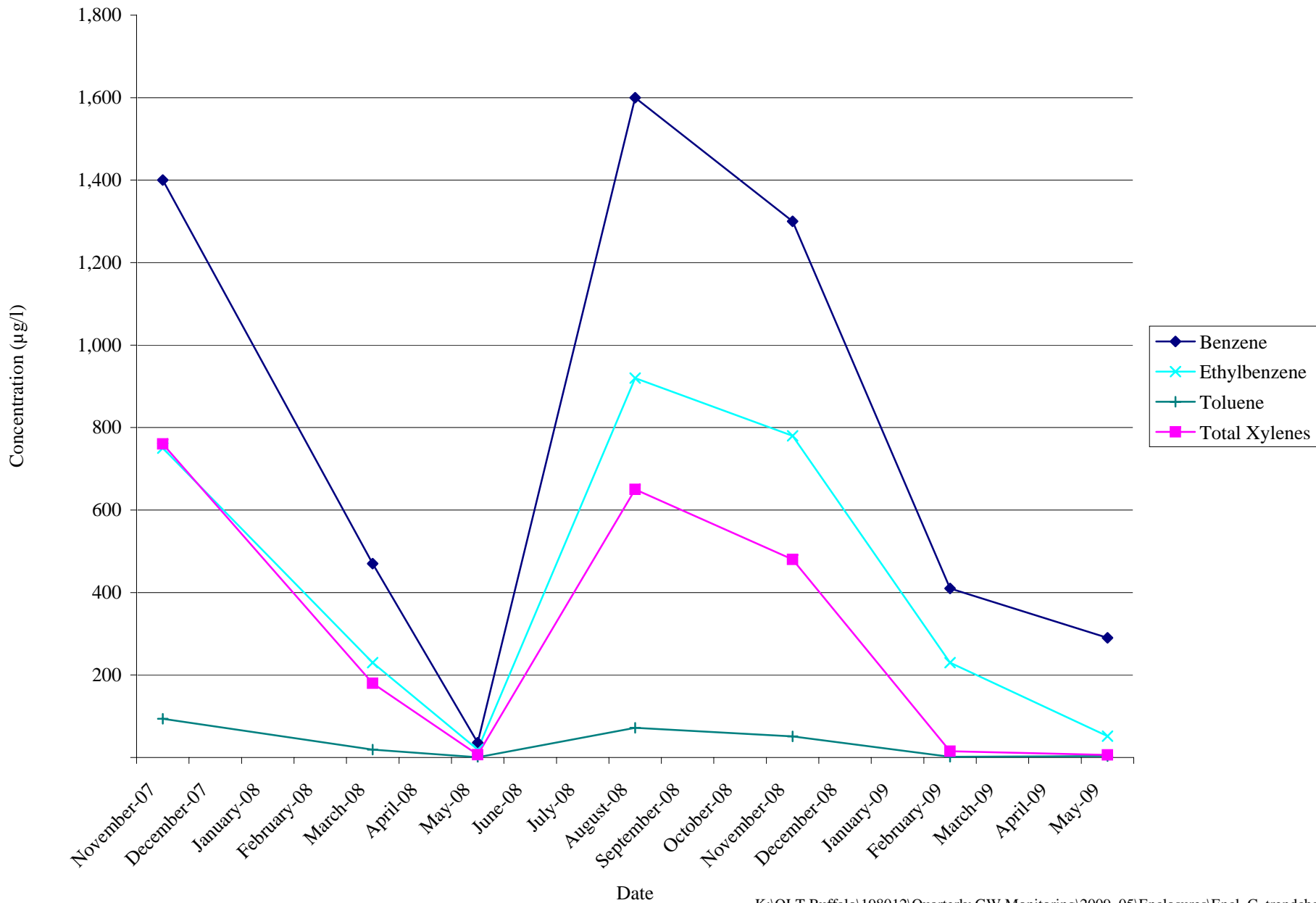
**Historical Groundwater Sampling Results  
MW-03  
Former BSC and BURA West Sites  
Buffalo, New York**



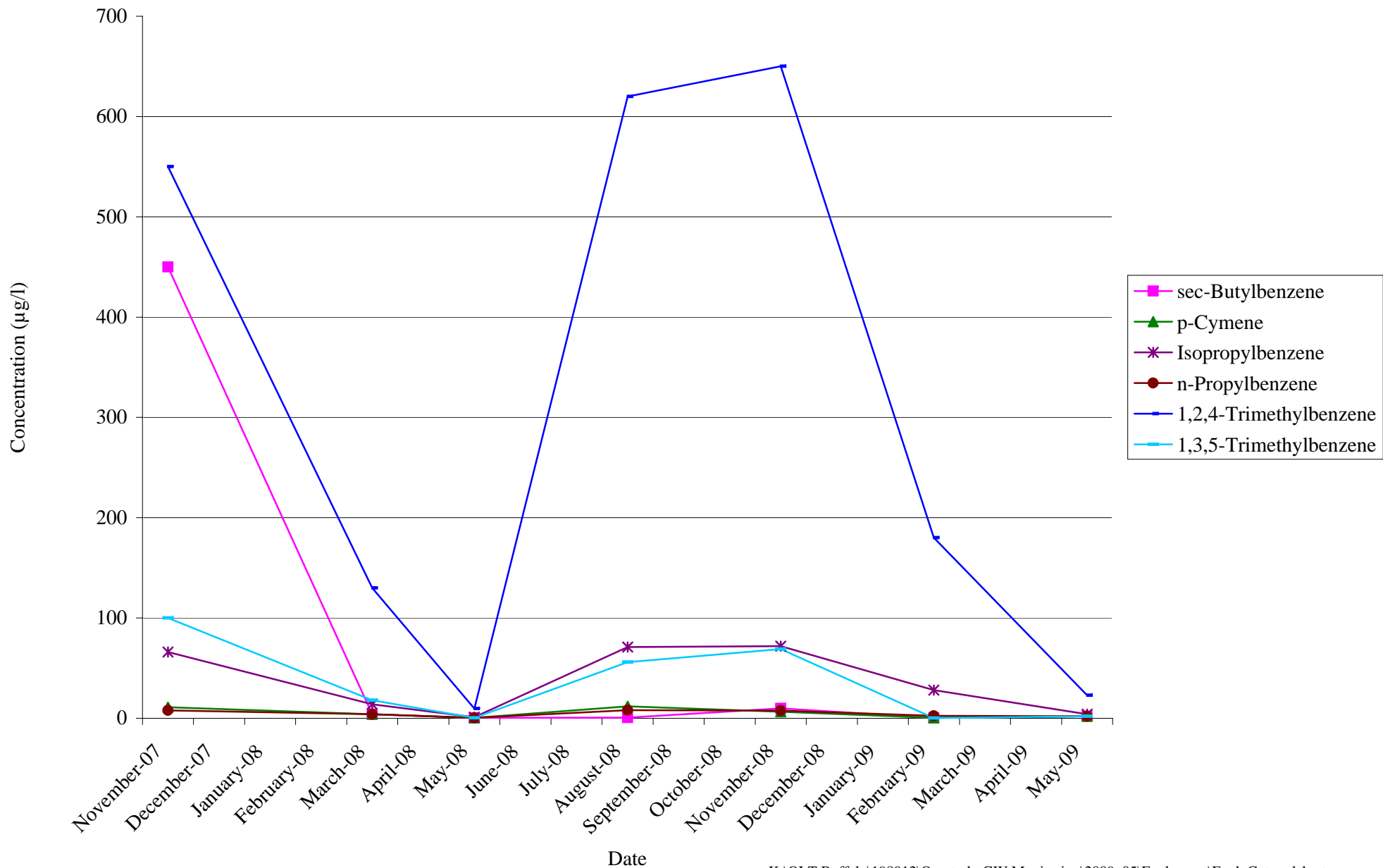
**Historical Groundwater Sampling Results  
MW-09  
Former BSC and BURA West Sites  
Buffalo, New York**



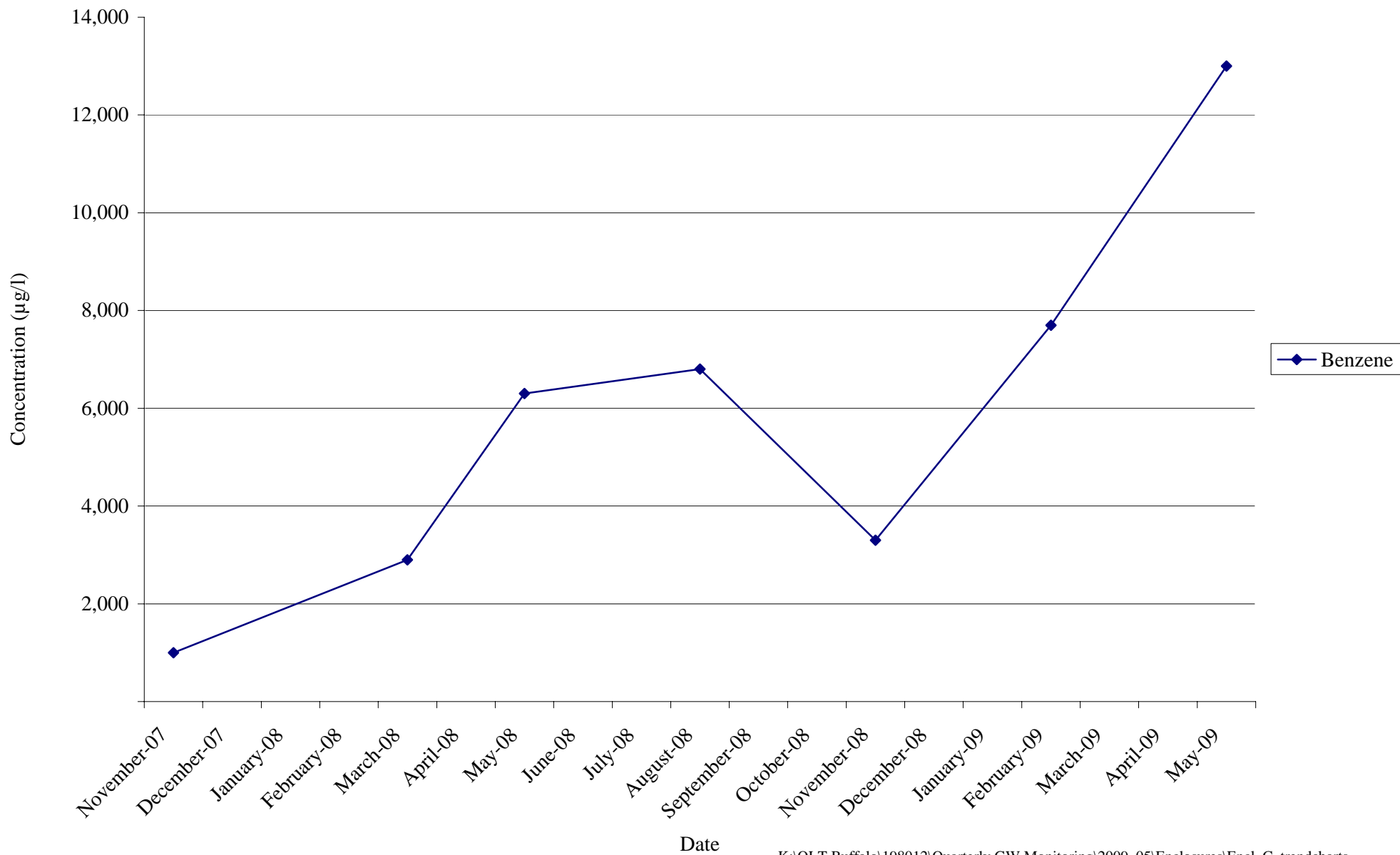
**Historical Groundwater Sampling Results**  
**MW-03 - BTEX**  
**Seventh Street Site**  
**Buffalo, New York**



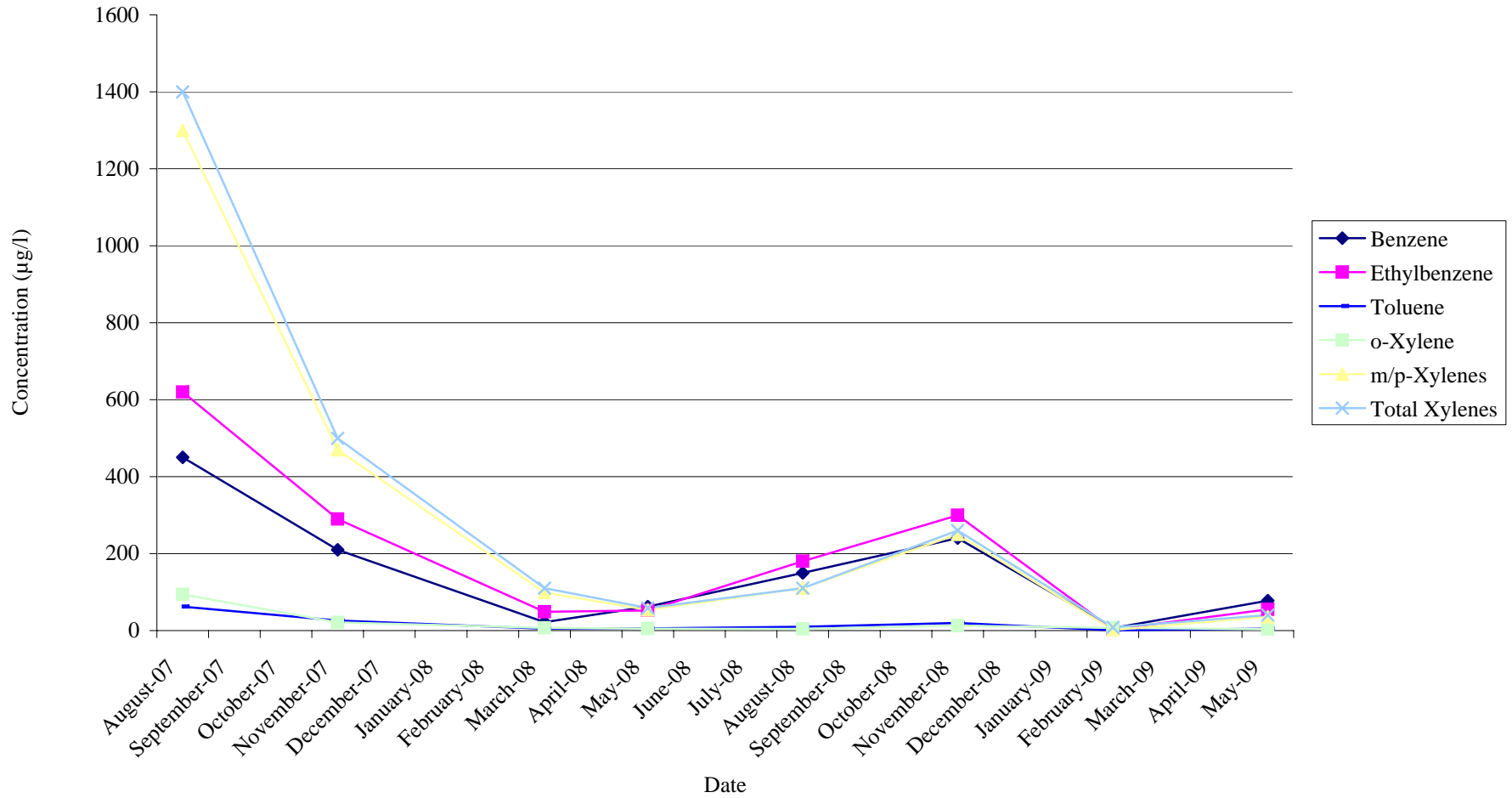
**Historical Groundwater Sampling Results**  
**MW-03 - STARS VOCs**  
**Seventh Street Site**  
**Buffalo, New York**



**Historical Groundwater Sampling Results**  
**MW-09**  
**Seventh Street Site**  
**Buffalo, New York**

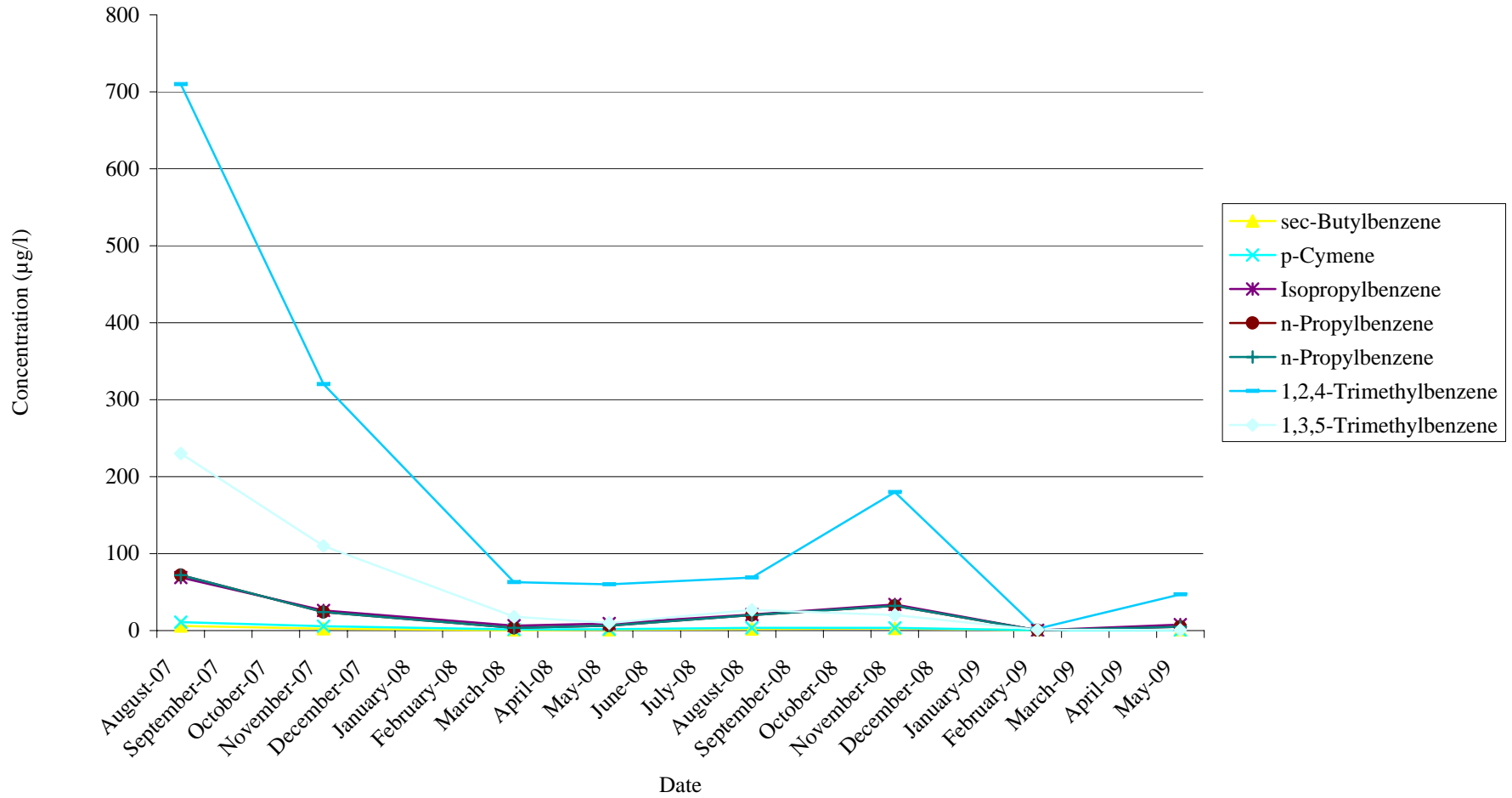


Historical Groundwater Sampling Results  
BCP-MW-04 - BTEX  
Seventh Street Site  
Buffalo, New York

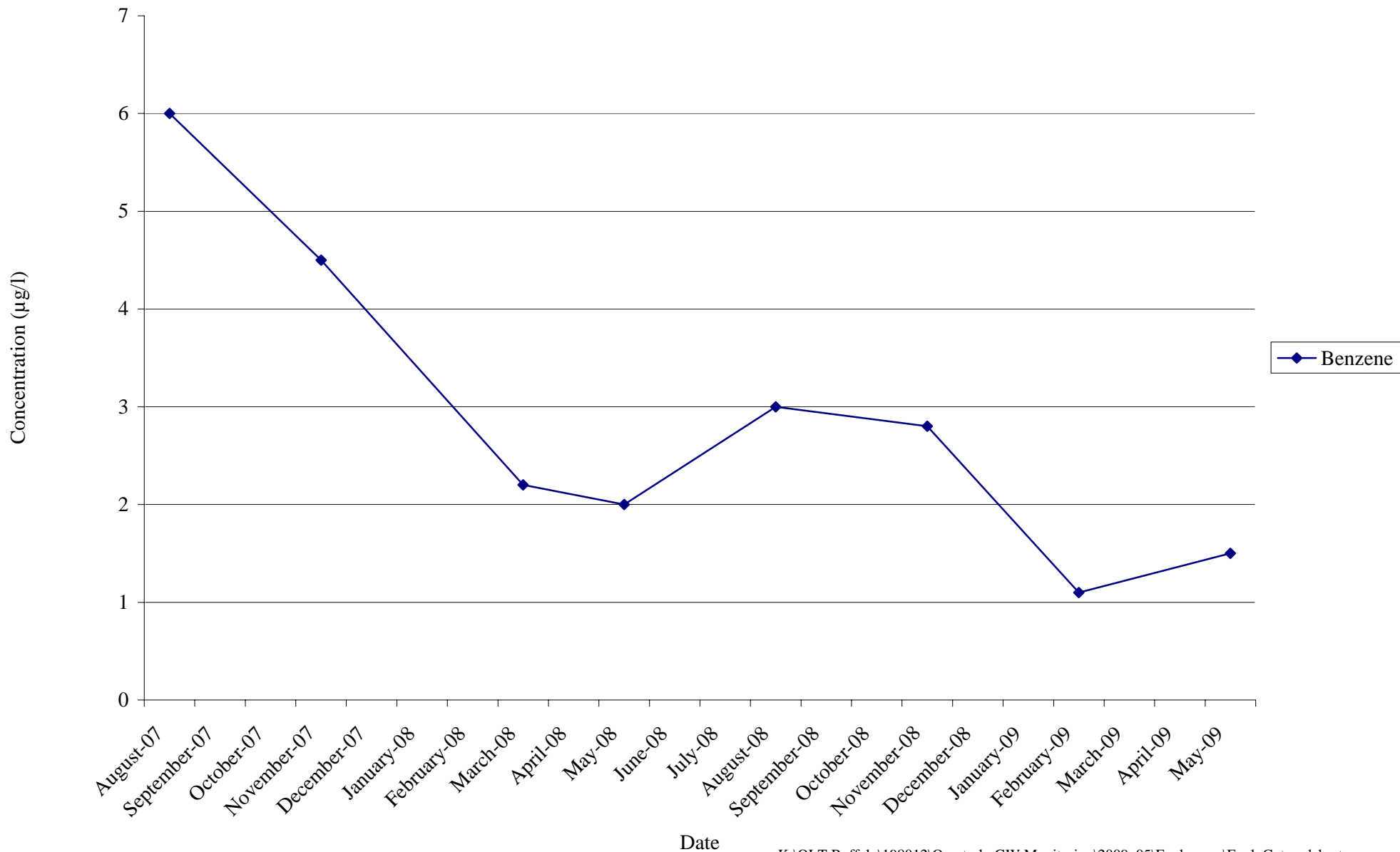




**Historical Groundwater Sampling Results  
BCP-MW-04 - STARS VOCs  
Seventh Street Site  
Buffalo, New York**



**Historical Groundwater Sampling Results**  
**BCP-MW-05**  
**Seventh Street Site**  
**Buffalo, New York**



# APPENDIX B

## NOVEMBER 2010 POST-INJECTION MONITORING REPORT



October 8, 2010

Mr. Jaspal S. Walia  
New York State Department of Environmental Conservation  
270 Michigan Avenue  
Buffalo, New York 14203

Re: Fourth Quarter MW-09 Area Chemical Oxidation/Enhanced  
Bioremediation Performance Monitoring Report  
Former Buffalo Service Center Site, Buffalo, New York

Dear Jaspal:

On behalf of QLT Buffalo LLC, WSP Engineering of New York, P.C. (WSP Engineering) prepared this Performance Monitoring Report for the groundwater samples from the MW-09 Area. Injection of Klozur® CR at the MW-09 Area was conducted from August 17, 2009 through August 26, 2009 to address concentrations of benzene in groundwater samples from monitoring well MW-09. As per the Pre-Design Investigation Report and Chemical Oxidation/Enhanced Bioremediation Injection Work Plan (dated July 31, 2009), four quarters of groundwater monitoring were performed subsequent to the injection of the Klozur® CR product.

The performance monitoring included collection of groundwater samples from monitoring well MW-09 and continued monitoring of samples from monitoring wells MW-01 and MW-03 (Figure 1). Monitoring of MW-09 was conducted on a quarterly basis and monitoring of MW-01 and MW-03 was conducted on a semi-annual basis for one year. In accordance with the Work Plan, all samples were submitted for analysis of benzene, toluene, ethylbenzene, and xylenes (BTEX). In addition to BTEX, acetone and 2-butanone were reported for samples from MW-09 in accordance with a request from the New York State Department of Environmental Conservation (NYSDEC, letter to Glen Rieger, dated February 9, 2010).

To further evaluate the effect of the injection program, samples collected from MW-09 were submitted for additional geochemical (ferrous iron, nitrate, sulfate, and sulfide), molecular biological characterization, and compound specific isotope analysis (CSIA) for benzene. The results of the sampling events were used to provide data to track the remediation progress through each of the three Klozur® CR attenuation mechanisms (direct chemical oxidation, biologically mediated aerobic oxidation, and biologically mediated anaerobic oxidation).

This letter report summarizes the findings of the fourth quarterly performance monitoring event. That sampling event was completed on August 17, 2010. A summary of the groundwater sampling activities and findings is presented below.

**WSP Engineering of New York, P.C.**  
11190 Sunrise Valley Drive, Suite 300  
Reston, VA 20191  
Tel: (703) 709-6500  
Fax: (703) 709-8505

## **Field Activities**

The Bio-Trap Sampler deployed in the previous quarter was removed from MW-09 before the depth to groundwater was recorded. In accordance with sampling protocols, the Bio-Trap Sampler was immediately placed in a cooler with ice. The Bio-Trap sample was shipped to Microbial Insights of Rockford, Tennessee on August 17, 2010 for the molecular biological characterization testing.

After recording depth to groundwater, MW-09 was purged with a peristaltic pump in a manner consistent with WSP Engineering's Standard Operating Procedures and EPA Region 2's low-flow sampling protocol. Due to low yield, drawdown of the water column into the well screen was observed during the purge process. This observation has been consistent during the rounds of sampling performed after injection. To collect a groundwater sample, purging was ceased and the well was allowed to recharge before sampling. The purge logs from this sampling event are included in Enclosure A. Field measurements collected from the final purge volumes during each sampling event are presented in Table 1. Pre-injection field parameters for MW-09 from June 26, 2009 are also included on Table 1 as a baseline for comparison and evaluation of the effect of the treatment.

After purging, the analytical samples were collected and placed in coolers containing ice and delivered to TestAmerica Analytical, Inc. of Amherst, New York and the CSIA samples were shipped to Microseeps, Inc. of Pittsburgh, Pennsylvania on August 17, 2010. Analysis for volatile organic compounds (VOCs; BTEX, acetone, and 2-butanone) and geochemical parameters (nitrate, sulfate, and sulfide) was performed by TestAmerica; Microseeps performed the analyses for CSIA. The ferrous iron analysis was performed in the field using the HACH 8146 method.

Results of the field analyses are presented in Table 1.

## **Laboratory Analytical Results**

Analyses for VOCs, nitrate, sulfate, and sulfide were performed using U.S. Environmental Protection Agency Method 8260, 353.2, 375.4, and 376.1. Analyses for the CSIA constituents were performed using methods AM24-AR\_M, AM24-DL\_M and 8260B. The Bio-Trap was analyzed using phospholipids fatty acids (PLFA) and quantitative polymerase chain reaction (PCR) measurement procedures. Gene sequences (or analogous ribonucleic acid [mRNA] segments) specific to known aerobic and anaerobic BTEX degrading enzymes were targeted.

The laboratory analytical data packages are included as Enclosure B. The geochemical parameters are presented on Table 1; Table 2 presents a summary of the VOC results for the August 2010 and historical sampling results. The NYSDEC Ambient Water Quality Standards and Guidance Values from the following link, <http://www.dec.ny.gov/chemical/23853.html>; June 1998 are included on the tables for reference purposes. The microbial characterization results are presented on:

- Table 3 - baseline results for a filtered groundwater sample collected in June 2009
- Table 4 - results for the Bio-Trap samples, and
- Table 5 - CSIA results

Benzene was detected in the sample collected from MW-09 at a concentration of 730 micrograms per liter ( $\mu\text{g/l}$ ; 720  $\mu\text{g/l}$  in the duplicate sample). This concentration is the lowest concentration measured since December 2008 (supplemental investigation sampling event, 670  $\mu\text{g/l}$ ). No other constituents were detected above the NYSDEC comparison values (Table 2 and Figure 1).

### **Evaluation**

The post-injection monitoring results from MW-09 remain within the range of concentrations observed during the 8 quarters of post-remediation groundwater monitoring conducted prior to injection of Klozur (see Table 2). Historically, concentrations of benzene in groundwater samples collected from MW-09 ranged from 670  $\mu\text{g/l}$  (December 2008) to 13,000  $\mu\text{g/l}$  (February 2009). However, the microbial characterization data for this round of groundwater sampling offer three lines of supportive evidence for the relatively low benzene concentration. Additional explanation is provided in the following paragraphs.

The baseline census data (Table 3) quantified the biological population which contained the DNA to produce the enzymes required to digest petroleum constituents (i.e. benzene). The mRNA data presented in Table 4 quantifies the biological population that was actively producing these enzymes during each sampling event. The quantity of microbes creating the enzymes is currently very high as the indicator of naphthalene dioxygenase was measured at  $1.73\text{E}+10$  gene copies/bead in the August 2010 sample. Naphthalene dioxygenase has a broad substrate specificity for many petroleum hydrocarbons including benzene. Enzyme production measured in samples collected during the previous post-injection sampling events was below detection limits which was likely attributable to the time required to adapt to the elevated pH measured in MW-09 since Klozur® CR application (see discussion below). The high production of the naphthalene dioxygenase enzyme detected in the August, 2010 sample suggest that microbes producing this enzyme have adapted to the high pH.

The PLFA data, which quantifies the microbial population and population distribution based on cellular membrane composition indicates that the microbial biomass population increased by an order of magnitude between the May and August sampling events. The data also showed a healthy and diverse community structure including a 75 percent Proteobacteria. Proteobacteria is one of the largest groups of bacteria, it represents a wide variety of both aerobes and anaerobes and it includes most hydrocarbon utilizing bacteria.

The elevated pH (greater than 12 standard units) is caused by calcium peroxide included within the injectate. The calcium peroxide was included within the Klozur® CR formulation to both activate the persulfate radical and provide a long-term source of dissolved oxygen (calcium peroxide decomposes to release hydroxide ions and dissolved oxygen). It is possible that the calcium peroxide, a solid, accumulated within the sand pack or in the immediate area of MW-09 due to site heterogeneities. The pH values within the overall injection footprint are unknown. It is likely that the pH in the MW-09 area will become more neutral as the calcium peroxide elutes oxygen and is depleted.

Additional effects of the Klozur® CR are apparent in the site geochemistry measurements made during sampling. Specifically, the dissolved oxygen has increased from 0.28 milligrams per liter (mg/l) in the pre-injection sample to 24 mg/l August 2010 sample (and a maximum of 38 mg/l in the May 2010 sample; the DO reading of concentrations greater than the saturation level are likely attributable to pH-caused interference with the probe) and pH increased from 6.89 to 12.7

in August 2010 in these samples respectively (and a maximum of 13.7 in February 2010). As discussed above the increase in dissolved oxygen and pH are attributable to the presence of calcium peroxide.

CSIA is being used to track the relationship of two naturally occurring carbon isotopes  $^{13}\text{C}$  and  $^{12}\text{C}$  in the benzene present in groundwater to assess the effectiveness of chemical oxidation and bioremediation. The basis for this assessment is:

- although the majority of all carbon is present as the  $^{12}\text{C}$  isotope, a small percentage of carbon is naturally present as the  $^{13}\text{C}$  isotope (natural abundance approximately 1 percent of all carbon)
- chemical bonds involving the  $^{13}\text{C}$  isotope are slightly stronger than those of the  $^{12}\text{C}$  isotope and as a result react slower in bond breaking reactions including chemical oxidation and biodegradation
- the slower reaction rate leads to an increase in the ratio of the  $^{13}\text{C}$  to  $^{12}\text{C}$  isotopes in the residual benzene
- the change in the ratio of isotopes in the residual contaminant is commonly referred to as fractionation. The physical mechanisms of natural attenuation (e.g., dilution and sorption) do not significantly affect the isotopic signature of residual contaminant as they can with simple compound concentration data

During CSIA testing the isotopic signature is measured and reported as a fractionation or part per thousand ratio of  $^{13}\text{C}$  to  $^{12}\text{C}$  relative to an international standard ratio, or  $\delta^{13}\text{C}$  (‰).

Therefore, with progressing treatment, an increasing ratio of  $^{13}\text{C}$  to  $^{12}\text{C}$  would be expected as the contaminant containing  $^{12}\text{C}$  preferentially degrades. The increasing ratio will result in an increase (or less negative)  $\delta^{13}\text{C}$  as compared to the international standard.

Samples for CSIA were collected from MW-09 during the June 2009 baseline sampling event and during each post-injection performance monitoring event and submitted to Microseeps, Inc of Pittsburgh, Pennsylvania for analysis. The CSIA results are provided in Table 5 and laboratory reports are provided in Enclosure B.

The quality control samples associated with the baseline sample indicate that another compound co-eluted with benzene thereby affecting the results. The baseline CSIA data for benzene in the MW-09 sample is therefore unreliable and must be rejected for use. Quality control samples for the February, May, and August 2010 CSIA data did not indicate an analytical problem and the  $\delta^{13}\text{C}$  results of -24.06 ‰, -25.41‰, and -23.03 ‰ are valid as reported. February and May 2010  $\delta^{13}\text{C}$  values (-24.06 ‰ and -25.41 ‰) are just within the range of what could be expected of non-degraded benzene (the typical benzene range is -23.5 to -31.5) and is consistent with benzene isotopic signatures found at other Klozur® CR applied sites where contaminant destruction and fractionation has been demonstrated. The August 2010 value of -23.03 ‰ indicates continued fractionation and fractionation beyond the non-degraded benzene thereby proving degradation has occurred.

### **Conclusions and Recommendations**

WSP Engineering believes that the groundwater data indicate no potential risks to the occupants of the Waterfront School from the MW-09 area. Based on the latest data set, the following lines of evidence supporting the degradation of benzene have been identified:

- a relatively low benzene concentration was detected (730 µg/l)
- the qPCR data showed that microbes are actively producing large quantities of a key enzyme known to catalyze the oxidation (biodegradation) of benzene
- the biomass concentration increased by an order of magnitude
- the community structure has become more diverse and the percent composition of the group of microbes known to include most petroleum degraders comprises the largest percentage of the population
- the CSIA data indicate degradation as compared to non-degraded benzene and previous rounds

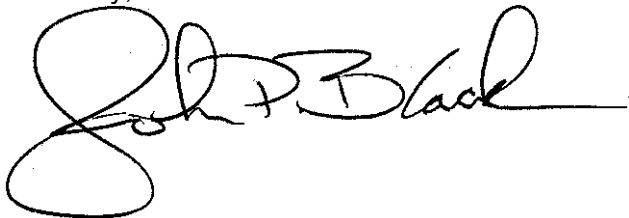
In summary, the benzene concentration is approaching the historic low, the CSIA data definitively demonstrates that degradation is occurring (as opposed to dilution, dispersion, etc.), and the molecular biological data identifies the mechanism of the degradation as being biodegradation. Figure 2 presents a time versus concentration graph for benzene samples collected from MW-09. A decreasing trend is identified since the date of injection (August 2009).

The goals defined in the NYSDEC-approved July 31, 2009 Pre-Design Report and Chemical Oxidation/Enhanced Biodegradation Work Plan have been satisfied as stated in the plan; “the remediation and groundwater monitoring program is considered complete if benzene concentrations decrease below 1,000 µg/l or a decreasing trend is evident”. However, WSP Engineering is recommending voluntary collection of one to two additional quarters of data from MW-09 to confirm performance of the biological degradation sequence resulting from the injection program and to provide evidence that the latest benzene sampling result is not anomalous (similar to the December 2008 sampling event). The benzene concentration is considered the key metric for the performance evaluation. However, the molecular data (CSIA) provide confirmation that the concentration decrease is due to destruction as opposed to dilution and dispersion (including displacement brought on by injecting fluids) and the mechanistic information (molecular biological data) provide an indication of the biological process.

Based on the data collected from MW-01 and MW-03, WSP recommends no further action for these locations (Table 2). For the most recent sampling of these wells, benzene was detected in the groundwater samples at a concentration of 68 µg/l at MW-01 and 26 µg/l at MW-03 (Table 2, May 2010).

Should you have any questions, please do not hesitate to contact me at (703) 709-6500.

Sincerely,



John P. Black  
President

JB:GER:paw

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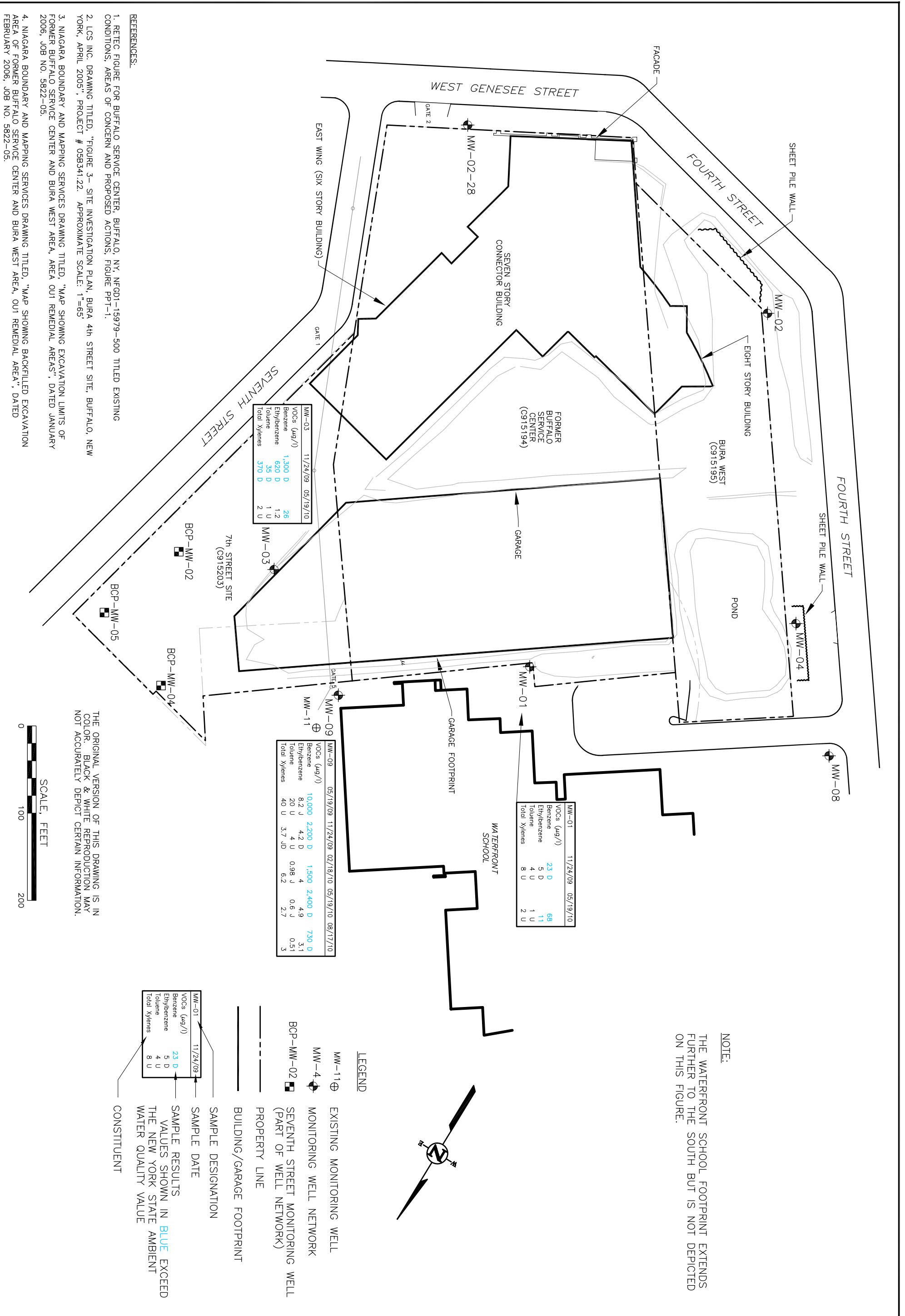


Enclosures

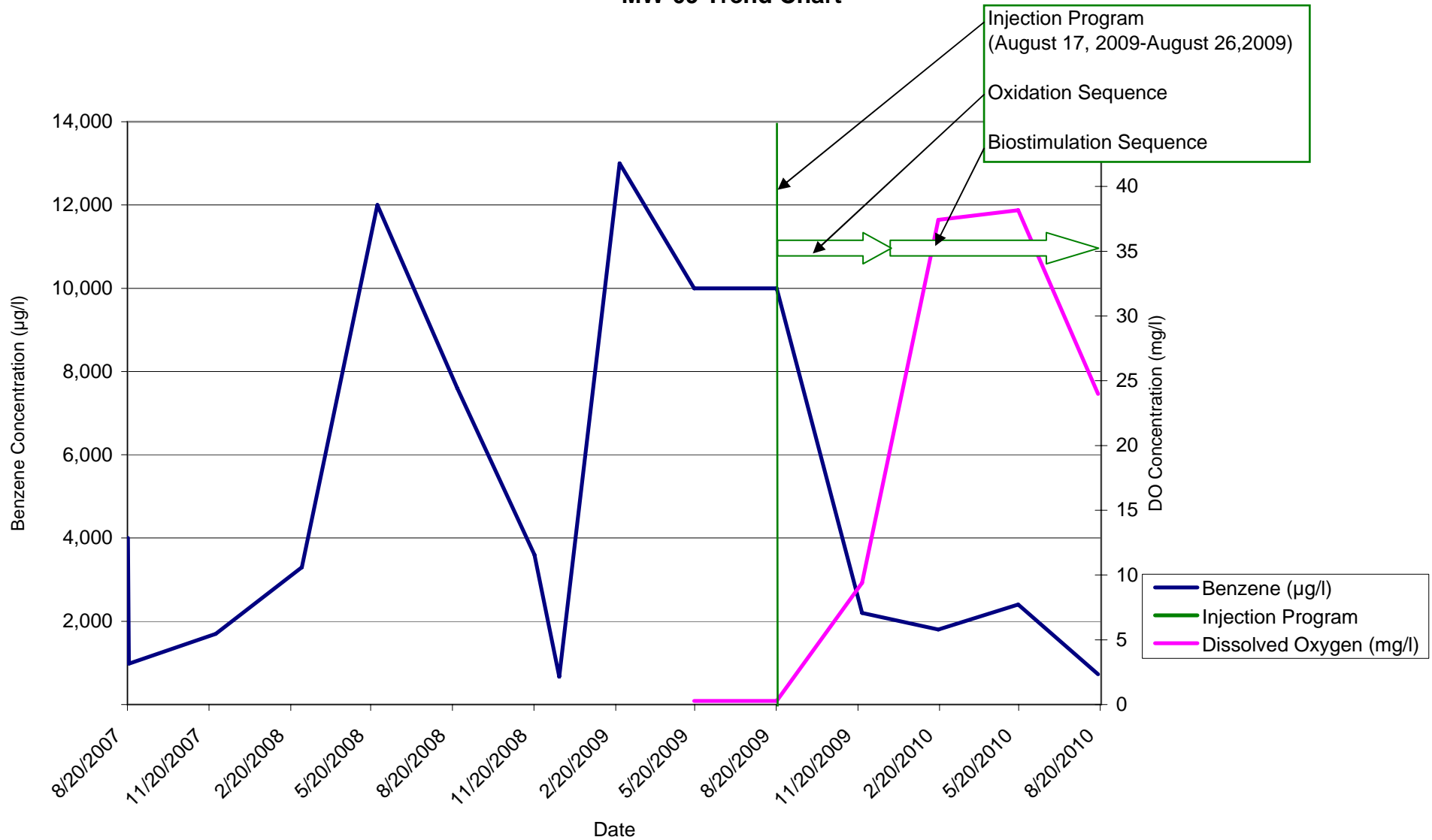
cc/encl.: Gordon Adkison, Duke Construction  
Tanya Alexander, National Fuel Gas  
Maura Desmond, Esq., NYDEC  
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Kelly Eisenried, City of Buffalo School District  
John Heffron, City of Buffalo  
Scott Billman, City of Buffalo  
Reynolds Renshaw, Renshaw Consulting Group  
Craig Slater, Harter, Secrest & Emery LLP

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Figures



**Figure 2  
MW-09 Trend Chart**



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Tables

Table 1

Summary of General Chemistry and Field Parameters  
 QLT Buffalo  
 Buffalo, New York (a)

Parameters	Well: MW-01		MW-03		MW-09					
	Purge Date:	<u>11/24/09</u>	<u>05/19/10</u>	<u>11/24/09</u>	<u>05/19/10</u>	Baseline <u>06/26/09</u>	<u>11/24/09</u>	Performance Monitoring <u>02/18/10</u>	<u>05/19/10</u>	<u>08/17/10</u>
<b>General Chemistry (mg/l)</b>										
Ferrous Iron	-	-	-	-	ND	-	1	<0.5	1	
Nitrate	-	-	-	-	0.05 U (b)	-	0.05 U	0.916	2.25	
Sulfate	-	-	-	-	55	-	2,100 D	1,620 D08B	1,520 D08	
Sulfide	-	-	-	-	0.1 U	-	0.1 U	0.1	0.1	
<b>Field Parameters</b>										
Temperature (°C)	12.71	16.94	13.61	18.41	22.04	11.75	3.94	17.24	17.7	
Specific Conductance (mS/cm)	2.17	1.92	3.61	2.32	1.74	11.7	9.31	5.64	5.98	
Dissolved Oxygen (mg/l)	0.69	0	2.64	0	0.28	9.39	37.43	38.17	23.99	
pH (s.u.)	7.22	6.79	6.90	7.22	6.89	13.40	13.67	12.96	12.67	
ORP (mV)	-23	-122	-21	-134	-96	-25	-24	-58	30	
Turbidity (NTUs)	5	14	5.9	5.21	9.6	69 (c)	136	18.2	87.1	
Purge Volume (gal)	2.5	0.7	2	0.6	2	1	1	0.8	1	

a/ mg/l = milligrams per liter; "-" indicates constituent not analyzed; < = less than; °C = degrees Celsius;  
 mS/cm = milliSiemens per centimeter; s.u. standard units; mV = millivolts;  
 NTUs = nephelometric turbidity units; gal = gallon.

b/ Data Qualifiers:

U = result not detected

D, D08 = result from diluted aliquot

B = analyte was detected in associated method blank

c/ Turbidity was not measured the final recording; this measurement is from the previous recorded measurement.

**Table 2**  
**Summary of Performance Monitoring Results**  
**QLT Buffalo**  
**Buffalo, New York (a)**

Sample I.D.:		MW-01										
Event:		Quarterly Monitoring								Performance Monitoring (Post-Injection)		
Sample Date:		08/21/07 (b)	08/21/07 (b)	11/28/07	03/03/08	05/28/08	08/25/08	11/20/08	02/24/09	05/19/09	11/24/09	05/19/10
Parameters	NSYDEC Values (c)											
<b>Volatile Organic Compounds (µg/l)</b>												
Acetone	50	-	-	-	-	-	-	-	-	-	-	-
Benzene	1	270	270	300	340	290	210	240	52	180	23 D	68
2-Butanone	50	-	-	-	-	-	-	-	-	-	-	-
Ethylbenzene	5	130	130	130	140	110	84	76	55	38	5 D	11
Toluene	5	1.8	1.7	5 U	5 U	5 U	5 U	5 U	0.98 J	0.83 J	4 U	1 U
Total Xylenes	5	17	16	7.6 J	8.4 J	6.1 J	8.9 J	15 U	4.1	3.7	8 U	2 U

Sample I.D.:		MW-03															
Event:		Quarterly Monitoring										Supplemental Investigation		Quarterly Monitoring		Performance Monitoring (Post-Injection)	
Sample Date:		08/21/07	11/28/07 (b)	11/28/07 (b)	03/03/08 (b)	03/03/08 (b)	05/27/08 (b)	05/27/08 (b)	08/25/08 (b)	08/25/08 (b)	11/20/08	12/17/08 (b)	12/17/08 (b)	02/24/09	05/19/09	11/24/09	05/19/10
Parameters	NSYDEC Values																
<b>Volatile Organic Compounds (µg/l)</b>																	
Acetone	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene	1	21	1,800	1,800 J	520	490	48	42	1,600	1,800	1,500	610	600	420	220	1,300 D	26
2-Butanone	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethylbenzene	5	13	960	980 J	250	230	26	22	920	1,000	870	340	330	240	44	620 D	1.2
Toluene	5	0.67 J	100	110	20	19 J	1 U	1 U	72	73	53	22	22	1.6	1.9	35 D	1 U
Total Xylenes	5	8.5	850	870	190	170	7.7	6.9	650	710	530	200 J	190	17	5.5	370 D	2 U

Sample I.D.:		MW-09																	
Event:		Quarterly Monitoring							Supplemental Investigation	Quarterly Monitoring			Performance Monitoring (Post-Injection)						
Sample Date:		08/20/07 (e)	08/21/07	11/27/07	03/03/08	05/27/08	08/25/08	11/20/08	12/18/08	02/24/09	05/19/09	11/24/09 (b)	11/24/09 (b)	02/18/10 (b)	02/18/10 (b)	05/19/10 (b)	05/19/10 (b)	08/17/10 (b)	08/17/10 (b)
Parameters	NSYDEC Values																		
<b>Volatile Organic Compounds (µg/l)</b>																			
Acetone	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene	1	4,000 D	980	1,700	3,300	12,000	7,600	3,600	670	13,000	10,000	2,200 D	2,000 D	1,500	1,800	2,400 D08	2,000 D08	730 D08	720 D08
2-Butanone	50	-	-	-	-	-	-	-	-	-	-	-	-	7.8	7.6	5.4	5	5 J	5.6 J
Ethylbenzene	5	6	1.3	10 U	20 U	40 U	100 U	50 U	0.73 J	12 J	8.2 J	4.2 D	3.9 JD	3.8	4	4.9	3.6	3.1	2.7
Toluene	5	2	0.74 J	10 U	20 U	40 U	100 U	50 U	1 U	4.7 J	20 U	4 U	4 U	0.92 J	0.98 J	0.6 J	0.57 J	0.51	0.51
Total Xylenes	5	120 U	300 U	150 U	12 J	40 U	30 U	60 U	3 U	120 U	96 J	3.7 JD	3.2 JD	6.1	6.2	2.7	1.4 J	3	2.3

**Boxed value greater than the NYSDEC Ambient Water Quality value**

- a/ I.D. = identification; NYSDEC = New York State Department of Environmental Conservation; µg/l = micrograms per liter; ND = not detected; '-' indicates standard not developed or constituent not analyzed.  
b/ Sample and duplicate.  
c/ NYSDEC Ambient Water Quality Standards and Guidance Values. Technical and Operational Guidance Series (1.1.1). June 1998 and as updated.  
d/ Data Qualifiers:  
U = constituent not detected at reported detection limit  
J = estimated concentration  
B = analyte detected in associated method blank  
D, D08 = result from diluted aliquot  
e/ Results from sample collected by the NYSDEC.

**Table 3**

**Summary of Molecular Biological Analysis Results  
QLT Buffalo  
Buffalo, New York (a)**

**Sample Location:** MW-09  
**Sample Event:** Baseline  
**Sample Date:** 06/26/09

**Parameters**

**CENSUS**

**DNA Functional Genes (cells/ml)**

Benzyl Succinate Synthase (bssA)	<1.00E+00
Naphthalene Dioxygenase (NAH)	1.37E+08
Phenol Hydroxylase (PHE)	4.06E+04
Toluene Monooxygenase (RMO)	<1.00E+00
Toluene Dioxygenase (TOD)	1.01E+06
Biphenyl Dioxygenase (PPH4)	2.34E+04
Xylene Monooxygenase (TOL)	2.00E-01 J (b)

a/ ml = milliliter; < = result not detected.

b/ Data Qualifiers:

J = estimated gene copies between PQL and LQL



Table 4

Summary of Molecular Biological Analysis Results  
 QLT Buffalo  
 Buffalo, New York (a)

<u>Parameters</u>	<b>Sample Location: MW-09</b>		
	<b>Performance Monitoring</b>		
	<b>Sample Event:</b>	<b>Sample Date:</b>	<b>Sample Date:</b>
	<u>02/18/10</u>	<u>05/19/10</u>	<u>08/17/10</u>
<b>CENSUS</b>			
<b>mRNA Functional Genes (gene copies/bead)</b>			
Benzyl Succinate Synthase (bssA)	<5.00E+01	<5.00E+01	<5.00E+01
Naphthalene Dioxygenase (NAH)	<5.00E+01	<5.00E+01	1.73E+10
Phenol Hydroxylase (PHE)	4.47E+01 J (b)	<5.00E+01	<5.00E+01
Toluene Monooxygenase (RMO)	-	<5.00E+01	<5.00E+01
Toluene Dioxygenase (TOD)	3.50E+01 J	<5.00E+01	<5.00E+01
Biphenyl Dioxygenase (BPH4)	<5.00E+01	<5.00E+01	<5.00E+01
Xylene Monooxygenase (TOL)	3.14E+01 J	<5.00E+01	<5.00E+01
<b>PLFA</b>			
<b>Biomass Concentration</b>			
Total biomass(cells/bead)	5.11E+04	2.46E+04	1.94E+05
<b>Community Structure (% Total PLFA)</b>			
Firmicutes (TerBrSats)	0.00	0.00	2.41
Proteobacteria (Monos)	33.69	100.00	75.47
Anaerobic metal reducers (BrMonos)	0.00	0.00	0.76
SRB/Actinomycetes (MidBrSats)	0.00	0.00	1.09
General (Nsats)	66.31	0.00	17.28
Eukaryotes (polyenoics)	0.00	0.00	2.99
<b>Physiological Status (Proteobacteria Only)</b>			
Slowed Growth	0.00	0.00	0.16
Decreased Permeability	1.93	0.00	0.51

a/ < = result not detected.

b/ Data Qualifiers:

J = estimated gene copies between PQL and LQL

Table 5

Summary of CSIA Sample Results  
 QLT Buffalo  
 Buffalo, New York (a)

Sample Location:	MW-09							
	Baseline		Performance Monitoring					
Sample Event: Sample Date:	<u>06/26/09</u>		<u>02/18/10</u>		<u>05/19/10</u>		<u>08/17/10</u>	
<u>Parameters</u>	<u>Conc (µg/l)</u>	<u>δ<sup>13</sup>C (‰)</u>	<u>Conc (µg/l)</u>	<u>δ<sup>13</sup>C (‰)</u>	<u>Conc (µg/l)</u>	<u>δ<sup>13</sup>C (‰)</u>	<u>Conc (µg/l)</u>	<u>δ<sup>13</sup>C (‰)</u>
Benzene	14,700 (b)	-21.13 R	1,500 (b)	-24.06	1,500 (b)	-25.41	730 (b)	-23.03

a/ CSIA = compound specific isotope analysis; conc = concentration; µg/l = micrograms per liter; R = data rejected.

b/ The reported concentration is from the sample submitted to TestAmerica. The result from the baseline study is an average concentration as MW-09 was sampled at four separate depth intervals. Refer to the MW-09 Area Pre-Design Investigation Report and Chemical Oxidation/Enhanced Bioremediation Inject Work Plan. WSP July 31, 2009 for the individual results.

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Enclosure A



**GROUND-WATER SAMPLING RECORD**

Well ID: MW-09  
 Site Name: QLT Buffalo Date: 08/17/10 Sampled By: KEB  
 Well Diameter: 2 inch Casing Material: PVC  
 Water Level: 5.70 Water column: 10.06 Well Volume (gal):             
 Purge Method: Peristaltic Pump Probe: Horiba U-52  
 Weather Conditions: 60-65 degrees F, sunny, breezy LaMotte 2020

Time	Volume (L)	Temp (°C)	SpC (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turb. (NTU)	DTW (ft)
912	Begin purge							
915		17.29	5.8	22.8	12.08	28	55.2	6.85
920		17.09	5.87	22.92	12.6	26	64.8	7.28
925	4	17.7	5.98	23.99	12.67	30	87.1	8.58
09:39 End purge after discussing with project manager. Well has drawn down into screen.								
Will allow to recharge before sampling.								
Collect duplicate sample ID: MW-100-0810; 1130 time on chain of custody.								
Collected biotraps previously deployed at 09:10 for PFLA and PCR: bssa, NAH, PHE, RMO, TOD, BPH4, TOL								
Field analysis of Total Iron = 0 mg/L								
Field analysis of Ferrous Iron = 1 mg/L								
Sample had no apparent odor and it was slightly cloudy with a whitish tint.								
<b>Sample Date &amp; Time: 08/17/10 11:15</b>								

Parameters Collected						
Analytes:	BTEX	Nitrate/ Sulfate	Sulfide	CSIA	Ferrous Iron	Total Iron
Presv:	HCl	None	Zinc Acetate/NaOH	NA3PO4	N/A	N/A
Containers:	6	1	1	9	Field	Field
Filtered:	N	Y	Y	N	Y	Y

## APPENDIX C

### 4 NEW SEVENTH STREET MONITORING RESULTS COLLECTED DURING REPORTING PERIOD

June 2, 2010

Mr. Jaspal Walia, P.E.  
Project Manager  
New York State Department of Environmental Conservation  
270 Michigan Ave  
Buffalo NY, 14203

Re: May 2010 Post-Remedial Groundwater Monitoring Event  
New Seventh Street Site No C915203

Dear Mr. Walia:

On behalf of our client, 257 West Genesee LLC, Benchmark Environmental Engineering & Science, PLLC (Benchmark) has prepared this report to transmit the results of the May 2010 post-remedial groundwater monitoring event at the above referenced Brownfield Cleanup Program (BCP) Site located in Buffalo, NY (see Figure 1).

## **FIELD SAMPLING PROCEDURE**

In accordance with the Department's August 28<sup>th</sup>, 2009 correspondence, monitoring wells BCP-MW-04 and BCP-MW-05 were designated for sampling during the May 2010 monitoring event. Benchmark field staff performed the sampling on May 7, 2010; Mr. David Szymanski of the NYSDEC was onsite to observe a portion of the work. Sampling was performed using a non-dedicated disposable polyethylene bailer. Each monitoring well was initially purged of three well volumes or to dryness, whichever was achieved first. In the event that a monitoring well was purged dry the well was allowed sufficient time to recover to retrieve a representative groundwater sample.

Attachment 1 includes the purge and sample field data sheets. The groundwater samples were transferred to laboratory supplied, pre-preserved sample vials and transported, under chain of custody, to Test America, Inc. for analysis of Spill Technologies and Remediation Series (STARS) VOCs per USEPA Method 8260B.

## **GROUNDWATER ELEVATIONS**

Prior to sampling static water level measurements were collected from monitoring wells BCP-MW-04, BCP-MW-05, and MW-3. An isopotential map representing the shallow horizon groundwater was prepared from the depth-to-groundwater

[www.benchmarkees.com](http://www.benchmarkees.com)

measurements and is presented as Figure 1. As shown, groundwater isopotential data indicate shallow groundwater flow in a northwesterly direction.

## **ANALYTICAL RESULTS**

Attachment 2 includes a copy of the analytical data for the sampled wells as prepared by Test America. Table 1 summarizes the detected compounds and compares the results to NYSDEC Groundwater Quality Standards and Guidance Values (NYSDEC TOGS 1.1.1, June 1998). As indicated, no VOCs were reported above analytical detection limits at BCP-MW-05. At BCP-MW-04 benzene, ethylbenzene & 1,2,4-trimethylbenzene were reported slightly above their associated Groundwater Quality Standards.

## **DATA QUALITY**

Site-specific quality control sampling during this ground water monitoring event included one blind duplicate sample and one matrix spike/matrix spike duplicate collected from BCP-MW-05. In general, internal laboratory quality control samples and site-specific QC samples indicate satisfactory analytical accuracy and precision; blind duplicate results were reported as non-detect per the original sample.

## **CONCENTRATION TREND ANALYSIS**

Figure 1 presents the May 2010 analytical data as well as the sample results from previous monitoring events. The data indicate a decreasing trend in BTEX concentrations from samples collected in monitoring wells BCP-MW-04 and BCP-MW-05 as compared to the prior sampling event.

## **CONCLUSIONS AND RECOMMENDATIONS**

Since inception of the post-remedial monitoring program in August 2007, nine groundwater monitoring events have been conducted at the site. The results have indicated an overall decreasing trend in STARS VOCs, with all events yielding total VOC concentrations less than 1 part per million. Based on the data, Benchmark requests the Department's permission to terminate the post-remedial groundwater monitoring program at the New 7<sup>th</sup> Street Site.

If approved, monitoring wells BCP-MW-04 & BCP-MW-05 will be decommissioned following the same procedure recently employed at BCP-MW-02. In addition, it appears that a piezometer (PZ-10) from the Remedial Investigation remains on the Site; this piezometer will be decommissioned concurrent with removal of BCP-MW-04 and BCP-MW-05. At this time MW-3 will remain as part of the monitoring network related to supplemental remedial measures at offsite well MW-9.

Please feel free to contact me with any questions.

Sincerely,  
Benchmark Environmental Engineering & Science, PLLC



Thomas H. Forbes, P.E.  
Sr. Project Manager

Att.

- c: G. Adkison (Duke Realty)
- S. Kidwell (Duke Realty)
- C. Slater (Hater Secest)
- D. Szymanski (NYSDEC)



# TABLE

[www.benchmarkees.com](http://www.benchmarkees.com)

2558 Hamburg Turnpike, Suite 300 | Buffalo, NY 14218  
phone: (716) 856-0599 | fax: (716) 856-0583



**TABLE 1**

**SUMMARY OF GROUNDWATER ANALYTICAL RESULTS**

**257 West Genesee LLC.  
New Seventh St.  
Buffalo, New York**

Parameter <sup>1</sup>	Monitoring Well				Class GA GWQS
	BCP-MW-04	BCP-MW-05	Blind Dup	Trip Blank	
<b><i>NYSDEC STARS LIST VOCs (ug/L)</i></b>					
Benzene	33	ND	ND	ND	1
Ethylbenzene	37	ND	ND	ND	5
1,2,4-Trimethylbenzene	27	ND	ND	ND	5

**Notes:**

1. Only those parameters detected at a minimum of one sample location are presented in this table; all other compounds were reported as not detected.

**Definitions:**

D03 = Dilution required due to excess foaming.

ND = Not Detected

May 23, 2011

Mr. Jaspal Walia, P.E.  
Project Manager  
New York State Department of Environmental Conservation  
Division of Environmental Remediation  
270 Michigan Ave  
Buffalo NY, 14203

Re: May 2011 Post-Remedial Groundwater Monitoring Event  
New Seventh Street Site No C915203

Dear Mr. Walia:

On behalf of our client, 257 West Genesee LLC, Benchmark Environmental Engineering & Science, PLLC (Benchmark) has prepared this report to transmit the results of the May 2011 post-remedial groundwater monitoring event at the above referenced Brownfield Cleanup Program (BCP) Site located in Buffalo, NY (see Figure 1).

## **FIELD SAMPLING PROCEDURE**

In accordance with the Department's June 16<sup>th</sup>, 2010 correspondence, monitoring well BCP-MW-04 was slated for re-sampling in May 2011. Benchmark staff notified the Department of the schedule and performed the fieldwork on May 7, 2011.

Sampling was performed using a non-dedicated disposable polyethylene bailer. As per past monitoring events, BCP-MW-04 was purged to dryness. Groundwater was allowed to recover prior to sampling. Attachment 1 includes the purge and sample field data sheets. The groundwater sample was transferred to laboratory supplied, pre-preserved sample vials and transported, under chain of custody, to Test America, Inc. for analysis of Spill Technologies and Remediation Series (STARS) VOCs per USEPA Method 8260B.

## **ANALYTICAL RESULTS**

Attachment 2 includes a copy of the analytical data package. As indicated, all parameters were reported as non-detectable.

[www.benchmarkees.com](http://www.benchmarkees.com)

## CONCLUSIONS AND RECOMMENDATIONS

Figure 1 presents BCP-MW-04 sample results from previous monitoring events, including the May 2011 results. As shown, ten groundwater monitoring events have been conducted at this location since August 2007. The results have indicated an overall decreasing trend in STARS VOCs, with all events over the past 3 years yielding non-detectable or trace levels of VOCs having total concentrations well below 1 part per million. Based on the data, Benchmark requests the Department's permission to terminate the post-remedial groundwater monitoring program at the New 7<sup>th</sup> Street Site.

If approved, monitoring well BCP-MW-04 will be decommissioned following the same procedure previously employed at BCP-MW-02, BCP-MW-05 and PZ-10 (i.e., pulling & tremie grouting). At this time MW-3 will remain as part of the monitoring network related to supplemental remedial measures at offsite well MW-9.

Please feel free to contact me with any questions.

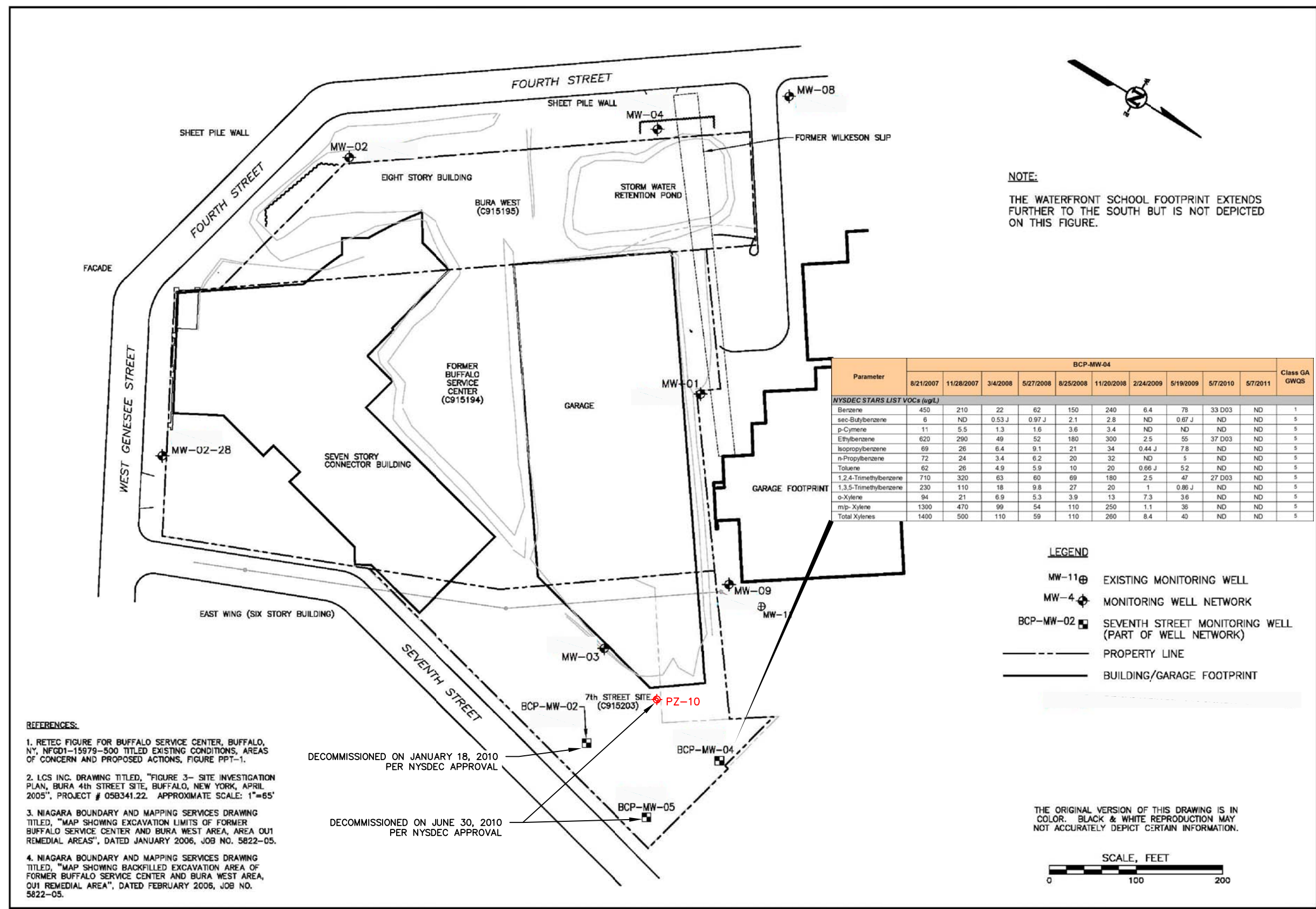
Sincerely,  
Benchmark Environmental Engineering & Science, PLLC



Thomas H. Forbes, P.E.  
Sr. Project Manager

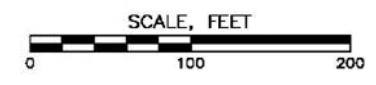
Att.

- c: G. Adkison (Duke Realty)
- S. Kidwell (Duke Realty)
- C. Slater (Hater Secest)
- D. Szymanski (NYSDEC)



**NOTE:**  
THE WATERFRONT SCHOOL FOOTPRINT EXTENDS FURTHER TO THE SOUTH BUT IS NOT DEPICTED ON THIS FIGURE.

- LEGEND**
- MW-11 ⊕ EXISTING MONITORING WELL
  - MW-4 ⊕ MONITORING WELL NETWORK
  - BCP-MW-02 ⊕ SEVENTH STREET MONITORING WELL (PART OF WELL NETWORK)
  - PROPERTY LINE
  - BUILDING/GARAGE FOOTPRINT



THE ORIGINAL VERSION OF THIS DRAWING IS IN COLOR. BLACK & WHITE REPRODUCTION MAY NOT ACCURATELY DEPICT CERTAIN INFORMATION.

- REFERENCES:**
- RETEC FIGURE FOR BUFFALO SERVICE CENTER, BUFFALO, NY, NFGD1-15979-500 TITLED EXISTING CONDITIONS, AREAS OF CONCERN AND PROPOSED ACTIONS, FIGURE PPT-1.
  - LCS INC. DRAWING TITLED, "FIGURE 3- SITE INVESTIGATION PLAN, BURA 4th STREET SITE, BUFFALO, NEW YORK, APRIL 2005", PROJECT # 05B341.22. APPROXIMATE SCALE: 1"=65'
  - NIAGARA BOUNDARY AND MAPPING SERVICES DRAWING TITLED, "MAP SHOWING EXCAVATION LIMITS OF FORMER BUFFALO SERVICE CENTER AND BURA WEST AREA, AREA OUI REMEDIAL AREAS", DATED JANUARY 2006, JOB NO. 5822-05.
  - NIAGARA BOUNDARY AND MAPPING SERVICES DRAWING TITLED, "MAP SHOWING BACKFILLED EXCAVATION AREA OF FORMER BUFFALO SERVICE CENTER AND BURA WEST AREA, OUI REMEDIAL AREA", DATED FEBRUARY 2006, JOB NO. 5822-05.

DECOMMISSIONED ON JANUARY 18, 2010 PER NYSDEC APPROVAL

DECOMMISSIONED ON JUNE 30, 2010 PER NYSDEC APPROVAL

Drawn By: RAZ-06/09  
Checked:  
Approved:  
DWG Name: 198012-B27

FORMER BUFFALO SERVICE CENTER SITE  
BURA WEST SITE - BUFFALO, NEW YORK  
PREPARED FOR  
QLT BUFFALO LLC  
BUFFALO, NEW YORK

FIGURE 1  
SITE LAYOUT AND GROUNDWATER ELEVATIONS (MAY 2009)

**WSP Engineering of New York, P.C.**  
750 Holiday Drive, Suite 410  
Pittsburgh, PA 15220 412-604-1040

**BENCHMARK**  
Environmental Engineering & Science, PLLC  
2558 HAMBURG TURNPIKE  
SUITE 300  
BUFFALO, NY 14218  
(716) 856-0599

**SITE PLAN**  
GROUNDWATER MONITORING MAY 2011  
FORMER BUFFALO SERVICE CENTER SITE  
BUFFALO, NEW YORK

**FIGURE 1**

PREPARED FOR  
257 WEST GENESEE, LLC  
JOB NO.: 0184-001-100

---

# **ATTACHMENT 1**

---

**SAMPLE COLLECTION LOGS**

Project Name: Duke locality  
Location: 275 Garosoe

Date: 5-7-11  
Project No.: 0184-001-100 Field Team: PWW

<b>Well No.</b> <u>BCP-MW-04</u>		<b>Diameter (inches):</b> <u>2"</u>				<b>Sample Date / Time:</b> <u>5-7-11 9:45</u>			
<b>Product Depth (fbTOR):</b> <u>—</u>		<b>Water Column (ft):</b> <u>2.3</u>				<b>DTW when sampled:</b> <u>13.28</u>			
<b>DTW (static) (fbTOR):</b> <u>12.28</u>		<b>One Well Volume (gal):</b> <u>37</u>				<b>Purpose:</b> <input type="checkbox"/> Development <input type="checkbox"/> Sample <input checked="" type="checkbox"/> Purge & Sample			
<b>Total Depth (fbTOR):</b> <u>14.56</u>		<b>Total Volume Purged (gal):</b>				<b>Purge Method:</b> <u>Bailer</u>			
Time	Water Level (fbTOR)	Acc. Volume (gallons)	pH (units)	Temp. (deg. C)	SC (uS)	Turbidity (NTU)	DO (mg/L)	ORP (mV)	Appearance & Odor
<u>8:42</u>	<u>0 Initial</u>	<u>2.25</u>	<u>6.60</u>	<u>10.1</u>	<u>1972</u>	<u>36.0</u>	<u>3.92</u>	<u>192</u>	<u>clear/floating/d/No odor</u>
<u>8:45</u>	<u>1 13.56</u>	<u>4</u>	<u>6.87</u>	<u>9.4</u>	<u>1923</u>	<u>356</u>	<u>4.08</u>	<u>191</u>	<u>Turbid brown/No odor</u>
<u>8:50</u>	<u>2 DRY</u>	<u>5</u>	<u>6.97</u>	<u>9.3</u>	<u>1895</u>	<u>578</u>	<u>4.00</u>	<u>196</u>	<u>"</u>
3									
4									
5									
6									
7									
8									
9									
10									
<b>Sample Information:</b>									
<u>9:45</u>	<u>S1 13.28</u>	<u>6</u>	<u>6.91</u>	<u>11.4</u>	<u>1064</u>	<u>328</u>	<u>3.78</u>	<u>132</u>	<u>"</u>
	<u>S2</u>								

<b>Well No.</b>		<b>Diameter (inches):</b>				<b>Sample Date / Time:</b>			
<b>Product Depth (fbTOR):</b>		<b>Water Column (ft):</b>				<b>DTW when sampled:</b>			
<b>DTW (static) (fbTOR):</b>		<b>One Well Volume (gal):</b>				<b>Purpose:</b> <input type="checkbox"/> Development <input type="checkbox"/> Sample <input type="checkbox"/> Purge & Sample			
<b>Total Depth (fbTOR):</b>		<b>Total Volume Purged (gal):</b>				<b>Purge Method:</b>			
Time	Water Level (fbTOR)	Acc. Volume (gallons)	pH (units)	Temp. (deg. C)	SC (uS)	Turbidity (NTU)	DO (mg/L)	ORP (mV)	Appearance & Odor
0	Initial								
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
<b>Sample Information:</b>									
S1									
S2									

**REMARKS:** WL for MW-03 is 6.92  
BCP-MW-04 - insufficient water for sample readings

Diam.	Vol. (g/ft)
1"	0.041
2"	0.163
4"	0.653
6"	1.469

Parameter	Criteria
pH	± 0.1 unit
SC	± 3%
Turbidity	± 10%
DO	± 0.3 mg/L
ORP	± 10 mV

Note: All water level measurements are in feet, distance from top of riser.

PREPARED BY: Paul W. Watt



**EQUIPMENT CALIBRATION LOG**

**PROJECT INFORMATION:**

Project Name: 275 Genesee St  
 Project No.: 0184-001-100  
 Client: Duke Realty

Date: 5-7-11

Instrument Source:  BM  Rental

METER TYPE	UNITS	TIME	MAKE/MODEL	SERIAL NUMBER	CAL. BY	STANDARD	POST CAL. READING	SETTINGS
<input checked="" type="checkbox"/> pH meter	units	8:15	Myron L Company Ultra Meter 6P	606987 <input type="checkbox"/> 6212375 <input checked="" type="checkbox"/>	Pww	4.00 7.00 10.01	4.0 7.0 10.0	4.0 ok 7.0 ok 10.0 ok
<input checked="" type="checkbox"/> Turbidity meter	NTU	8:20	Hach 2100P Turbidimeter	06120C020523 <input checked="" type="checkbox"/> 07110C026405 <input type="checkbox"/>	Pww	<0.4 20 100 800	0.4 20.6 101 815	0.4 ok 20 ok 100 ok 800 ok
<input checked="" type="checkbox"/> Sp. Cond. meter	uS mS	8:15	Myron L Company Ultra Meter 6P	606987 <input type="checkbox"/> 6212375 <input checked="" type="checkbox"/>	Pww	143 mS @ 25 °C	1412	1413 ok
<input type="checkbox"/> PID	ppm		MinRAE 2000			open air zero		MIBK response factor = 1.0
<input checked="" type="checkbox"/> Dissolved Oxygen	ppm	8:30	HACH Model HQ30d	New	Pww	100% Saturation	100%	100% ok
<input type="checkbox"/> Particulate meter	mg/m <sup>3</sup>					zero air		
<input type="checkbox"/> Oxygen	%					open air		
<input type="checkbox"/> Hydrogen sulfide	ppm					open air		
<input type="checkbox"/> Carbon monoxide	ppm					open air		
<input type="checkbox"/> LEL	%					open air		
<input type="checkbox"/> Radiation Meter	uR/H					background area		
<input type="checkbox"/>								

**ADDITIONAL REMARKS:**

PREPARED BY: [Signature] DATE: 5-7-11



# APPENDIX D

## INSTITUTIONAL & ENGINEERING CONTROLS CERTIFICATION FORMS



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. C915194		
Site Name Former Buffalo Service Station <i>Center</i>		
Site Address: 249 West Genesee Street	Zip Code: 14202	
City/Town: Buffalo		
County: Erie		
Site Acreage: 4.9		
Reporting Period: <i>April 1,</i> June 15, 2010 to June 15, 2011		
		YES NO
1. Is the information above correct?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
If NO, include handwritten above or on a separate sheet.		
2. Has some or all of the site property been sold, subdivided, merged, or undergone a tax map amendment during this Reporting Period?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. Has there been any change of use at the site during this Reporting Period (see 6NYCRR 375-1.11(d))?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. Have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property during this Reporting Period?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
If you answered YES to questions 2 thru 4, include documentation or evidence that documentation has been previously submitted with this certification form.		
5. Is the site currently undergoing development?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
		<b>Box 2</b>
		YES NO
6. Is the current site use consistent with the use(s) listed below? Commercial and Industrial	<input checked="" type="checkbox"/>	<input type="checkbox"/>
7. Are all ICs/ECs in place and functioning as designed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>IF THE ANSWER TO EITHER QUESTION 6 OR 7 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM.</b>		
<b>A Corrective Measures Work Plan must be submitted along with this form to address these issues.</b>		
_____ Signature of Owner, Remedial Party or Designated Representative		_____ Date

	<b>Box 2A</b>
	YES    NO
8. Has any new information revealed that assumptions made in the Qualitative Exposure Assessment regarding offsite contamination are no longer valid?	<input type="checkbox"/> <input checked="" type="checkbox"/>
<b>If you answered YES to question 8, include documentation or evidence that documentation has been previously submitted with this certification form.</b>	
9. Are the assumptions in the Qualitative Exposure Assessment still valid? (The Qualitative Exposure Assessment must be certified every five years)	<input checked="" type="checkbox"/> <input type="checkbox"/>
<b>If you answered NO to question 9, the Periodic Review Report must include an updated Qualitative Exposure Assessment based on the new assumptions.</b>	

<b>SITE NO. C915194</b>	<b>Box 3</b>	
<b>Description of Institutional Controls</b>		
<u>Parcel</u>	<u>Owner</u>	<u>Institutional Control</u>
110.60-2-2.1	257 W. Genesee, LLC	Ground Water Use Restriction O&M Plan Soil Management Plan

	<b>Box 4</b>
<b>Description of Engineering Controls</b>	
None Required	
<b>Control Description for Site No. C915194</b>	
<b>Parcel: 110.60-2-2.1</b>	
i) Use of groundwater for potable and non-potable purposes is prohibited.	
ii) Implementation of Operation, Monitoring, and Maintenance Plan and Soil/Fill Management Plan.	

**Periodic Review Report (PRR) Certification Statements**

1. I certify by checking "YES" below that:

a) the Periodic Review report and all attachments were prepared under the direction of, and reviewed by, the party making the certification;

b) to the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and the information presented is accurate and complete.

YES NO

2. If this site has an IC/EC Plan (or equivalent as required in the Decision Document), for each Institutional or Engineering control listed in Boxes 3 and/or 4, I certify by checking "YES" below that all of the following statements are true:

(a) the Institutional Control and/or Engineering Control(s) 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) 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;

(d) nothing has occurred that would constitute a violation or failure to comply with the Site Management Plan for this Control; and

(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.

YES NO

**IF THE ANSWER TO QUESTION 2 IS NO, sign and date below and  
DO NOT COMPLETE THE REST OF THIS FORM.**

**A Corrective Measures Work Plan must be submitted along with this form to address these issues.**

\_\_\_\_\_  
Signature of Owner, Remedial Party or Designated Representative

\_\_\_\_\_  
Date

IC CERTIFICATIONS  
SITE NO. C915194

Box 6

**SITE OWNER OR DESIGNATED REPRESENTATIVE SIGNATURE**

I certify that all information and statements in Boxes 2 and/or 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 John M. Pons at 2555 E. Camelback Road, Suite 400, Phoenix, AZ 85016.  
print name print business address

am certifying as Executive Vice President (Owner or Remedial Party)

for the Site named in the Site Details Section of this form.

257 W. Genesee, LLC

By: Cole HN Buffalo NY, LLC

By: Cole REIT Advisors III, LLC, its Manager

John M. Pons  
Signature of Owner or Remedial Party Rendering Certification

John M. Pons, Executive Vice President

July 15, 2011

Date



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.	C915195		
Site Name Buffalo Urban Renewal Agency West Property			
Site Address: 257 West Genesee Street		Zip Code: 14202	
City/Town: Buffalo			
County: Erie			
Site Acreage: 1.7			
Reporting Period: <sup>April</sup> June-15, 2010 to June 15, 2011			
		YES	NO
1. Is the information above correct?		<input type="checkbox"/>	<input checked="" type="checkbox"/>
If NO, include handwritten above or on a separate sheet.			
2. Has some or all of the site property been sold, subdivided, merged, or undergone a tax map amendment during this Reporting Period?		<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. Has there been any change of use at the site during this Reporting Period (see 6NYCRR 375-1.11(d))?		<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. Have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property during this Reporting Period?		<input type="checkbox"/>	<input checked="" type="checkbox"/>
If you answered YES to questions 2 thru 4, include documentation or evidence that documentation has been previously submitted with this certification form.			
5. Is the site currently undergoing development?		<input type="checkbox"/>	<input checked="" type="checkbox"/>
		Box 2	
		YES	NO
6. Is the current site use consistent with the use(s) listed below? Commercial and Industrial		<input checked="" type="checkbox"/>	<input type="checkbox"/>
7. Are all ICs/ECs in place and functioning as designed?		<input checked="" type="checkbox"/>	<input type="checkbox"/>
IF THE ANSWER TO EITHER QUESTION 6 OR 7 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM.			
A Corrective Measures Work Plan must be submitted along with this form to address these issues.			
_____ Signature of Owner, Remedial Party or Designated Representative		_____ Date	

SITE NO. C915195

Box 3

Description of Institutional Controls

Parcel

110.60-2-2.1

Owner

257 W. Genesee, LLC

Institutional Control

Ground Water Use Restriction  
Landuse Restriction  
O&M Plan  
Site Management Plan

Box 4

Description of Engineering Controls

None Required

---

Control Description for Site No. C915195

Parcel: 110.60-2-2.1

- i) Use of groundwater for potable and non-potable purposes is prohibited.
- ii) Implementation of Operation, Monitoring, and Maintenance Plan and Soil/Fill Management Plan.
- iii) Property shall remain as commercial/industrial use only

**Periodic Review Report (PRR) Certification Statements**

1. I certify by checking "YES" below that:

a) the Periodic Review report and all attachments were prepared under the direction of, and reviewed by, the party making the certification;

b) to the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and the information presented is accurate and complete.

YES NO

2. If this site has an IC/EC Plan (or equivalent as required in the Decision Document), for each Institutional or Engineering control listed in Boxes 3 and/or 4, I certify by checking "YES" below that all of the following statements are true:

(a) the Institutional Control and/or Engineering Control(s) 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) 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;

(d) nothing has occurred that would constitute a violation or failure to comply with the Site Management Plan for this Control; and

(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.

YES NO

**IF THE ANSWER TO QUESTION 2 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM.**

**A Corrective Measures Work Plan must be submitted along with this form to address these issues.**

\_\_\_\_\_  
Signature of Owner, Remedial Party or Designated Representative

\_\_\_\_\_  
Date



IC CERTIFICATIONS  
SITE NO. C915195

Box 6

**SITE OWNER OR DESIGNATED REPRESENTATIVE SIGNATURE**

I certify that all information and statements in Boxes 2 and/or 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 John M. Pons at 2555 W. Camelback Road, Suite 400, Phoenix, AZ 85016  
print name print business address

am certifying as Executive Vice President  (Owner or Remedial Party)

for the Site named in the Site Details Section of this form.

257 W. Genesee, LLC

By: Cole HN Buffalo NY, LLC

By: Cole REIT Advisors III, LLC, its Manager

  
\_\_\_\_\_  
Signature of Owner or Remedial Party Rendering Certification  
John M. Pons, Executive Vice President

July 15, 2011

\_\_\_\_\_  
Date



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.            C915203		
<b>Site Name 4 New Seventh Street Site</b>		
Site Address: 4 New Seventh Street Site	Zip Code: 14202	
City/Town: Buffalo		
County: Erie		
Site Acreage: 1.7		
Reporting Period: <i>April 1,</i> <del>June-45</del> , 2010 to June 15, 2011		
		YES    NO
1. Is the information above correct?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
If NO, include handwritten above or on a separate sheet.		
2. Has some or all of the site property been sold, subdivided, merged, or undergone a tax map amendment during this Reporting Period?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. Has there been any change of use at the site during this Reporting Period (see 6NYCRR 375-1.11(d))?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. Have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property during this Reporting Period?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
If you answered YES to questions 2 thru 4, include documentation or evidence that documentation has been previously submitted with this certification form.		
5. Is the site currently undergoing development?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
		<b>Box 2</b>
		YES    NO
6. Is the current site use consistent with the use(s) listed below? Commercial and Industrial	<input checked="" type="checkbox"/>	<input type="checkbox"/>
7. Are all ICs/ECs in place and functioning as designed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>IF THE ANSWER TO EITHER QUESTION 6 OR 7 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM.</b>		
<b>A Corrective Measures Work Plan must be submitted along with this form to address these issues.</b>		
_____ Signature of Owner, Remedial Party or Designated Representative		_____ Date

**Box 2A**

8. Has any new information revealed that assumptions made in the Qualitative Exposure Assessment regarding offsite contamination are no longer valid? YES    NO

**If you answered YES to question 8, include documentation or evidence that documentation has been previously submitted with this certification form.**

9. Are the assumptions in the Qualitative Exposure Assessment still valid?       
(The Qualitative Exposure Assessment must be certified every five years)

**If you answered NO to question 9, the Periodic Review Report must include an updated Qualitative Exposure Assessment based on the new assumptions.**

**Box 3**

**SITE NO. C915203**

**Description of Institutional Controls**

<u>Parcel</u>	<u>Owner</u>	<u>Institutional Control</u>
12-1-23	257 W. Genesee, LLC	Ground Water Use Restriction Landuse Restriction Site Management Plan Soil Management Plan
110.60-2-2.1	257 W. Genesee, LLC	Ground Water Use Restriction Landuse Restriction Site Management Plan Soil Management Plan

**Box 4**

**Description of Engineering Controls**

None Required

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**Control Description for Site No. C915203**

**Parcel: 110.60-2-2.1**

- i) Operation, Monitoring, and Maintenance Plan and Soil/Fill Management Plan
- ii) Use of groundwater for potable and non-potable purposes is prohibited.
- iii) unrestricted or residential use is prohibited.

**Parcel: 12-1-23**

- i) Operation, Monitoring, and Maintenance Plan and Soil/Fill Management Plan
- ii) Use of groundwater for potable and non-potable purposes is prohibited.
- iii) unrestricted or residential use is prohibited.

**Periodic Review Report (PRR) Certification Statements**

1. I certify by checking "YES" below that:

a) the Periodic Review report and all attachments were prepared under the direction of, and reviewed by, the party making the certification;

b) to the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and the information presented is accurate and complete.

YES NO

2. If this site has an IC/EC Plan (or equivalent as required in the Decision Document), for each Institutional or Engineering control listed in Boxes 3 and/or 4, I certify by checking "YES" below that all of the following statements are true:

(a) the Institutional Control and/or Engineering Control(s) 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) 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;

(d) nothing has occurred that would constitute a violation or failure to comply with the Site Management Plan for this Control; and

(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.

YES NO

**IF THE ANSWER TO QUESTION 2 IS NO, sign and date below and  
DO NOT COMPLETE THE REST OF THIS FORM.**

**A Corrective Measures Work Plan must be submitted along with this form to address these issues.**

\_\_\_\_\_  
Signature of Owner, Remedial Party or Designated Representative

\_\_\_\_\_  
Date

IC CERTIFICATIONS  
SITE NO. C915203

Box 6

**SITE OWNER OR DESIGNATED REPRESENTATIVE SIGNATURE**

I certify that all information and statements in Boxes 2 and/or 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.

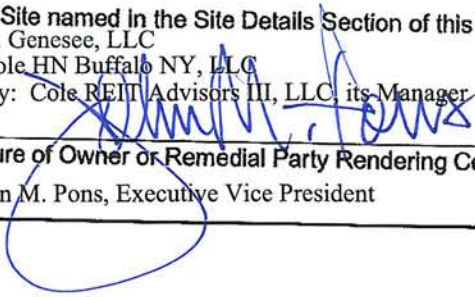
I John M. Pons at 2555 W. Camelback Road, Suite 400, Phoenix, AZ 85016  
print name print business address

am certifying as Executive Vice President Owner or Remedial Party

for the Site named in the Site Details Section of this form.  
257 W. Genesee, LLC

By: Cole HN Buffalo NY, LLC

By: Cole REIT Advisors III, LLC, its Manager

  
Signature of Owner or Remedial Party Rendering Certification

July 15, 2011

Date

John M. Pons, Executive Vice President

# APPENDIX E

## SITE PHOTO LOG

## SITE PHOTOGRAPHS

**Photo 1:**



**Photo 2:**



**Photo 3:**



**Photo 4:**

Photo 1: Site Conditions – Visitor Surface Lot (looking north)

Photo 2: Site Conditions – East Side of Parking Garage

Photo 3: Site Conditions – Office Building (looking South from New Seventh Street)

Photo 4: Northern Property Boundary (looking Southwest from New Seventh Street)

## SITE PHOTOGRAPHS

**Photo 5:**



**Photo 6:**



**Photo 7:**



**Photo 8:**



Photo 5: Site conditions – drive between garage and building complex, looking west

Photo 6: Site conditions – Berm area on 4<sup>th</sup> Street; looking south

Photo 7: Site conditions - Building façade; looking east along 257 W. Genesee

Photo 8: Site conditions – looking east at entrance to garage from Fourth Street

<p><b>257 W Genesee, LLC Site</b>  <b>Buffalo, New York</b>  <b>July 6, 2011</b></p>	
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## SITE PHOTOGRAPHS

Photo 9:



Photo 10:



Photo 9: Site conditions – Detention pond area looking east-southeast

Photo 10: Site conditions - Courtyard area on New Seventh Street looking south

**257 W Genesee, LLC Site**  
**Buffalo, New York**  
July 6, 2011