July 25, 2017

Mr. David Szymanski
New York State Dept. of Environmental Conservation
Division of Environmental Remediation
270 Michigan Avenue
Buffalo, New York 14203-2999

Re: RiverBend Site (formerly Steelfields) (V00619)
Periodic Review Report (May 1, 2016 to May 1, 2017)

Dear Mr. Szymanski:

On behalf of Fort Schuyler Management Corporation (FSMC), TurnKey Environmental Restoration, LLC (TurnKey) in association with Benchmark Environmental Engineering & Science, PLLC (Benchmark) has prepared the enclosed hard copy of the completed Institutional and Engineering Controls (IC/EC) certification form and one compact disc containing the Periodic Review Report (PRR) for the RiverBend Site (V00619), including all supporting appendices. The IC/EC certification form and report have been prepared in accordance with NYSDEC's DER-10 Technical Guidance (May 2010). The IC portion of the certification form (Box 6) has been signed by Mr. Scott Bateman, FSMC Board Treasurer, and the EC portion (Box 7) has been signed by Mr. Thomas H. Forbes, P.E. and Principal Engineer of Benchmark and TurnKey.

Please contact me if you have any questions regarding this submittal.

Sincerely,
TurnKey Environmental Restoration, LLC

Bryan C. Hann
Project Manager

ec: Tom O'Brien (FSMC)
Thomas H. Forbes (Benchmark TurnKey)

File: 0322-017-500

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

En losure 2
NEW YORK STATE EPARTMENT OF EN IRONMENTAL CONSER ATION
Site Management Perio i Revie Report Noti e
Institutional an Engineering Controls Certifi ation Form

Site etails **Bo 1**

Site No 0061

Site Name Steelfiel s (aka Riverben , ~~LLC~~)

Site Address: ~~304~~ 312 Abby Street Zip Code: 14220
City/Town: Buffalo
County: Erie
Site Acreage: 182.0

Reporting Period: May 01, 2016 to May 01, 2017

	YES	NO
1. Is the information above correct?	☒	☐
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?	☐	☒
3. Has there been any change of use at the site during this Reporting Period (see 6NYCRR 375-1.11(d))?	☐	☒
4. Have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property during this Reporting Period?	☐	☒
If you ans ere YES to uestions 2 thru 4, in lu e o umentation or evi en e that o umentation has been previously submitte ith this ertifi ation form		
5. Is the site currently undergoing development?	☒	☐

Bo 2

	YES	NO
6. Is the current site use consistent with the use(s) listed below? Commercial and Industrial	☒	☐
7. Are all ICs/ECs in place and functioning as designed?	☒	☐

IF THE ANSWER TO EITHER UESTION 6 OR 7 IS NO, sign an ate belo an O NOT COMPLETE THE REST OF THIS FORM Other ise ontinue

A Corre tive Measures Work Plan must be submitte along ith this form to a ress these issues

_____ _____
Signature of Owner, Remedial Party or Designated Representative Date

es ription of Institutional Controls

Parcel	Owner	Institutional Control
122 16-1-8 1	Fort Schuyler Management Corporation	Ground Water Use Restriction Soil Management Plan Landuse Restriction Monitoring Plan O&M Plan

Area I: Maintain vegetative cover, land use restriction, fencing, groundwater use prohibition, soil/fill management, SVI evaluation or installation of vapor mitigation system before buildout. (8/16/07)

122 20-1-21	Fort Schuyler Management Corporation	Monitoring Plan Ground Water Use Restriction Soil Management Plan Landuse Restriction O&M Plan

Area II: Maintain vegetative cover until buildout whereupon one foot of clean cover or alternative with a demarcation layer is required, O&M of groundwater pre-treatment plant, O&M of containment cell, land use restriction, fencing, groundwater use prohibition, soil/fill management, SVI evaluation or installation of vapor mitigation system before buildout. (5/21/08)

122 20-1-3 1	Fort Schuyler Management Corporation	Monitoring Plan O&M Plan Ground Water Use Restriction Soil Management Plan Landuse Restriction

Area I: Maintain vegetative cover, land use restriction, fencing, groundwater use prohibition, soil/fill management, SVI evaluation or installation of vapor mitigation system before buildout. (8/16/07)

122 20-1-5 1	Fort Schuyler Management Corporation	Monitoring Plan Ground Water Use Restriction Soil Management Plan Landuse Restriction O&M Plan

Area II: Maintain vegetative cover until buildout whereupon one foot of clean cover or alternative with a demarcation layer is required, O&M of groundwater pre-treatment plant, O&M of containment cell, land use restriction, fencing, groundwater use prohibition, soil/fill management, SVI evaluation or installation of vapor mitigation system before buildout. (5/21/08)

132 08-1-6	Fort Schuyler Management Corp.	O&M Plan

Ground Water Use Restriction
Soil Management Plan
Landuse Restriction
Monitoring Plan

Area II: maintain vegetative cover until buildout whereupon one foot of clean cover or alternative with a demarcation layer is required, O&M of groundwater pre-treatment plant, O&M of containment cell, land use restriction, fencing, groundwater use prohibition, soil/fill management, SVI evaluation or installation of vapor mitigation system before buildout. (5/21/08)

132 08-1-7 Fort Schuyler Management Corp.

Monitoring Plan
Ground Water Use Restriction
Soil Management Plan
Landuse Restriction
O&M Plan

Area III: Maintain vegetative cover (limited area sampling required before buildout, failure to meet SSALs would require one foot of clean cover or alternative with a demarcation layer), O&M of passive groundwater treatment, land use restriction, fencing, groundwater use prohibition, soil/fill management, SVI evaluation or installation of vapor mitigation system before buildout. (5/21/08)

132 12-1- 11 Fort Schuyler Management Corp.

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

Monitoring Plan

Area III: Maintain vegetative cover (limited area sampling required before buildout, failure to meet SSALs would require one foot of clean cover or alternative with a demarcation layer), O&M of passive groundwater treatment, land use restriction, fencing, groundwater use prohibition, soil/fill management, SVI evaluation or installation of vapor mitigation system before buildout. (5/21/08)

es ription of Engineering Controls

Parcel	Engineering Control
122 16-1-8 1	~~Groundwater Treatment System~~ Cover System ~~Groundwater Containment~~ ~~Leachate Collection~~ Fencing/Access Control
122 20-1-21	Groundwater Treatment System Cover System Groundwater Containment Leachate Collection Fencing/Access Control
122 20-1-3 1	

Parcel	Engineering Control
	~~Groundwater Treatment System~~ Cover System ~~Groundwater Containment~~ ~~Leachate Collection~~ Fencing/Access Control
122 20-1-5 1	
	Groundwater Treatment System Cover System ~~Groundwater Containment~~ ~~Leachate Collection~~ Fencing/Access Control
132 08-1-6	
	Groundwater Treatment System Cover System Groundwater Containment Leachate Collection Fencing/Access Control
132 08-1-7	
	~~Groundwater Treatment System~~ Cover System ~~Groundwater Containment~~ ~~Leachate Collection~~ Fencing/Access Control
132 12-1- 11	
	~~Groundwater Treatment System~~ Cover System ~~Groundwater Containment~~ ~~Leachate Collection~~ Fencing/Access Control

Perio i Revie Report (PRR) Certifi ation 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 compete.

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 UESTION 2 IS NO, sign an ate belo an
O NOT COMPLETE THE REST OF THIS FORM Other ise ontinue

A Corre tive Measures Work Plan must be submitte along ith this form to a ress these issues

_____ _____

Signature of Owner, Remedial Party or Designated Representative Date

IC CERTIFICATIONS
SITE NO. V00619

Box 6

SITE OWNER OR DESIGNATED REPRESENTATIVE SIGNATURE

I certify that all information and statements in Boxes 1,2, and 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 Scott Bateman (print name) at 257 Fuller Road, Albany, NY 12203 (print business address),

am certifying as Owner (FSMC Treasurer) (Owner or Remedial Party)

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

Signature of Owner, Remedial Party, or Designated Representative Rendering Certification

7/24/17
Date

IC/EC CERTIFICATIONS

Box 7

Professional Engineer Signature

I certify that all information in Boxes 4 and 5 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 Thomas H. Forbes (print name) at Benchmark Environmental Engineering & Science, PLLC, 2558 Hamburg Turnpike, Suite 300, Buffalo, NY 14218 (print business address),

am certifying as a Professional Engineer for the Owner (Owner or Remedial Party)

STATE OF NEW YORK
THOMAS H. FORBES
No. 7[illegible]
LICENSED PROFESSIONAL ENGINEER

7-24-17

Signature of Professional Engineer, for the Owner or Remedial Party, Rendering Certification

Stamp (Required for PE)

Date

July 25, 2017

Mr. David Szymanski
New York State Dept. of Environmental Conservation
Division of Environmental Remediation
270 Michigan Avenue
Buffalo, New York 14203-2999

Re: RiverBend Site (formerly Steelfields) (V00619)
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File: 0322-017-500

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

Periodic Review Report

May 1, 2016 through May 1, 2017

Riverbend Site (No. V00619)
Buffalo, New York

July 2017 0322-017-500

Prepared For:

Fort Schuyler Management Corporation

Prepared By:

In Association With:

2558 Hamburg Turnpike, Suite 300, Buffalo, New York 14218 | phone: (716) 856-0635 | fax: (716) 856-0583

PERIODIC REVIEW REPORT
for the
STEELFIELDS (AKA RIVERBEND, LLC) SITE
(SITE NO. V00619)

BUFFALO, NEW YORK

July 2017 0322-017-500

Prepared for:

FORT SCHUYLER MANAGEMENT CORPORATION

Prepared By:

TurnKey Environmental Restoration, LLC
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716)856-0635

In Association With:

Benchmark Environmental Engineering & Science, PLLC
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716)856-0599

PERIODIC REVIEW REPORT

Steelfields (aka Riverbend, LLC) Site

Site No. V00619

Table of Contents

PERIODIC REVIEW REPORT
Steelfields (aka Riverbend, LLC) Site
Site No. V00619
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FIGURES

APPENDICIES

1.0 INTRODUCTION

TurnKey Environmental Restoration, LLC (TurnKey), in association with Benchmark Environmental Engineering and Science, PLLC (Benchmark) has prepared this Periodic Review Report (PRR) on behalf of Fort Schuyler Management Corporation (FSMC) to summarize the post-remedial status of New York State Department of Environmental Conservation (NYSDEC) Voluntary Cleanup Program (VCP) Steelfields (aka RiverBend, LLC) Site No. V00619.

This PRR has been prepared in accordance with the NYSDEC DER-10 Technical Guidance for Site Investigation and Remediation (May 2010; Ref. 1) and the NYSDEC's Institutional and Engineering Controls (IC/EC) Certification Forms have been prepared for each of the three designated areas (i.e., Area I, Area II, and Area III) of the Site. This PRR and the associated IC/EC Form (see Appendix A) have been completed for the May 1, 2016 to May 1, 2017 reporting period.

1.1 Background

In October 2002, Steelfields Ltd. (Steelfields) purchased several vacant industrial properties in South Buffalo, New York (see Figures 1 and 2) out of bankruptcy from the LTV Steel Company and Hanna Furnace Corporation (a wholly owned subsidiary of the National Steel Corporation). At the same time, Steelfields entered into a Voluntary Cleanup Agreement (VCA) with the NYSDEC to remediate four parcels identified below, totaling approximately 218 acres. The parcels were divided based on the operational and ownership history of each:

- Area I – Former Republic (LTV) Steel Plant Parcel (± 90.6 acres)
- Area II – Former Donner-Hanna Coke Plant Parcel (± 53.0 acres)
- Area III - Former Republic (LTV) Steel Warehouse Parcel (± 43.2 acres)
- Area IV – Former Donner-Hanna Coke Yard Parcel (± 31.1 acres)

In July 2003, a fifth parcel, the formerly owned and operated August Feine & Sons property (±4.7 acres), was acquired by Steelfields. The August Feine property, though relevant and proximate to the RiverBend Site, is not under any NYSDEC program or subject to a SMP under the RiverBend VCA. As such, only Areas I, II, III, and IV were

remediated under the NYSDEC VCA. Subsequent to completion of the remediation of Area IV by Steelfields in 2006, this parcel was separated from the Site, sold to Hydro-Air Components, Inc. (Hydro-Air), and entered into the Brownfield Cleanup Program (NYSDEC BCP Site No. C915204) by Hydro-Air. As such, this report does not address Area IV. RiverBend, LLC, a related Buffalo Urban Development Corporation (BUDC) company, acquired the Site from Steelfields in May 2008. On July 22, 2014, FSMC acquired Area I of the RiverBend Site from RiverBend, LLC. On November 24, 2014, FSMC acquired Areas II and III from RiverBend, LLC. On June 24, 2016, a sixth parcel, the formerly owned and operated Norfolk Southern Railroad property (±22.16 acres), was acquired by FSMC. Similar to the former August Feine property, the former Norfolk Southern property is also relevant and proximate to the RiverBend Site and is not under any NYSDEC program or subject to a SMP under the RiverBend VCA.

2.0 SITE OVERVIEW

The RiverBend Site, comprised of four former heavy industrial properties identified as Areas I, II, III, and the former August Feine parcel, encompasses approximately 192 acres in the City of Buffalo, Erie County, New York (see Figure 2). The Site is bordered by the Buffalo River and South Park Avenue to the north; Abby Street and residential neighborhoods to the east; Former Area IV (currently Hydro-Air Components) to the south; and a railroad corridor and rail yard to the west (contiguous parcels owned by South Buffalo Railroad Company, Norfolk Southern Corporation, Buffalo Southern Railroad, and CSX Corporation) (see Figure 2).

Environmental investigations of the Site revealed the presence of volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs) including polycyclic aromatic hydrocarbons (PAHs), and metals in soil and groundwater that required remediation. Remedial activities were completed across the Site from 2002 through 2006. Detailed descriptions of the remedial efforts and construction documents are provided in the NYSDEC's approved Construction Closeout Report for Area I, including the Site Management Plan, prepared by TurnKey (April 2007; Ref. 2); and the Final Engineering Report for Areas II and III, Former Donner-Hanna Coke Plant and Republic (LTV) Steel Properties, including a Site Management Plan, prepared by Malcolm Pirnie (May 2008; Ref. 3). A brief description of the remedial efforts described in those documents is presented below.

2.1 Area I - Former Republic (LTV) Steel Parcel

The former Republic Steel (LTV) Plant property encompasses two adjoining parcels (122.16-1-8.1 and 122.20-1-3.1) totaling approximately 90.6 acres (see Figure 2). Area I is bordered by the Buffalo River and South Park Avenue to the north, Abby Street and residential neighborhoods to the east, Norfolk Southern property to the south, a railroad corridor and rail yard to the west. Remedial efforts conducted in Area I included:

- Remediation of petroleum/naphthalene/tar-impacted and metals-impacted soil/fill.
- Removal of former fuel oil and tar transfer pipelines, including disposal of residual product within the piping and impacted soil in the vicinity of the pipelines.

- Removal of former underground storage tanks.
- Buffalo River bank stabilization.

2.2 Area II – Former Donner-Hanna Coke Plant

The former Donner-Hanna Coke Plant property encompasses three adjoining parcels (122.20-1-21, 122.20-1-5.1, and 132.08-1-6) totaling approximately 53.0 acres (see Figure 2). Area II, partially intersected by Baraga Street, is bordered by an adjacent earthen berm along Abby Street and residential neighborhoods to the east; Norfolk Southern property and the former August Feine parcel to the north; Area III to the south; and a railroad corridor and rail yard to the west. Remedial efforts conducted in Area II included:

- Construction of a 14-acre Containment Cell with slurry wall, low-permeability cover system, and a groundwater collection and conveyance system
- Construction of a groundwater pre-treatment system (GWPTS)
- In-situ "hotspot" remediation

2.3 Area III – Former Warehouse Parcel

The former Republic Steel Warehouse property encompasses two adjoining parcels (132.08-1-7 and 132.12-1-9.11) totaling approximately 43.2 acres (see Figure 2). Area III is bordered by Abby Street and residential neighborhoods to the east; Area II to the north; Former Area IV (currently Hydro-Air Components) to the south; and an active railroad corridor and rail yard to the west. Remedial efforts conducted in Area III included:

- On-site blue-stained soil/fill treatment and disposal/consolidation in the Area II Containment Cell
- On-site lead-impacted soil/fill treatment and disposal/consolidation in the Area II Containment Cell
- Tar-impacted soil/fill disposal/consolidation in Area II Containment Cell
- In situ groundwater treatment with oxygen release compound (ORC) at 11 ORC treatment wells

2.4 Former August Feine Parcel

The former August Feine property encompasses one parcel (122.20-1-22) approximately 4.7 acres in size (see Figure 2). This property is surrounded by Area II on the

west, south, and east; and Norfolk Southern property to the north (Baraga Street dead ends at the entrance to this parcel). The August Feine property, though relevant and proximate to the RiverBend Site, is not under any NYSDEC program or subject to a SMP under the RiverBend VCA. As such, any discussions or findings as a result of the site assessment regarding the August Feine property are provided herein for informational purposes only.

A July 2006 site assessment of the former August Feine parcel identified localized VOC (primarily benzene) and total metal (plus cyanide) impacts to subsurface soil/fill and shallow groundwater along the common boundary with Area II. Based on the proximity of these identified impacts to the Area II groundwater collection trench, the leachable impacts, if any, are being captured and treated by the groundwater collection system, mitigating downgradient migration and potential environmental impact. As such, no additional remediation, beyond those already being implemented in accordance with the VCA for Area II, was recommended. Any potential for subsurface soil/fill exposure during future development of the property (i.e., utility installation) will be addressed in accordance with the Soil/Fill Management Plan (see Section 3.3).

2.5 Former Norfolk Southern Parcel

The former Norfolk Southern property encompasses one parcel (122.20-1-23.1) approximately 22.16 acres in size (see Figure 2). The property is bounded on the north by Area I and Area II and the former August Feine property to the south. The former Norfolk Southern property was historically used as to transport manufactured steel, iron, metallurgical coke, and coke by-products for Republic Steel and Donner Hanna Coke. This property, though relevant and proximate to the RiverBend Site, is not under any NYSDEC program or subject to a SMP under the RiverBend VCA.

3.0 SITE MANAGEMENT PLAN

Areas I, II, and III of the RiverBend Site are managed by two separate Site Management Plans (SMPs). One SMP covers Area I (prepared by TurnKey-Benchmark in April 2007; Ref. 2) and the second covers Areas II, III, and the former August Feine parcel (prepared by Malcolm Pirnie in May 2008; Ref. 3). Both SMPs include Operation, Monitoring, and Maintenance (OM&M) Plans; Long-Term Groundwater Monitoring (LTGWM) Plans; Soil/Fill Management Plans (SFMPs); and Environmental Easements (also identified as Covenant and Restrictions) for their respective parcels. A brief description of these SMP components is presented below.

3.1 Operation, Monitoring, and Maintenance (OM&M) Plan

As a requirement of the OM&M Plans, annual inspection of Areas I, II, and III are required; as there are no engineering controls on the former August Feine parcel the site inspection is provided for informational purposes only. The NYSDEC PRR Institutional and Engineering Controls (IC/EC) Certification Form has replaced the previously used Environmental Inspection Forms for each Area. Appendix A includes the completed IC/EC Form for the current period. Details of the annual inspection and completion of the IC/EC Form is discussed in Sections 3.5 and 3.6 below.

3.1.1 Area I

The Area I SMP provides the details for Operation and Maintenance (O&M) related to the product recovery at monitoring well A1-MW-6. Specifically, the O&M Plan details the product recovery system inspection program, routine maintenance operations, and reporting requirements. In February 2017 due to very low product recovery volumes, the NYSDEC approved discontinuing the use of a passive skimmer in well A1-MW-6 in lieu of an absorbent pad. Due to recent redevelopment, a revised SMP for Area I is being prepared under separate cover and this modification will be included.

3.1.2 Area II

The Area II SMP provides the O&M details related to the groundwater collection and conveyance system, including the soil flushing system; groundwater pre-treatment system (GWPTS) including the bag filters, carbon vessels, transfer pumps, separator tank,

and general house-keeping; sewer discharge effluent monitoring; and low-permeability cover system (i.e., landfill post-closure monitoring and cover maintenance). Appendix B includes the Area II GWPTS annual progress report submitted to the NYSDEC and the two semi-annual effluent compliance monitoring reports submitted to the Buffalo Sewer Authority (BSA) during the current reporting period.

Area II GWPTS pump station cleaning and pump replacement/maintenance corrective measures were performed between December 19, 2016 and January 23, 2017. Following electrician certification on January 23, 2017, all three pumps (PS-1 thru PS-3) were activated and the collection system was back to functioning as designed. Following decanting of excess water into the GWPTS, five drums of cleaning solids mixed with tar were recovered. Below is a brief summary of pump activity/inactivity during the current period:

- Pump Station PS-1
  - October 17, 2016 to December 19, 2016 (63 days) – not operating due to pump malfunction
  - December 19, 2016 to January 9, 2017 (21 days) – operating with temporary pump
  - January 9 to 23, 2017 (14 days) – not operating during pump station cleaning & new pump install
  - January 23, 2017 – operating

- Pump Station PS-2
  - January 11 to 16, 2017 (5 days) – not operating during pump station cleaning & pump maintenance
  - January 16, 2017 – operating

- Pump Station PS-3
  - January 11 to 16, 2017 (5 days) – not operating during pump station cleaning & new pump install
  - January 16, 2017 – operating

Arrangements are being made to transport the containerized cleaning solids/tar mixture to a permitted off-site facility for disposal. Details will be provided under separate cover.

3.1.3 Area III

The Area IIII O&M plan provides the details related to the in-situ groundwater treatment with oxygen release compound (ORC) at 11 ORC treatment wells. ORC monitoring results are included in the annual groundwater monitoring report (Appendix C; Section 3.2 below). Appendix D includes the July and November 2015 ORC semi-annual event inspection forms.

3.1.4 Former August Feine Parcel

There are no voluntary cleanup O&M requirements for the former August Feine parcel. In June 2009, the former August Feine building caught fire and emergency demolition followed. A concrete slab on grade foundation and a small brick walled shed is all that remains and storm water management of this area was subsequently discontinued. In September 2015 and with NYSDEC approval, the footprint of the former August Feine building was filled in with processed concrete material generated during Area I redevelopment.

3.1.5 Former Norfolk Southern Parcel

There are no voluntary cleanup O&M requirements for the former Norfolk Southern parcel.

3.2 Long-Term Groundwater Monitoring (LTGWM) Plan

As a requirement of the SMPs, long-term groundwater monitoring is being performed at the Site. A Long-Term Groundwater Monitoring (LTGWM) Work Plan was prepared by TurnKey in March 2000 (revised April 2007) for Area I. Similarly, LTGWM Work Plans were prepared by others in October 2007 for Areas II (revised April 2008) and III. Groundwater monitoring began in 2004 for Area I and in 2007 for Areas II and III. Since 2009 and with NYSDEC approval, LTGWM for Areas I, II, and III was modified into a combined site-wide monitoring and reporting event. A total of 23 network monitoring wells are sampled across the Site including 11 wells in Area I, 7 wells in Area II, and 5 wells in Area III. In addition to the groundwater monitoring network wells, six additional wells in Area II are monitored for water level only.

In May 2011, the NYSDEC approved a modification of the groundwater parameter lists and sample frequency for Areas I, II, and III. The modified monitoring program for all three Areas now follows a two-year monitoring cycle (e.g., bi-annual) as presented in Appendix C. In general, this modification reduces the volatile organic compound and metals analysis frequency to once every other year for most wells while the collection of field parameters must be measured every year going forward. Currently, groundwater monitoring is performed on an annual basis and ORC monitoring is performed semi-annually (every 6 months). The activities performed during each groundwater monitoring event are performed in general accordance with the following documents:

- *Work Plan for Long-Term Groundwater Monitoring (LTGWM) of Area I* (revised June 2005; Ref. 4)
- *Work Plan for LTGWM of Areas II and III* (October 2007) submitted as Attachment A4 of Appendix HH of the Final Engineering Report for Areas II and III (May 2008; Ref. 5)
- May 5, 2008 Response to NYSDEC comment letter regarding Area III Site Management Plan (comment/responses 8, 9, and 10)
- May 5, 2008 Response to NYSDEC comment letter regarding Areas II and III Final Engineering Report (comment/responses 19 and 22)
- *ORC Maintenance and Monitoring Manual* (March 2008) submitted as Attachment A5 of Appendix HH of the Final Engineering Report for Areas II and III (May 2008; Ref. 5)
- May 5, 2011 NYSDEC Response to Modification Request Letter.

Appendix C includes the 2016 Comprehensive Annual Groundwater Monitoring Report for Areas I, II, and III. This report includes the results of the June 2016 groundwater monitoring event as well as the results of the June and November/December 2016 ORC semi-annual monitoring events for Area III, all of which were conducted during the current PRR period (May 1, 2016 through May 1, 2017). Appendix D includes the ORC inspection forms for the June and November 2016 events.

In June 2016 and upon NYSDEC notification, wells A1-MW-8R and A1-MW-10 were installed to replace historically decommissioned well A1-MW-8 and piezometer A1-MW-P-4, respectively. NYSDEC correspondence is included in Appendix E.

In September 2016 and upon NYSDEC consultation and approval, it was determined that wells A1-MW-4 and A1-MW-M2, and piezometer A1-P-2, were located within the Area I Variance Area footprint and required removal and relocation. As such, these

wells/piezometer were decommissioned in general accordance with NYSDEC Commissioners Policy 43 (CP-43: Groundwater Monitoring Well Decommissioning) and the September 28, 2016 Area I Well Decommissioning and Replacement email to the Department (see Appendix E). These three locations were determined to be within the Variance Area footprint and therefore required removal and relocation outside the Variance Area footprint. In July 2017, replacement wells A1-MW-4R and A1-MW-11 for decommissioned wells A1-MW-4 and A1-MW-M2, respectively, were installed. Upon NYSDEC concurrence, it was determined that piezometer A1-P-2 did not require replacement.

Each newly installed monitoring well was surveyed and developed in accordance with the LTGWM Plan. Replacement wells A1-MW-8R and A1-MW-10 were sampled and the analytical results included in the 2016 Comprehensive Annual Groundwater Monitoring Report (Appendix C). Newly installed replacement wells A1-MW-4R and A1-MW-11 will be sampled in July 2017 and the analytical results included in the 2017 Comprehensive Annual Groundwater Monitoring Report (to be submitted).

Well decommissioning reports are presented in Appendix E. Borehole and well completion logs for replacement wells A1-MW-4R, A1-MW-8R, A1-MW-10, and A1-MW-11 are also provided in Appendix E.

3.3 Soil/Fill Management Plan

A Soil/Fill Management Plan (SFMP) was included in the approved SMPs for each Area of the Site. The SFMP provides guidelines for the management of soil and fill material during any future intrusive activities.

3.4 Institutional and Engineering Control Requirements

As detailed in the SMPs, several institutional controls (ICs) and engineering controls (ECs) are to be maintained as a requirement of the VCA for the Site.

3.4.1 Institutional Controls

Three of the five RiverBend parcels (Areas I, II, and III) are subject to the following ICs:

- Groundwater-Use Restriction: The use of groundwater for potable and non-potable purposes is prohibited
- Land-Use Restriction: The controlled property may be used for commercial and/or industrial use
- Soil/Fill Management Plan

Additionally, Areas II and III are subject to compliance with the O&M Plans for their respective areas, as described in Section 3.1.

3.4.2 Engineering Controls

Three of the five RiverBend parcels (Areas I, II, and III) are subject to several ECs as indicated by Area below.

- Area I: Maintain vegetative cover and perimeter fencing; soil/fill management; soil vapor intrusion (SVI) evaluation before on-site building construction or installation of vapor mitigation system during on-site building construction and prior to occupancy (effective 08/16/2007).
- Area II: Maintain final cover system of containment cell and maintain vegetative cover outside containment cell area until build-out whereupon one foot of clean cover or alternative with a demarcation layer is required; O&M of GWPTS; O&M of containment cell and perimeter fencing; soil/fill management; soil vapor intrusion (SVI) evaluation before on-site building construction or installation of vapor mitigation system during on-site building construction and prior to occupancy (effective 05/21/2008).
- Area III: Maintain vegetative cover (limited area sampling required before build-out, failure to meet Site Specific Action Levels (SSALs) would require one foot of clean cover or alternative with a demarcation layer); O&M of passive groundwater treatment (e.g., ORC) and perimeter fencing; soil/fill management; soil vapor intrusion (SVI) evaluation before on-site building construction or installation of vapor mitigation system during on-site building construction and prior to occupancy (effective 05/21/2008).

3.5 Site Inspection & IC/EC Compliance

On July 20, 2017, Benchmark's Certifying Professional Engineer performed a Site assessment of Areas I, II, and III, including the former August Feine and Norfolk Southern parcels. The following sections provide a parcel-by-parcel description of the Site assessment and maintenance activities performed. Appendix A includes the completed IC/EC Form for

Areas I, II, and III. Appendix F includes a photographic log of the Site at the time of the inspection.

3.5.1 Area I

As a result of the July 2014 sale and subsequent redevelopment of Area I, major intrusive construction activities appeared to be complete and were observed during the July 2017 site inspection[1]. FSMC selected LPCiminelli Construction Corp. (LPC) to develop an approximately 1.2 million square-foot solar panel manufacturing facility within Area I. LPC subsequently contracted CHA Companies in May 2014 to provide assistance with implementation of the Area I SMP. In August 2015, TurnKey replaced CHA and assumed oversight of environmental services for LPC. Site redevelopment was substantially completed in early 2017. A description of major milestones, contamination encountered, topsoil reuse, and Community Air Monitoring Plan (CAMP) results during the current reporting period will be presented in the Construction Completion Report to be submitted to the NYSDEC under separate cover.

3.5.2 Area II

At the time of the July 2017 inspection, Area II, including the pump stations, GWTS and Containment Cell, was in compliance with the IC/ECs.

3.5.3 Area III

At the time of the July 2017 inspection, Area III was vacant and in compliance with the IC/ECs.

3.5.4 Former August Feine Parcel

At the time of the July 2017 inspection, the former August Feine parcel was vacant. There are no IC/ECs associated with this parcel; therefore, this parcel is not included on the IC/EC Form.

[1] In support of the redevelopment work vegetation was removed across large portions of Area I. The vegetative and hardscape cover appeared to be complete during the July 2017 site inspection (e.g., building, pavement, and landscaped areas with 1 foot or more of clean cover soils).

3.5.5 Former Norfolk Southern Parcel

At the time of the July 2017 inspection, the former Norfolk Southern parcel was vacant. There are no IC/ECs associated with this parcel; therefore, this parcel is not included on the IC/EC Form.

3.6 Abby & Baraga Streets Surface Drainage System

Although not a component of the Area II SMP, TurnKey personnel perform a monthly inspection of the drainage system including the Baraga Street manhole due to historic blockages in the system resulting in past complaints of ponding water along Abby Street. As requested by the NYSDEC, the surface drainage system background and monthly assessment results are provided below.

3.6.1 Background

The surface drainage system at the RiverBend Site was installed to mitigate breakout of calcium-rich surface water resulting from the underlying slag and lime materials in the vicinity of the berm along Abby Street. Since 1998, the drainage system has functioned as intended, but has required periodic maintenance and repair to remedy clogs due to calcium and sediment build-up and occasional damage from heavy snow removal equipment. More recently the surface drainage system required repair and modification due to significant damage to the Berm from South Park to Baraga Street caused by vehicle rutting, particularly in the Abby Street drain vicinity, which prevented the system from functioning as intended.

In May 2014, TurnKey performed repairs and modifications to the original Abby Street drainage system to restore function and to allow the system to be more efficient. The modified Abby Street drainage system configuration is presented in Figure 3. In July 2016, the modified Abby Street drainage system was cleaned via high-pressure water injection. No further activities were required or performed on the Abby Street drain system during the current reporting period (May 1, 2016 through May 1, 2017).

3.6.2 Monthly Drainage System Inspections

During the current reporting period (May 1, 2016 through May 1, 2017), TurnKey performed monthly inspections of the Abby and Baraga Streets surface drainage system including the Baraga Street manhole for blockage and surficial ponding along Abby Street.

Since the May 2014 repairs and modifications, no surficial ponding, staining, or stressed vegetation has been observed. Periodic removal of calcium build-up within the Baraga Street manhole has been performed during the current reporting period in order to maintain proper drainage of the Abby Street area. In July 2016, Pinto Construction Services, Inc. flushed the Abby Street Drainage System via high-pressure water injection. Observed flows within the Baraga Street manhole indicate the system is operating as intended.

4.0 CONCLUSIONS AND RECOMMENDATIONS

Conclusions for this reporting period and recommendations for the next reporting period are as follows:

- At the time of the inspection, the Site was in compliance with the IC/ECs including: groundwater monitoring; leachate collection, and pump-and-treat system; containment cell; ORC monitoring; product removal monitoring and operational maintenance; groundwater use restriction; land use restriction; O&M Plan; and SFMP. Area I redevelopment with NYSDEC knowledge and observation appeared to have been nearing completion.
- As requested by the NYSDEC, mowing and maintenance of a 20-foot swath along the interior perimeter fencing in all four areas of the RiverBend Site, including the areas in and around the GWTS building were performed by TurnKey during the current period. These activities will continue to be performed on a semi-annual basis, typically in mid-summer and early fall.
- Minor grass trimming around the Area II Containment Cell penetrations (i.e., pump station manholes, gas vents, monitoring wells, etc.) are being performed as needed to allow ease of access during routine inspections.
- We respectfully request that the "LLC" within the Site name on the IC/EC form be dropped as they are no longer owners of the property. If this requires an official form requesting a name change, please provide guidance to facilitate this change. This recommended correction is red-lined on the IC/EC form.
- The Site address of 304 Abby Street presented on the IC/EC form is not an address associated with the RiverBend Site and should be changed to 312 Abby Street. This is the official address of the GWPTS building. If this requires an official form requesting an address change, please provide guidance to facilitate this change. This recommended correction is red-lined on the IC/EC form.
- The current IC/EC form does not correctly present the engineering controls established for the RiverBend Site. In short, certain engineering controls were never required in the SMPs prepared under the RiverBend VCA. Based on actual engineering controls implemented at the Site and the SMPs, recommended corrections are red-lined on the IC/EC form and summarized below:
    - Area I (SBL 122.2-1-3.1) (±7.96 acres) – 1341 South Park Avenue
        - Remove "Groundwater Treatment System"
        - Remove "Groundwater Containment"
        - Remove "Leachate Collection"
    - Area I (SBL 122.16-1-8.1) (±7.96 acres) – 1339 South Park Avenue

- Remove "Groundwater Treatment System"
- Remove "Groundwater Containment"
- Remove "Leachate Collection"

- Area II (SBL 122.20-1-5.1) (±3.25 acres) – 312 Abby Street
  - Remove "Groundwater Containment"
  - Remove "Leachate Collection"

- Area II (SBL 122.20-1-21) (±1.96 acres) – 321 Baraga Street
  - No changes recommended

- Area II (SBL 132.08-1-6) (±44.95 acres) – 310 Abby Street
  - No changes recommended

- Area III (SBL 132.08-1-7) (±40.76 acres) – 308 Abby Street
  - Remove "Groundwater Containment"
  - Remove "Leachate Collection"

- Area III (SBL 132.12-1-9.11) (±1.34 acres) – 0 Tifft Street
  - Remove "Groundwater Treatment System"
  - Remove "Groundwater Containment"
  - Remove "Leachate Collection"

5.0 DECLARATION/LIMITATION

TurnKey Environmental Restoration, LLC in association with Benchmark Environmental Engineering and Science, PLLC, personnel conducted the annual site inspections for Voluntary Cleanup Program Site No. V00619, located in Buffalo, New York, according to generally accepted practices. This report complies with the scope of work provided to FSMC by TurnKey Environmental Restoration, LLC.

This report has been prepared for the exclusive use of Fort Schuyler Management Corporation. 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 Fort Schuyler Management Corporation. Use of or reliance upon this report or its findings by any other person or entity is prohibited without written permission of TurnKey Environmental Restoration, LLC and/or Benchmark Environmental Engineering and Science, PLLC.

6.0 REFERENCES

1. New York State Department of Environmental Conservation. *DER-10; Technical Guidance for Site Investigation and Remediation.* May 2010.
2. *Site Management Plan for Area I (former Republic (LTV) Steel Parcel), Steelfields Site, Buffalo, NY (NYSDEC Site # V00619-9),* dated April 2007, prepared by TurnKey Environmental Restoration, LLC and Benchmark Environmental Engineering and Science, PLLC.
3. *Final Engineering Report for Areas II & III, Former Donner-Hanna Coke Plant and Republic (LTV) Steel Properties, Steelfields Site Buffalo, NY (NYSDEC Site #V00133-9), Appendix GG and HH,* dated May 2008, prepared by Malcolm Pirnie.
4. *Work Plan for Long-Term Groundwater Monitoring, Former Steel Manufacturing Site, Buffalo, NY*, prepared for Steelfields Ltd., revised June 2005 by TurnKey Environmental Restoration, LLC.
5. *Final Engineering Report for Areas II & III, Former Donner-Hanna Coke Plant and Republic (LTV) Steel Properties, Steelfields Site Buffalo, NY (NYSDEC Site #V00133-9), Appendix HH – Attachments A4 and A5,* dated May 2008, prepared by Malcolm Pirnie.

FIGURES

F:\CAD\TurnKey\Riverbend (formerly Steelfields)\PRR2017 - May 1, 2016 through May 1, 2017\Figure 1; Site Vicinity and Location Map (2017).dwg

FIGURE 1

SCALE: 1 INCH = 3000 FEET
SCALE IN FEET
(approximate)

Reference: Image by Delorme 3D Topoquads via Delorme Topo USA.

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC
TURNKEY ENVIRONMENTAL RESTORATION, LLC
2558 HAMBURG TURNPIKE, SUITE 300, BUFFALO, NY 14218, (716) 856-0599

PROJECT NO.: 0322-017-500

DATE: JULY 2017

DRAFTED BY: BCH

SITE VICINITY & LOCATION MAP

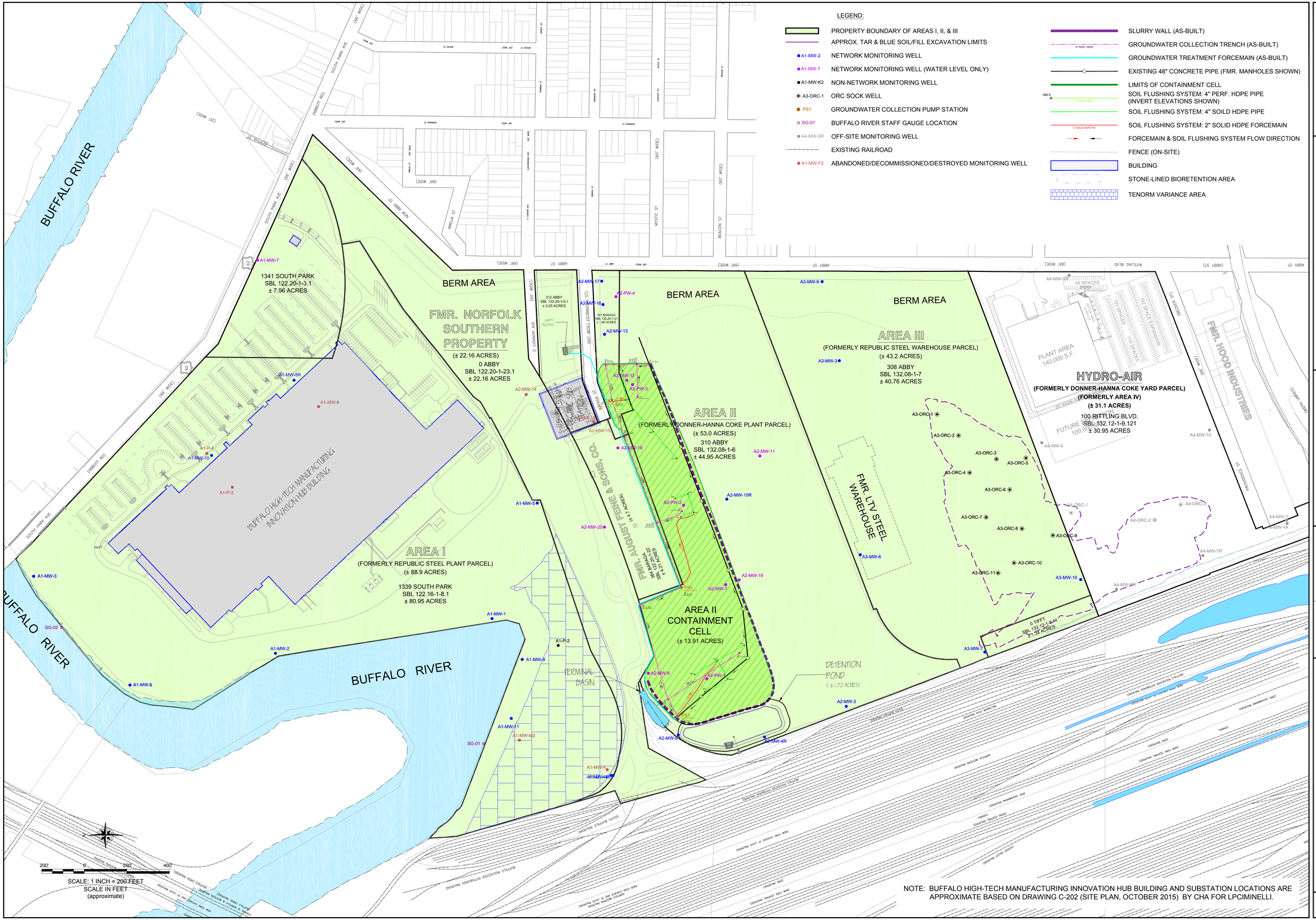
PERIODIC REVIEW REPORT

RIVERBEND SITE
BUFFALO, NEW YORK

PREPARED FOR

FORT SCHUYLER MANAGEMENT CORPORATION

F:\CAD\Turnkey\Riverbend (formerly Steelfields)\#160317 - May 1, 2018 through May 1, 2017\Figure 2, Site Plan (2017).dwg



LEGEND:

- PROPERTY BOUNDARY OF AREAS I, II, & III
- APPROX. TAR & BLUE SOIL/FILL EXCAVATION LIMITS
- A1-MW-2 NETWORK MONITORING WELL
- A1-MW-7 NETWORK MONITORING WELL (WATER LEVEL ONLY)
- A1-MW-K2 NON-NETWORK MONITORING WELL
- A3-ORC-1 ORC SOCK WELL
- PS1 GROUNDWATER COLLECTION PUMP STATION
- SG-01 BUFFALO RIVER STAFF GAUGE LOCATION
- A4-MW-SR OFF-SITE MONITORING WELL
- EXISTING RAILROAD
- A1-MW-F2 ABANDONED/DECOMMISSIONED/DESTROYED MONITORING WELL
- SLURRY WALL (AS-BUILT)
- 6" PERF. HDPE — GROUNDWATER COLLECTION TRENCH (AS-BUILT)
- GROUNDWATER TREATMENT FORCEMAIN (AS-BUILT)
- EXISTING 48" CONCRETE PIPE (FMR. MANHOLES SHOWN)
- LIMITS OF CONTAINMENT CELL
- 4" PERF. HDPE — SOIL FLUSHING SYSTEM: 4" PERF. HDPE PIPE (INVERT ELEVATIONS SHOWN)
- SOIL FLUSHING SYSTEM: 4" SOILD HDPE PIPE
- 2" SOLID HDPE FM — SOIL FLUSHING SYSTEM: 2" SOLID HDPE FORCEMAIN
- FORCEMAIN & SOIL FLUSHING SYSTEM FLOW DIRECTION
- FENCE (ON-SITE)
- BUILDING
- STONE-LINED BIORETENTION AREA
- TENORM VARIANCE AREA

TURNKEY ENVIRONMENTAL RESTORATION, LLC
2558 HAMBURG TURNPIKE
SUITE 300
BUFFALO, NY 14218
(716) 856-0635

JOB NO.: 0322-017-500

REVISIONS

NO.	BY	DATE	REMARKS

DRAWN BY: BCH
DATE: JULY 2017
CHECKED BY:
APPROVED BY:

SEAL

SITE PLAN

PERIODIC REVIEW REPORT
FORMER STEEL MANUFACTURING SITE
BUFFALO, NEW YORK

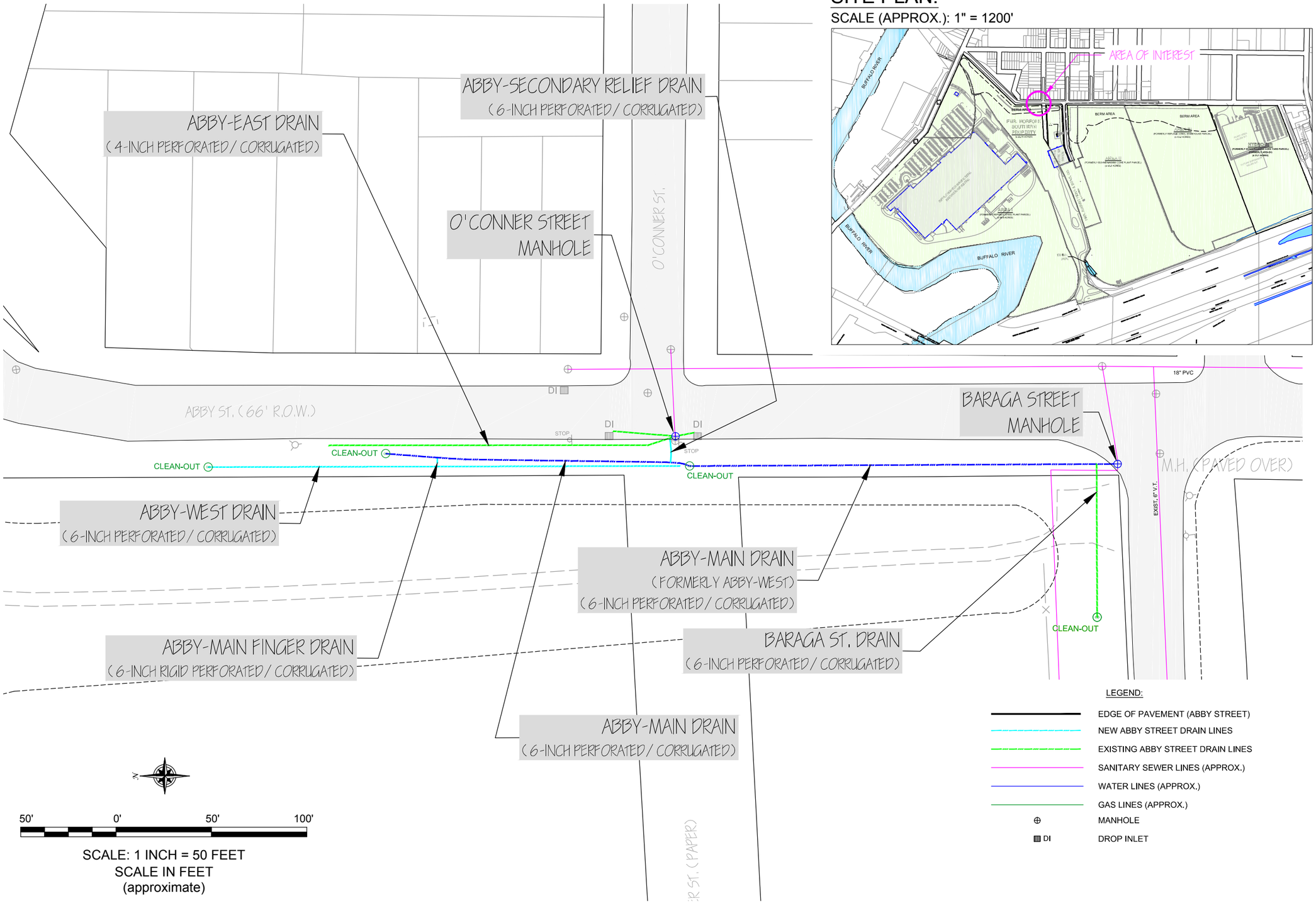
PREPARED FOR:
FORT SCHUYLER MANAGEMENT CORPORATION

FIGURE 2

F:\CAD\TurnKey\Riverbend (formerly Steelfields)\PRR\2017 - May 1, 2016 through May 1, 2017\Figure 3, Abby Street Drain Site Sketch (2017).dwg

SITE PLAN:

SCALE (APPROX.): 1" = 1200'



DATE: AUGUST 2015
DRAFTED BY: BCH

2558 HAMBURG TURNPIKE
SUITE 300
BUFFALO, NY 14218
(716) 856-0635

TURNKEY ENVIRONMENTAL RESTORATION, LLC

JOB NO.: 0322-017-500

ABBEY STREET DRAINAGE SYSTEM SITE SKETCH

PERIODIC REVIEW REPORT

RIVERBEND SITE
BUFFALO, NEW YORK

PREPARED FOR
FORT SCHUYLER MANAGEMENT CORPORATION

FIGURE 4

APPENDIX A

SITE INSPECTION (IC/EC) FORM

En losure 2
NEW YORK STATE EPARTMENT OF EN IRONMENTAL CONSER ATION
Site Management Perio i Revie Report Noti e
Institutional an Engineering Controls Certifi ation Form

Site etails **Bo 1**

Site No 0061

Site Name Steelfiel s (aka Riverben , ~~LLC~~)

Site Address: ~~304~~ 312 Abby Street Zip Code: 14220
City/Town: Buffalo
County: Erie
Site Acreage: 182.0

Reporting Period: May 01, 2016 to May 01, 2017

	YES	NO
1. Is the information above correct?	☒	☐
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?	☐	☒
3. Has there been any change of use at the site during this Reporting Period (see 6NYCRR 375-1.11(d))?	☐	☒
4. Have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property during this Reporting Period?	☐	☒
If you ans ere YES to uestions 2 thru 4, in lu e o umentation or evi en e that o umentation has been previously submitte ith this ertifi ation form		
5. Is the site currently undergoing development?	☒	☐

Bo 2

	YES	NO
6. Is the current site use consistent with the use(s) listed below? Commercial and Industrial	☒	☐
7. Are all ICs/ECs in place and functioning as designed?	☒	☐

IF THE ANSWER TO EITHER UESTION 6 OR 7 IS NO, sign an ate belo an O NOT COMPLETE THE REST OF THIS FORM Other ise ontinue

A Corre tive Measures Work Plan must be submitte along ith this form to a ress these issues

_____ _____
Signature of Owner, Remedial Party or Designated Representative Date

es ription of Institutional Controls

Parcel	Owner	Institutional Control
122 16-1-8 1	Fort Schuyler Management Corporation	Ground Water Use Restriction Soil Management Plan Landuse Restriction Monitoring Plan O&M Plan

Area I: Maintain vegetative cover, land use restriction, fencing, groundwater use prohibition, soil/fill management, SVI evaluation or installation of vapor mitigation system before buildout. (8/16/07)

122 20-1-21	Fort Schuyler Management Corporation	Monitoring Plan Ground Water Use Restriction Soil Management Plan Landuse Restriction O&M Plan

Area II: Maintain vegetative cover until buildout whereupon one foot of clean cover or alternative with a demarcation layer is required, O&M of groundwater pre-treatment plant, O&M of containment cell, land use restriction, fencing, groundwater use prohibition, soil/fill management, SVI evaluation or installation of vapor mitigation system before buildout. (5/21/08)

122 20-1-3 1	Fort Schuyler Management Corporation	Monitoring Plan O&M Plan Ground Water Use Restriction Soil Management Plan Landuse Restriction

Area I: Maintain vegetative cover, land use restriction, fencing, groundwater use prohibition, soil/fill management, SVI evaluation or installation of vapor mitigation system before buildout. (8/16/07)

122 20-1-5 1	Fort Schuyler Management Corporation	Monitoring Plan Ground Water Use Restriction Soil Management Plan Landuse Restriction O&M Plan

Area II: Maintain vegetative cover until buildout whereupon one foot of clean cover or alternative with a demarcation layer is required, O&M of groundwater pre-treatment plant, O&M of containment cell, land use restriction, fencing, groundwater use prohibition, soil/fill management, SVI evaluation or installation of vapor mitigation system before buildout. (5/21/08)

132 08-1-6	Fort Schuyler Management Corp.	O&M Plan

Ground Water Use Restriction
Soil Management Plan
Landuse Restriction
Monitoring Plan

Area II: maintain vegetative cover until buildout whereupon one foot of clean cover or alternative with a demarcation layer is required, O&M of groundwater pre-treatment plant, O&M of containment cell, land use restriction, fencing, groundwater use prohibition, soil/fill management, SVI evaluation or installation of vapor mitigation system before buildout. (5/21/08)

132 08-1-7 Fort Schuyler Management Corp.

Monitoring Plan
Ground Water Use Restriction
Soil Management Plan
Landuse Restriction
O&M Plan

Area III: Maintain vegetative cover (limited area sampling required before buildout, failure to meet SSALs would require one foot of clean cover or alternative with a demarcation layer), O&M of passive groundwater treatment, land use restriction, fencing, groundwater use prohibition, soil/fill management, SVI evaluation or installation of vapor mitigation system before buildout. (5/21/08)

132 12-1- 11 Fort Schuyler Management Corp.

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

Monitoring Plan

Area III: Maintain vegetative cover (limited area sampling required before buildout, failure to meet SSALs would require one foot of clean cover or alternative with a demarcation layer), O&M of passive groundwater treatment, land use restriction, fencing, groundwater use prohibition, soil/fill management, SVI evaluation or installation of vapor mitigation system before buildout. (5/21/08)

es ription of Engineering Controls

Parcel	Engineering Control
122 16-1-8 1	~~Groundwater Treatment System~~ Cover System ~~Groundwater Containment~~ ~~Leachate Collection~~ Fencing/Access Control
122 20-1-21	Groundwater Treatment System Cover System Groundwater Containment Leachate Collection Fencing/Access Control
122 20-1-3 1	

Parcel	Engineering Control
	~~Groundwater Treatment System~~ Cover System ~~Groundwater Containment~~ ~~Leachate Collection~~ Fencing/Access Control
122 20-1-5 1	
	Groundwater Treatment System Cover System ~~Groundwater Containment~~ ~~Leachate Collection~~ Fencing/Access Control
132 08-1-6	
	Groundwater Treatment System Cover System Groundwater Containment Leachate Collection Fencing/Access Control
132 08-1-7	
	~~Groundwater Treatment System~~ Cover System ~~Groundwater Containment~~ ~~Leachate Collection~~ Fencing/Access Control
132 12-1- 11	
	~~Groundwater Treatment System~~ Cover System ~~Groundwater Containment~~ ~~Leachate Collection~~ Fencing/Access Control

Perio i Revie Report (PRR) Certifi ation 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 compete.

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 UESTION 2 IS NO, sign an ate belo an
O NOT COMPLETE THE REST OF THIS FORM Other ise ontinue

A Corre tive Measures Work Plan must be submitte along ith this form to a ress these issues

_____ _____

Signature of Owner, Remedial Party or Designated Representative Date

IC CERTIFICATIONS
SITE NO. V00619

Box 6

SITE OWNER OR DESIGNATED REPRESENTATIVE SIGNATURE

I certify that all information and statements in Boxes 1,2, and 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 Scott Bateman (print name) at 257 Fuller Road, Albany, NY 12203 (print business address),

am certifying as Owner (FSMC Treasurer) (Owner or Remedial Party)

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

Signature of Owner, Remedial Party, or Designated Representative Rendering Certification

7/24/17
Date

IC/EC CERTIFICATIONS

Box 7

Professional Engineer Signature

I certify that all information in Boxes 4 and 5 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 Thomas H. Forbes (print name) at Benchmark Environmental Engineering & Science, PLLC, 2558 Hamburg Turnpike, Suite 300, Buffalo, NY 14218 (print business address),

am certifying as a Professional Engineer for the Owner (Owner or Remedial Party)

STATE OF NEW YORK
THOMAS H. FORBES
No. 7[illegible]
LICENSED PROFESSIONAL ENGINEER

7-24-17

Signature of Professional Engineer, for the Owner or Remedial Party, Rendering Certification

Stamp (Required for PE)

Date

APPENDIX B

AREA II

ANNUAL GWPTS REPORT
&
BSA SEMI-ANNUAL COMPLIANCE MONITORING REPORTS

(PROVIDED ELECTRONICALLY ON CD)

ANNUAL PROGRESS REPORT FOR THE
OPERATION, MAINTENANCE, AND MONITORING SERVICES
RiverBend, LLC
(Site No. V00619-9)
197 Baraga St,
Buffalo NY, 14210

PROGRESS REPORT No. 17
REPORTING PERIOD ENDING DECEMBER 31, 2016

Project Description

This Annual Progress Report has been prepared for the RiverBend, LLC Groundwater Pre-Treatment System (GWPTS) located at 312 Abby Street, Buffalo, NY in accordance with the requirements of the Site Management Plan and at the request of the NYSDEC. In accordance with our NYSDEC-approved Modification Request (dated April 25, 2011), this Progress Report covers one-year operation and maintenance of the GWPTS from January 1, 2016 through December 31, 2016.

1.0 Treatment Statistics

- Approximately 8,603,506 gallons of groundwater was collected and treated over the current monitoring period averaging 23,537 gallons per day.
- System was on-line for approximately 98% of the time.
- System was off-line for approximately 2% of the time for routine repairs and maintenance.
- Approximately 1,174.8 pounds of tar was generated from the oil/water separator or approximately 97.9 pounds/month. Based on this monthly quantity (less than 220 pounds per calendar month), a Hazardous Waste Report is not required making FSMC's RiverBend Site a Conditionally Exempt Small Quantity Generator (CESQG) in accordance with Part 371.1(f). For comparison, quantities of generated tar during previous years of operation included: ± 659 pounds in 2012, ± 910 pounds in 2013, ± 148.9 pounds in 2014, and ± 310.2 pounds in 2015.
- On May 31, 2016, 3 drums of tar (approximately 130 gallons) were transported and disposed at US Ecology Detroit South (formerly EQ Detroit Inc.) of Detroit, Michigan as a D018 benzene waste. Two and half drums are scheduled for disposal early in 2017.

2.0 General Schedule of Maintenance Undergone

- Regular Maintenance Items
  - 2 bag filter changes/week or as necessary with weekly off-site remote monitoring via the internet.
  - Carbon filtration vessel back-washing: 2 times per week or as necessary
  - Decant tar from separator : 2 times per week or as necessary
- January 5, 2016 - Flow meter was calibrated.
- May thru October 2016 – Mowed grass area and weed trimmed fence line around the treatment building, as necessary.

- June 10, 2016 – Annual certification/inspection associated with the Periodic Review Report (PRR) in accordance with DER-10 was performed.
- June 14, 2016 – Changed the carbon in lag vessel #1. Lead and lag vessels were reversed at that time (vessel #1 became the lead and #2 the lag).
- June 2016 – Long-Term Groundwater Monitoring was performed in Areas I, II, and III. ORC monitoring in Area III was also performed.
- October 13, 2016 – Pump within pump station PS-1 stopped working. Pump was pulled and repaired, however pump could not be reseated in the pitless adapter due to a broken guiderail. A temporary pump was installed in PS-1 until final corrective measures can be completed in late December 2016 and January 2017. Description of corrective measures will be provided in the next Periodic Review Report and the 2017 Progress Report (No. 18).
- October 2016 – Mowed final cover and weed trimmed penetrations associated with the Area II Containment Cell.
- November 29 thru December 2, 2016 – ORC monitoring in Area III was performed.
- December 23, 2016 – Cleaned the influent tank, effluent tank, oil/water separator, and bag filter canisters.
- December 29, 2016 – Changed the carbon in lag vessel #2 and cleaned the effluent tank. Lead and lag vessels were reversed at that time (vessel #2 became the lead and #1 the lag).

3.0 Attachments/Logs

- Attachment 1: Graph of monitored flows through treatment system for 2016
- Attachment 2: Maintenance Logs for 2016 (01/05/16 thru 12/30/16)
- Attachment 3: Generated Volume of Tar Material Log (02/29/16 thru 12/30/16)
- Attachment 4: Hazardous Waste Manifest (05/31/16)

ATTACHMENT 1

MONITORED FLOWS VS. TIME

ATTACHMENT 1

MONITORE FLOWS v TIME
2016

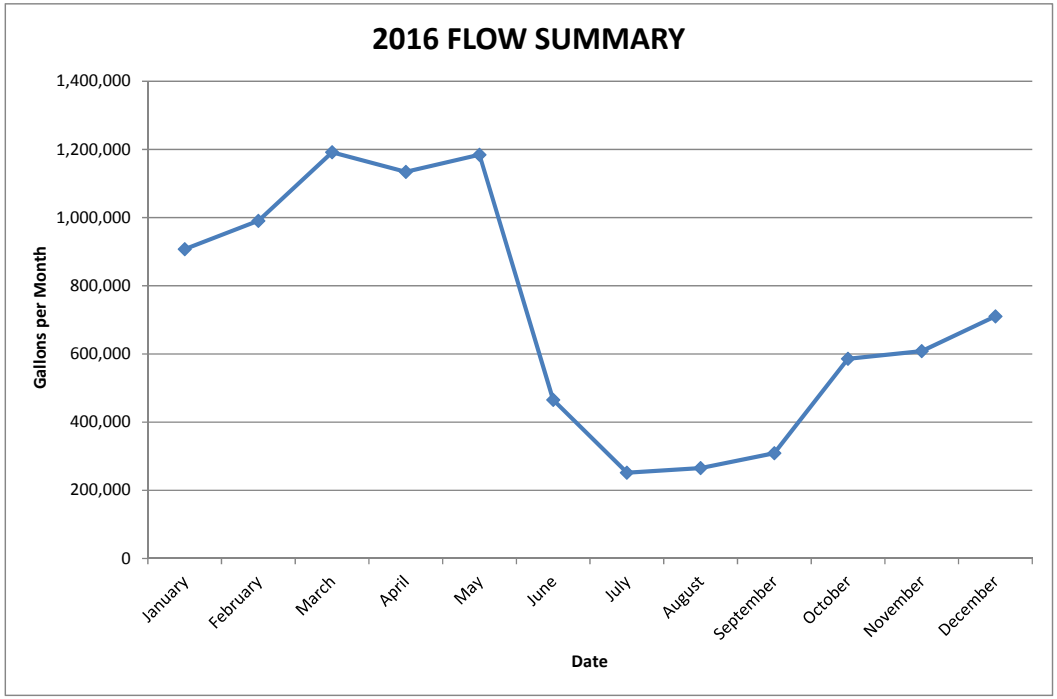
roun ater Pre-Treatment System (WPTS)
Riverben , LLC
(Site No 0061 -)
Buffalo, Ne York

2016

Month	PMo	P	PM
January	907,243	29,266	20
February	990,491	34,155	24
March	1,191,679	38,441	27
April	1,134,186	37,806	26
May	1,184,448	38,208	27
June	465,307	15,510	11
July	251,686	8,119	6
August	265,225	8,556	6
September	308,907	10,297	7
October	585,807	18,897	13
November	608,173	20,272	14
December	710,354	22,915	16
Total	8,603,506		
Min.	251,686	8,119	6
Max.	1,191,679	38,441	27
Ave.	716,959	23,537	16

Since August 2008:

Total	74,362,813	NA
Min.	191,242	6,169
Max.	2,318,235	77,104
Ave.	854,745	28,109

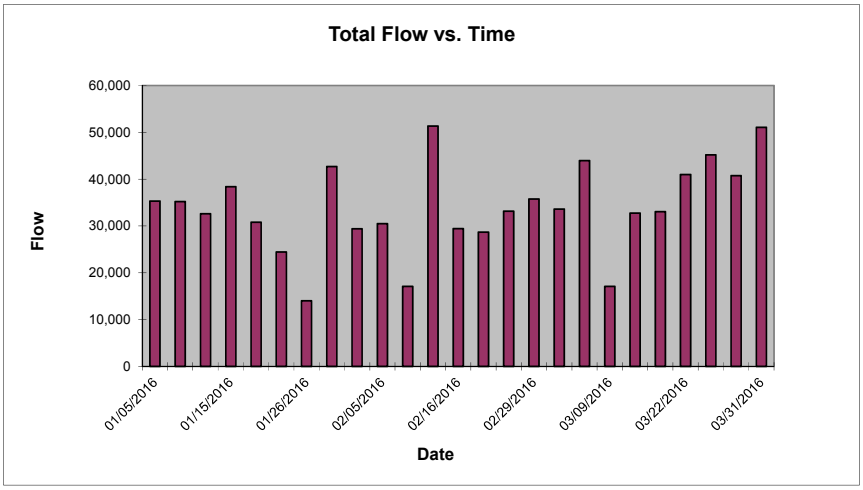


ATTACHMENT 1

MONITORED FLOWS v. TIME
FIRST QUARTER 2016

Groundwater Pre-Treatment System (GWPTS)
Riverbend, LLC
Buffalo, New York

Date	Total Flow	Daily Avg
01/05/2016	7,752,372	35,294
01/08/2016	105,635	35,212
01/12/2016	236,007	32,593
01/15/2016	351,142	38,378
01/20/2016	505,165	30,805
01/22/2016	554,057	24,446
01/26/2016	610,064	14,002
01/28/2016	695,480	42,708
02/02/2016	842,525	29,409
02/05/2016	933,956	30,477
02/09/2016	1,002,257	17,075
02/12/2016	1,156,312	51,352
02/16/2016	1,273,978	29,417
02/22/2016	1,446,120	28,690
02/26/2016	1,578,762	33,161
02/29/2016	1,685,971	35,736
03/03/2016	1,786,818	33,616
03/07/2016	1,962,627	43,952
03/09/2016	1,996,790	17,082
03/11/2016	2,062,254	32,732
03/15/2016	2,194,469	33,054
03/22/2016	2,481,276	40,972
03/24/2016	2,571,684	45,204
03/29/2016	2,775,496	40,762
03/31/2016	2,877,650	51,077



Total Quarterly Flow:	3,089,413	gallons
Ave. Quarterly Flow:	33,954	gallons/day

JANUARY	
907,243	gallons/month
31	days
29,266	gallons/day
20	gallons/min

FEBRUARY	
990,491	gallons/month
29	days
34,155	gallons/day
24	gallons/min

MARCH	
1,191,679	gallons/month
31	days
38,441	gallons/day
27	gallons/min

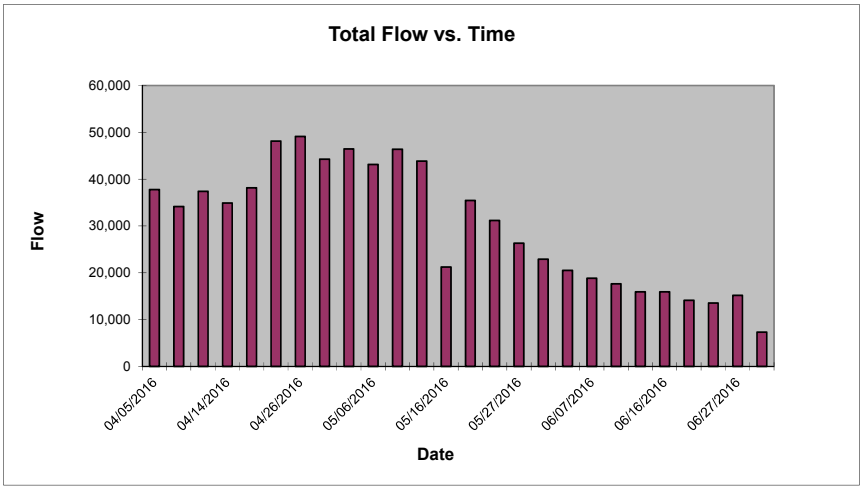
Notes:
* = flow meter calibrated and reset to zero on 01/05/16

ATTACHMENT 1

MONITORED FLOWS v. TIME
SECOND QUARTER 2016

Groundwater Pre-Treatment System (GWPTS)
Riverbend, LLC
Buffalo, New York

Date	Total Flow	Daily Avg
04/05/2016	3,066,566	37,783
04/07/2016	3,134,830	34,132
04/12/2016	3,321,877	37,409
04/14/2016	3,391,689	34,906
04/19/2016	3,582,435	38,149
04/22/2016	3,726,860	48,142
04/26/2016	3,923,285	49,106
04/28/2016	4,011,836	44,276
05/03/2016	4,244,117	46,456
05/06/2016	4,373,573	43,152
05/10/2016	4,559,141	46,392
05/13/2016	4,690,724	43,861
05/16/2016	4,754,419	21,232
05/20/2016	4,896,135	35,429
05/25/2016	5,052,056	31,184
05/27/2016	5,104,659	26,302
05/31/2016	5,196,284	22,906
06/03/2016	5,257,745	20,487
06/07/2016	5,333,040	18,824
06/10/2016	5,385,950	17,637
06/14/2016	5,449,573	15,906
06/16/2016	5,481,426	15,927
06/21/2016	5,551,908	14,096
06/23/2016	5,578,953	13,523
06/27/2016	5,639,634	15,170
06/30/2016	5,661,591	7,319



Total Quarterly Flow: 2,783,941 gallons
Ave. Quarterly Flow: 30,508 gallons/day

APRIL	
1,134,186	gallons/month
30	days
37,806	gallons/day
26	gallons/min

MAY	
1,184,448	gallons/month
31	days
38,208	gallons/day
27	gallons/min

JUNE	
465,307	gallons/month
30	days
15,510	gallons/day
11	gallons/min

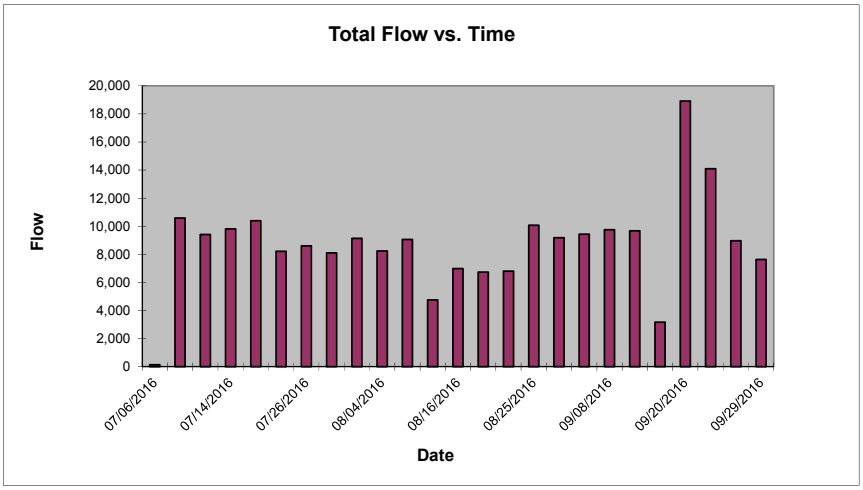
Notes:
* = flow meter calibrated and reset to zero on 01/05/16

ATTACHMENT 1

MONITORED FLOWS v. TIME
THIRD QUARTER 2016

Groundwater Pre-Treatment System (GWPTS)
Riverbend, LLC
Buffalo, New York

Date	Total Flow	Daily Avg
07/06/2016	5,707,234	134
07/08/2016	5,728,395	10,581
07/12/2016	5,766,055	9,415
07/14/2016	5,785,669	9,807
07/19/2016	5,837,635	10,393
07/21/2016	5,854,055	8,210
07/26/2016	5,897,077	8,604
07/28/2016	5,913,277	8,100
08/02/2016	5,958,955	9,136
08/04/2016	5,975,419	8,232
08/09/2016	6,020,686	9,053
08/11/2016	6,030,181	4,748
08/16/2016	6,065,067	6,977
08/19/2016	6,085,262	6,732
08/23/2016	6,112,471	6,802
08/25/2016	6,132,608	10,069
08/30/2016	6,178,502	9,179
09/01/2016	6,197,378	9,438
09/08/2016	6,265,631	9,750
09/13/2016	6,313,995	9,673
09/16/2016	6,323,495	3,167
09/20/2016	6,399,152	18,914
09/22/2016	6,427,330	14,089
09/27/2016	6,472,137	8,961
09/29/2016	6,487,409	7,636



Total Quarterly Flow:	825,818	gallons
Ave. Quarterly Flow:	8,990	gallons

JULY	
251,686	gallons/month
31	days
8,119	gallons/day
6	gallons/min

AUGUST	
265,225	gallons/month
31	days
8,556	gallons/day
6	gallons/min

SEPTEMBER	
308,907	gallons/month
30	days
10,297	gallons/day
7	gallons/min

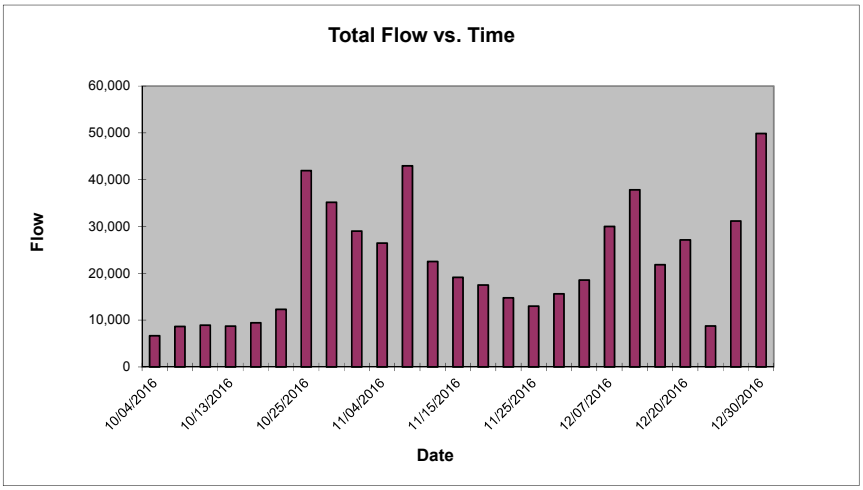
Notes:
* = flow meter calibrated and reset to zero on 01/05/16

ATTACHMENT 1

MONITORED FLOWS v. TIME
FOURTH QUARTER 2016

Groundwater Pre-Treatment System (GWPTS)
Riverbend, LLC
Buffalo, New York

Date	Total Flow	Daily Avg
10/04/2016	6,520,691	6,656
10/06/2016	6,537,977	8,643
10/11/2016	6,582,538	8,912
10/13/2016	6,599,932	8,697
10/18/2016	6,647,017	9,417
10/21/2016	6,683,860	12,281
10/25/2016	6,851,569	41,927
10/28/2016	6,957,103	35,178
11/01/2016	7,073,216	29,028
11/04/2016	7,152,606	26,463
11/08/2016	7,324,490	42,971
11/11/2016	7,392,013	22,508
11/15/2016	7,468,524	19,128
11/18/2016	7,520,991	17,489
11/22/2016	7,579,983	14,748
11/25/2016	7,618,912	12,976
11/29/2016	7,681,389	15,619
12/01/2016	7,718,465	18,538
12/07/2016	7,898,417	29,992
12/09/2016	7,974,090	37,837
12/15/2016	8,105,024	21,822
12/20/2016	8,240,719	27,139
12/28/2016	8,310,690	8,746
12/29/2016	8,341,869	31,179
12/30/2016	8,391,743	49,874



Total Quarterly Flow:	1,904,334	gallons
Ave. Quarterly Flow:	20,695	gallons

OCTOBER	
585,807	gallons/month
31	days
18,897	gallons/day
13	gallons/min

NOVEMBER	
608,173	gallons/month
30	days
20,272	gallons/day
14	gallons/min

DECEMBER	
710,354	gallons/month
31	days
22,915	gallons/day
16	gallons/min

Notes:
* = flow meter calibrated and reset to zero on 01/05/16

ATTACHMENT 2

FIELD LOGS

7540609

Waste Water Treatment Plant - Riverbend
Maintenance Log

Date	Flow Meter Reading	Lead Tank		Back Flush		Pressure Differential (PSI)		Bag Filter Change		Bag Pressure (PSI)		Decant Oil Seperator	Instantaneous Flow	
		Tank 1	Tank 2	Tank 1	Tank 2	Before	After	Tank 1	Tank 2	Before	After		Before	After
01-05-2016	2752372	X		X	X	6	4.5	X	X	23.0	21.0	X	64.10	86.24
01-08-2016	105635	X		X	X	6.5	4.0	X	X	21.5	20.5	X	72.00	84.21
01-12-2016	23007	X		X	X	6.5	4.0	X	X	22.5	20.0	X	65.20	84.70
01-15-2016	351142	X		X	X	6.5	4.0	X	X	22.0	20.0	X	75.40	87.83
01-20-2016	50 + 165	X		X	X	—	4.0	X	X	—	20.5	X	—	84.50
01-22-2016	554057	X		X	X	—	4.5	X	X	—	20.0	X	—	81.50
01-26-2016	641064	X		X	X	8.0	4.0	X	X	22.5	20.0	X	72.00	82.40
01-28-2016	695480	X		X	X	6.5	3.0	X	X	20.5	20.0	X	79.97	83.71
02-02-2016	842525	X		X	X	5.5	3.5	X	X	21.5	20.5	X	80.40	84.45
02-05-2016	933956	X		X	X	4.5	3.5	X	X	22.0	20.5	X	73.40	83.50
02-09-2016	1052857	X		X	X	3.5	4.5	X	X	22.0	20.5	X	72.20	80.40
02-12-2016	1153512	X		X	X	—	4.0	X	X	—	20.5	X	—	85.70
02-16-2016	1273978	X		X	X	—		X	X	—		X		

Waste Water Treatment Plant - Riverbend

Maintenance Log

Date	Flow Meter Reading	Lead Tank		Back Flush		Pressure Differential (PSI)		Bag Filter Change		Bag Pressure (PSI)		Decant Oil Seperator	Instantaneous Flow	
		Tank 1	Tank 2	Tank 1	Tank 2	Before	After	Tank 1	Tank 2	Before	After		Before	After
2-16-2016	1273978	X		X	X	—	4.5	X	X	—	20.5	X	71.38	84.10
2-22-2016	1446120	X		X	X	4.5	3.0	X	X	21.5	20.5	X	72.10	82.40
2-26-2016	1578762	X		X	X	4.0	3.0	X	X	22.5	20.0	X	74.15	82.60
3-29-2016	1685971	X		X	X	5.0	3.0	X	X	24.0	20.5	X	72.10	82.40
03-03-2016	1786818	X		X	X	4.0	3.0	X	X	21.5	20.0	X	71.50	80.60
03-07-2016	1962620?	X		X	X	4.5		X	X	21.5	20.5	X	70.02	81.63
03-09-2016	1996790	X		X	X	—	3.5	X	X	—	22.6	X	—	87.2
03-11-2016	2062254	X		X	X	—	3.0	X	X	23.5	21.9	X	—	84.39
03-15-2016	2194469	X		X	X	4.0	3.5	X	X	23.0	21.7	X	73.25	86.21
03-17-2016	—	X		X	X	4.0	3.0	X	X	24.0	22.1	X	70.31	87.04
03-22-2016	2481276	X		X	X	—	3.0	X	X	—	22.4	X	—	82.96
03-24-2016	2571184	X		X	X	3.5	2.5	X	X	24.0	22.5	X	69.25	89.38
03-29-2016	2775496	X		X	X	—	3.0	X	X	—	23.5	X	—	83.96
03-31-2016	2887650	X		X	X	4.0	3.0	X	X	25.5	22.5	X	62.72	85.87
04-05-2016	3066566	X		X	X	—	3.0	X	X	—	23.5	X	—	84.70
04-07-2016	3134830	X		X	X	—	3.0	X	X	—	22.5	X	—	84.52
04-12-2016	3321877	X		X	X	3.5	3.0	X	X	24.2	21.8	X	66.96	83.17
04-14-2016	3396.89	X		X	X	4.0	3.0	X	X	22.8	21.6	X	76.12	85.64
04-19-2016	3582435	X		X	X	4.0	3.0	X	X	23.4	22.3	X	69.12	87.26
04-22-2016	3726860	X		X	X	4.5	3.5	X	X	24.3	22.6	X	70.81	87.62
04-26-2016	3923285	X		X	X	—	3.0	X	X	—	22.3	X	—	88.36
04-28-2016	4011836	X		X	X	4.0	3.0	X	X	22.5	21.7	X	79.98	86.55
05-03-2016	4244117	X		X	X	4.0	3.0	X	X	22.6	21.6	X	78.51	86.24
05-06-2016	4373753	X		X	X	4.5	3.5	X	X	23.6	22.1	X	74.04	89.46
05-10-2016	4559141	X		X	X	—	3.0	X	X	—	22.1	X	—	85.00
05-13-2016	4690724	X		X	X	4.0	3.0	X	X	24.1	21.9	X	69.89	87.55
5-16-2016	4754419	X		X	X	—	3.0	X	X	—	22.3	X	—	87.17
5-20-2016	4986:3	X		X	X	4.0	3.1	X	X	24.3	21.4	X	67.87	83.42
5-25-2016	5052056	X		X	X	4.0	3.0	X	X	24.2	22.7	X	—	85.61
5-27-2016	5104659	X		X	X	—	3.0	X	X	—	22.4	X	—	83.74
5-31-2016	5196284	X		X	X	3.0	3.0	X	X	24.3	22.3	X	62.71	82.60
06-3-2016	5257745	X		X	X	4.0	3.0	X	X	23.2	22.2	X	61.06	86.92
06-07-2016	5333040	X		X	X	—	3.5	X	X	—	22.1	X	—	83.48

* Tank #1 Lag on 6/14/16

Waste Water Treatment Plant - Riverbend

Maintenance Log

Date	Flow Meter Reading	Lead Tank		Back Flush		Pressure Differential (PSI)		Bag Filter Change		Bag Pressure (PSI)		Decant Oil Seperator	Instantaneous Flow	
		Tank 1	Tank 2	Tank 1	Tank 2	Before	After	Tank 1	Tank 2	Before	After		Before	After
06-10-2016	5385950	X		X	X	4.5	3.5	X	X	22.7	21.7	X	73.8	85.2
06-14-2016	5449573		X	X	X	—	3.0	X	X	—	21.8	X	—	88.2
06-16-2016	5481426	X		X	X	—	3.0	X	X	—	21.6	X	—	86.2
06-21-2016	5551908		X	X	X	—	3.0	X	X	—	21.5	X	—	86.39
6-23-16	5578953		X	X	X	—	3.0	X	X	—	20.7	X	—	85.75
6-27-16	5639634		X	X	X	—	3.0	X	X	—	20.8	X	—	84.39
6-30-16	5661591		X	X	X	—	3.5	X	X	—	21.2	X	—	86.86
7-6-16	5707234		X	X	X	—	3.5	X	X	—	21.1	X	—	78.61
7/8/2016	5728395		X	X	X	4.0	4.0	X	X	22.1	20.6	X	76.64	80.49
7-12-2016	5766055		X	X	X	—	4.0	X	X	—	20.7	X	—	79.16
7-14-2016	5785669		X	X	X	4.0	3.5	X	X	21.1	20.9	X	81.57	86.95
7-19-2016	5837635		X	X	X	4.0	3.5	X	X	23.2	20.7	X	69.31	88.77
7-21-2016	5854055		X	X	X	—	3.5	X	X	—	20.6	X	—	87.65
7-26-2016	5897077		X	X	X	—	4.0	X	X	—	20.6	X	—	86.16
7-28-2016	5916277		X	X	X	—	4.0	X	X	—	21.1	X	—	88.64
8-2-2016	5958955		X	X	X	—	3.5	X	X	—	20.8	X	—	87.75
8-4-2016	5975419		X	X	X	—	3.5	X	X	—	20.9	X	—	88.14
8-9-2016	6020686		X	X	X	—	3.0	X	X	—	21.3	X	—	83.09
8-11-2016	6030181		X	X	X	4.0	~~4.0~~ 3.5	X	X	21.4	20.5	X	83.29	87.35
8-16-2016	6065067		X	X	X	—	3.5	X	X	—	21.2	X	—	84.12
8-19-2016	6085262		X	X	X	—	3.0	X	X	—	21.3	X	—	83.25
8-23-2016	6112471		X	X	X	—	3.5	X	X	—	21.1	X	—	84.19
8-25-2016	6132608		X	X	X	—	3.5	X	X	—	21.3	X	—	85.16
8-30-2016	6178502		X	X	X	—	3.5	X	X	—	21.4	X	—	85.78
9-01-2016	6197378		X	X	X	—	3.5	X	X	—	21.4	X	—	86.90
09-08-2016	6265631		X	X	X	—	—	X	X	—	22.1	X	—	79.85
09-13-2016	6313995		X	X	X	—	2.5	X	X	—	20.1	X	—	83.25
09-16-2016	6323495		X	X	X	—	3.0	X	X	—	20.9	X	—	82.09
9-20-2016	6399152		X	X	X	—	4.0	X	X	—	21.9	X	—	85.67
9-22-2016	6427330		X	X	X	—	4.0	X	X	—	21.6	X	—	85.17
9-27-2016	6472137		X	X	X	—	4.0	X	X	—	22.0	X	—	85.07
9-29-2016	6487409		X	X	X	—	4.0	X	X	—	21.9	X	—	84.32
10-4-2016	6520691		X	X	X	4.0	4.0	X	X	22.6	~~22.6~~ 21.6	X	78.16	~~78.16~~ 84.78

1/4/2016 Last Reading Totalizer

1004 cm 8499861

Last Reading

Permeat → 31685459

Waste Water Treatment Plant - Riverbend
Maintenance Log

Date	Flow Meter Reading	Lead Tank		Back Flush		Pressure Differential (PSI)		Bag Filter Change		Bag Pressure (PSI)		Decant Oil Seperator	Instantaneous Flow	
		Tank 1	Tank 2	Tank 1	Tank 2	Before	After	Tank 1	Tank 2	Before	After		Before	After
10-6-2016	6537977		X	X	X	X	4.0	X	X	—	21.6	X	—	83.23
10-11-2016	6582538		X	X	X	—	4.0	X	X	—	21.4	X	—	86.24
10-13-2016	6599932		X	X	X	4.5	4.0	X	X	22.5	21.6	X	81.39	88.68
10-18-2016	6647017		X	X	X	—	4.0	X	X	—	21.4	X	—	86.33
10-21-2016	6683860		X	X	X	4.0	4.0	X	X	22.6	21.7	X	79.56	87.37
10-25-2016	6851569		X	X	X	~~4.0~~	4.0	X	X	—	21.2	X	—	82.31
10-28-2016	6957103		X	X	X	—	4.0	X	X	—	21.5	X	—	81.28
11-01-2016	7073216		X	X	X	—	4.0	X	X	—	21.5	X	—	82.63
11-07-2016	7152606		X	X	X	4.0	4.0	X	X	23.2	21.7	X	72.68	83.16
11-08-2016	7324490		X	X	X	4.0	4.0	X	X	23.1	22.3	X	72.59	79.10
11-11-2016	7392013		X	X	X	4.0	4.0	X	X	23.3	22.1	X	71.69	80.89
11-15-2016	7468524		X	X	X	4.0	4.0	X	X	24.2	21.7	X	53.96	78.81
11-18-2016	7520991		X	X	X	4.0	3.0	X	X	23.4	22.6	X	63.37	71.50
11-22-2016	7579983		X	X	X	4.0	4.0	X	X	24.1	22.1	X	61.78	78.79
11-25-2016	7618912		X	X	X	—	4.0	X	X	—	22.3	X	—	78.17
11-29-2016	7681389		X	X	X	—	4.0	X	X	—	22.5	X	—	78.03
12-1-2016	7718465		X	X	X	—	4.0	X	X	—	22.0	X	—	77.40
12-7-2016	7898417		X	X	X	4.0	4.0	X	X	25.2	22.7	X	50.57	79.86
12-9-2016	7974090		X	X	X	4.0	4.0	X	X	24.8	22.5	X	52.28	79.17
12-13-2016	8105524		X	X	X	—	4.0	X	X	—	23.3	X	—	74.21
12-15-2016	8162591		X	X	X	—	4.0	X	X	—	23.1	X	—	76.77
12-20-2016	8240719		X	X	X	—	4.0	X	X	—	23.4	X	—	76.17
12-28-2016	8310690		X	X	X	—	4.0	X	X	—	22.6	X	—	71.60
12-29-2016	8341869	X			X	—	3.5	X	X	—	21.1	X	—	69.39
12-30-2016	8391743	X		X	X	4.0	4.0	X	X	23.9	22.2	X	70.13	79.76
1-3-2017	8454815	X		X	X	4.0	4.0	X	X	—	22.9	X	—	79.19
1-5-2017	35928	X		X	X	4.0	4.0	X	X	22.8	22.4	X	74.86	84.16

Waste Water Treatment Plant - Riverbend

Generated Volume of Tar Material

Date	Decant	Clean Seperator	Volume (Inches)	Volume (gallons) (multiply by 1.72)	Pounds of Tar (multiply by 9.62)
1-05-2016	X		New Drum		
1-08-2016	X		1"		
1-12-2016	X		2"		
1-15 2016	X		2.5"		
1-20-2016	X		3.5"		
1-22-2016	X		4.0"		
1-26-2016	X		4.25"		
1-28-2016	X		4.25"		
02-02-2016	X		4.50"		
02-04-2016	X		4.50"		
02-09-2016	X		4.50"		
02-12-2016	X		4.75"		
				Total Tar:	0.0

Density of Tar (published value) (lbs/gallon): 9.62
Gallons of Tar per inch: 1.72
Pounds of Tar per inch: 16.53

Waste Water Treatment Plant - Riverbend

Generated Volume of Tar Material

Date	Drum #	Decant	Clean Seperator	Volume Removed In Drum (inches)	Volume (gallons) (multiply by 1.72)	Pounds of Tar (multiply by 9.62)
02-29-16	D67	X		6.0"		
03-03-16	D67	X		6.25"		
3-9-16	D67	X		7.0"		
3-29-16	D67	X		7.5"		
4-07-16	D67	X		7.5"		
04-14-16	D67	X		7.5"		
04-22-16	D67	X		7.5"		
04-28-16	D67	X		7.5"		
05-06-2016	D67	X		7.75"		
5-10-2016	D67	X		8.00"		
5-16-2016	D67	X		8.00"		
5-25-2016	D67	X		8.50"		
5-31-2016	D67	X		8.75"		
6-3-2016	D67	X		9.00"		
6-10-2016	D67	X		9.00"		
12-1-2016	067	X		11.5"		
12-30-2016	067		X	full		
12-30-2016	068		X	full		
					Total Tar:	0.0

Density of Tar (published value) (lbs/gallon): 9.62
Gallons of Tar per inch: 1.72
Pounds of Tar per inch: 16.53

ATTACHMENT 3

GENERATED VOLUME OF TAR MATERIAL

ATTACHMENT 3

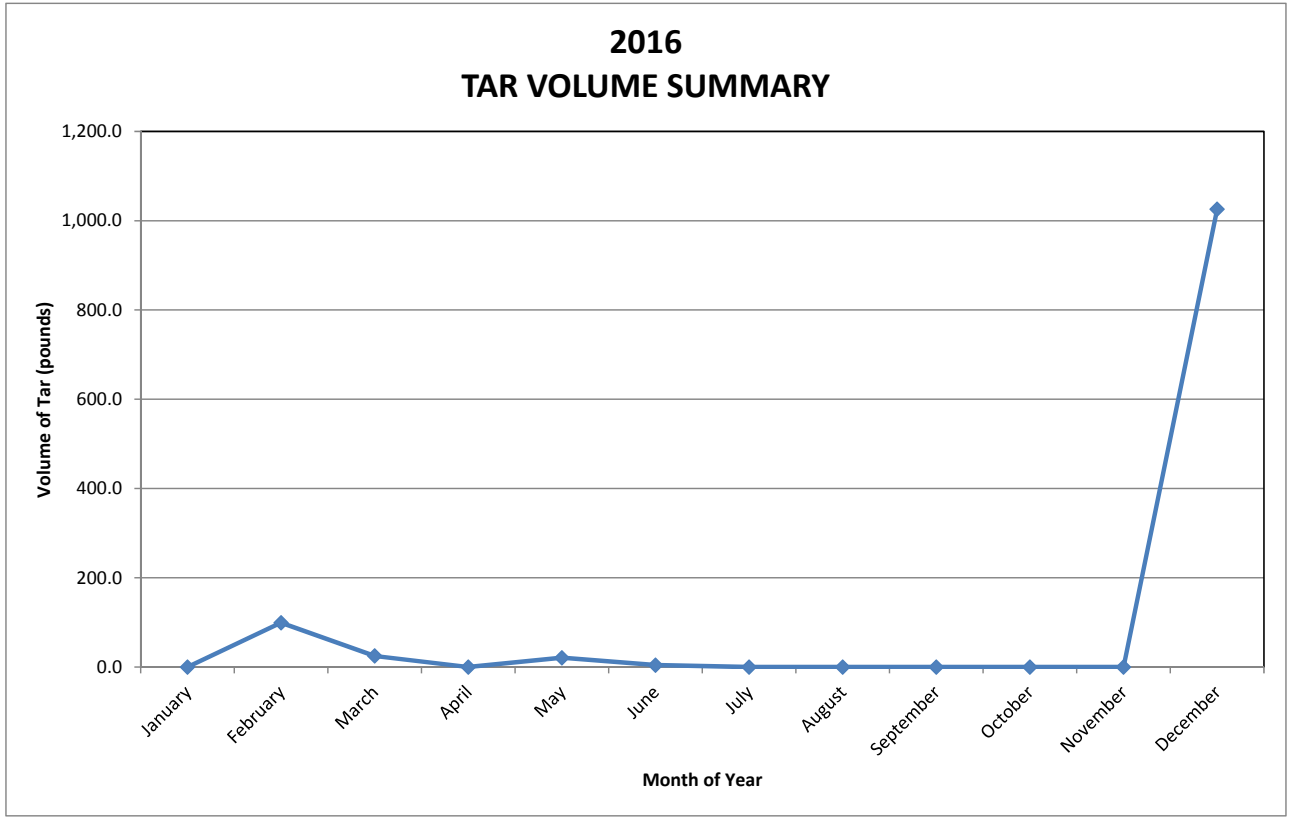
ENERATE OLUME OF TAR MATERIAL
2016

roun ater Pre-Treatment System (WPTS)
Riverben , LLC
(Site No 0061 -)
Buffalo, Ne York

Month	olume of Tar (poun s)
January	0.0
February	99.3
March	24.8
April	0.0
May	20.7
June	4.1
July	0.0
August	0.0
September	0.0
October	0.0
November	0.0
December	1,025.9

Total: 1174.8 pounds
Drums: 2.44

Min. 0.0 pounds
Max. 1025.9 pounds
Ave. 97.9 pounds



ATTACHMENT 4

HAZARDOUS WASTE MANIFEST
(05/31/16)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NYR000148924
2. Page 1 of: 1
3. Emergency Response Phone: 716-449-0882
4. Manifest Tracking Number: 011984036 JJK

GENERATOR

5. Generator's Name and Mailing Address
Fort Schuyler Management Corporation
257 Fuller Road
Albany NY 12203
Att: Tom O'Brien
Generator's Phone: 518 956-7096

Generator's Site Address (if different than mailing address)
Riverbend, LLC
312 Abby Street
Buffalo NY 14220

6. Transporter 1 Company Name: Tonawanda Tank Transport Service, Inc.
U.S. EPA ID Number: NYD097644801

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address
EQ Detroit, Inc.
1923 Frederick Street
Detroit MI 48211
Facility's Phone: 313 923-0080
U.S. EPA ID Number: MID980991566

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
X	1. RQ NA3082, Hazardous Waste, Liquid, n.o.s. (D018), 9, PGIII	-3-	DM	-130-	G	D018	B	
	2.							
	3.							
	4.							

14. Special Handling Instructions and Additional Information: 1)C111012DET, ERG#171 — Quantity in section 11 is estimated.

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Josh Robinson As Agent for Fort Schuyler Mangmt
Signature
Month: 05 Day: 31 Year: 2016

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Jeff Goodale
Signature
Month: 5 Day: 31 Year: 16

Transporter 2 Printed/Typed Name
Signature
Month Day Year

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name
Signature
Month Day Year

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

US ecology

LAND DISPOSAL RESTRICTION AND CERTIFICATION FORM

Generator: RIVERBEND SITE
312 ABBY STREET

U.S. EPA ID No.: NYR000148924

Manifest: 011984036JJK

Page - Line
1 - 01

Approval: C111012DET

NWW

Waste Code(s): D018

Hazardous Constituents: NONE

Subcategory(s):

Certification: THIS RESTRICTED WASTE REQUIRES TREATMENT TO THE APPLICABLE STANDARD.
This waste must be treated to the applicable performance based treatment standard set forth in 40CFR Part 268 Subpart C and Subpart D, 268.40 or RCRA Section 3004(d) prior to land disposal.

I hereby certify that all information submitted on this and all associated documents, is complete and accurate to the best of my knowledge and information.

Generator Signature: [signature] **Title:** _____

Printed Name: Joshua Robinson **Date:** 05/31/2016

As agent for Fort Schuyler Management

July 2, 2015

Ms. Traserra Adams
Buffalo Sewer Authority
Industrial Waste Section
90 West Ferry Street
Buffalo, NY 14213-1799

Re: RiverBend Site
Ground Water Pre-Treatment Discharge Monitoring Results
June 2015 Semi-Annual Compliance Monitoring Report
BPDES Permit No. 16-01-BU278

Dear Ms. Adams:

On behalf of our client, Fort Schuyler Management Corporation, TurnKey Environmental Restoration, LLC has prepared this correspondence to present the first semi-annual 2015 discharge monitoring results for the groundwater pre-treatment system at the above-referenced facility. Discharge monitoring was performed from June 8-9, 2015.

SAMPLE COLLECTION

Samples were collected from the pretreated process effluent (Outfall 001) in general accordance with permit No. 16-01-BU278 in laboratory-provided, pre-cleaned, and pre-preserved sample bottles (see Figure 1). Four grab samples for volatile organic compound (VOC) and semi-volatile organic compound (SVOC) analysis were containerized in individual sample bottles for laboratory composite preparation during sample extraction and USEPA Method 624 and Method 625 analysis, respectively. Composite samples were also collected for laboratory pH and total cyanide analysis. In accordance with the Permit, composite samples were prepared for all required parameters by combining grab samples collected at four equally spaced intervals over the 24-hour monitoring period. Field documentation is provided in Attachment 1.

ANALYTICAL RESULTS

The current period analytical results are presented as Attachment 2. Compounds detected above the laboratory reporting limit at a minimum of one location during each event are summarized in Table 1 along with permitted BSA discharge limits. As indicated, all parameters are well within allowable limits.

FLOW MONITORING

Flow measurement data is presented in Table 1. Quarterly flow monitoring was based on the total flow recorded during the monitoring period divided by the number of days in that monitoring period. A copy of the annual flow meter calibration data is presented in Attachment 3. The next flow meter calibration is tentatively scheduled for January 2017.

CERTIFICATION STATEMENT

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Please contact us if you have any questions.

Sincerely,
TurnKey Environmental Restoration, LLC

Bryan C. Hann.
Project Manager

ec: Tom O'Brien (Fort Schuyler)
Paul Werthman (TurnKey)

File: 0322-016-500

TABLES

TABLE 1

2016 SEMI-ANNUAL GROUNDWATER PRETREATMENT SYSTEM DATA SUMMARY

BPDES Permit #14-04-BU267
Fort Schuyler RiverBend Site
312 Abby Street, Buffalo, NY

Parameter	June 16-17, 2016		Daily Discharge Limits [2]
	Concentration (units as indicated)	*Mass [1] (pounds)*	
Laboratory pH (S.U.)	7.30	na	5.0 - 12.0
Field pH (S.U.) [3]	7.27	na	5.0 - 12.0
Volatile Organic Compounds - Method 624 (mg/L)			
Total VOCs	ND	na	Monitor
Semi-Volatile Organic Compounds - Method 625 (mg/L)			
Total SVOCs	ND	na	Monitor
Inorganics (mg/L)			
Total Cyanide	1.42	0.391	4.3 lbs
Average Daily Flow (gallons per day) [4]	33,047		*see Note 5*

Notes:

1. The monitoring result is calculated based on the concentration of detected parameters and the average daily flow rate identified below.
2. Mass limits are based on the Average Daily Flow through the June event; actual limits may vary slightly based on actual discharge.
3. Field pH is an average of 4 grab samples collected over a 24-hour period.
4. Average daily flow based on net flow recorded between January 5, 2016 through June 21, 2016 for the June event.
5. Permitted maximum allowable daily flow is 110,000 gpd. An action level of 54,000 gpd is identified in the Permit. The BSA is to be notified if flow consistently exceeds this action level so that the permit can be modifed.
6. " ND " = Indicates compound was part of the analysis, but not detected at a concentration above the reporting limit.

Flow Calculations:

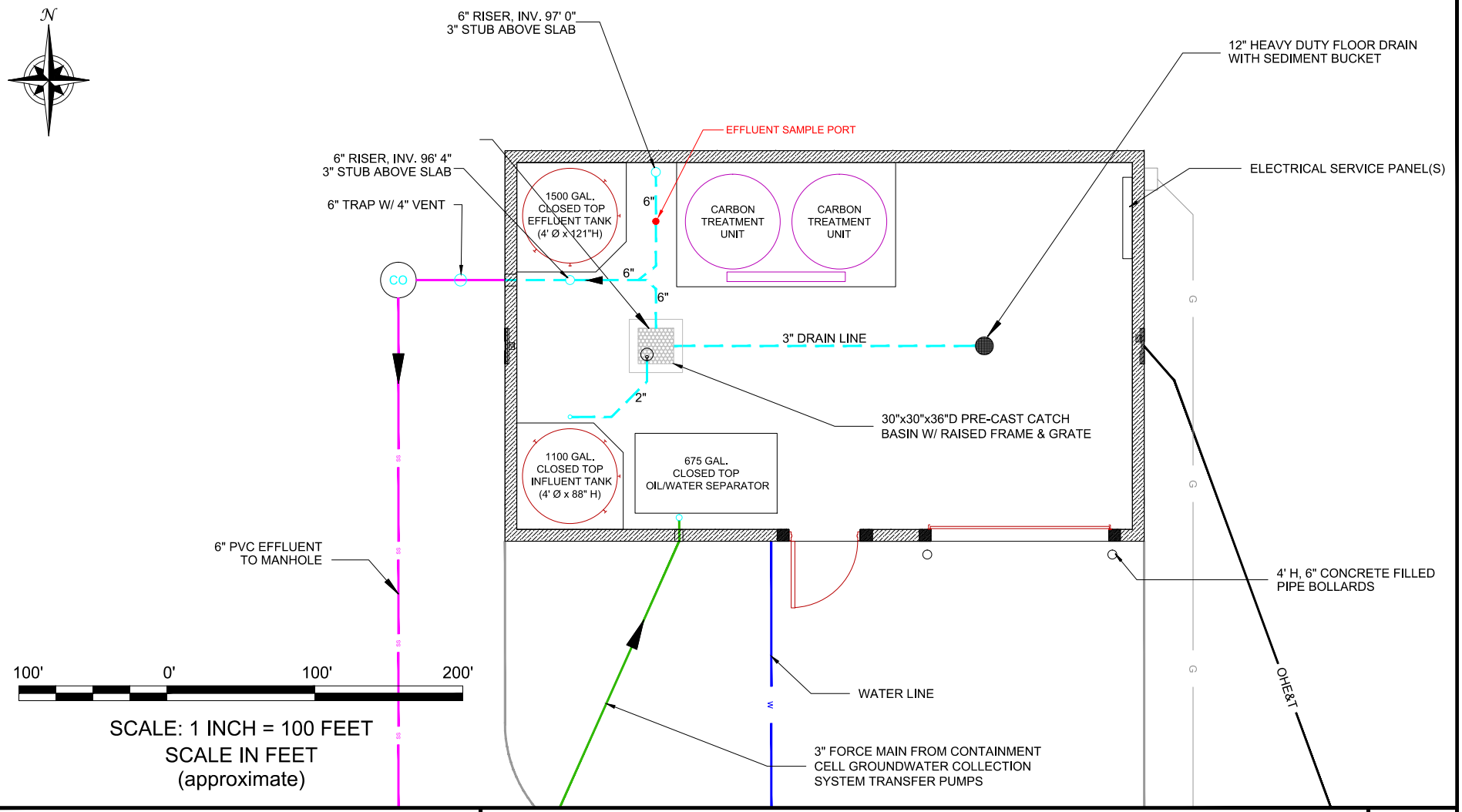
Event	Date	Flow Measurement * (gallons)	Average Daily Flow * (gallons per day)
June 2016	1/5/2016	0	33,047
	6/21/2016	5,551,908	

Notes:

* = flow meter calibrated and reset to zero on 01/05/16. Average daily flow above accounts for the recalibration and zeroing.

FIGURES

F:\CAD\TurnKey\Riverbend (formerly Steelfields)\BSA Effluent Monitoring\2014 - First Semi-Annual Event (June)\Figure 1; GWPTS Building Detail.DWG



TURNKEY ENVIRONMENTAL RESTORATION, LLC

2558 HAMBURG TURNPIKE
SUITE 300
BUFFALO, NY 14218
(716) 856-0635

PROJECT NO.: 0171-013-500

DATE: AUGUST 2014

DRAFTED BY: BCH

GWPTS BUILDING LAYOUT

BSA PERMIT NO. 14-04-BU267

RIVERBEND SITE
BUFFALO, NEW YORK

PREPARED FOR
RIVERBEND, LLC

FIGURE 1

ATTACHMENT 1

FIELD DOCUMENTATION

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

WATER SAMPLE COLLEC

PROJECT INFORMATION

Project Name: Riverbed Site
Project No.: 0322-016-500
Client: Fort Schuyler Management Corporation
Location: Riverbed Site – 312 Abby Street Buffalo, NY

SAMPLE DESCRIPTION

I.D.: Process Effluent
Matrix: ☐ SURFACE WATER ☐ Storm
☐ SEEP ☐ Other
☐ INFLUENT ☒ Effluent

SAMPLE INFORMATION

Date Collected: 6/17/2016
Time Collected: JJR –
Date Shipped to Lab: 6/17/2016
Collected By: JJR
Sample Type: ☐ POINT ☒
☒ COMPOSITE Effluent
Sample Collection Method: ☐ DIRECT DIP ☐ SS / POLY. DIPPER ☐ PERISTALTIC
☐ POLY. DISP. BAILER ☐ ISCO SAMPLER ☐ OTHER

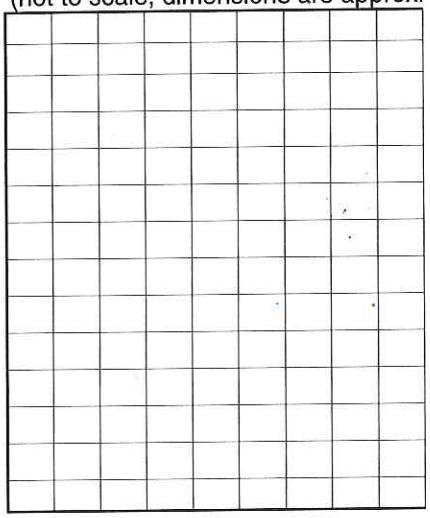
SAMPLING INFORMATION

Weather: 72°F
Air Temperature: Overcast

Parameter	Grab 1	Grab 2	Grad 3	Grab 4	Units
pH	6.99	7.06	7.45	7.57	units
Temp.	16.3	15.0	14.8	16.8	°C
Cond.	2236	1816	1548	1429	mS
Turbidity	83	80	72	70	NTU
Eh / ORP	139	178	133	124	mV
D.O.	2.22	N/A	N/A	N/A	ppm
Odor	None	NONE	N/A	None	olfactory
Appearance	Clear	Clear	Clear	Clear	visual
	6/16/16	6/16/16	6/16/16	6/16/16	6/17/16
	0845	1137	1400	0843	

LOCATION SKETCH

(not to scale, dimensions are approxi



EXACT LOCATION (if applicable)

Northing (ft)	Easting (ft)	Surface Elevation (fmsl)
na	na	na

SAMPLE DESCRIPTION (appearance, olfactory):

Clear, no odor

SAMPLE ANALYSIS (depth, laboratory analysis required):

* Collect four individual grab samples for method 624 (VOCs) and 625 (SVOCs) analysis, these samples will be composited at the lab.
* Collect composite samples for cyanide and lab PH by filling equal aliquots of sample to fill sample containers.

ADDITIONAL REMARKS:

PREPARED BY: Josh Robinson **DATE:** 6/17/2016

TurnKey Environmental Restoration, LLC

EQUIPMENT CALIBRATION LOG

PROJECT INFORMATION:

Project Name: Riverbed - Area II GWPTS

Date: 6/16/2016

Project No.: 0322-014-500

Client: Fort Schuyler Management Corporation

Instrument Source: ☒ BM ☐ Rental

METER TYPE	UNITS	TIME	MAKE/MODEL	SERIAL NUMBER	CAL. BY	STANDARD	POST CAL. READING	SETTINGS
☒ pH meter	units		Myron L Company Ultra Meter 6P	6213516 ☒ 6212375 ☐ 6223973 ☐	JJR	4.00 7.00 10.01	4.01 7.00 10.02	4 7 10.0
☒ Turbidity meter	NTU		Hach 2100P or 2100Q Turbidimeter	06120C020523 ☒ 07110C026405 ☐ 13120C030432 ☐	JJR	< 0.4 or 10 for 2100 Q 20 100 800	0.1 22 103 812	0.1 20 100 800
☒ Sp. Cond. meter	uS mS		Myron L Company Ultra Meter 6P	6213516 ☒ 6212375 ☐ 6223973 ☐	JJR	1413 mS @ 25 °C	1416	1413
☐ PID	ppm		MinRAE 2000			open air zero ____ ppm Iso. Gas		MIBK response factor = 1.0
☒ Dissolved Oxygen	ppm		HACH Model HQ30d	0807000023281 ☒ 10050041867 ☐ 140200100319 ☐	JJR	100% Satuartion	100 %	100 % Saturation
☐ Particulate meter	mg/m^3					zero air		
☐ Oxygen	%					open air		
☐ Hydrogen sulfide	ppm					open air		
☐ Carbon monoxide	ppm					open air		
☐ LEL	%					open air		
☐ Radiation Meter	uR/H					background area		

ADDITIONAL REMARKS:

PREPARED BY: Josh Robinson **DATE:** 6/16/2016

ATTACHMENT 2

ANALYTICAL DATA

ANALYTICAL REPORT

Lab Number:	L1618800
Client:	Benchmark & Turnkey Companies 2558 Hamburg Turnpike Suite 300 Buffalo, NY 14218
ATTN:	Bryan Hann
Phone:	(716) 856-0599
Project Name:	RIVERBEND S/A BSA
Project Number:	0322-014-500
Report Date:	06/28/16

Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), VA (460195), MD (348), IL (200077), NC (666), TX (T104704476), DOD (L2217), USDA (Permit #P-330-11-00240).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: RIVERBEND S/A BSA
Project Number: 0322-014-500

Lab Number: L1618800
Report Date: 06/28/16

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1618800-01	PROCESS EFFLUENT - GRAB 1, 2, 3, 4	WATER	BUFFALO, NY	06/16/16 08:32	06/17/16
L1618800-02	PROCESS EFFLUENT	WATER	BUFFALO, NY	06/16/16 08:07	06/17/16
L1618800-03	COMPOSITE PROCESS EFFLUENT - GRAB 1, 2, 3, 4	WATER	BUFFALO, NY	06/16/16 08:32	06/17/16
L1618800-04	TRIP BLANK	WATER	BUFFALO, NY	06/16/16 08:32	06/17/16

Project Name: RIVERBEND S/A BSA
Project Number: 0322-014-500

Lab Number: L1618800
Report Date: 06/28/16

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

Project Name: RIVERBEND S/A BSA
Project Number: 0322-014-500
Lab Number: L1618800
Report Date: 06/28/16

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Semivolatile Organics

The WG906375-3 LCSD recovery, associated with L1618800-01, is above the acceptance criteria for 2,4-dinitrotoluene (99%); however, the associated sample is non-detect for this target analyte. The results of the original analysis are reported.

WG906375: An LCS/LCSD was performed in lieu of a Matrix Spike and Laboratory Duplicate due to insufficient sample volume available for analysis.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Melissa Cripps

Title: Technical Director/Representative Date: 06/28/16

ORGANICS

VOLATILES

Project Name: RIVERBEND S/A BSA
Project Number: 0322-014-500
Lab Number: L1618800
Report Date: 06/28/16

SAMPLE RESULTS

Lab ID: L1618800-01
Client ID: PROCESS EFFLUENT - GRAB 1, 2, 3, 4
Sample Location: BUFFALO, NY
Matrix: Water
Analytical Method: 5,624
Analytical Date: 06/18/16 17:05
Analyst: GT

Date Collected: 06/16/16 08:32
Date Received: 06/17/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	5.0	0.65	1
1,1-Dichloroethane	ND		ug/l	1.5	0.31	1
Chloroform	ND		ug/l	1.5	0.29	1
Carbon tetrachloride	ND		ug/l	1.0	0.33	1
1,2-Dichloropropane	ND		ug/l	3.5	0.28	1
Dibromochloromethane	ND		ug/l	1.0	0.33	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.34	1
2-Chloroethylvinyl ether	ND		ug/l	10	0.62	1
Tetrachloroethene	ND		ug/l	1.5	0.38	1
Chlorobenzene	ND		ug/l	3.5	0.32	1
Trichlorofluoromethane	ND		ug/l	5.0	0.33	1
1,2-Dichloroethane	ND		ug/l	1.5	0.36	1
1,1,1-Trichloroethane	ND		ug/l	2.0	0.30	1
Bromodichloromethane	ND		ug/l	1.0	0.30	1
trans-1,3-Dichloropropene	ND		ug/l	1.5	0.30	1
cis-1,3-Dichloropropene	ND		ug/l	1.5	0.32	1
Bromoform	ND		ug/l	1.0	0.32	1
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	0.35	1
Benzene	ND		ug/l	1.0	0.31	1
Toluene	ND		ug/l	1.0	0.35	1
Ethylbenzene	ND		ug/l	1.0	0.33	1
Chloromethane	ND		ug/l	5.0	0.89	1
Bromomethane	ND		ug/l	5.0	1.3	1
Vinyl chloride	ND		ug/l	1.0	0.30	1
Chloroethane	ND		ug/l	2.0	0.31	1
1,1-Dichloroethene	ND		ug/l	1.0	0.28	1
trans-1,2-Dichloroethene	ND		ug/l	1.5	0.34	1
cis-1,2-Dichloroethene[1]	ND		ug/l	1.0	0.33	1
Trichloroethene	ND		ug/l	1.0	0.33	1
1,2-Dichlorobenzene	ND		ug/l	5.0	0.75	1

Project Name: RIVERBEND S/A BSA **Lab Number:** L1618800

Project Number: 0322-014-500 **Report Date:** 06/28/16

SAMPLE RESULTS

Lab ID: L1618800-01 Date Collected: 06/16/16 08:32

Client ID: PROCESS EFFLUENT - GRAB 1, 2, 3, 4 Date Received: 06/17/16

Sample Location: BUFFALO, NY Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/l	5.0	0.93	1
1,4-Dichlorobenzene	ND		ug/l	5.0	0.85	1
p/m-Xylene[1]	ND		ug/l	2.0	0.66	1
o-xylene[1]	ND		ug/l	1.0	0.30	1
Xylenes, Total[1]	ND		ug/l	1.0	0.30	1
Styrene[1]	ND		ug/l	1.0	0.30	1
Acetone[1]	ND		ug/l	10	1.8	1
Carbon disulfide[1]	ND		ug/l	5.0	0.90	1
2-Butanone[1]	ND		ug/l	10	2.2	1
Vinyl acetate[1]	ND		ug/l	10	2.9	1
4-Methyl-2-pentanone[1]	ND		ug/l	10	2.4	1
2-Hexanone[1]	ND		ug/l	10	2.5	1
Acrolein[1]	ND		ug/l	8.0	1.9	1
Acrylonitrile[1]	ND		ug/l	10	1.9	1
Dibromomethane[1]	ND		ug/l	1.0	1.0	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	95		80-120
Fluorobenzene	98		80-120
4-Bromofluorobenzene	101		80-120

Project Name: RIVERBEND S/A BSA
Project Number: 0322-014-500
Lab Number: L1618800
Report Date: 06/28/16

SAMPLE RESULTS

Lab ID: L1618800-04
Client ID: TRIP BLANK
Sample Location: BUFFALO, NY
Matrix: Water
Analytical Method: 5,624
Analytical Date: 06/18/16 11:33
Analyst: GT

Date Collected: 06/16/16 08:32
Date Received: 06/17/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	5.0	0.65	1
1,1-Dichloroethane	ND		ug/l	1.5	0.31	1
Chloroform	ND		ug/l	1.5	0.29	1
Carbon tetrachloride	ND		ug/l	1.0	0.33	1
1,2-Dichloropropane	ND		ug/l	3.5	0.28	1
Dibromochloromethane	ND		ug/l	1.0	0.33	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.34	1
2-Chloroethylvinyl ether	ND		ug/l	10	0.62	1
Tetrachloroethene	ND		ug/l	1.5	0.38	1
Chlorobenzene	ND		ug/l	3.5	0.32	1
Trichlorofluoromethane	ND		ug/l	5.0	0.33	1
1,2-Dichloroethane	ND		ug/l	1.5	0.36	1
1,1,1-Trichloroethane	ND		ug/l	2.0	0.30	1
Bromodichloromethane	ND		ug/l	1.0	0.30	1
trans-1,3-Dichloropropene	ND		ug/l	1.5	0.30	1
cis-1,3-Dichloropropene	ND		ug/l	1.5	0.32	1
Bromoform	ND		ug/l	1.0	0.32	1
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	0.35	1
Benzene	ND		ug/l	1.0	0.31	1
Toluene	ND		ug/l	1.0	0.35	1
Ethylbenzene	ND		ug/l	1.0	0.33	1
Chloromethane	ND		ug/l	5.0	0.89	1
Bromomethane	ND		ug/l	5.0	1.3	1
Vinyl chloride	ND		ug/l	1.0	0.30	1
Chloroethane	ND		ug/l	2.0	0.31	1
1,1-Dichloroethene	ND		ug/l	1.0	0.28	1
trans-1,2-Dichloroethene	ND		ug/l	1.5	0.34	1
cis-1,2-Dichloroethene[1]	ND		ug/l	1.0	0.33	1
Trichloroethene	ND		ug/l	1.0	0.33	1
1,2-Dichlorobenzene	ND		ug/l	5.0	0.75	1

Project Name: RIVERBEND S/A BSA
Project Number: 0322-014-500
Lab Number: L1618800
Report Date: 06/28/16

SAMPLE RESULTS

Lab ID: L1618800-04
Client ID: TRIP BLANK
Sample Location: BUFFALO, NY
Date Collected: 06/16/16 08:32
Date Received: 06/17/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/l	5.0	0.93	1
1,4-Dichlorobenzene	ND		ug/l	5.0	0.85	1
p/m-Xylene[1]	ND		ug/l	2.0	0.66	1
o-xylene[1]	ND		ug/l	1.0	0.30	1
Xylenes, Total[1]	ND		ug/l	1.0	0.30	1
Styrene[1]	ND		ug/l	1.0	0.30	1
Acetone[1]	ND		ug/l	10	1.8	1
Carbon disulfide[1]	ND		ug/l	5.0	0.90	1
2-Butanone[1]	ND		ug/l	10	2.2	1
Vinyl acetate[1]	ND		ug/l	10	2.9	1
4-Methyl-2-pentanone[1]	ND		ug/l	10	2.4	1
2-Hexanone[1]	ND		ug/l	10	2.5	1
Acrolein[1]	ND		ug/l	8.0	1.9	1
Acrylonitrile[1]	ND		ug/l	10	1.9	1
Dibromomethane[1]	ND		ug/l	1.0	1.0	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	97		80-120
Fluorobenzene	100		80-120
4-Bromofluorobenzene	99		80-120

Project Name: RIVERBEND S/A BSA
Project Number: 0322-014-500
Lab Number: L1618800
Report Date: 06/28/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 5,624
Analytical Date: 06/18/16 09:42
Analyst: GT

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01,04 Batch: WG905416-10					
Methylene chloride	ND		ug/l	5.0	0.65
1,1-Dichloroethane	ND		ug/l	1.5	0.31
Chloroform	ND		ug/l	1.5	0.29
Carbon tetrachloride	ND		ug/l	1.0	0.33
1,2-Dichloropropane	ND		ug/l	3.5	0.28
Dibromochloromethane	ND		ug/l	1.0	0.33
1,1,2-Trichloroethane	ND		ug/l	1.5	0.34
2-Chloroethylvinyl ether	ND		ug/l	10	0.62
Tetrachloroethene	ND		ug/l	1.5	0.38
Chlorobenzene	ND		ug/l	3.5	0.32
Trichlorofluoromethane	ND		ug/l	5.0	0.33
1,2-Dichloroethane	ND		ug/l	1.5	0.36
1,1,1-Trichloroethane	ND		ug/l	2.0	0.30
Bromodichloromethane	ND		ug/l	1.0	0.30
trans-1,3-Dichloropropene	ND		ug/l	1.5	0.30
cis-1,3-Dichloropropene	ND		ug/l	1.5	0.32
Bromoform	ND		ug/l	1.0	0.32
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	0.35
Benzene	ND		ug/l	1.0	0.31
Toluene	ND		ug/l	1.0	0.35
Ethylbenzene	ND		ug/l	1.0	0.33
Chloromethane	ND		ug/l	5.0	0.89
Bromomethane	ND		ug/l	5.0	1.3
Vinyl chloride	ND		ug/l	1.0	0.30
Chloroethane	ND		ug/l	2.0	0.31
1,1-Dichloroethene	ND		ug/l	1.0	0.28
trans-1,2-Dichloroethene	ND		ug/l	1.5	0.34
cis-1,2-Dichloroethene[1]	ND		ug/l	1.0	0.33
Trichloroethene	ND		ug/l	1.0	0.33

Project Name: RIVERBEND S/A BSA
Project Number: 0322-014-500
Lab Number: L1618800
Report Date: 06/28/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 5,624
Analytical Date: 06/18/16 09:42
Analyst: GT

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01,04 Batch: WG905416-10					
1,2-Dichlorobenzene	ND		ug/l	5.0	0.75
1,3-Dichlorobenzene	ND		ug/l	5.0	0.93
1,4-Dichlorobenzene	ND		ug/l	5.0	0.85
p/m-Xylene[1]	ND		ug/l	2.0	0.66
o-xylene[1]	ND		ug/l	1.0	0.30
Xylenes, Total[1]	ND		ug/l	1.0	0.30
Styrene[1]	ND		ug/l	1.0	0.30
Acetone[1]	ND		ug/l	10	1.8
Carbon disulfide[1]	ND		ug/l	5.0	0.90
2-Butanone[1]	ND		ug/l	10	2.2
Vinyl acetate[1]	ND		ug/l	10	2.9
4-Methyl-2-pentanone[1]	ND		ug/l	10	2.4
2-Hexanone[1]	ND		ug/l	10	2.5
Acrolein[1]	ND		ug/l	8.0	1.9
Acrylonitrile[1]	ND		ug/l	10	1.9
Methyl tert butyl ether[1]	ND		ug/l	10	0.58
Dibromomethane[1]	ND		ug/l	1.0	1.0
1,4-Dioxane[1]	ND		ug/l	2000	490
Tert-Butyl Alcohol[1]	ND		ug/l	100	6.0
Tertiary-Amyl Methyl Ether[1]	ND		ug/l	20	0.26
Dichlorodifluoromethane[1]	ND		ug/l	1.0	1.0

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	99		80-120
Fluorobenzene	100		80-120
4-Bromofluorobenzene	97		80-120

Lab Control Sample Analysis

Batch Quality Control

Project Name: RIVERBEND S/A BSA

Project Number: 0322-014-500

Lab Number: L1618800

Report Date: 06/28/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01,04 Batch: WG905416-9								
Methylene chloride	105		-		70-111	-		30
1,1-Dichloroethane	105		-		78-116	-		30
Chloroform	110		-		86-111	-		30
Carbon tetrachloride	100		-		60-112	-		30
1,2-Dichloropropane	110		-		83-113	-		30
Dibromochloromethane	100		-		58-129	-		30
1,1,2-Trichloroethane	100		-		80-118	-		30
2-Chloroethylvinyl ether	100		-		69-124	-		30
Tetrachloroethene	105		-		80-126	-		30
Chlorobenzene	100		-		80-126	-		30
Trichlorofluoromethane	100		-		83-128	-		30
1,2-Dichloroethane	110		-		82-110	-		30
1,1,1-Trichloroethane	105		-		72-109	-		30
Bromodichloromethane	95		-		71-120	-		30
trans-1,3-Dichloropropene	100		-		73-106	-		30
cis-1,3-Dichloropropene	100		-		78-111	-		30
Bromoform	90		-		45-131	-		30
1,1,2,2-Tetrachloroethane	95		-		81-122	-		30
Benzene	110		-		84-116	-		30
Toluene	105		-		83-121	-		30
Ethylbenzene	100		-		84-123	-		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: RIVERBEND S/A BSA

Project Number: 0322-014-500

Lab Number: L1618800

Report Date: 06/28/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01,04 Batch: WG905416-9								
Chloromethane	100		-		70-144	-		30
Bromomethane	90		-		63-141	-		30
Vinyl chloride	105		-		56-118	-		30
Chloroethane	105		-		74-130	-		30
1,1-Dichloroethene	100		-		77-116	-		30
trans-1,2-Dichloroethene	100		-		81-121	-		30
cis-1,2-Dichloroethene[1]	105		-		85-110	-		30
Trichloroethene	110		-		84-118	-		30
1,2-Dichlorobenzene	80		-		78-128	-		30
1,3-Dichlorobenzene	90		-		77-125	-		30
1,4-Dichlorobenzene	90		-		77-125	-		30
p/m-Xylene[1]	102		-		81-121	-		30
o-Xylene[1]	110		-		81-124	-		30
Styrene[1]	105		-		84-133	-		30
Acetone[1]	100		-		40-160	-		30
Carbon disulfide[1]	95		-		54-134	-		30
2-Butanone[1]	102		-		57-116	-		30
Vinyl acetate[1]	100		-		40-160	-		30
4-Methyl-2-pentanone[1]	96		-		79-125	-		30
2-Hexanone[1]	98		-		78-120	-		30
Acrolein[1]	85		-		40-160	-		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: RIVERBEND S/A BSA

Project Number: 0322-014-500

Lab Number: L1618800

Report Date: 06/28/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01,04 Batch: WG905416-9								
Acrylonitrile[1]	102		-		66-123	-		30
Methyl tert butyl ether[1]	100		-		57-126	-		30
Dibromomethane[1]	110		-		65-126	-		30
1,4-Dioxane[1]	90		-		74-121	-		30
tert-Butyl Alcohol[1]	110		-		52-114	-		30
Tertiary-Amyl Methyl Ether[1]	100		-		66-111	-		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Pentafluorobenzene	100				80-120
Fluorobenzene	103				80-120
4-Bromofluorobenzene	101				80-120

Matrix Spike Analysis
Batch Quality Control

Project Name: RIVERBEND S/A BSA
Project Number: 0322-014-500

Lab Number: L1618800
Report Date: 06/28/16

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01,04 QC Batch ID: WG905416-6 QC Sample: L1618346-02 Client ID: MS Sample												
Methylene chloride	ND	200	230	**115**	Q	-	-		70-111	-		30
1,1-Dichloroethane	ND	200	220	110		-	-		78-116	-		30
Chloroform	ND	200	230	**115**	Q	-	-		86-111	-		30
Carbon tetrachloride	ND	200	220	110		-	-		60-112	-		30
1,2-Dichloropropane	ND	200	230	**115**	Q	-	-		83-113	-		30
Dibromochloromethane	ND	200	210	105		-	-		58-129	-		30
1,1,2-Trichloroethane	ND	200	220	110		-	-		80-118	-		30
2-Chloroethylvinyl ether	ND	200	240	120		-	-		69-124	-		30
Tetrachloroethene	ND	200	220	110		-	-		80-126	-		30
Chlorobenzene	ND	200	200	100		-	-		80-126	-		30
Trichlorofluoromethane	ND	200	210	105		-	-		83-128	-		30
1,2-Dichloroethane	ND	200	230	**115**	Q	-	-		82-110	-		30
1,1,1-Trichloroethane	ND	200	230	**115**	Q	-	-		72-109	-		30
Bromodichloromethane	ND	200	210	105		-	-		71-120	-		30
trans-1,3-Dichloropropene	ND	200	210	105		-	-		73-106	-		30
cis-1,3-Dichloropropene	ND	200	210	105		-	-		78-111	-		30
Bromoform	ND	200	190	95		-	-		45-131	-		30
1,1,2,2-Tetrachloroethane	ND	200	200	100		-	-		81-122	-		30
Benzene	ND	200	230	115		-	-		84-116	-		30
Toluene	ND	200	220	110		-	-		83-121	-		30
Ethylbenzene	ND	200	200	100		-	-		84-123	-		30

Matrix Spike Analysis
Batch Quality Control

Project Name: RIVERBEND S/A BSA
Project Number: 0322-014-500

Lab Number: L1618800
Report Date: 06/28/16

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01,04 QC Batch ID: WG905416-6 QC Sample: L1618346-02 Client ID: MS Sample												
Chloromethane	ND	200	220	110		-	-		70-144	-		30
Bromomethane	ND	200	180	90		-	-		63-141	-		30
Vinyl chloride	ND	200	230	115		-	-		56-118	-		30
Chloroethane	ND	200	230	115		-	-		74-130	-		30
1,1-Dichloroethene	ND	200	210	105		-	-		77-116	-		30
trans-1,2-Dichloroethene	ND	200	220	110		-	-		81-121	-		30
cis-1,2-Dichloroethene[1]	ND	200	210	105		-	-		85-110	-		30
Trichloroethene	ND	200	240	**120**	Q	-	-		84-118	-		30
1,2-Dichlorobenzene	ND	200	180	90		-	-		78-128	-		30
1,3-Dichlorobenzene	ND	200	190	95		-	-		77-125	-		30
1,4-Dichlorobenzene	ND	200	190	95		-	-		77-125	-		30
p/m-Xylene[1]	17.J	400	410	103		-	-		81-121	-		30
o-Xylene[1]	7.2J	200	220	110		-	-		81-124	-		30
Styrene[1]	ND	200	200	100		-	-		84-133	-		30
Acetone[1]	83.J	500	640	128		-	-		40-160	-		30
Carbon disulfide[1]	ND	200	200	100		-	-		54-134	-		30
2-Butanone[1]	ND	500	580	113		-	-		57-116	-		30
Vinyl acetate[1]	ND	400	420	105		-	-		40-160	-		30
4-Methyl-2-pentanone[1]	ND	500	550	110		-	-		79-125	-		30
2-Hexanone[1]	ND	500	560	112		-	-		78-120	-		30
Acrolein[1]	ND	400	210	52		-	-		40-160	-		30

Matrix Spike Analysis
Batch Quality Control

Project Name: RIVERBEND S/A BSA
Project Number: 0322-014-500

Lab Number: L1618800
Report Date: 06/28/16

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01,04 QC Batch ID: WG905416-6 QC Sample: L1618346-02 Client ID: MS Sample												
Acrylonitrile[1]	ND	400	440	110		-	-		66-123	-		30
Dibromomethane[1]	ND	200	220	110		-	-		65-126	-		30

Surrogate	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
4-Bromofluorobenzene	95				80-120
Fluorobenzene	102				80-120
Pentafluorobenzene	99				80-120

Lab Duplicate Analysis
Batch Quality Control

Project Name: RIVERBEND S/A BSA
Project Number: 0322-014-500

Lab Number: L1618800
Report Date: 06/28/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01,04 QC Batch ID: WG905416-5 QC Sample: L1618346-02 Client ID: DUP Sample						
Methylene chloride	ND	ND	ug/l	NC		30
1,1-Dichloroethane	ND	ND	ug/l	NC		30
Chloroform	ND	ND	ug/l	NC		30
Carbon tetrachloride	ND	ND	ug/l	NC		30
1,2-Dichloropropane	ND	ND	ug/l	NC		30
Dibromochloromethane	ND	ND	ug/l	NC		30
1,1,2-Trichloroethane	ND	ND	ug/l	NC		30
2-Chloroethylvinyl ether	ND	ND	ug/l	NC		30
Tetrachloroethene	ND	ND	ug/l	NC		30
Chlorobenzene	ND	ND	ug/l	NC		30
Trichlorofluoromethane	ND	ND	ug/l	NC		30
1,2-Dichloroethane	ND	ND	ug/l	NC		30
1,1,1-Trichloroethane	ND	ND	ug/l	NC		30
Bromodichloromethane	ND	ND	ug/l	NC		30
trans-1,3-Dichloropropene	ND	ND	ug/l	NC		30
cis-1,3-Dichloropropene	ND	ND	ug/l	NC		30
Bromoform	ND	ND	ug/l	NC		30
1,1,2,2-Tetrachloroethane	ND	ND	ug/l	NC		30
Benzene	ND	ND	ug/l	NC		30

Lab Duplicate Analysis
Batch Quality Control

Project Name: RIVERBEND S/A BSA
Project Number: 0322-014-500

Lab Number: L1618800
Report Date: 06/28/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01,04 QC Batch ID: WG905416-5 QC Sample: L1618346-02 Client ID: DUP Sample					
Toluene	ND	ND	ug/l	NC	30
Ethylbenzene	ND	ND	ug/l	NC	30
Chloromethane	ND	ND	ug/l	NC	30
Bromomethane	ND	ND	ug/l	NC	30
Vinyl chloride	ND	ND	ug/l	NC	30
Chloroethane	ND	ND	ug/l	NC	30
1,1-Dichloroethene	ND	ND	ug/l	NC	30
trans-1,2-Dichloroethene	ND	ND	ug/l	NC	30
cis-1,2-Dichloroethene[1]	ND	ND	ug/l	NC	30
Trichloroethene	ND	ND	ug/l	NC	30
1,2-Dichlorobenzene	ND	ND	ug/l	NC	30
1,3-Dichlorobenzene	ND	ND	ug/l	NC	30
1,4-Dichlorobenzene	ND	ND	ug/l	NC	30
p/m-Xylene[1]	17.J	18J	ug/l	NC	30
o-Xylene[1]	7.2J	7.4J	ug/l	NC	30
Xylene (Total)[1]	24.J	25J	ug/l	0	30
Styrene[1]	ND	ND	ug/l	NC	30
Acetone[1]	83.J	86J	ug/l	NC	30
Carbon disulfide[1]	ND	ND	ug/l	NC	30

Lab Duplicate Analysis
Batch Quality Control

Project Name: RIVERBEND S/A BSA
Project Number: 0322-014-500

Lab Number: L1618800
Report Date: 06/28/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01,04 QC Batch ID: WG905416-5 QC Sample: L1618346-02 Client ID: DUP Sample					
2-Butanone[1]	ND	ND	ug/l	NC	30
Vinyl acetate[1]	ND	ND	ug/l	NC	30
4-Methyl-2-pentanone[1]	ND	ND	ug/l	NC	30
2-Hexanone[1]	ND	ND	ug/l	NC	30
Acrolein[1]	ND	ND	ug/l	NC	30
Acrylonitrile[1]	ND	ND	ug/l	NC	30
Dibromomethane[1]	ND	ND	ug/l	NC	30

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	97		99		80-120
Fluorobenzene	100		102		80-120
4-Bromofluorobenzene	96		94		80-120

SEMIVOLATILES

Project Name: RIVERBEND S/A BSA
Project Number: 0322-014-500
Lab Number: L1618800
Report Date: 06/28/16

SAMPLE RESULTS

Lab ID: L1618800-01
Client ID: PROCESS EFFLUENT - GRAB 1, 2, 3, 4
Sample Location: BUFFALO, NY
Matrix: Water
Analytical Method: 5,625
Analytical Date: 06/27/16 19:20
Analyst: PS

Date Collected: 06/16/16 08:32
Date Received: 06/17/16
Field Prep: Not Specified
Extraction Method: EPA 625
Extraction Date: 06/22/16 02:28

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	ND		ug/l	2.0	0.72	1
Benzidine[1]	ND		ug/l	20	8.3	1
1,2,4-Trichlorobenzene	ND		ug/l	5.0	0.91	1
Hexachlorobenzene	ND		ug/l	2.0	0.67	1
Bis(2-chloroethyl)ether	ND		ug/l	2.0	0.55	1
2-Chloronaphthalene	ND		ug/l	2.0	0.79	1
3,3'-Dichlorobenzidine	ND		ug/l	5.0	1.3	1
2,4-Dinitrotoluene	ND		ug/l	5.0	0.88	1
2,6-Dinitrotoluene	ND		ug/l	5.0	1.1	1
Azobenzene[1]	ND		ug/l	2.0	0.61	1
Fluoranthene	ND		ug/l	2.0	0.64	1
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	0.68	1
4-Bromophenyl phenyl ether[1]	ND		ug/l	2.0	0.78	1
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	0.53	1
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	0.54	1
Hexachlorobutadiene	ND		ug/l	2.0	0.67	1
Hexachlorocyclopentadiene[1]	ND		ug/l	10	3.7	1
Hexachloroethane	ND		ug/l	2.0	0.74	1
Isophorone	ND		ug/l	5.0	0.79	1
Naphthalene	ND		ug/l	2.0	0.81	1
Nitrobenzene	ND		ug/l	2.0	0.68	1
NDPA/DPA[1]	ND		ug/l	2.0	0.73	1
n-Nitrosodi-n-propylamine	ND		ug/l	5.0	0.54	1
Bis(2-ethylhexyl)phthalate	ND		ug/l	3.0	1.3	1
Butyl benzyl phthalate	ND		ug/l	5.0	1.1	1
Di-n-butylphthalate	ND		ug/l	5.0	0.97	1
Di-n-octylphthalate	ND		ug/l	5.0	0.99	1
Diethyl phthalate	ND		ug/l	5.0	0.73	1
Dimethyl phthalate	ND		ug/l	5.0	0.70	1
Benzo(a)anthracene	ND		ug/l	2.0	0.68	1

Project Name: RIVERBEND S/A BSA **Lab Number:** L1618800

Project Number: 0322-014-500 **Report Date:** 06/28/16

SAMPLE RESULTS

Lab ID: L1618800-01 Date Collected: 06/16/16 08:32

Client ID: PROCESS EFFLUENT - GRAB 1, 2, 3, 4 Date Received: 06/17/16

Sample Location: BUFFALO, NY Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzo(a)pyrene	ND		ug/l	2.0	0.63	1
Benzo(b)fluoranthene	ND		ug/l	2.0	0.65	1
Benzo(k)fluoranthene	ND		ug/l	2.0	0.68	1
Chrysene	ND		ug/l	2.0	0.68	1
Acenaphthylene	ND		ug/l	2.0	0.63	1
Anthracene	ND		ug/l	2.0	0.69	1
Benzo(ghi)perylene	ND		ug/l	2.0	0.71	1
Fluorene	ND		ug/l	2.0	0.66	1
Phenanthrene	ND		ug/l	2.0	0.66	1
Dibenzo(a,h)anthracene	ND		ug/l	2.0	0.68	1
Indeno(1,2,3-cd)pyrene	ND		ug/l	2.0	0.73	1
Pyrene	ND		ug/l	2.0	0.62	1
4-Chloroaniline[1]	ND		ug/l	5.0	1.2	1
Dibenzofuran[1]	ND		ug/l	2.0	0.69	1
2-Methylnaphthalene[1]	ND		ug/l	2.0	0.76	1
n-Nitrosodimethylamine[1]	ND		ug/l	2.0	0.78	1
2,4,6-Trichlorophenol	ND		ug/l	5.0	0.80	1
p-Chloro-m-cresol[1]	ND		ug/l	2.0	0.66	1
2-Chlorophenol	ND		ug/l	2.0	0.62	1
2,4-Dichlorophenol	ND		ug/l	5.0	0.78	1
2,4-Dimethylphenol	ND		ug/l	5.0	1.4	1
2-Nitrophenol	ND		ug/l	5.0	1.3	1
4-Nitrophenol	ND		ug/l	10	1.1	1
2,4-Dinitrophenol	ND		ug/l	20	8.0	1
4,6-Dinitro-o-cresol[1]	ND		ug/l	10	1.9	1
Pentachlorophenol	ND		ug/l	5.0	2.8	1
Phenol	ND		ug/l	5.0	0.74	1
2-Methylphenol[1]	ND		ug/l	5.0	1.0	1
3-Methylphenol/4-Methylphenol[1]	ND		ug/l	5.0	1.1	1
2,4,5-Trichlorophenol[1]	ND		ug/l	5.0	0.92	1
Benzoic Acid[1]	ND		ug/l	50	6.2	1
Benzyl Alcohol[1]	ND		ug/l	2.0	0.72	1

Project Name: RIVERBEND S/A BSA
Lab Number: L1618800
Project Number: 0322-014-500
Report Date: 06/28/16

SAMPLE RESULTS

Lab ID: L1618800-01
Client ID: PROCESS EFFLUENT - GRAB 1, 2, 3, 4
Sample Location: BUFFALO, NY
Date Collected: 06/16/16 08:32
Date Received: 06/17/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Semivolatile Organics by GC/MS - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	52		21-120
Phenol-d6	36		10-120
Nitrobenzene-d5	79		23-120
2-Fluorobiphenyl	79		15-120
2,4,6-Tribromophenol	81		10-120
4-Terphenyl-d14	86		33-120

Project Name: RIVERBEND S/A BSA
Project Number: 0322-014-500

Lab Number: L1618800
Report Date: 06/28/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 5,625
Analytical Date: 06/27/16 16:46
Analyst: PS

Extraction Method: EPA 625
Extraction Date: 06/22/16 02:28

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG906375-1					
Acenaphthene	ND		ug/l	2.0	0.72
Benzidine[1]	ND		ug/l	20	8.3
1,2,4-Trichlorobenzene	ND		ug/l	5.0	0.91
Hexachlorobenzene	ND		ug/l	2.0	0.67
Bis(2-chloroethyl)ether	ND		ug/l	2.0	0.55
2-Chloronaphthalene	ND		ug/l	2.0	0.79
3,3'-Dichlorobenzidine	ND		ug/l	5.0	1.3
2,4-Dinitrotoluene	ND		ug/l	5.0	0.88
2,6-Dinitrotoluene	ND		ug/l	5.0	1.1
Azobenzene[1]	ND		ug/l	2.0	0.61
Fluoranthene	ND		ug/l	2.0	0.64
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	0.68
4-Bromophenyl phenyl ether[1]	ND		ug/l	2.0	0.78
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	0.53
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	0.54
Hexachlorobutadiene	ND		ug/l	2.0	0.67
Hexachlorocyclopentadiene[1]	ND		ug/l	10	3.7
Hexachloroethane	ND		ug/l	2.0	0.74
Isophorone	ND		ug/l	5.0	0.79
Naphthalene	ND		ug/l	2.0	0.81
Nitrobenzene	ND		ug/l	2.0	0.68
NDPA/DPA[1]	ND		ug/l	2.0	0.73
n-Nitrosodi-n-propylamine	ND		ug/l	5.0	0.54
Bis(2-ethylhexyl)phthalate	ND		ug/l	3.0	1.3
Butyl benzyl phthalate	ND		ug/l	5.0	1.1
Di-n-butylphthalate	ND		ug/l	5.0	0.97
Di-n-octylphthalate	ND		ug/l	5.0	0.99
Diethyl phthalate	ND		ug/l	5.0	0.73
Dimethyl phthalate	ND		ug/l	5.0	0.70

Project Name: RIVERBEND S/A BSA
Project Number: 0322-014-500

Lab Number: L1618800
Report Date: 06/28/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 5,625
Analytical Date: 06/27/16 16:46
Analyst: PS

Extraction Method: EPA 625
Extraction Date: 06/22/16 02:28

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG906375-1					
Benzo(a)anthracene	ND		ug/l	2.0	0.68
Benzo(a)pyrene	ND		ug/l	2.0	0.63
Benzo(b)fluoranthene	ND		ug/l	2.0	0.65
Benzo(k)fluoranthene	ND		ug/l	2.0	0.68
Chrysene	ND		ug/l	2.0	0.68
Acenaphthylene	ND		ug/l	2.0	0.63
Anthracene	ND		ug/l	2.0	0.69
Benzo(ghi)perylene	ND		ug/l	2.0	0.71
Fluorene	ND		ug/l	2.0	0.66
Phenanthrene	ND		ug/l	2.0	0.66
Dibenzo(a,h)anthracene	ND		ug/l	2.0	0.68
Indeno(1,2,3-cd)pyrene	ND		ug/l	2.0	0.73
Pyrene	ND		ug/l	2.0	0.62
4-Chloroaniline[1]	ND		ug/l	5.0	1.2
Dibenzofuran[1]	ND		ug/l	2.0	0.69
2-Methylnaphthalene[1]	ND		ug/l	2.0	0.76
n-Nitrosodimethylamine[1]	ND		ug/l	2.0	0.78
2,4,6-Trichlorophenol	ND		ug/l	5.0	0.80
p-Chloro-m-cresol[1]	ND		ug/l	2.0	0.66
2-Chlorophenol	ND		ug/l	2.0	0.62
2,4-Dichlorophenol	ND		ug/l	5.0	0.78
2,4-Dimethylphenol	ND		ug/l	5.0	1.4
2-Nitrophenol	ND		ug/l	5.0	1.3
4-Nitrophenol	ND		ug/l	10	1.1
2,4-Dinitrophenol	ND		ug/l	20	8.0
4,6-Dinitro-o-cresol[1]	ND		ug/l	10	1.9
Pentachlorophenol	ND		ug/l	5.0	2.8
Phenol	ND		ug/l	5.0	0.74
2-Methylphenol[1]	ND		ug/l	5.0	1.0

Project Name: RIVERBEND S/A BSA
Project Number: 0322-014-500

Lab Number: L1618800
Report Date: 06/28/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 5,625
Analytical Date: 06/27/16 16:46
Analyst: PS

Extraction Method: EPA 625
Extraction Date: 06/22/16 02:28

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG906375-1					
3-Methylphenol/4-Methylphenol[1]	ND		ug/l	5.0	1.1
2,4,5-Trichlorophenol[1]	ND		ug/l	5.0	0.92
Benzoic Acid[1]	ND		ug/l	50	6.2
Benzyl Alcohol[1]	ND		ug/l	2.0	0.72

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	46		21-120
Phenol-d6	32		10-120
Nitrobenzene-d5	65		23-120
2-Fluorobiphenyl	62		15-120
2,4,6-Tribromophenol	73		10-120
4-Terphenyl-d14	83		33-120

Lab Control Sample Analysis

Batch Quality Control

Project Name: RIVERBEND S/A BSA

Project Number: 0322-014-500

Lab Number: L1618800

Report Date: 06/28/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG906375-2 WG906375-3								
Acenaphthene	62		71		42-112	14		30
1,2,4-Trichlorobenzene	54		62		39-98	14		30
2-Chloronaphthalene	61		69		40-140	12		30
2,4-Dinitrotoluene	87		**99**	Q	24-96	13		30
2,6-Dinitrotoluene	93		104		40-140	11		30
Fluoranthene	79		88		40-140	11		30
4-Chlorophenyl phenyl ether	67		75		40-140	11		30
n-Nitrosodi-n-propylamine	81		92		41-116	13		30
Butyl benzyl phthalate	80		89		40-140	11		30
Anthracene	72		83		40-140	14		30
Pyrene	81		90		26-127	11		30
p-Chloro-m-cresol[1]	80		90		23-97	12		30
2-Chlorophenol	73		81		27-123	10		30
2-Nitrophenol	82		92		30-130	11		30
4-Nitrophenol	49		54		10-80	10		30
2,4-Dinitrophenol	80		94		20-130	16		30
Pentachlorophenol	85		98		9-103	14		30
Phenol	40		47		12-110	16		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: RIVERBEND S/A BSA

Project Number: 0322-014-500

Lab Number: L1618800

Report Date: 06/28/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG906375-2 WG906375-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	53		59		21-120
Phenol-d6	40		45		10-120
Nitrobenzene-d5	81		92		23-120
2-Fluorobiphenyl	75		82		15-120
2,4,6-Tribromophenol	81		90		10-120
4-Terphenyl-d14	77		86		33-120

INORGANICS
&
MISCELLANEOUS

Project Name: RIVERBEND S/A BSA
Project Number: 0322-014-500

Lab Number: L1618800
Report Date: 06/28/16

SAMPLE RESULTS

Lab ID: L1618800-02
Client ID: PROCESS EFFLUENT
Sample Location: BUFFALO, NY
Matrix: Water

Date Collected: 06/16/16 08:07
Date Received: 06/17/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Cyanide, Total	1.42		mg/l	0.025	0.009	5	06/18/16 01:05	06/20/16 12:42	121,4500CN-CE	JO
pH (H)	7.3		SU	-	NA	1	-	06/18/16 06:30	121,4500H+-B	KZ

Project Name: RIVERBEND S/A BSA
Project Number: 0322-014-500
Lab Number: L1618800
Report Date: 06/28/16

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 02 Batch: WG905387-1										
Cyanide, Total	ND		mg/l	0.005	0.001	1	06/18/16 11:30	06/20/16 11:54	121,4500CN-CE	JO

Lab Control Sample Analysis

Batch Quality Control

Project Name: RIVERBEND S/A BSA

Project Number: 0322-014-500

Lab Number: L1618800

Report Date: 06/28/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 02 Batch: WG905373-1								
pH	100		-		99-101	-		5
General Chemistry - Westborough Lab Associated sample(s): 02 Batch: WG905387-2								
Cyanide, Total	109		-		90-110	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: RIVERBEND S/A BSA
Project Number: 0322-014-500

Lab Number: L1618800
Report Date: 06/28/16

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 02 QC Batch ID: WG905387-4 QC Sample: L1618346-02 Client ID: MS Sample												
Cyanide, Total	ND	0.2	0.180	90		-	-		90-110	-		30

Lab Duplicate Analysis
Batch Quality Control

Project Name: RIVERBEND S/A BSA
Project Number: 0322-014-500

Lab Number: L1618800
Report Date: 06/28/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 02 QC Batch ID: WG905373-2 QC Sample: L1618800-02 Client ID: PROCESS EFFLUENT						
pH (H)	7.3	7.2	SU	1		5
General Chemistry - Westborough Lab Associated sample(s): 02 QC Batch ID: WG905387-3 QC Sample: L1618591-01 Client ID: DUP Sample						
Cyanide, Total	ND	ND	mg/l	NC		30

Project Name: RIVERBEND S/A BSA
Project Number: 0322-014-500

Lab Number: L1618800
Report Date: 06/28/16

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information Custody Seal

Cooler	
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1618800-01A	Vial Na2S2O3 preserved split	A	N/A	5.3	Y	Absent	624(3)
L1618800-01B	Vial Na2S2O3 preserved split	A	N/A	5.3	Y	Absent	624(3)
L1618800-01C	Vial Na2S2O3 preserved split	A	N/A	5.3	Y	Absent	624(3)
L1618800-01D	Split Amber 1000ml Na2S2O3	A	7	5.3	Y	Absent	625(7)
L1618800-01E	Split Amber 1000ml Na2S2O3	A	7	5.3	Y	Absent	625(7)
L1618800-02A	Plastic 60ml unpreserved	A	7	5.3	Y	Absent	PH-4500(.01)
L1618800-02B	Plastic 250ml NaOH preserved	A	>12	5.3	Y	Absent	TCN-4500(14)
L1618800-03A	Vial Na2S2O3 preserved	A	N/A	5.3	Y	Absent	COMP-VOA()
L1618800-03A1	Vial Na2S2O3 preserved	A	N/A	5.3	Y	Absent	COMP-VOA()
L1618800-03A2	Vial Na2S2O3 preserved	A	N/A	5.3	Y	Absent	COMP-VOA()
L1618800-03A3	Vial Na2S2O3 preserved	A	N/A	5.3	Y	Absent	COMP-VOA()
L1618800-03B	Vial Na2S2O3 preserved	A	N/A	5.3	Y	Absent	COMP-VOA()
L1618800-03B1	Vial Na2S2O3 preserved	A	N/A	5.3	Y	Absent	COMP-VOA()
L1618800-03B2	Vial Na2S2O3 preserved	A	N/A	5.3	Y	Absent	COMP-VOA()
L1618800-03B3	Vial Na2S2O3 preserved	A	N/A	5.3	Y	Absent	COMP-VOA()
L1618800-03C	Vial Na2S2O3 preserved	A	N/A	5.3	Y	Absent	COMP-VOA()
L1618800-03C1	Vial Na2S2O3 preserved	A	N/A	5.3	Y	Absent	COMP-VOA()
L1618800-03C2	Vial Na2S2O3 preserved	A	N/A	5.3	Y	Absent	COMP-VOA()
L1618800-03C3	Vial Na2S2O3 preserved	A	N/A	5.3	Y	Absent	COMP-VOA()
L1618800-03D	Amber 1000ml Na2S2O3	A	7	5.3	Y	Absent	COMP-W()
L1618800-03D1	Amber 1000ml Na2S2O3	A	7	5.3	Y	Absent	COMP-W()
L1618800-03D2	Amber 1000ml Na2S2O3	A	7	5.3	Y	Absent	COMP-W()
L1618800-03D3	Amber 1000ml Na2S2O3	A	7	5.3	Y	Absent	COMP-W()
L1618800-03E	Amber 1000ml Na2S2O3	A	7	5.3	Y	Absent	COMP-W()
L1618800-03E1	Amber 1000ml Na2S2O3	A	7	5.3	Y	Absent	COMP-W()
L1618800-03E2	Amber 1000ml Na2S2O3	A	7	5.3	Y	Absent	COMP-W()
L1618800-03E3	Amber 1000ml Na2S2O3	A	7	5.3	Y	Absent	COMP-W()
L1618800-04A	Vial Na2S2O3 preserved	A	N/A	5.3	Y	Absent	624(3)
L1618800-04B	Vial Na2S2O3 preserved	A	N/A	5.3	Y	Absent	624(3)

*Values in parentheses indicate holding time in days

Project Name:	RIVERBEND S/A BSA	**Lab Number:**	L1618800
Project Number:	0322-014-500	**Report Date:**	06/28/16

GLOSSARY

Acronyms

EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

1	- The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

A	- Spectra identified as "Aldol Condensation Product".
B	- The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the

Report Format: DU Report with 'J' Qualifiers

Project Name:	RIVERBEND S/A BSA	**Lab Number:**	L1618800
Project Number:	0322-014-500	**Report Date:**	06/28/16

Data Qualifiers

reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers

Project Name: RIVERBEND S/A BSA
Project Number: 0322-014-500
Lab Number: L1618800
Report Date: 06/28/16

REFERENCES

5 Methods for the Organic Chemical Analysis of Municipal and Industrial Wastewater. Appendix A, Part 136, 40 CFR (Code of Federal Regulations).

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 524.2: 1,2-Dibromo-3-chloropropane, 1,2-Dibromoethane, m/p-xylene, o-xylene
EPA 624: 2-Butanone (MEK), 1,4-Dioxane, tert-Amylmethyl Ether, tert-Butyl Alcohol, m/p-xylene, o-xylene
EPA 625: Aniline, Benzoic Acid, Benzyl Alcohol, 4-Chloroaniline, 3-Methylphenol, 4-Methylphenol.
EPA 1010A: NPW: Ignitability
EPA 6010C: NPW: Strontium; SCM: Strontium
EPA 8151A: NPW: 2,4-DB, Dicamba, Dichloroprop, MCPA, MCPP; SCM: 2,4-DB, Dichloroprop, MCPA, MCPP
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene, Isopropanol; SCM: Iodomethane (methyl iodide), Methyl methacrylate (soil); 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Pentachloronitrobenzene, 1-Methylnaphthalene, Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Pentachloronitrobenzene, 1-Methylnaphthalene, Dimethylnaphthalene,1,4-Diphenylhydrazine.
EPA 9010: NPW: Amenable Cyanide Distillation, Total Cyanide Distillation
EPA 9038: NPW: Sulfate
EPA 9050A: NPW: Specific Conductance
EPA 9056: NPW: Chloride, Nitrate, Sulfate
EPA 9065: NPW: Phenols
EPA 9251: NPW: Chloride
SM3500: NPW: Ferrous Iron
SM4500: NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO2, NO3.
SM5310C: DW: Dissolved Organic Carbon

Mansfield Facility
EPA 8270D: NPW: Biphenyl; SCM: Biphenyl, Caprolactam
EPA 8270D-SIM Isotope Dilution: SCM: 1,4-Dioxane
SM 2540D: TSS
SM2540G: SCM: Percent Solids
EPA 1631E: SCM: Mercury
EPA 7474: SCM: Mercury
EPA 8081B: NPW and SCM: Mirex, Hexachlorobenzene.
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA 8270-SIM: NPW and SCM: Alkylated PAHs.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene, n-Butylbenzene, n-Propylbenzene, sec-Butylbenzene, tert-Butylbenzene.
Biological Tissue Matrix: ***8270D-SIM; 3050B; 3051A; 7471B; 8081B; 8082A; 6020A:*** Lead***; 8270D:*** bis(2-ethylhexyl)phthalate, Butylbenzylphthalate, Diethyl phthalate, Dimethyl phthalate, Di-n-butyl phthalate, Di-n-octyl phthalate, Fluoranthene, Pentachlorophenol.

The following analytes are included in our Massachusetts DEP Scope of Accreditation, Westborough Facility:

Drinking Water
EPA 200.8: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl; **EPA 200.7**: Ba,Be,Ca,Cd,Cr,Cu,Na; **EPA 245.1:** Mercury;
EPA 300.0: Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B**
EPA 332: Perchlorate.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, Enterolert-QT.**

Non-Potable Water
EPA 200.8: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn;
EPA 200.7: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn;
EPA 245.1, SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2340B, SM2320B, SM4500CL-E, SM4500F-BC, SM426C, SM4500NH3-BH, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **SM4500NO3-F,**
EPA 353.2: Nitrate-N**, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, SM4500P-B, E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.**
EPA 624: Volatile Halocarbons & Aromatics,
EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF**.

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

NEW YORK CHAIN OF CUSTODY

ALPHA ANALYTICAL

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page 1 of 1

Date Rec'd in Lab: 6/18/16

ALPHA Job #: L1618800

Client Information

Client: Benchmark Environmental
Address: 2558 Hamburg Turnpike,Ste300
Buffalo, NY 14218
Phone: 716-856-0599
Fax:
Email: bhann@turnkeyllc.com

Project Information

Project Name: Riverbend S/A BSA
Project Location: Buffalo, NY
Project #
(Use Project name as Project #) ☐
Project Manager: Candace Fox
ALPHAQuote #:

Turn-Around Time

Standard ☑ Due Date:
Rush (only if pre approved) ☐ # of Days:

Deliverables

☐ ASP-A ☐ ASP-B
☐ EQuIS (1 File) ☐ EQuIS (4 File)
☐ Other

Regulatory Requirement

☐ NY TOGS ☐ NY Part 375
☐ AWQ Standards ☐ NY CP-51
☐ NY Restricted Use ☐ Other
☐ NY Unrestricted Use
☐ NYC Sewer Discharge

Billing Information

☑ Same as Client Info
PO #

Disposal Site Information

Please identify below location of applicable disposal facilities.
Disposal Facility:
☐ NJ ☐ NY
☐ Other: NA

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Please specify Metals or TAL.

ANALYSIS

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	624	625	TCN	pH	Total Bottles	Sample Specific Comments
18800 - 01	Process Effluent - Grab 1	6/16/16	0932	Water		x	x			5	Lab to composite 1-4
01	Process Effluent - Grab 2	6/16/16	1145	Water		x	x			5	Lab to composite 1-4
01	Process Effluent - Grab 3	6/16/16	1402	Water		x	x			5	Lab to composite 1-4
01	Process Effluent - Grab 4	6/17/16	0807	Water		x	x			5	Lab to composite 1-4
02	Process Effluent	6/17/16	0807	Water				x	x	2	
04	Trip Blank			Water		x				2	

Container Type: V A P P
Preservative: H H E A

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Relinquished By:	Date/Time	Received By:	Date/Time
	6/17/16 1015		6/17/16 1015
	6.17.16 e		6/18/16 0140

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS.

Form No: 01-25 (rev. 30-Sept-2013)

ATTACHMENT 3

FLOW METER CALIBRATION DATA

Northeast Metrology Corp.

2601 Genesee Street
Buffalo, NY 14225
P: 716-827-3770 F: 716-827-3775
e-mail: nem@nemcal.com

Calibration Certificate

www.nemcal.com

Company:	RIVERBEND	**Certificate #:**	1179960
Address:	192 BARAGA STREET BUFFALO, NY 14210	**Calibration Date:**	1/5/2016
		PO/Acct:	
Contact:	BRANDON ROGERS	**Page:**	1 of 2
Department:		**Visual Condition:**	Good
		Date Received:	

Gage Desc:	Flow Transmitter / Sensor	**Control #:**	SFRB#80210142061
Manufacturer:	George Fischer Signet	**Model:**	8550 / 515
Location:		**Serial #:**	80210142061

Parameters:

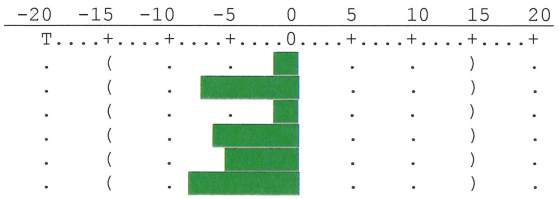
Flow Units - GPM
Gas Type - N/A

Repairs:

+ / - Tolerances: 2.000% / 2.000%
Graph Scale: +0.100000

GPM

Nominal	Actual	Deviation	
+79.300000	+79.200000	-0.100000	
+79.300000	+78.610000	-0.690000	
+79.300000	+79.230000	-0.070000	
+79.300000	+78.690000	-0.610000	
+79.300000	+78.830000	-0.470000	Avg. of 10
+79.300000	+78.510000	-0.790000	Timed



Comments:

CALIBRATION PERFORMED AT AMBIENT CONDITIONS: 67°F & 42% R.H.

SCHEDULE 80 PVC 3" O.D. I.D.=2.900"

TOTAL GALLONS (2016): 7752372
PERM. GALLONS: 23194660
TOTAL GALLONS RESET AT THE END OF TESTING

mA OUPUT: 0 = 3.99, MAX = 16.44

Procedure:

110176:E-Flowme.gdf (Manual 1000)

We certify the equipment used for this calibration is traceable to NIST through one or more of the following numbers:
NEM-6004 Flow Calibrator
CE17617 Cal Date / Due Date: 2/19/2013 -- 2/20/2018

Gage Status: PASS **Due Date: 1/6/2017**

Dimensional calibration performed in NEM laboratory @ 68°F (±2.0°F) : (20°C (±1°C)) & relative humidity less than 45%.
Electronic & Mechanical calibration performed at ambient conditions.

Northeast Metrology Corp.

2601 Genesee Street
Buffalo, NY 14225
P: 716-827-3770 F: 716-827-3775
e-mail: nem@nemcal.com

Calibration Certificate

Page #:	2 of 2	**Certificate #:**	1179960
Gage Desc:	Flow Transmitter / Sensor	**Control #:**	SFRB#80210142061
Manufacturer:	George Fischer Signet	**Model:**	8550 / 515
Location:		**Serial #:**	80210142061

All pertinent data and readings calibrated are as found & as left unless otherwise denoted in comments.
Calibration performed in accordance with ANSI/NCSL Z540-1-1994 unless otherwise denoted in comments.
Gage Blocks meet or exceed Federal Specifications for the grade and accuracy applicable to these items in accordance with GGG-G-15C.
Calibration meets or exceeds 4 : 1 ratio, with the exception of gage blocks stated above.
Measurement Uncertainties are based on approximately a 95% confidence level, using a coverage factor of k=2.
Measurement Uncertainty is taken into account in determining gage status (pass/fail).
Calibration is performed on premises at Northeast Metrology Corp. unless otherwise denoted in comments.
The recording of false, fictitious or fraudulent statements or entries on this document may be punished as a felony under federal statutes.
This certificate shall not be reproduced except in full, with the written approval of the originating metrology laboratory.

Certified By: GK Signature: 

This certificate is not valid unless all 2 page(s) are present.
Results of this certificate relate only to the item mentioned in document header.
END OF DOCUMENT

December 13, 2016

Mr. Michael Szilagyi
Buffalo Sewer Authority
Industrial Waste Section
90 West Ferry Street
Buffalo, NY 14213-1799

Re: RiverBend Site
Ground Water Pre-Treatment Discharge Monitoring Results
December 2016 Semi-Annual Compliance Monitoring Report
BPDES Permit No. 16-01-BU278

Dear Mr. Szilagyi:

On behalf of our client, Fort Schuyler Management Corporation, TurnKey Environmental Restoration, LLC has prepared this correspondence to present the second semi-annual 2016 discharge monitoring results for the groundwater pre-treatment system at the above-referenced facility. Discharge monitoring was performed from December 1-2, 2016.

SAMPLE COLLECTION

Samples were collected from the pretreated process effluent (Outfall 001) in general accordance with Buffalo Pollution Discharge Elimination System (BPDES) Permit No. 16-01-BU278 in laboratory-provided, pre-cleaned, and pre-preserved sample bottles (see Figure 1). Four grab samples for volatile organic compound (VOC) and semi-volatile organic compound (SVOC) analysis were containerized in individual sample bottles for laboratory composite preparation during sample extraction and USEPA Method 624 and Method 625 analysis, respectively. Composite samples were also collected for laboratory pH and total cyanide analysis. In accordance with the Permit, composite samples were prepared for all required parameters by combining grab samples collected at four equally spaced intervals over the 24-hour monitoring period. Field documentation is provided in Attachment 1.

ANALYTICAL RESULTS

The current period analytical results are presented as Attachment 2. Compounds detected above the laboratory reporting limit at a minimum of one location during the December 2016 event are summarized in Table 1 along with permitted BSA discharge limits. As presented, all parameters are well within allowable limits.

FLOW MONITORING

Flow measurement data is presented in Table 1. Quarterly flow monitoring was based on the total flow recorded during the monitoring period divided by the number of days in that monitoring period. A copy of the annual flow meter calibration data is presented in Attachment 3. The next flow meter calibration is tentatively scheduled for January 2017.

CERTIFICATION STATEMENT

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Please contact us if you have any questions.

Sincerely,
TurnKey Environmental Restoration, LLC

Bryan C. Hann.
Project Manager

ec: Tom O'Brien (Fort Schuyler)
Paul Werthman (TurnKey)

File: 0322-016-500

TABLES

TABLE 1

2016 SEMI-ANNUAL GROUNDWATER PRETREATMENT SYSTEM DATA SUMMARY

BPDES Permit #16-01-BU278
Fort Schuyler RiverBend Site
312 Abby Street, Buffalo, NY

Parameter	December 1-2, 2016		Daily Discharge Limits [2]
	Concentration (units as indicated)	*Mass [1] (pounds)*	
Laboratory pH (S.U.)	7.20	na	5.0 - 12.0
Field pH (S.U.) [3]	6.96	na	5.0 - 12.0
Volatile Organic Compounds - Method 624 (mg/L)			
Total VOCs	ND	na	Monitor
Semi-Volatile Organic Compounds - Method 625 (mg/L)			
Total SVOCs	ND	na	Monitor
Inorganics (mg/L)			
Total Cyanide	0.337	0.041	4.3 lbs
Average Daily Flow (gallons per day) [4]	14,531		*see Note 5*

Notes:

1. The monitoring result is calculated based on the concentration of detected parameters and the average daily flow rate identified below.
2. Mass limits are based on the Average Daily Flow through the December event; actual limits may vary slightly based on actual discharge.
3. Field pH is an average of 4 grab samples collected over a 24-hour period.
4. Average daily flow based on net flow recorded as presented below.
5. Permitted maximum allowable daily flow is 110,000 gpd. An action level of 54,000 gpd is identified in the Permit. The BSA is to be notified if flow consistently exceeds this action level so that the permit can be modifed.
6. " ND " = Indicates compound was analyzed for, but not detected above the reporting limit.

Flow Calculations:

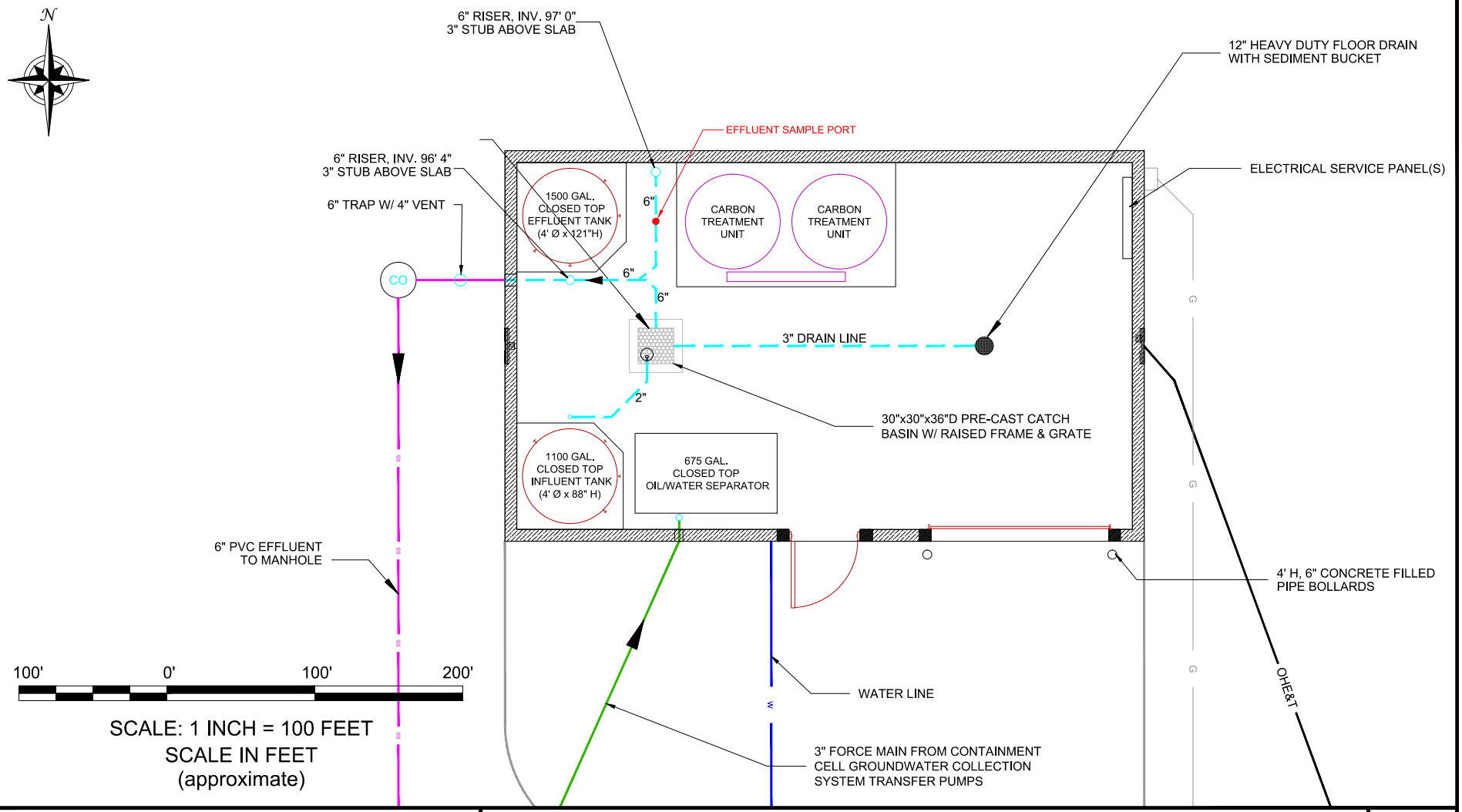
Event	Date	Flow Measurement * (gallons)	Average Daily Flow * (gallons per day)
December 2016	07/06/2016	5,707,234	14,531
	12/09/2016	7,974,090	

Notes:

* = flow meter calibrated and reset to zero on 01/05/16. Average daily flow above accounts for the recalibration and zeroing.

FIGURES

F:\CAD\TurnKey\Riverbend (formerly Steelfields)\BSA Effluent Monitoring\2014 - First Semi-Annual Event (June)\Figure 1; GWPTS Building Detail.DWG



TURNKEY ENVIRONMENTAL RESTORATION, LLC

2558 HAMBURG TURNPIKE
SUITE 300
BUFFALO, NY 14218
(716) 856-0635

PROJECT NO.: 0171-013-500

DATE: AUGUST 2014

DRAFTED BY: BCH

GWPTS BUILDING LAYOUT

BSA PERMIT NO. 14-04-BU267

RIVERBEND SITE
BUFFALO, NEW YORK

PREPARED FOR
RIVERBEND, LLC

FIGURE 1

ATTACHMENT 1

FIELD DOCUMENTATION

WATER SAMPLE COLLECTION LOG

PROJECT INFORMATION

Project Name: RiverBend Site
Project No.: 0322-016-500
Client: FSMC
Location: 312 Abby Street, Buffalo, NY

SAMPLE DESCRIPTION

I.D.: **Process Effluent**

Matrix: ☐ SURFACE WATER ☐ STORM ☐ SEEP ☐ OTHER ☐ INFLUENT ☑ EFFLUENT

SAMPLE INFORMATION

Date Collected: 12/2/16
Time Collected: 8:00
Date Shipped to Lab: 12/2/16
Collected By: JSR

Sample Type: ☐ POINT ☐ GRAB ☑ COMPOSITE

Sample Collection Method: ☐ DIRECT DIP ☐ SS / POLY. DIPPER ☐ PERISTALTIC PUMP ☐ POLY. DISP. BAILER ☐ ISCO SAMPLER ☑ OTHER - sample port grab

SAMPLING INFORMATION

Weather: cloudy, occ. rain/snow showers
Air Temperature: 40° F

Parameter	Units	Grab #1	Grab #2	Grab #3	Grab #4
pH	units	6.89	6.59	6.94	7.42
Temp.	°C	14.0	13.3	12.5	13.2
Cond.	mS	1.086	1146	1013	980
Turbidity	NTU	13.2	16.5	15.4	21.1
Eh / ORP	mV	195	230	180	218
D.O.	ppm	3.85	5.12	5.07	4.55
Odor	olfactory	none	none	none	none
Appearance	visual	clear	clear	clear	clear
Sample Date		12/1/16	12/1/16	12/1/16	12/2/16
Sample Time		800	1200	1600	800

EXACT LOCATION (if applicable)

Northing (ft)	Easting (ft)	Elevation (fmsl)
na	na	na

SAMPLE DESCRIPTION (appearance, olfactory):

SAMPLE ANALYSIS (depth, laboratory analysis required):

* Collect four individual grab samples for method 624 (VOCs) and 625 (SVOCs) analysis, these samples will be composited at the lab.
* Collect composite samples for cyanide and laboratory pH by filling equal aliquots of sample to fill sample containers

ADDITIONAL REMARKS:

PREPARED BY: JSR **DATE:** 12/2/16

KEY ENVIRONMENTAL RESTORATION, LLC

EQUIPMENT CALIBRATION LOG

PROJECT INFORMATION:

Project Name: [redacted] wastewater treatment samples

Date: 12/1/2016

Project No.:

Client:

Instrument Source: ☐ BM ☐ Rental

METER TYPE	UNITS	TIME	MAKE/MODEL	SERIAL NUMBER	CAL. BY	STANDARD	POST CAL. READING	SETTINGS
☒ pH meter	units	7:45	Myron L Company Ultra Meter 6P	6213516 ☒ 6212375 ☐ 6223973 ☐	JJR	4.00 7.00 10.01	4.01 6.93 10.00	4.00 7.00 10.00
☒ Turbidity meter	NTU	7:45	Hach 2100P or 2100Q Turbidimeter	06120C020523 (P) ☒ 13120C030432 (Q) ☐	JJR	< 0.4 or 10 for 2100 Q 20 100 800	.42 18.5 95.8 800	
☐ Turbidity meter	NTU		LaMotte 2020	6523-1816 (La) ☐		0.0 NTU 1.0 NTU 10.0 NTU		
☒ Sp. Cond. meter	uS mS	7:45	Myron L Company Ultra Meter 6P	6213516 ☒ 6212375 ☐ 6223973 ☐	JJR	1413 mS @ 25 °C	410 1413	1413
☐ PID	ppm		MinRAE 2000			open air zero ____ ppm Iso. Gas		MIBK response factor = 1.0
☒ Dissolved Oxygen	ppm	7:45	HACH Model HQ30d	0807000023281 ☐ 10050041867 ☐ 140200100319 ☐	JJR	100% Satuartion	105.3 %	100.0%
☐ Particulate meter	mg/m^3					zero air		
☐ Oxygen	%					open air		
☐ Hydrogen sulfide	ppm					open air		
☐ Carbon monoxide	ppm					open air		
☐ LEL	%					open air		
☐ Radiation Meter	uR/H					background area		

ADDITIONAL REMARKS:

PREPARED BY: **DATE:**

TURNEY ENVIRONMENTAL RESTORATION, LLC

EQUIPMENT CALIBRATION LOG

PROJECT INFORMATION:

Project Name: ATT ORC Riverbend site

Date: 12/2/2016

Project No.:

Client:

Instrument Source: ☐ BM ☐ Rental

METER TYPE	UNITS	TIME	MAKE/MODEL	SERIAL NUMBER	CAL. BY	STANDARD	POST CAL. READING	SETTINGS
☒ pH meter	units	7:45	Myron L Company Ultra Meter 6P	6213516 ☒ 6212375 ☐ 6223973 ☐	CEH	4.00 7.00 10.01	4.06 7.06 9.98	4.00 7.00 10.00
☒ Turbidity meter	NTU	7:45	Hach 2100P or 2100Q Turbidimeter	06120C020523 (P) ☒ 13120C030432 (Q) ☐	CEH	< 0.4 or 10 for 2100 Q 20 100 800	.30 18.7 99.3 790	<0.4 20 100 800
☐ Turbidity meter	NTU		LaMotte 2020	6523-1816 (La) ☐		0.0 NTU 1.0 NTU 10.0 NTU		
☒ Sp. Cond. meter	uS mS	7:45	Myron L Company Ultra Meter 6P	6213516 ☒ 6212375 ☐ 6223973 ☐	CEH	1413 mS @ 25 °C	1410	1413
☐ PID	ppm		MinRAE 2000			open air zero ____ ppm Iso. Gas		MIBK response factor = 1.0
☒ Dissolved Oxygen	ppm	7:45	HACH Model HQ30d	0807000023281 ☐ 10050041867 ☒ 140200100319 ☐	CEH	100% Satuartion	100%	100 %
☐ Particulate meter	mg/m^3					zero air		
☐ Oxygen	%					open air		
☐ Hydrogen sulfide	ppm					open air		
☐ Carbon monoxide	ppm					open air		
☐ LEL	%					open air		
☐ Radiation Meter	uR/H					background area		

ADDITIONAL REMARKS:

PREPARED BY: **DATE:**

ATTACHMENT 2

ANALYTICAL DATA

ANALYTICAL REPORT

Lab Number:	L1639227
Client:	Benchmark & Turnkey Companies 2558 Hamburg Turnpike Suite 300 Buffalo, NY 14218
ATTN:	Bryan Hann
Phone:	(716) 856-0599
Project Name:	RIVERBEND S/A BSA
Project Number:	T0322-016-500
Report Date:	12/12/16

Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), VA (460195), MD (348), IL (200077), NC (666), TX (T104704476), DOD (L2217), USDA (Permit #P-330-11-00240).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: RIVERBEND S/A BSA
Project Number: T0322-016-500

Lab Number: L1639227
Report Date: 12/12/16

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1639227-01	PROCESS EFFLUENT	WATER	BUFFALO, NY	12/01/16 08:00	12/02/16
L1639227-02	TRIP BLANK	WATER	BUFFALO, NY	12/01/16 08:00	12/02/16
L1639227-03	COMPOSITE PROCESS EFFLUENT	WATER	BUFFALO, NY	12/01/16 08:00	12/02/16
L1639227-04	PROCESS EFFLUENT	WATER	BUFFALO, NY	12/01/16 08:00	12/02/16

Project Name: RIVERBEND S/A BSA
Project Number: T0322-016-500

Lab Number: L1639227
Report Date: 12/12/16

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

Project Name: RIVERBEND S/A BSA **Lab Number:** L1639227
Project Number: T0322-016-500 **Report Date:** 12/12/16

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Volatile Organics by Method 624

The WG957906-3 LCS recoveries for methylene chloride (115%), 1,1-dichloroethane (125%), chloroform (125%), carbon tetrachloride (115%), 1,2-dichloropropane (120%), 1,2-dichloroethane (125%), 1,1,1-trichloroethane (120%), 1,1,2,2-tetrachloroethane (80%), benzene (120%), cis-1,2-dichloroethene (120%) and trichloroethene (120%), associated with L1639227-01 and -02, are outside Alpha's acceptance criteria, but within the acceptance criteria specified in the method.

Semivolatile Organics

The WG958326 MS was not analyzed because the dilution required by the elevated concentrations of target compounds present in the native sample would have caused the spike compounds to be diluted below the range of calibration.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Melissa Cripps Melissa Cripps

Title: Technical Director/Representative Date: 12/12/16

ORGANICS

VOLATILES

Project Name: RIVERBEND S/A BSA
Project Number: T0322-016-500
Lab Number: L1639227
Report Date: 12/12/16

SAMPLE RESULTS

Lab ID: L1639227-01
Client ID: PROCESS EFFLUENT
Sample Location: BUFFALO, NY
Matrix: Water
Analytical Method: 5,624
Analytical Date: 12/03/16 20:43
Analyst: BD

Date Collected: 12/01/16 08:00
Date Received: 12/02/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	5.0	0.62	1
1,1-Dichloroethane	ND		ug/l	1.5	0.29	1
Chloroform	ND		ug/l	1.5	0.22	1
Carbon tetrachloride	ND		ug/l	1.0	0.32	1
1,2-Dichloropropane	ND		ug/l	3.5	0.27	1
Dibromochloromethane	ND		ug/l	1.0	0.33	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.24	1
2-Chloroethylvinyl ether	ND		ug/l	10	0.54	1
Tetrachloroethene	ND		ug/l	1.5	0.33	1
Chlorobenzene	ND		ug/l	3.5	0.30	1
Trichlorofluoromethane	ND		ug/l	5.0	0.46	1
1,2-Dichloroethane	ND		ug/l	1.5	0.32	1
1,1,1-Trichloroethane	ND		ug/l	2.0	0.30	1
Bromodichloromethane	ND		ug/l	1.0	0.25	1
trans-1,3-Dichloropropene	ND		ug/l	1.5	0.26	1
cis-1,3-Dichloropropene	ND		ug/l	1.5	0.32	1
Bromoform	ND		ug/l	1.0	0.32	1
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	0.22	1
Benzene	ND		ug/l	1.0	0.23	1
Toluene	ND		ug/l	1.0	0.32	1
Ethylbenzene	ND		ug/l	1.0	0.31	1
Chloromethane	ND		ug/l	5.0	0.64	1
Bromomethane	ND		ug/l	5.0	1.3	1
Vinyl chloride	ND		ug/l	1.0	0.30	1
Chloroethane	ND		ug/l	2.0	0.26	1
1,1-Dichloroethene	ND		ug/l	1.0	0.37	1
trans-1,2-Dichloroethene	ND		ug/l	1.5	0.33	1
cis-1,2-Dichloroethene[1]	ND		ug/l	1.0	0.29	1
Trichloroethene	ND		ug/l	1.0	0.33	1
1,2-Dichlorobenzene	ND		ug/l	5.0	0.26	1

Project Name: RIVERBEND S/A BSA
Lab Number: L1639227
Project Number: T0322-016-500
Report Date: 12/12/16

SAMPLE RESULTS

Lab ID: L1639227-01
Client ID: PROCESS EFFLUENT
Sample Location: BUFFALO, NY
Date Collected: 12/01/16 08:00
Date Received: 12/02/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/l	5.0	0.25	1
1,4-Dichlorobenzene	ND		ug/l	5.0	0.26	1
p/m-Xylene[1]	ND		ug/l	2.0	0.58	1
o-xylene[1]	ND		ug/l	1.0	0.22	1
Xylenes, Total[1]	ND		ug/l	1.0	0.22	1
Styrene[1]	ND		ug/l	1.0	0.25	1
Acetone[1]	ND		ug/l	10	4.0	1
Carbon disulfide[1]	ND		ug/l	5.0	0.73	1
2-Butanone[1]	ND		ug/l	10	2.2	1
Vinyl acetate[1]	ND		ug/l	10	2.9	1
4-Methyl-2-pentanone[1]	ND		ug/l	10	1.8	1
2-Hexanone[1]	ND		ug/l	10	2.5	1
Acrolein[1]	ND		ug/l	8.0	1.3	1
Acrylonitrile[1]	ND		ug/l	10	0.97	1
Dibromomethane[1]	ND		ug/l	1.0	0.11	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	117		80-120
Fluorobenzene	111		80-120
4-Bromofluorobenzene	110		80-120

Project Name: RIVERBEND S/A BSA
Project Number: T0322-016-500
Lab Number: L1639227
Report Date: 12/12/16

SAMPLE RESULTS

Lab ID: L1639227-02
Client ID: TRIP BLANK
Sample Location: BUFFALO, NY
Matrix: Water
Analytical Method: 5,624
Analytical Date: 12/03/16 12:18
Analyst: BD

Date Collected: 12/01/16 08:00
Date Received: 12/02/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	5.0	0.62	1
1,1-Dichloroethane	ND		ug/l	1.5	0.29	1
Chloroform	ND		ug/l	1.5	0.22	1
Carbon tetrachloride	ND		ug/l	1.0	0.32	1
1,2-Dichloropropane	ND		ug/l	3.5	0.27	1
Dibromochloromethane	ND		ug/l	1.0	0.33	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.24	1
2-Chloroethylvinyl ether	ND		ug/l	10	0.54	1
Tetrachloroethene	ND		ug/l	1.5	0.33	1
Chlorobenzene	ND		ug/l	3.5	0.30	1
Trichlorofluoromethane	ND		ug/l	5.0	0.46	1
1,2-Dichloroethane	ND		ug/l	1.5	0.32	1
1,1,1-Trichloroethane	ND		ug/l	2.0	0.30	1
Bromodichloromethane	ND		ug/l	1.0	0.25	1
trans-1,3-Dichloropropene	ND		ug/l	1.5	0.26	1
cis-1,3-Dichloropropene	ND		ug/l	1.5	0.32	1
Bromoform	ND		ug/l	1.0	0.32	1
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	0.22	1
Benzene	ND		ug/l	1.0	0.23	1
Toluene	ND		ug/l	1.0	0.32	1
Ethylbenzene	ND		ug/l	1.0	0.31	1
Chloromethane	ND		ug/l	5.0	0.64	1
Bromomethane	ND		ug/l	5.0	1.3	1
Vinyl chloride	ND		ug/l	1.0	0.30	1
Chloroethane	ND		ug/l	2.0	0.26	1
1,1-Dichloroethene	ND		ug/l	1.0	0.37	1
trans-1,2-Dichloroethene	ND		ug/l	1.5	0.33	1
cis-1,2-Dichloroethene[1]	ND		ug/l	1.0	0.29	1
Trichloroethene	ND		ug/l	1.0	0.33	1
1,2-Dichlorobenzene	ND		ug/l	5.0	0.26	1

Project Name: RIVERBEND S/A BSA **Lab Number:** L1639227

Project Number: T0322-016-500 **Report Date:** 12/12/16

SAMPLE RESULTS

Lab ID: L1639227-02 Date Collected: 12/01/16 08:00

Client ID: TRIP BLANK Date Received: 12/02/16

Sample Location: BUFFALO, NY Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/l	5.0	0.25	1
1,4-Dichlorobenzene	ND		ug/l	5.0	0.26	1
p/m-Xylene[1]	ND		ug/l	2.0	0.58	1
o-xylene[1]	ND		ug/l	1.0	0.22	1
Xylenes, Total[1]	ND		ug/l	1.0	0.22	1
Styrene[1]	ND		ug/l	1.0	0.25	1
Acetone[1]	ND		ug/l	10	4.0	1
Carbon disulfide[1]	ND		ug/l	5.0	0.73	1
2-Butanone[1]	ND		ug/l	10	2.2	1
Vinyl acetate[1]	ND		ug/l	10	2.9	1
4-Methyl-2-pentanone[1]	ND		ug/l	10	1.8	1
2-Hexanone[1]	ND		ug/l	10	2.5	1
Acrolein[1]	ND		ug/l	8.0	1.3	1
Acrylonitrile[1]	ND		ug/l	10	0.97	1
Dibromomethane[1]	ND		ug/l	1.0	0.11	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	120		80-120
Fluorobenzene	115		80-120
4-Bromofluorobenzene	107		80-120

Project Name: RIVERBEND S/A BSA
Project Number: T0322-016-500
Lab Number: L1639227
Report Date: 12/12/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 5,624
Analytical Date: 12/03/16 11:44
Analyst: BD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG957906-4					
Methylene chloride	ND		ug/l	5.0	0.62
1,1-Dichloroethane	ND		ug/l	1.5	0.29
Chloroform	ND		ug/l	1.5	0.22
Carbon tetrachloride	ND		ug/l	1.0	0.32
1,2-Dichloropropane	ND		ug/l	3.5	0.27
Dibromochloromethane	ND		ug/l	1.0	0.33
1,1,2-Trichloroethane	ND		ug/l	1.5	0.24
2-Chloroethylvinyl ether	ND		ug/l	10	0.54
Tetrachloroethene	ND		ug/l	1.5	0.33
Chlorobenzene	ND		ug/l	3.5	0.30
Trichlorofluoromethane	ND		ug/l	5.0	0.46
1,2-Dichloroethane	ND		ug/l	1.5	0.32
1,1,1-Trichloroethane	ND		ug/l	2.0	0.30
Bromodichloromethane	ND		ug/l	1.0	0.25
trans-1,3-Dichloropropene	ND		ug/l	1.5	0.26
cis-1,3-Dichloropropene	ND		ug/l	1.5	0.32
Bromoform	ND		ug/l	1.0	0.32
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	0.22
Benzene	ND		ug/l	1.0	0.23
Toluene	ND		ug/l	1.0	0.32
Ethylbenzene	ND		ug/l	1.0	0.31
Chloromethane	ND		ug/l	5.0	0.64
Bromomethane	ND		ug/l	5.0	1.3
Vinyl chloride	ND		ug/l	1.0	0.30
Chloroethane	ND		ug/l	2.0	0.26
1,1-Dichloroethene	ND		ug/l	1.0	0.37
trans-1,2-Dichloroethene	ND		ug/l	1.5	0.33
cis-1,2-Dichloroethene[1]	ND		ug/l	1.0	0.29
Trichloroethene	ND		ug/l	1.0	0.33

Project Name: RIVERBEND S/A BSA
Project Number: T0322-016-500
Lab Number: L1639227
Report Date: 12/12/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 5,624
Analytical Date: 12/03/16 11:44
Analyst: BD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG957906-4					
1,2-Dichlorobenzene	ND		ug/l	5.0	0.26
1,3-Dichlorobenzene	ND		ug/l	5.0	0.25
1,4-Dichlorobenzene	ND		ug/l	5.0	0.26
p/m-Xylene[1]	ND		ug/l	2.0	0.58
o-xylene[1]	ND		ug/l	1.0	0.22
Xylenes, Total[1]	ND		ug/l	1.0	0.22
Styrene[1]	ND		ug/l	1.0	0.25
Acetone[1]	ND		ug/l	10	4.0
Carbon disulfide[1]	ND		ug/l	5.0	0.73
2-Butanone[1]	ND		ug/l	10	2.2
Vinyl acetate[1]	ND		ug/l	10	2.9
4-Methyl-2-pentanone[1]	ND		ug/l	10	1.8
2-Hexanone[1]	ND		ug/l	10	2.5
Acrolein[1]	ND		ug/l	8.0	1.3
Acrylonitrile[1]	ND		ug/l	10	0.97
Methyl tert butyl ether[1]	ND		ug/l	10	0.27
Dibromomethane[1]	ND		ug/l	1.0	0.11
1,4-Dioxane[1]	ND		ug/l	2000	490
Tert-Butyl Alcohol[1]	ND		ug/l	100	6.0
Tertiary-Amyl Methyl Ether[1]	ND		ug/l	20	0.18
Dichlorodifluoromethane[1]	ND		ug/l	1.0	0.30

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	116		80-120
Fluorobenzene	112		80-120
4-Bromofluorobenzene	100		80-120

Lab Control Sample Analysis

Batch Quality Control

Project Name: RIVERBEND S/A BSA

Project Number: T0322-016-500

Lab Number: L1639227

Report Date: 12/12/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG957906-3								
Methylene chloride	**115**	Q	-		70-111	-		30
1,1-Dichloroethane	**125**	Q	-		78-116	-		30
Chloroform	**125**	Q	-		86-111	-		30
Carbon tetrachloride	**115**	Q	-		60-112	-		30
1,2-Dichloropropane	**120**	Q	-		83-113	-		30
Dibromochloromethane	90		-		58-129	-		30
1,1,2-Trichloroethane	90		-		80-118	-		30
2-Chloroethylvinyl ether	95		-		69-124	-		30
Tetrachloroethene	100		-		80-126	-		30
Chlorobenzene	90		-		80-126	-		30
Trichlorofluoromethane	125		-		83-128	-		30
1,2-Dichloroethane	**125**	Q	-		82-110	-		30
1,1,1-Trichloroethane	**120**	Q	-		72-109	-		30
Bromodichloromethane	100		-		71-120	-		30
trans-1,3-Dichloropropene	90		-		73-106	-		30
cis-1,3-Dichloropropene	95		-		78-111	-		30
Bromoform	80		-		45-131	-		30
1,1,2,2-Tetrachloroethane	**80**	Q	-		81-122	-		30
Benzene	**120**	Q	-		84-116	-		30
Toluene	105		-		83-121	-		30
Ethylbenzene	95		-		84-123	-		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: RIVERBEND S/A BSA

Project Number: T0322-016-500

Lab Number: L1639227

Report Date: 12/12/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG957906-3								
Chloromethane	100		-		70-144	-		30
Bromomethane	110		-		63-141	-		30
Vinyl chloride	95		-		56-118	-		30
Chloroethane	120		-		74-130	-		30
1,1-Dichloroethene	115		-		77-116	-		30
trans-1,2-Dichloroethene	120		-		81-121	-		30
cis-1,2-Dichloroethene[1]	**120**	Q	-		85-110	-		30
Trichloroethene	**120**	Q	-		84-118	-		30
1,2-Dichlorobenzene	85		-		78-128	-		30
1,3-Dichlorobenzene	90		-		77-125	-		30
1,4-Dichlorobenzene	90		-		77-125	-		30
p/m-Xylene[1]	90		-		81-121	-		30
o-Xylene[1]	90		-		81-124	-		30
Styrene[1]	85		-		84-133	-		30
Acetone[1]	104		-		40-160	-		30
Carbon disulfide[1]	115		-		54-134	-		30
2-Butanone[1]	108		-		57-116	-		30
Vinyl acetate[1]	102		-		40-160	-		30
4-Methyl-2-pentanone[1]	92		-		79-125	-		30
2-Hexanone[1]	96		-		78-120	-		30
Acrolein[1]	72		-		40-160	-		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: RIVERBEND S/A BSA

Project Number: T0322-016-500

Lab Number: L1639227

Report Date: 12/12/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG957906-3								
Acrylonitrile[1]	102		-		66-123	-		30
Methyl tert butyl ether[1]	110		-		57-126	-		30
Dibromomethane[1]	115		-		65-126	-		30
1,4-Dioxane[1]	120		-		74-121	-		30
tert-Butyl Alcohol[1]	110		-		52-114	-		30
Tertiary-Amyl Methyl Ether[1]	105		-		66-111	-		30
Dichlorodifluoromethane[1]	105		-		70-130	-		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Pentafluorobenzene	119				80-120
Fluorobenzene	113				80-120
4-Bromofluorobenzene	106				80-120

Matrix Spike Analysis
Batch Quality Control

Project Name: RIVERBEND S/A BSA
Project Number: T0322-016-500

Lab Number: L1639227
Report Date: 12/12/16

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG957906-6 QC Sample: L1639202-01 Client ID: MS Sample												
Methylene chloride	ND	200	220	110		-	-		70-111	-		30
1,1-Dichloroethane	ND	200	260	**130**	Q	-	-		78-116	-		30
Chloroform	ND	200	250	**125**	Q	-	-		86-111	-		30
Carbon tetrachloride	ND	200	240	**120**	Q	-	-		60-112	-		30
1,2-Dichloropropane	ND	200	240	**120**	Q	-	-		83-113	-		30
Dibromochloromethane	ND	200	180	90		-	-		58-129	-		30
1,1,2-Trichloroethane	ND	200	180	90		-	-		80-118	-		30
2-Chloroethylvinyl ether	ND	200	130	**65**	Q	-	-		69-124	-		30
Tetrachloroethene	ND	200	220	110		-	-		80-126	-		30
Chlorobenzene	ND	200	200	100		-	-		80-126	-		30
Trichlorofluoromethane	ND	200	270	**135**	Q	-	-		83-128	-		30
1,2-Dichloroethane	ND	200	230	**115**	Q	-	-		82-110	-		30
1,1,1-Trichloroethane	ND	200	240	**120**	Q	-	-		72-109	-		30
Bromodichloromethane	ND	200	200	100		-	-		71-120	-		30
trans-1,3-Dichloropropene	ND	200	160	80		-	-		73-106	-		30
cis-1,3-Dichloropropene	ND	200	160	80		-	-		78-111	-		30
Bromoform	ND	200	170	85		-	-		45-131	-		30
1,1,2,2-Tetrachloroethane	ND	200	170	85		-	-		81-122	-		30
Benzene	ND	200	240	**120**	Q	-	-		84-116	-		30
Toluene	ND	200	200	100		-	-		83-121	-		30
Ethylbenzene	ND	200	210	105		-	-		84-123	-		30

Matrix Spike Analysis
Batch Quality Control

Project Name: RIVERBEND S/A BSA
Project Number: T0322-016-500

Lab Number: L1639227
Report Date: 12/12/16

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG957906-6 QC Sample: L1639202-01 Client ID: MS Sample												
Chloromethane	ND	200	220	110		-	-		70-144	-		30
Bromomethane	ND	200	94	**47**	Q	-	-		63-141	-		30
Vinyl chloride	ND	200	230	115		-	-		56-118	-		30
Chloroethane	ND	200	260	130		-	-		74-130	-		30
1,1-Dichloroethene	ND	200	240	**120**	Q	-	-		77-116	-		30
trans-1,2-Dichloroethene	ND	200	240	120		-	-		81-121	-		30
cis-1,2-Dichloroethene[1]	ND	200	260	**130**	Q	-	-		85-110	-		30
Trichloroethene	ND	200	240	**120**	Q	-	-		84-118	-		30
1,2-Dichlorobenzene	ND	200	170	85		-	-		78-128	-		30
1,3-Dichlorobenzene	ND	200	190	95		-	-		77-125	-		30
1,4-Dichlorobenzene	ND	200	180	90		-	-		77-125	-		30
p/m-Xylene[1]	ND	400	440	110		-	-		81-121	-		30
o-Xylene[1]	ND	200	210	105		-	-		81-124	-		30
Styrene[1]	ND	200	200	100		-	-		84-133	-		30
Acetone[1]	ND	500	500	100		-	-		40-160	-		30
Carbon disulfide[1]	ND	200	250	125		-	-		54-134	-		30
2-Butanone[1]	ND	500	540	108		-	-		57-116	-		30
Vinyl acetate[1]	ND	400	360	90		-	-		40-160	-		30
4-Methyl-2-pentanone[1]	ND	500	460	92		-	-		79-125	-		30
2-Hexanone[1]	ND	500	490	98		-	-		78-120	-		30
Acrolein[1]	ND	400	260	65		-	-		40-160	-		30

Matrix Spike Analysis
Batch Quality Control

Project Name: RIVERBEND S/A BSA
Project Number: T0322-016-500

Lab Number: L1639227
Report Date: 12/12/16

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG957906-6 QC Sample: L1639202-01 Client ID: MS Sample												
Acrylonitrile[1]	ND	400	420	105		-	-		66-123	-		30
Dibromomethane[1]	ND	200	230	115		-	-		65-126	-		30

Surrogate	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
4-Bromofluorobenzene	108				80-120
Fluorobenzene	112				80-120
Pentafluorobenzene	117				80-120

Lab Duplicate Analysis
Batch Quality Control

Project Name: RIVERBEND S/A BSA
Project Number: T0322-016-500

Lab Number: L1639227
Report Date: 12/12/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG957906-5 QC Sample: L1639202-01 Client ID: DUP Sample						
Methylene chloride	ND	ND	ug/l	NC		30
1,1-Dichloroethane	ND	ND	ug/l	NC		30
Chloroform	ND	ND	ug/l	NC		30
Carbon tetrachloride	ND	ND	ug/l	NC		30
1,2-Dichloropropane	ND	ND	ug/l	NC		30
Dibromochloromethane	ND	ND	ug/l	NC		30
1,1,2-Trichloroethane	ND	ND	ug/l	NC		30
2-Chloroethylvinyl ether	ND	ND	ug/l	NC		30
Tetrachloroethene	ND	ND	ug/l	NC		30
Chlorobenzene	ND	ND	ug/l	NC		30
Trichlorofluoromethane	ND	ND	ug/l	NC		30
1,2-Dichloroethane	ND	ND	ug/l	NC		30
1,1,1-Trichloroethane	ND	ND	ug/l	NC		30
Bromodichloromethane	ND	ND	ug/l	NC		30
trans-1,3-Dichloropropene	ND	ND	ug/l	NC		30
cis-1,3-Dichloropropene	ND	ND	ug/l	NC		30
Bromoform	ND	ND	ug/l	NC		30
1,1,2,2-Tetrachloroethane	ND	ND	ug/l	NC		30
Benzene	ND	ND	ug/l	NC		30

Lab Duplicate Analysis
Batch Quality Control

Project Name: RIVERBEND S/A BSA
Project Number: T0322-016-500

Lab Number: L1639227
Report Date: 12/12/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG957906-5 QC Sample: L1639202-01 Client ID: DUP Sample					
Toluene	ND	ND	ug/l	NC	30
Ethylbenzene	ND	ND	ug/l	NC	30
Chloromethane	ND	ND	ug/l	NC	30
Bromomethane	ND	ND	ug/l	NC	30
Vinyl chloride	ND	ND	ug/l	NC	30
Chloroethane	ND	ND	ug/l	NC	30
1,1-Dichloroethene	ND	ND	ug/l	NC	30
trans-1,2-Dichloroethene	ND	ND	ug/l	NC	30
cis-1,2-Dichloroethene[1]	ND	ND	ug/l	NC	30
Trichloroethene	ND	ND	ug/l	NC	30
1,2-Dichlorobenzene	ND	ND	ug/l	NC	30
1,3-Dichlorobenzene	ND	ND	ug/l	NC	30
1,4-Dichlorobenzene	ND	ND	ug/l	NC	30
p/m-Xylene[1]	ND	ND	ug/l	NC	30
o-Xylene[1]	ND	ND	ug/l	NC	30
Xylene (Total)[1]	ND	ND	ug/l	NC	30
Styrene[1]	ND	ND	ug/l	NC	30
Acetone[1]	ND	ND	ug/l	NC	30
Carbon disulfide[1]	ND	ND	ug/l	NC	30

Lab Duplicate Analysis
Batch Quality Control

Project Name: RIVERBEND S/A BSA
Project Number: T0322-016-500

Lab Number: L1639227
Report Date: 12/12/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG957906-5 QC Sample: L1639202-01 Client ID: DUP Sample					
2-Butanone[1]	ND	ND	ug/l	NC	30
Vinyl acetate[1]	ND	ND	ug/l	NC	30
4-Methyl-2-pentanone[1]	ND	ND	ug/l	NC	30
2-Hexanone[1]	ND	ND	ug/l	NC	30
Acrolein[1]	ND	ND	ug/l	NC	30
Acrylonitrile[1]	ND	ND	ug/l	NC	30
Dibromomethane[1]	ND	ND	ug/l	NC	30

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	118		117		80-120
Fluorobenzene	112		109		80-120
4-Bromofluorobenzene	109		111		80-120

SEMIVOLATILES

Project Name: RIVERBEND S/A BSA
Project Number: T0322-016-500
Lab Number: L1639227
Report Date: 12/12/16

SAMPLE RESULTS

Lab ID: L1639227-01
Client ID: PROCESS EFFLUENT
Sample Location: BUFFALO, NY
Matrix: Water
Analytical Method: 5,625
Analytical Date: 12/07/16 14:36
Analyst: MW

Date Collected: 12/01/16 08:00
Date Received: 12/02/16
Field Prep: Not Specified
Extraction Method: EPA 625
Extraction Date: 12/06/16 06:04

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	ND		ug/l	2.0	0.72	1
Benzidine[1]	ND		ug/l	20	8.3	1
1,2,4-Trichlorobenzene	ND		ug/l	5.0	0.91	1
Hexachlorobenzene	ND		ug/l	2.0	0.67	1
Bis(2-chloroethyl)ether	ND		ug/l	2.0	0.55	1
2-Chloronaphthalene	ND		ug/l	2.0	0.79	1
3,3'-Dichlorobenzidine	ND		ug/l	5.0	1.3	1
2,4-Dinitrotoluene	ND		ug/l	5.0	0.88	1
2,6-Dinitrotoluene	ND		ug/l	5.0	1.1	1
Azobenzene[1]	ND		ug/l	2.0	0.61	1
Fluoranthene	ND		ug/l	2.0	0.64	1
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	0.68	1
4-Bromophenyl phenyl ether[1]	ND		ug/l	2.0	0.78	1
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	0.53	1
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	0.54	1
Hexachlorobutadiene	ND		ug/l	2.0	0.67	1
Hexachlorocyclopentadiene[1]	ND		ug/l	10	3.7	1
Hexachloroethane	ND		ug/l	2.0	0.74	1
Isophorone	ND		ug/l	5.0	0.79	1
Naphthalene	ND		ug/l	2.0	0.81	1
Nitrobenzene	ND		ug/l	2.0	0.68	1
NDPA/DPA[1]	ND		ug/l	2.0	0.73	1
n-Nitrosodi-n-propylamine	ND		ug/l	5.0	0.54	1
Bis(2-ethylhexyl)phthalate	ND		ug/l	3.0	1.3	1
Butyl benzyl phthalate	ND		ug/l	5.0	1.1	1
Di-n-butylphthalate	ND		ug/l	5.0	0.97	1
Di-n-octylphthalate	ND		ug/l	5.0	0.99	1
Diethyl phthalate	ND		ug/l	5.0	0.73	1
Dimethyl phthalate	ND		ug/l	5.0	0.70	1
Benzo(a)anthracene	ND		ug/l	2.0	0.68	1

Project Name: RIVERBEND S/A BSA **Lab Number:** L1639227

Project Number: T0322-016-500 **Report Date:** 12/12/16

SAMPLE RESULTS

Lab ID: L1639227-01 Date Collected: 12/01/16 08:00

Client ID: PROCESS EFFLUENT Date Received: 12/02/16

Sample Location: BUFFALO, NY Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzo(a)pyrene	ND		ug/l	2.0	0.63	1
Benzo(b)fluoranthene	ND		ug/l	2.0	0.65	1
Benzo(k)fluoranthene	ND		ug/l	2.0	0.68	1
Chrysene	ND		ug/l	2.0	0.68	1
Acenaphthylene	ND		ug/l	2.0	0.63	1
Anthracene	ND		ug/l	2.0	0.69	1
Benzo(ghi)perylene	ND		ug/l	2.0	0.71	1
Fluorene	ND		ug/l	2.0	0.66	1
Phenanthrene	ND		ug/l	2.0	0.66	1
Dibenzo(a,h)anthracene	ND		ug/l	2.0	0.68	1
Indeno(1,2,3-cd)pyrene	ND		ug/l	2.0	0.73	1
Pyrene	ND		ug/l	2.0	0.62	1
4-Chloroaniline[1]	ND		ug/l	5.0	1.2	1
Dibenzofuran[1]	ND		ug/l	2.0	0.69	1
2-Methylnaphthalene[1]	ND		ug/l	2.0	0.76	1
n-Nitrosodimethylamine[1]	ND		ug/l	2.0	0.78	1
2,4,6-Trichlorophenol	ND		ug/l	5.0	0.80	1
p-Chloro-m-cresol[1]	ND		ug/l	2.0	0.66	1
2-Chlorophenol	ND		ug/l	2.0	0.62	1
2,4-Dichlorophenol	ND		ug/l	5.0	0.78	1
2,4-Dimethylphenol	ND		ug/l	5.0	1.4	1
2-Nitrophenol	ND		ug/l	5.0	1.3	1
4-Nitrophenol	ND		ug/l	10	1.1	1
2,4-Dinitrophenol	ND		ug/l	20	8.0	1
4,6-Dinitro-o-cresol[1]	ND		ug/l	10	1.9	1
Pentachlorophenol	ND		ug/l	5.0	2.8	1
Phenol	ND		ug/l	5.0	0.74	1
2-Methylphenol[1]	ND		ug/l	5.0	1.0	1
3-Methylphenol/4-Methylphenol[1]	ND		ug/l	5.0	1.1	1
2,4,5-Trichlorophenol[1]	ND		ug/l	5.0	0.92	1
Benzoic Acid[1]	ND		ug/l	50	6.2	1
Benzyl Alcohol[1]	ND		ug/l	2.0	0.72	1

Project Name: RIVERBEND S/A BSA
Lab Number: L1639227
Project Number: T0322-016-500
Report Date: 12/12/16

SAMPLE RESULTS

Lab ID: L1639227-01
Client ID: PROCESS EFFLUENT
Sample Location: BUFFALO, NY
Date Collected: 12/01/16 08:00
Date Received: 12/02/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Semivolatile Organics by GC/MS - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	42		21-120
Phenol-d6	27		10-120
Nitrobenzene-d5	65		23-120
2-Fluorobiphenyl	69		15-120
2,4,6-Tribromophenol	87		10-120
4-Terphenyl-d14	76		33-120

Project Name: RIVERBEND S/A BSA
Project Number: T0322-016-500
Lab Number: L1639227
Report Date: 12/12/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 5,625
Analytical Date: 12/07/16 10:50
Analyst: PS

Extraction Method: EPA 625
Extraction Date: 12/06/16 06:04

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG958326-1					
Acenaphthene	ND		ug/l	2.0	0.72
Benzidine[1]	ND		ug/l	20	8.3
1,2,4-Trichlorobenzene	ND		ug/l	5.0	0.91
Hexachlorobenzene	ND		ug/l	2.0	0.67
Bis(2-chloroethyl)ether	ND		ug/l	2.0	0.55
2-Chloronaphthalene	ND		ug/l	2.0	0.79
3,3'-Dichlorobenzidine	ND		ug/l	5.0	1.3
2,4-Dinitrotoluene	ND		ug/l	5.0	0.88
2,6-Dinitrotoluene	ND		ug/l	5.0	1.1
Azobenzene[1]	ND		ug/l	2.0	0.61
Fluoranthene	ND		ug/l	2.0	0.64
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	0.68
4-Bromophenyl phenyl ether[1]	ND		ug/l	2.0	0.78
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	0.53
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	0.54
Hexachlorobutadiene	ND		ug/l	2.0	0.67
Hexachlorocyclopentadiene[1]	ND		ug/l	10	3.7
Hexachloroethane	ND		ug/l	2.0	0.74
Isophorone	ND		ug/l	5.0	0.79
Naphthalene	ND		ug/l	2.0	0.81
Nitrobenzene	ND		ug/l	2.0	0.68
NDPA/DPA[1]	ND		ug/l	2.0	0.73
n-Nitrosodi-n-propylamine	ND		ug/l	5.0	0.54
Bis(2-ethylhexyl)phthalate	ND		ug/l	3.0	1.3
Butyl benzyl phthalate	ND		ug/l	5.0	1.1
Di-n-butylphthalate	ND		ug/l	5.0	0.97
Di-n-octylphthalate	ND		ug/l	5.0	0.99
Diethyl phthalate	ND		ug/l	5.0	0.73
Dimethyl phthalate	ND		ug/l	5.0	0.70

Project Name: RIVERBEND S/A BSA
Project Number: T0322-016-500

Lab Number: L1639227
Report Date: 12/12/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 5,625
Analytical Date: 12/07/16 10:50
Analyst: PS

Extraction Method: EPA 625
Extraction Date: 12/06/16 06:04

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG958326-1					
Benzo(a)anthracene	ND		ug/l	2.0	0.68
Benzo(a)pyrene	ND		ug/l	2.0	0.63
Benzo(b)fluoranthene	ND		ug/l	2.0	0.65
Benzo(k)fluoranthene	ND		ug/l	2.0	0.68
Chrysene	ND		ug/l	2.0	0.68
Acenaphthylene	ND		ug/l	2.0	0.63
Anthracene	ND		ug/l	2.0	0.69
Benzo(ghi)perylene	ND		ug/l	2.0	0.71
Fluorene	ND		ug/l	2.0	0.66
Phenanthrene	ND		ug/l	2.0	0.66
Dibenzo(a,h)anthracene	ND		ug/l	2.0	0.68
Indeno(1,2,3-cd)pyrene	ND		ug/l	2.0	0.73
Pyrene	ND		ug/l	2.0	0.62
4-Chloroaniline[1]	ND		ug/l	5.0	1.2
Dibenzofuran[1]	ND		ug/l	2.0	0.69
2-Methylnaphthalene[1]	ND		ug/l	2.0	0.76
n-Nitrosodimethylamine[1]	ND		ug/l	2.0	0.78
2,4,6-Trichlorophenol	ND		ug/l	5.0	0.80
p-Chloro-m-cresol[1]	ND		ug/l	2.0	0.66
2-Chlorophenol	ND		ug/l	2.0	0.62
2,4-Dichlorophenol	ND		ug/l	5.0	0.78
2,4-Dimethylphenol	ND		ug/l	5.0	1.4
2-Nitrophenol	ND		ug/l	5.0	1.3
4-Nitrophenol	ND		ug/l	10	1.1
2,4-Dinitrophenol	ND		ug/l	20	8.0
4,6-Dinitro-o-cresol[1]	ND		ug/l	10	1.9
Pentachlorophenol	ND		ug/l	5.0	2.8
Phenol	ND		ug/l	5.0	0.74
2-Methylphenol[1]	ND		ug/l	5.0	1.0

Project Name: RIVERBEND S/A BSA
Project Number: T0322-016-500
Lab Number: L1639227
Report Date: 12/12/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 5,625
Analytical Date: 12/07/16 10:50
Analyst: PS

Extraction Method: EPA 625
Extraction Date: 12/06/16 06:04

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG958326-1					
3-Methylphenol/4-Methylphenol[1]	ND		ug/l	5.0	1.1
2,4,5-Trichlorophenol[1]	ND		ug/l	5.0	0.92
Benzoic Acid[1]	ND		ug/l	50	6.2
Benzyl Alcohol[1]	ND		ug/l	2.0	0.72

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	45		21-120
Phenol-d6	28		10-120
Nitrobenzene-d5	71		23-120
2-Fluorobiphenyl	75		15-120
2,4,6-Tribromophenol	78		10-120
4-Terphenyl-d14	79		33-120

Lab Control Sample Analysis

Batch Quality Control

Project Name: RIVERBEND S/A BSA

Project Number: T0322-016-500

Lab Number: L1639227

Report Date: 12/12/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG958326-2								
Acenaphthene	75		-		37-111	-		30
1,2,4-Trichlorobenzene	73		-		39-98	-		30
2-Chloronaphthalene	79		-		40-140	-		30
2,4-Dinitrotoluene	85		-		48-143	-		30
2,6-Dinitrotoluene	92		-		40-140	-		30
Fluoranthene	85		-		40-140	-		30
4-Chlorophenyl phenyl ether	80		-		40-140	-		30
n-Nitrosodi-n-propylamine	82		-		29-132	-		30
Butyl benzyl phthalate	85		-		40-140	-		30
Anthracene	85		-		40-140	-		30
Pyrene	85		-		26-127	-		30
P-Chloro-M-Cresol[1]	84		-		23-97	-		30
2-Chlorophenol	76		-		27-123	-		30
2-Nitrophenol	82		-		30-130	-		30
4-Nitrophenol	45		-		10-80	-		30
2,4-Dinitrophenol	63		-		20-130	-		30
Pentachlorophenol	76		-		10-103	-		30
Phenol	32		-		12-110	-		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: RIVERBEND S/A BSA

Project Number: T0322-016-500

Lab Number: L1639227

Report Date: 12/12/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG958326-2								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	49				21-120
Phenol-d6	36				10-120
Nitrobenzene-d5	77				23-120
2-Fluorobiphenyl	80				15-120
2,4,6-Tribromophenol	94				10-120
4-Terphenyl-d14	79				33-120

Lab Duplicate Analysis
Batch Quality Control

Project Name: RIVERBEND S/A BSA
Project Number: T0322-016-500

Lab Number: L1639227
Report Date: 12/12/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 QC Batch ID: WG958326-4 QC Sample: L1639379-01 Client ID: DUP Sample						
Acenaphthene	200	180	ug/l	11		30
Benzidine[1]	ND	ND	ug/l	NC		30
1,2,4-Trichlorobenzene	ND	ND	ug/l	NC		30
Hexachlorobenzene	ND	ND	ug/l	NC		30
Bis(2-chloroethyl)ether	ND	ND	ug/l	NC		30
2-Chloronaphthalene	ND	ND	ug/l	NC		30
3,3'-Dichlorobenzidine	ND	ND	ug/l	NC		30
2,4-Dinitrotoluene	ND	ND	ug/l	NC		30
2,6-Dinitrotoluene	ND	ND	ug/l	NC		30
Azobenzene[1]	ND	ND	ug/l	NC		30
Fluoranthene	46	42	ug/l	9		30
4-Chlorophenyl phenyl ether	ND	ND	ug/l	NC		30
4-Bromophenyl phenyl ether[1]	ND	ND	ug/l	NC		30
Bis(2-chloroisopropyl)ether	ND	ND	ug/l	NC		30
Bis(2-chloroethoxy)methane	ND	ND	ug/l	NC		30
Hexachlorobutadiene	ND	ND	ug/l	NC		30
Hexachlorocyclopentadiene[1]	ND	ND	ug/l	NC		30
Hexachloroethane	ND	ND	ug/l	NC		30
Isophorone	ND	ND	ug/l	NC		30

Lab Duplicate Analysis
Batch Quality Control

Project Name: RIVERBEND S/A BSA
Project Number: T0322-016-500

Lab Number: L1639227
Report Date: 12/12/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 QC Batch ID: WG958326-4 QC Sample: L1639379-01 Client ID: DUP Sample					
Naphthalene	3200	2800	ug/l	13	30
Nitrobenzene	ND	ND	ug/l	NC	30
NitrosoDiPhenylAmine(NDPA)/DPA[1]	ND	ND	ug/l	NC	30
n-Nitrosodi-n-propylamine	ND	ND	ug/l	NC	30
Bis(2-Ethylhexyl)phthalate	ND	ND	ug/l	NC	30
Butyl benzyl phthalate	ND	ND	ug/l	NC	30
Di-n-butylphthalate	ND	ND	ug/l	NC	30
Di-n-octylphthalate	ND	ND	ug/l	NC	30
Diethyl phthalate	ND	ND	ug/l	NC	30
Dimethyl phthalate	ND	ND	ug/l	NC	30
Benzo(a)anthracene	ND	ND	ug/l	NC	30
Benzo(a)pyrene	ND	ND	ug/l	NC	30
Benzo(b)fluoranthene	ND	ND	ug/l	NC	30
Benzo(k)fluoranthene	ND	ND	ug/l	NC	30
Chrysene	ND	ND	ug/l	NC	30
Acenaphthylene	56	48	ug/l	15	30
Anthracene	23.J	20J	ug/l	NC	30
Benzo(ghi)perylene	ND	ND	ug/l	NC	30
Fluorene	150	130	ug/l	14	30

Lab Duplicate Analysis
Batch Quality Control

Project Name: RIVERBEND S/A BSA
Project Number: T0322-016-500

Lab Number: L1639227
Report Date: 12/12/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 QC Batch ID: WG958326-4 QC Sample: L1639379-01 Client ID: DUP Sample					
Phenanthrene	180	160	ug/l	12	30
Dibenzo(a,h)anthracene	ND	ND	ug/l	NC	30
Indeno(1,2,3-cd)Pyrene	ND	ND	ug/l	NC	30
Pyrene	30.J	26J	ug/l	NC	30
Biphenyl[1]	47	42	ug/l	11	30
Aniline[1]	ND	ND	ug/l	NC	30
4-Chloroaniline[1]	ND	ND	ug/l	NC	30
1-Methylnaphthalene[1]	250	220	ug/l	13	30
2-Nitroaniline[1]	ND	ND	ug/l	NC	30
3-Nitroaniline[1]	ND	ND	ug/l	NC	30
4-Nitroaniline[1]	ND	ND	ug/l	NC	30
Dibenzofuran[1]	150	140	ug/l	7	30
2-Methylnaphthalene[1]	360	320	ug/l	12	30
Acetophenone[1]	ND	ND	ug/l	NC	30
n-Nitrosodimethylamine[1]	ND	ND	ug/l	NC	30
2,4,6-Trichlorophenol	ND	ND	ug/l	NC	30
P-Chloro-M-Cresol[1]	ND	ND	ug/l	NC	30
2-Chlorophenol	ND	ND	ug/l	NC	30
2,4-Dichlorophenol	ND	ND	ug/l	NC	30

Lab Duplicate Analysis
Batch Quality Control

Project Name: RIVERBEND S/A BSA
Project Number: T0322-016-500

Lab Number: L1639227
Report Date: 12/12/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 QC Batch ID: WG958326-4 QC Sample: L1639379-01 Client ID: DUP Sample					
2,4-Dimethylphenol	280	230	ug/l	20	30
2-Nitrophenol	ND	ND	ug/l	NC	30
4-Nitrophenol	ND	ND	ug/l	NC	30
2,4-Dinitrophenol	ND	ND	ug/l	NC	30
4,6-Dinitro-o-cresol[1]	ND	ND	ug/l	NC	30
Pentachlorophenol	ND	ND	ug/l	NC	30
Phenol	68.J	56J	ug/l	NC	30
2-Methylphenol[1]	180	150	ug/l	18	30
3-Methylphenol/4-Methylphenol[1]	390	340	ug/l	14	30
2,4,5-Trichlorophenol[1]	ND	ND	ug/l	NC	30
Benzoic Acid[1]	ND	ND	ug/l	NC	30
Benzyl Alcohol[1]	ND	ND	ug/l	NC	30
Carbazole[1]	43	37J	ug/l	NC	30
Pyridine[1]	ND	ND	ug/l	NC	30

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	**0**	Q	**0**	Q	21-120
Phenol-d6	**0**	Q	**0**	Q	10-120
Nitrobenzene-d5	**0**	Q	**0**	Q	23-120

Lab Duplicate Analysis
Batch Quality Control

Project Name: RIVERBEND S/A BSA
Project Number: T0322-016-500

Lab Number: L1639227
Report Date: 12/12/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Sample	Associated sample(s): 01	QC Batch ID: WG958326-4	QC Sample: L1639379-01	Client ID: DUP	

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
2-Fluorobiphenyl	**0**	Q	**0**	Q	15-120
2,4,6-Tribromophenol	**0**	Q	**0**	Q	10-120
4-Terphenyl-d14	**0**	Q	**0**	Q	33-120

INORGANICS
&
MISCELLANEOUS

Project Name: RIVERBEND S/A BSA
Project Number: T0322-016-500
Lab Number: L1639227
Report Date: 12/12/16

SAMPLE RESULTS

Lab ID: L1639227-04
Client ID: PROCESS EFFLUENT
Sample Location: BUFFALO, NY
Matrix: Water
Date Collected: 12/01/16 08:00
Date Received: 12/02/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Cyanide, Total	0.337		mg/l	0.005	0.001	1	12/06/16 10:10	12/06/16 15:00	121,4500CN-CE	ML
pH (H)	7.2		SU	-	NA	1	-	12/03/16 05:14	121,4500H+-B	MC

Project Name: RIVERBEND S/A BSA
Project Number: T0322-016-500
Lab Number: L1639227
Report Date: 12/12/16

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 04 Batch: WG958393-1										
Cyanide, Total	ND		mg/l	0.005	0.001	1	12/06/16 10:10	12/06/16 15:09	121,4500CN-CE	ML

Lab Control Sample Analysis

Batch Quality Control

Project Name: RIVERBEND S/A BSA

Project Number: T0322-016-500

Lab Number: L1639227

Report Date: 12/12/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 04 Batch: WG957762-1								
pH	100		-		99-101	-		5
General Chemistry - Westborough Lab Associated sample(s): 04 Batch: WG958393-2								
Cyanide, Total	106		-		90-110	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: RIVERBEND S/A BSA
Project Number: T0322-016-500

Lab Number: L1639227
Report Date: 12/12/16

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 04 QC Batch ID: WG958393-4 QC Sample: L1639227-04 Client ID: PROCESS EFFLUENT												
Cyanide, Total	0.337	0.2	0.540	102		-	-		90-110	-		30

Lab Duplicate Analysis
Batch Quality Control

Project Name: RIVERBEND S/A BSA
Project Number: T0322-016-500

Lab Number: L1639227
Report Date: 12/12/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 04 QC Batch ID: WG957762-2 QC Sample: L1639186-01 Client ID: DUP Sample						
pH	6.8	6.8	SU	0		5
General Chemistry - Westborough Lab Associated sample(s): 04 QC Batch ID: WG958393-3 QC Sample: L1639181-02 Client ID: DUP Sample						
Cyanide, Total	0.003J	0.002J	mg/l	NC		30

Project Name: RIVERBEND S/A BSA
Project Number: T0322-016-500

Lab Number: L1639227
Report Date: 12/12/16

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information Custody Seal

Cooler	
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1639227-01A	Vial Na2S2O3 preserved split	A	N/A	4.4	Y	Absent	624(3)
L1639227-01B	Vial Na2S2O3 preserved split	A	N/A	4.4	Y	Absent	624(3)
L1639227-01C	Vial Na2S2O3 preserved split	A	N/A	4.4	Y	Absent	624(3)
L1639227-01D	Split Amber 1000ml Na2S2O3	A	N/A	4.4	Y	Absent	625(7)
L1639227-01E	Split Amber 1000ml Na2S2O3	A	N/A	4.4	Y	Absent	625(7)
L1639227-02A	Vial Na2S2O3 preserved	A	N/A	4.4	Y	Absent	624(3)
L1639227-02B	Vial Na2S2O3 preserved	A	N/A	4.4	Y	Absent	624(3)
L1639227-03A	Vial Na2S2O3 preserved	A	N/A	4.4	Y	Absent	COMP-VOA()
L1639227-03B	Vial Na2S2O3 preserved	A	N/A	4.4	Y	Absent	COMP-VOA()
L1639227-03C	Vial Na2S2O3 preserved	A	N/A	4.4	Y	Absent	COMP-VOA()
L1639227-03D	Vial Na2S2O3 preserved	A	N/A	4.4	Y	Absent	COMP-VOA()
L1639227-03E	Vial Na2S2O3 preserved	A	N/A	4.4	Y	Absent	COMP-VOA()
L1639227-03F	Vial Na2S2O3 preserved	A	N/A	4.4	Y	Absent	COMP-VOA()
L1639227-03G	Vial Na2S2O3 preserved	A	N/A	4.4	Y	Absent	COMP-VOA()
L1639227-03H	Vial Na2S2O3 preserved	A	N/A	4.4	Y	Absent	COMP-VOA()
L1639227-03I	Vial Na2S2O3 preserved	A	N/A	4.4	Y	Absent	COMP-VOA()
L1639227-03J	Vial Na2S2O3 preserved	A	N/A	4.4	Y	Absent	COMP-VOA()
L1639227-03K	Vial Na2S2O3 preserved	A	N/A	4.4	Y	Absent	COMP-VOA()
L1639227-03L	Vial Na2S2O3 preserved	A	N/A	4.4	Y	Absent	COMP-VOA()
L1639227-03M	Amber 1000ml Na2S2O3	A	7	4.4	Y	Absent	COMP-W()
L1639227-03N	Amber 1000ml Na2S2O3	A	7	4.4	Y	Absent	COMP-W()
L1639227-03O	Amber 1000ml Na2S2O3	A	7	4.4	Y	Absent	COMP-W()
L1639227-03P	Amber 1000ml Na2S2O3	A	7	4.4	Y	Absent	COMP-W()
L1639227-03Q	Amber 1000ml Na2S2O3	A	7	4.4	Y	Absent	COMP-W()
L1639227-03R	Amber 1000ml Na2S2O3	A	7	4.4	Y	Absent	COMP-W()
L1639227-03S	Amber 1000ml Na2S2O3	A	7	4.4	Y	Absent	COMP-W()
L1639227-03T	Amber 1000ml Na2S2O3	A	7	4.4	Y	Absent	COMP-W()
L1639227-04A	Plastic 60ml unpreserved	A	7	4.4	Y	Absent	PH-4500(.01)
L1639227-04B	Plastic 250ml NaOH preserved	A	>12	4.4	Y	Absent	TCN-4500(14)

*Values in parentheses indicate holding time in days

Project Name:	RIVERBEND S/A BSA	**Lab Number:**	L1639227
Project Number:	T0322-016-500	**Report Date:**	12/12/16

GLOSSARY

Acronyms

EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

1	- The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

A	- Spectra identified as "Aldol Condensation Product".
B	- The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the

Report Format: DU Report with 'J' Qualifiers

Project Name:	RIVERBEND S/A BSA	**Lab Number:**	L1639227
Project Number:	T0322-016-500	**Report Date:**	12/12/16

Data Qualifiers

reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers

Project Name:	RIVERBEND S/A BSA	**Lab Number:**	L1639227
Project Number:	T0322-016-500	**Report Date:**	12/12/16

REFERENCES

5 Methods for the Organic Chemical Analysis of Municipal and Industrial Wastewater. Appendix A, Part 136, 40 CFR (Code of Federal Regulations).

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
EPA 300: DW: Bromide
EPA 6860: NPW and SCM: Perchlorate
EPA 9010: NPW and SCM: Amenable Cyanide Distillation
EPA 9012B: NPW: Total Cyanide
EPA 9050A: NPW: Specific Conductance
SM3500: NPW: Ferrous Iron
SM4500: NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO2, NO3.
SM5310C: DW: Dissolved Organic Carbon

Mansfield Facility
SM 2540D: TSS
EPA 3005A NPW
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: ***EPA 3050B***

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **SM4500NO3-F, EPA 353.2**: Nitrate-N**, EPA 351.1, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D.**
EPA 624: Volatile Halocarbons & Aromatics,
EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF**.

Mansfield Facility:

Drinking Water
EPA 200.7: Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. **EPA 200.8:** Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. **EPA 245.1** Hg.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

NEW YORK CHAIN OF CUSTODY

ALPHA ANALYTICAL

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page 1 of 1

Date Rec'd in Lab: 12/3/16

ALPHA Job #: L1639227

Client Information

Client: Benchmark Environmental
Address: 2558 Hamburg Turnpike,Ste300
Buffalo, NY 14218
Phone: 716-856-0599
Fax:
Email: bhann@turnkeyllc.com

Project Information

Project Name: Riverbend S/A BSA
Project Location: Buffalo, NY
Project # T0322-016-500
(Use Project name as Project #) ☐
Project Manager: Candace Fox
ALPHAQuote #:

Turn-Around Time

Standard ☑ Due Date:
Rush (only if pre approved) ☐ # of Days:

Deliverables

☐ ASP-A ☐ ASP-B
☐ EQuIS (1 File) ☐ EQuIS (4 File)
☐ Other

Regulatory Requirement

☐ NY TOGS ☐ NY Part 375
☐ AWQ Standards ☐ NY CP-51
☐ NY Restricted Use ☐ Other
☐ NY Unrestricted Use
☐ NYC Sewer Discharge

Billing Information

☑ Same as Client Info
PO #

Disposal Site Information

Please identify below location of applicable disposal facilities.

Disposal Facility:
☐ NJ ☐ NY
☐ Other: NA

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Please specify Metals or TAL.

ANALYSIS

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	624	625	TCN	pH	Total Bottles	Sample Specific Comments
39227-01,03	Process Effluent - Grab 1	12/1/2016	08:00	Water	JRt MJ	x	x			5	Lab to composite 1-4
01,03	Process Effluent - Grab 2	12/1/2016	12:00	Water	↓	x	x			5	Lab to composite 1-4
01,03	Process Effluent - Grab 3	12/1/2016	16:00	Water		x	x			5	Lab to composite 1-4
01,03	Process Effluent - Grab 4	12/2/2016	08:00	Water		x	x			5	Lab to composite 1-4
04	Process Effluent	12/2/2016	08:00	Water				x	x	2	
02	Trip Blank	12/2/2016	08:00	Water		x				2	

Container Type: V A P P
Preservative: H H E A

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Relinquished By:	Date/Time	Received By:	Date/Time
	12/2/16 3:00	AAL	12/02/16 16:30
AAL	12/02/16 17:05		12/3/16 02:00

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS.

Form No: 01-25 (rev. 30-Sept-2013)

ATTACHMENT 3

FLOW METER CALIBRATION DATA

Northeast Metrology Corp.

2601 Genesee Street
Buffalo, NY 14225
P: 716-827-3770 F: 716-827-3775
e-mail: nem@nemcal.com

Calibration Certificate

www.nemcal.com

Company:	RIVERBEND	**Certificate #:**	1179960
Address:	192 BARAGA STREET BUFFALO, NY 14210	**Calibration Date:**	1/5/2016
		PO/Acct:	
Contact:	BRANDON ROGERS	**Page:**	1 of 2
Department:		**Visual Condition:**	Good
		Date Received:	

Gage Desc:	Flow Transmitter / Sensor	**Control #:**	SFRB#80210142061
Manufacturer:	George Fischer Signet	**Model:**	8550 / 515
Location:		**Serial #:**	80210142061

Parameters:

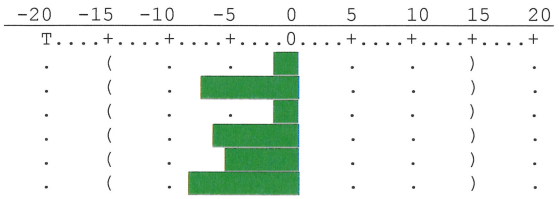
Flow Units - GPM
Gas Type - N/A

Repairs:

+ / - Tolerances: 2.000% / 2.000%
Graph Scale: +0.100000

GPM

Nominal	Actual	Deviation	
+79.300000	+79.200000	-0.100000	
+79.300000	+78.610000	-0.690000	
+79.300000	+79.230000	-0.070000	
+79.300000	+78.690000	-0.610000	
+79.300000	+78.830000	-0.470000	Avg. of 10
+79.300000	+78.510000	-0.790000	Timed



Comments:

CALIBRATION PERFORMED AT AMBIENT CONDITIONS: 67°F & 42% R.H.

SCHEDULE 80 PVC 3" O.D. I.D.=2.900"

TOTAL GALLONS (2016): 7752372
PERM. GALLONS: 23194660
TOTAL GALLONS RESET AT THE END OF TESTING

mA OUPUT: 0 = 3.99, MAX = 16.44

Procedure:

110176:E-Flowme.gdf (Manual 1000)

We certify the equipment used for this calibration is traceable to NIST through one or more of the following numbers:
NEM-6004 Flow Calibrator
CE17617 Cal Date / Due Date: 2/19/2013 -- 2/20/2018

Gage Status: PASS **Due Date: 1/6/2017**

Dimensional calibration performed in NEM laboratory @ 68°F (±2.0°F) : (20°C (±1°C)) & relative humidity less than 45%.
Electronic & Mechanical calibration performed at ambient conditions.

Northeast Metrology Corp.

2601 Genesee Street
Buffalo, NY 14225
P: 716-827-3770 F: 716-827-3775
e-mail: nem@nemcal.com

Calibration Certificate

Page #:	2 of 2	**Certificate #:**	1179960
Gage Desc:	Flow Transmitter / Sensor	**Control #:**	SFRB#80210142061
Manufacturer:	George Fischer Signet	**Model:**	8550 / 515
Location:		**Serial #:**	80210142061

All pertinent data and readings calibrated are as found & as left unless otherwise denoted in comments.
Calibration performed in accordance with ANSI/NCSL Z540-1-1994 unless otherwise denoted in comments.
Gage Blocks meet or exceed Federal Specifications for the grade and accuracy applicable to these items in accordance with GGG-G-15C.
Calibration meets or exceeds 4 : 1 ratio, with the exception of gage blocks stated above.
Measurement Uncertainties are based on approximately a 95% confidence level, using a coverage factor of k=2.
Measurement Uncertainty is taken into account in determining gage status (pass/fail).
Calibration is performed on premises at Northeast Metrology Corp. unless otherwise denoted in comments.
The recording of false, fictitious or fraudulent statements or entries on this document may be punished as a felony under federal statutes.
This certificate shall not be reproduced except in full, with the written approval of the originating metrology laboratory.

Certified By: GK Signature: 

This certificate is not valid unless all 2 page(s) are present.
Results of this certificate relate only to the item mentioned in document header.
END OF DOCUMENT

APPENDIX C

COMPREHENSIVE ANNUAL GROUNDWATER MONITORING REPORT

(PROVIDED ELECTRONICALLY ON CD)

July 17, 2017

Mr. Maurice Moore
New York State Dept. of Environmental Conservation
Division of Environmental Remediation
270 Michigan Avenue
Buffalo, New York 14203-2999

Re: Riverbend Site (formerly Steelfields) (V00619)
2016 Comprehensive Annual Groundwater Monitoring Report

Dear Mr. Moore:

On behalf of our client Fort Schuyler Management Corporation (FSMC), TurnKey Environmental Restoration, LLC, has prepared this comprehensive letter report to transmit the results of the June 2016 groundwater monitoring event conducted at Area I (Former Steel Plant Parcel), Area II (Former Coke Plant Parcel), and Area III (Former Warehouse Parcel) of FSMC's RiverBend Site, Buffalo, NY (see Figure 1). This letter report also includes the results of the June and December 2016 Oxygen Release Compound (ORC) monitoring events for Area III. The current groundwater monitoring event was performed June 20-24, 2016, the Area III first semi-annual ORC monitoring event was performed June 20-23, and the Area III second semi-annual ORC event November 29 to December 2, 2016.

The LTGWM network wells are summarized in Table 1 and shown on Figure 2. A summary of field activities and findings for all three areas of the Site are presented below.

PURPOSE

The activities performed during the current site-wide groundwater monitoring event were performed in general accordance with the following documents:

- Work Plan for Long-Term Groundwater Monitoring (LTGWM) of Area I (revised September 2002);
- *Work Plan for LTGWM of Areas II and III* (October 2007) submitted as Attachment A4 of Appendix HH of the Final Engineering Report for Areas II and III (May 2008);
- May 5, 2008 Response to NYSDEC comment letter regarding Area III Site Management Plan (comment/responses 8, 9, and 10);
- May 5, 2008 Response to NYSDEC comment letter regarding Areas II and III Final Engineering Report (comment/responses 19 and 22);
- *ORC Maintenance and Monitoring Manual* (March 2008) submitted as Attachment A5 of Appendix HH of the Final Engineering Report for Areas II and III (May 2008); and
- May 5, 2011 NYSDEC Response to Modification Request Letter.

This annual report includes a tabular and/or graphical assessment and detailed discussion of groundwater quality trends on an Area by Area basis. Groundwater flow patterns, however, are

discussed on a site-wide basis. Groundwater samples were analyzed for the modified parameter list identified by Area in Table 2.

GROUNDWATER ELEVATIONS & FLOW

Depth to water measurements and calculated groundwater elevations measured from 10 wells and two Buffalo River staff gauges in Area I, 17 wells in Area II, and 5 monitoring wells and 11 ORC monitoring wells in Area III on June 17, 2016 are summarized in Table 3. The Lake Erie elevation, presented in the table for reference, was obtained from the National Oceanic and Atmospheric Administration/National Ocean Service's (NOAA/NOS) Center for Operational Oceanographic Products and Services (CO-OPS) web page; Great Lakes Water Level Data Inventory for station number 9063020 Buffalo, Lake Erie, New York.

An isopotential map, presented as Figure 3, was prepared using data from the June 17, 2016 groundwater elevations, the collection system as-built invert elevations, and the soil flushing system discharge invert elevations. The baseline isopotential map prepared by Geomatrix from the June 1998 groundwater elevations representing groundwater flow conditions at the Site prior to the Area II Containment Cell construction is presented as Figure 4 for contrast. Comparison of the June 2016 and June 1998 maps indicate that the groundwater mound located between Areas I and II observed in June 1998 has been significantly reduced and pushed north; replaced instead by a groundwater "sink" created by the groundwater collection system. The groundwater depression observed in June 1998 around the terminal basin is also no longer present due to the discontinuation (in January 2009) of storm water management activities at the Site in that area (i.e., pumping from the basin to the sanitary sewer). Further examination of Figure 3 indicates significant lowering of the water table of between 2 to 4 feet in the vicinity of the groundwater collection trench as generally predicted in the selected remedial approach groundwater flow model (Geomatrix, December 1998) (see Attachment 1).

Additional evaluation of the containment cell area shows five artificial groundwater mounds resulting from the soil flushing system; a remedial measure designed to remediate subsurface soils beneath five areas of concern identified during the Voluntary Cleanup. In general, the flushing system partially diverts groundwater, on a continuous basis, from pump stations PS-1, PS-2, and PS-3 to perforated distribution pipes in the system (shown on Figure 3). These mounds create a unique, yet effective, method to remediate residual impacts in those areas.

The groundwater flow, as depicted on Figure 3, also shows that potentially impacted groundwater from outside the containment cell to the north on the Former August Feine and Norfolk Southern parcels is being drawn back toward the collection system, as predicted by pre-design MODFLOW® modeling. Aside from the significant hydraulic capture of the groundwater collection system in Area II, Site groundwater generally flows north toward the Buffalo River, with minor westerly and southerly components.

GROUNDWATER COLLECTION SYSTEM EVALUATION

An evaluation of the slurry wall effectiveness included comparing groundwater elevations from a single well pair identified as A2-MW-19 and A2-MW-7. Monitoring well A2-MW-19 is located outside the Containment Cell and well A2-MW-7 is located within the Cell as shown on Figure

3. A groundwater elevation comparison of this well pair indicates that groundwater outside the Cell is roughly a half-foot higher (0.66-feet) than inside the Cell and an inward hydraulic gradient toward the Cell has been established, as predicted by the pre-design MODFLOW® model.

Based upon the results of this evaluation and the isopotential map discussed earlier, the groundwater collection/containment system appears to be effectively collecting impacted groundwater and controlling groundwater migration within the Area II Containment Cell as well as to the east and north of the Containment Cell. Routine system monitoring and maintenance in conjunction with long-term groundwater monitoring of Areas I and II, as scheduled, is expected to be sufficient to continue to assess the long-term effectiveness of the containment cell.

AREA I FIELD ACTIVITIES & FINDINGS

Table 2 presents the Area I field-measured and laboratory analyzed parameters, the results of which are summarized in Table 4. Compounds detected above method detection limits are shown on the table with their associated concentration and NYSDEC Groundwater Quality Standard (NYSDEC TOGS 1.1.1, Ambient Water Quality Standards and Guidance Values, June 1998) for comparison. Concentrations exceeding NYSDEC Groundwater Quality Standards (GWQSs) are shaded. With the exception of pH at well A1-MW-5, n-Propylbenzene at A1-MW-6, and total arsenic at well A1-MW-6, each analyzed compound was either reported as non-detect or at concentrations well below their respective GWQSs. A discussion of the moving average trend analysis for Area I groundwater is presented later in this report.

During the current monitoring event, field personnel also performed visual immiscible layer surveillance and observed no non-aqueous phase liquid (NAPL) in any of the Area I wells listed in Table 1, except well A1-MW-6. Excluding the initial well development and sampling events, A1-MW-6 has been monitored since the February 2005 installation of the PetroTrap™ free product passive skimmer. Since installation through 2016, nearly 13 gallons of product has been removed (see Table 5). Based on the VOC analytical results of well A1-MW-6, it is apparent that the NAPL is highly weather and is having little effect on the groundwater quality at that location. In accordance with the LTGWM Plan, all recovered product is temporarily stored in a 55-gallon drum within secondary containment and staged within the on-site Groundwater Pre-Treatment System (GWPTS) building until a licensed used oil service contractor picks up the recovered product for proper recycling or disposal.

As indicated in Table 5, seasonal increases in product thickness and recovery are apparent during the typical late Fall and early Spring rainy periods. Based upon the progress to date and the marginal effects on groundwater quality at this location, LNAPL monitoring of A1-MW-6 should continue in accordance with the Area I LTGWM Plan on a monthly basis. However, due to a significant decline in the volume of recoverable product, we propose to replace the PetroTrap™ free product passive skimmer with an absorbent sock that will be changed out during the monthly checks.

AREA II FIELD ACTIVITIES & FINDINGS

Table 2 presents the Area II field-measured and laboratory analyzed parameters, the results of which are summarized in Table 6. Compounds detected above method detection limits are shown on the table with their associated concentration and GWQS for comparison. With the exception of benzene at well A2-MW-16, each analyzed compound was either reported as non-detect or at concentration well below their respective GWQSs. A discussion of the moving average trend analysis for Area II groundwater is presented later in this report.

AREA III FIELD ACTIVITIES & FINDINGS

Table 2 presents the Area III field-measured and laboratory analyzed parameters, the results of which are summarized in Table 7. Compounds detected above method detection limits are shown on the table with their associated concentration and GWQS for comparison. With the exception of pH at wells A3-MW-7, A3-MW-9, and A3-MW-10, benzene at wells A3-MW-7 and A3-MW-10, total arsenic at well A3-MW-3, total lead at well A3-MW-9, and total cyanide at wells A3-MW-3 and A3-MW-10, each analyzed compound was either reported as non-detect or at concentrations well below their respective GWQSs. A discussion of the moving average trend analysis for Area III groundwater is presented later in this report.

In accordance with NYSDEC-approved procedures, ORC wells A3-ORC-1 through A3-ORC-11 are to be purged until 10 well volumes are removed or to dryness for four consecutive days, whichever occurs first, in order to obtain representative groundwater samples within the ORC area of Area III. A summary of the June and December 2016 Area III ORC semi-annual event field-measured parameters and analytical results are presented in Tables 8 and 9, respectively. Compounds detected above method detection limits are shown on these tables with their associated concentration and GWQS for comparison; concentrations exceeding the GWQSs are shaded. Upon examination of Tables 8 and 9, benzene exceeded the GWQS for ten of the eleven wells monitored during the June event and all eleven wells during the December event. Field measurement pH was determined to be outside the GWQS range at all eleven wells during the June event and nine of eleven wells during the December event.

The ORC "socks," suspended in each of the ORC wells are to be replaced when depleted. During the current monitoring event, ORC socks were removed and checked; none of which required replacement.

MOVING AVERAGE TREND ANALYSIS (MATA)

In general accordance with the LTGWM Plan for each Area of the Site, any parameter exceeding the GWQS for two consecutive events is to be statistically evaluated for all monitoring wells listed in Table 1. Statistical evaluation for each parameter of interest involves the averaging of four sequential monitoring event concentrations and plotting the moving average. The Area by Area 4-event moving average trend analysis (MATA) as well as the concentration versus time plots for those monitored locations and parameters requiring tracking (as defined above) are presented in Attachment 2 and summarized in Table 10. Evaluation of the MATA plots (Attachment 2) and table (Table 10) indicate the following:

- The concentration versus time and MATA plots for the field measured pH at wells A1-MW-5, A2-MW-16, A3-MW-7, and A3-MW-10 indicate a long-term neutral trend (neither increasing nor decreasing) since monitoring began at each location. The concentration versus time and MATA plot for the field measured pH at well A3-MW-9 indicates a slightly increasing trend.
- The MATA plot for benzene at wells A3-MW-7, A3-MW-9, and A3-MW-10 indicates a continued decreasing trend approaching the GWQS at each location. The MATA plot for benzene at A2-MW-16 indicates a neutral trend (neither increasing nor decreasing) however the concentration versus time plot indicates a slight rebound above the GWQS.
- The MATA plot for n-propylbenzene at well A1-MW-6 initially indicated an increasing 4-event moving average trend (August 2007 to May 2010); however upon closer inspection the trend was being influenced by unusually high concentration reported in August 2007 of more than 30 times historic values (i.e., outlier). The concentration versus time plot shown on the same charts, however, indicates not only a return to historic range (i.e., decreasing trend), but to concentrations approaching (and occasionally falling below) the GWQS from April 2008 through the current period. The MATA plot also reflects a decreasing trend approaching the GWQS since May 2010.
- Although the concentration versus time plot for total arsenic at well A1-MW-6 reveals a wide concentration range from a high 0.29 mg/L in December 2006 to 0.0455 mg/L in June 2015, the MATA plot clearly indicates a decreasing trend approaching the GWQS since August 2007.
- The MATA plot for cyanide at well A3-MW-3 initially indicated an increasing 4-event moving average trend from May 2010 to June 2012; however upon closer inspection the trend was being influenced by an unusually high cyanide concentration reported in June 2012 of more than four times historic values (i.e., outlier). The concentration versus time plot shown on the same chart, however, indicates a moderating return to historic ranges (i.e., decreasing trend). As such, the MATA plot for cyanide indicates a decreasing trend from June 2012 through the current period.
- Although the concentration versus time plot for cyanide at well A3-MW-7 reveals a wide concentration range from a high 0.267 mg/L in June 2014 to 0.01 in June 2013, the MATA plot clearly indicates a moderating trend below the GWQS since May 2009. Historically, cyanide concentrations at this location have been reported below the GWQS (between May 2009 and June 2013), followed by two events slightly above the GWQS (June 2014 and July 2015), and returning to a concentration well below the GWQS during the current reporting period.

NYSDEC EQuIS Deliverables

On July 25 and 26, 2017, TurnKey submitted the analytical data in Electronic Data Deliverable (EDD) format for the current groundwater and ORC monitoring events to the NYSDEC on behalf of FSMC to satisfy the NYSDEC EQuIS submittal requirement. TurnKey received confirmation on July 26 and 30, 2017 that the submittals were successfully uploaded and the data is available for use within the NYSDEC system.

MISCELLANEOUS ACTIVITIES

In June 2016, previously decommissioned monitoring well A1-MW-8 and piezometer A1-P-4 were replaced with new monitoring wells A1-MW-8R and A1-MW-10, respectively (see Figure 2). Both newly installed monitoring wells were developed, sampled, and surveyed during the current monitoring period. Well development, borehole logs, and well completion details are presented in Attachment 3. Surveyed top of riser elevations are presented on Table 3.

In September 2016, existing wells A1-MW-4 and A1-MW-M2 along with piezometer A1-P-2 were decommissioned in general accordance with NYSDEC Commissioners Policy 43 (CP-43: Groundwater Monitoring Well Decommissioning) and the NYSDEC-approved scope of work dated September 28, 2016 (see Figure 2 and Attachment 4). Well/piezometer decommissioning reports are presented in Attachment 4. Prior to well decommissioning, well A1-MW-4 was sampled and the analytical results included in this Report. Well A1-MW-M2 was damaged beyond repair and could not be sampled. Replacement wells for A1-MW-4 and A1-MW-M2 will be installed roughly 20 to 30 feet away from their historic locations (to avoid the Variance Area of Area I) which is tentatively scheduled for Summer 2017; prior to the scheduled 2017 annual groundwater monitoring event. Upon further discussion and concurrence with the NYSDEC, it was determined that piezometer A1-P-2 did not require replacement.

PLANNED ACTIVITIES

A schedule summarizing the past, present, and future monitoring events is presented in Table 1. The NYSDEC-approved bi-annual analytical program is presented in Table 2. The next planned comprehensive monitoring event for Areas I, II, and III will be performed Summer 2017. Replacement and development of former wells A1-MW-4 and A1-MW-M2 will be performed prior to the 2017 monitoring event. Area III ORC well monitoring is tentatively scheduled for June and November 2017 (every six months).

Please contact us if you have any questions.

Sincerely,
TurnKey Environmental Restoration, LLC

Bryan C. Hann
Project Manager

Enclosures

ec: Tom O'Brien (FSMC)
Paul Werthman (TurnKey)

File: 0322-017-500

TURNKEY ENVIRONMENTAL RESTORATION, LLC

TABLES

TABLE 1

GROUNDWATER MONITORING NETWORK AND SAMPLE FREQUENCY [1,2,3]

Comprehensive Groundwater Monitoring Report
Riverbend Site (V00619-9)
Buffalo, New York

Well Designation	Type of Well		Monitoring Event																	
	New	Existing	Year 1		Year 2		Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17
			1 SA	2SA	1 SA	2SA	Annual	Annual	Annual	Annual	Annual	Annual	Annual	Annual	Annual	Annual	Annual	Annual	Annual	Annual	Annual
AREA I																					
A1-MW-1		x	Sep-04	Sep-05	Dec-06		Aug-07	Apr-08	May-09	May-10	May-11	Jun-12	Jun-13	Jun-14	Jul-15	**Jun-16**	●	●	●	●	●
A1-MW-2		x	Sep-04	Sep-05	Dec-06		Aug-07	Apr-08	May-09	May-10	May-11	Jun-12	Jun-13	Jun-14	Jul-15	**Jun-16**	●	●	●	●	●
A1-MW-3		x	Sep-04	Sep-05	Dec-06		Aug-07	Apr-08	May-09	May-10	May-11	Jun-12	Jun-13	Jun-14	Jul-15	**Jun-16**	●	●	●	●	●
A1-MW-4 [4]	x		Sep-04	Sep-05	May-06	Dec-06	Aug-07	Apr-08	May-09	May-10	May-11	Jun-12	Jun-13	Jun-14	Jul-15	**Jun-16**	●	●	●	●	●
A1-MW-5	x		Sep-04	Sep-05	May-06	Dec-06	Aug-07	Apr-08	May-09	May-10	May-11	Jun-12	Jun-13	Jun-14	Jul-15	**Jun-16**	●	●	●	●	●
A1-MW-6	x		Sep-04	Sep-05	May-06	Dec-06	Aug-07	Apr-08	May-09	May-10	May-11	Jun-12	Jun-13	Jun-14	Jul-15	**Jun-16**	●	●	●	●	●
A1-MW-7 [5]	x		*water level only*								May-11	Jun-12	Jun-13	Jun-14	Jul-15	**Jun-16**	●	●	●	●	●
A1-MW-8	x		Sep-04	Sep-05	May-06	Dec-06	Aug-07	Apr-08	May-09	May-10	May-11	Jun-12	Jun-13	Jun-14							
A1-MW-8R [6]	x															**Jun-16**	●	●	●	●	●
A1-MW-9	x		Sep-04	Sep-05	May-06	Dec-06	Aug-07	Apr-08	May-09	May-10	May-11	Jun-12	Jun-13	Jun-14	Jul-15	**Jun-16**	●	●	●	●	●
A1-MW-10 [6]	x															**Jun-16**	●	●	●	●	●
A1-MW-M2 [4]		x	Sep-04	Sep-05	Dec-06		Aug-07	Apr-08	May-09	May-10	May-11	Jun-12	Jun-13	Jun-14	Jul-15	**Jun-16**	●	●	●	●	●
A1-P-4		x	Sep-04	Sep-05	Dec-06		Aug-07	Apr-08	May-09	May-10	May-11	Jun-12	Jun-13	Jun-14							
AREA II																					
A2-MW-3		x	Jul-07	Dec-07	Apr-08		May-09	May-10	May-11	Jun-12	Jun-13	Jun-14	Jul-15	**Jun-16**	●	●	●	●	●	●	●
A2-MW-4R		x	Jul-07	Dec-07	Apr-08		May-09	May-10	May-11	Jun-12	Jun-13	Jun-14	Jul-15	**Jun-16**	●	●	●	●	●	●	●
A2-MW-5		x	Jul-07	Dec-07	Apr-08		May-09	May-10	May-11	Jun-12	Jun-13	Jun-14	Jul-15	**Jun-16**	●	●	●	●	●	●	●
A2-MW-6		x	*water level only*																		
A2-MW-7		x	*water level only*																		
A2-MW-10		x	Dec-07	Apr-08	May-09		May-10	May-11	Jun-12	Jun-13	Jun-14	Jul-15	**Jun-16**	●	●	●	●	●	●	●	●
A2-MW-12		x	*water level only*																		
A2-MW-13		x	Jul-07	Dec-07	Apr-08		May-09	May-10	May-11	Jun-12	Jun-13	Jun-14	Jul-15	**Jun-16**	●	●	●	●	●	●	●
A2-MW-14	x		Jul-07	Dec-07	Apr-08	May-09	May-10	May-11	Jun-12	Jun-13	Jun-14	Jul-15	**Jun-16**	●	●	●	●	●	●	●	●
A2-MW-16	x		Jul-07	Dec-07	Apr-08	May-09	May-10	May-11	Jun-12	Jun-13	Jun-14	Jul-15	**Jun-16**	●	●	●	●	●	●	●	●
A2-MW-17	x		Jul-07	Dec-07	Apr-08	May-09	May-10	May-11	Jun-12	Jun-13	Jun-14	Jul-15	**Jun-16**	●	●	●	●	●	●	●	●
A2-MW-18	x		*water level only*																		
A2-MW-19	x		*water level only*																		
A2-MW-20	x		*water level only*																		
AREA III																					
A3-MW-3		x	Oct-08	May-09	May-10		May-11	Jun-12	Jun-13	Jun-14	Jul-15	**Jun-16**	●	●	●	●	●	●	●	●	●
A3-MW-6		x	Oct-08	May-09	May-10		May-11	Jun-12	Jun-13	Jun-14	Jul-15	**Jun-16**	●	●	●	●	●	●	●	●	●
A3-MW-7		x	Jul-07	Dec-07	Apr-08		May-09	May-10	May-11	Jun-12	Jun-13	Jun-14	Jul-15	**Jun-16**	●	●	●	●	●	●	●
A3-MW-9	x		Oct-08	May-09	Oct-09	May-10	May-11	Jun-12	Jun-13	Jun-14	Jul-15	**Jun-16**	●	●	●	●	●	●	●	●	●
A3-MW-10	x		Oct-08	May-09	Oct-09	May-10	May-11	Jun-12	Jun-13	Jun-14	Jul-15	**Jun-16**	●	●	●	●	●	●	●	●	●

TABLE 1

GROUNDWATER MONITORING NETWORK AND SAMPLE FREQUENCY [1,2,3]

Comprehensive Groundwater Monitoring Report
Riverbend Site (V00619-9)
Buffalo, New York

Well Designation	New	Existing	Year 1		Year 2		Year 3		Year 4		Year 5		Year 6		Year 7		Year 8		Year 9		Year 10	
			1 SA	2SA	1 SA	2SA	1 SA	2SA	1 SA	2SA	1 SA	2SA	1 SA	2SA	1 SA	2SA	1 SA	2SA	1 SA	2SA	1 SA	2SA
AREA III - ORC wells (every 6 months)																						
A3-ORC-1		x	Jul-07	Dec-07	Apr-08	Nov-08	May-09	Nov-09	May-10	Nov-10	May-11	Nov-11	Jun-12	Nov-12	Jun-13	Dec-13	Jun-14	Dec-14	Jul-15	Nov-15	**Jun-16**	●
A3-ORC-2		x	Jul-07	Dec-07	Apr-08	Nov-08	May-09	Nov-09	May-10	Nov-10	May-11	Nov-11	Jun-12	Nov-12	Jun-13	Dec-13	Jun-14	Dec-14	Jul-15	Nov-15	**Jun-16**	●
A3-ORC-3		x	Jul-07	Dec-07	Apr-08	Nov-08	May-09	Nov-09	May-10	Nov-10	May-11	Nov-11	Jun-12	Nov-12	Jun-13	Dec-13	Jun-14	Dec-14	Jul-15	Nov-15	**Jun-16**	●
A3-ORC-4		x	Jul-07	Dec-07	Apr-08	Nov-08	May-09	Nov-09	May-10	Nov-10	May-11	Nov-11	Jun-12	Nov-12	Jun-13	Dec-13	Jun-14	Dec-14	Jul-15	Nov-15	**Jun-16**	●
A3-ORC-5		x	Jul-07	Dec-07	Apr-08	Nov-08	May-09	Nov-09	May-10	Nov-10	May-11	Nov-11	Jun-12	Nov-12	Jun-13	Dec-13	Jun-14	Dec-14	Jul-15	Nov-15	**Jun-16**	●
A3-ORC-6		x	Jul-07	Dec-07	Apr-08	Nov-08	May-09	Nov-09	May-10	Nov-10	May-11	Nov-11	Jun-12	Nov-12	Jun-13	Dec-13	Jun-14	Dec-14	Jul-15	Nov-15	**Jun-16**	●
A3-ORC-7		x	Jul-07	Dec-07	Apr-08	Nov-08	May-09	Nov-09	May-10	Nov-10	May-11	Nov-11	Jun-12	Nov-12	Jun-13	Dec-13	Jun-14	Dec-14	Jul-15	Nov-15	**Jun-16**	●
A3-ORC-8		x	Jul-07	Dec-07	Apr-08	Nov-08	May-09	Nov-09	May-10	Nov-10	May-11	Nov-11	Jun-12	Nov-12	Jun-13	Dec-13	Jun-14	Dec-14	Jul-15	Nov-15	**Jun-16**	●
A3-ORC-9		x	Jul-07	Dec-07	Apr-08	Nov-08	May-09	Nov-09	May-10	Nov-10	May-11	Nov-11	Jun-12	Nov-12	Jun-13	Dec-13	Jun-14	Dec-14	Jul-15	Nov-15	**Jun-16**	●
A3-ORC-10		x	Jul-07	Dec-07	Apr-08	Nov-08	May-09	Nov-09	May-10	Nov-10	May-11	Nov-11	Jun-12	Nov-12	Jun-13	Dec-13	Jun-14	Dec-14	Jul-15	Nov-15	**Jun-16**	●
A3-ORC-11		x	Jul-07	Dec-07	Apr-08	Nov-08	May-09	Nov-09	May-10	Nov-10	May-11	Nov-11	Jun-12	Nov-12	Jun-13	Dec-13	Jun-14	Dec-14	Jul-15	Nov-15	**Jun-16**	●

Notes:

1. Per the LTGWM Plan, newly installed monitoring wells require four consecutive semi-annual groundwater monitoring events, then annually thereafter.
2. Per the LTGWM Plan, existing monitoring wells require two consecutive semi-annual groundwater monitoring events, then annually thereafter.
3. The groundwater sampling plan was modified to a bi-annual frequency (see Table 2) as per NYSDEC approval letter dated May 5, 2011.
4. Due to redevelopment activities in Area I, wells A1-MW-4 and A1-MW-M2 will need to be replaced.
5. Per a NYSDEC request, A1-MW-7 was sampled for VOCs, arsenic, chromiuim, and lead in 2011 only; water level and field parameters annually thereafter.
6. Well A1-MW-8 and piezometer A1-P-4 were replaced June 6-7, 2016 with wells A1-MW-8R and A1-MW-10, respectively.

Legend:

Jun-16	= current and tentatively scheduled future monitoring event
	= monitoring well was decomissioned to make way for redevelopment; replacement wells are being considered.
x	= type of monitoring well
●	= future monitoring event

TABLE 2

ANALYTICAL PROGRAM SUMMARY [1]

Comprehensive Groundwater Monitoring Report
Riverbend Site (V00619-9)
Buffalo, New York

Well Designation	Monitoring Year															
	2011, 2013, 2015, 2017, 2019								2012, 2014, 2016, 2018, 2020							
	Field	CP-51 VOCs	8260 Benzene Only	As	Cr	Pb	CN	Alk.	Field	CP-51 VOCs	8260 Benzene Only	As	Cr	Pb	CN	Alk.
AREA I																
A1-MW-1	x	x		x					x			x				
A1-MW-2	x	x							x							
A1-MW-3	x	x							x							
A1-MW-4 [2]	x	x							x							
A1-MW-5	x	x							x	x						
A1-MW-6	x	x		x					x	x		x				
A1-MW-7 [3]	x								x							
AI-MW-8R [4]	x	x		x					x			x				
A1-MW-9	x	x							x							
A1-MW-M2 [2]	x	x							x							
A1-MW-10 [4]	x	x			x				x				x			
AREA II																
A2-MW-3	x	x							x							
A2-MW-4R	x	x							x							
A2-MW-5	x	x							x							
A2-MW-6	*water level only*								*water level only*							
A2-MW-7	*water level only*								*water level only*							
A2-MW-10R	x	x							x							
A2-MW-12	*water level only*								*water level only*							
A2-MW-13	x	x							x							
A2-MW-16	x	x		x	x	x			x	x		x	x	x		
A2-MW-17	x	x							x	x						
A2-MW-18	*water level only*								*water level only*							
A2-MW-19	*water level only*								*water level only*							
A2-MW-20	*water level only*								*water level only*							
AREA III																
A3-MW-3	x	x		x			x		x	x		x			x	
A3-MW-6	x	x		x			x		x	x		x			x	
A3-MW-7	x	x					x		x	x					x	
A3-MW-9	x	x				x			x	x				x		
A3-MW-10	x	x					x		x	x					x	
AREA III - ORC wells (every 6 months)																
A3-ORC-1	x		x					x	x		x					x
A3-ORC-2	x		x					x	x		x					x
A3-ORC-3	x		x					x	x		x					x
A3-ORC-4	x		x					x	x		x					x
A3-ORC-5	x		x					x	x		x					x
A3-ORC-6	x		x					x	x		x					x
A3-ORC-7	x		x					x	x		x					x
A3-ORC-8	x		x					x	x		x					x
A3-ORC-9	x		x					x	x		x					x
A3-ORC-10	x		x					x	x		x					x
A3-ORC-11	x		x					x	x		x					x
Totals:	**34**	**22**	**11**	**6**	**2**	**2**	**4**	**11**	**34**	**9**	**11**	**6**	**2**	**2**	**4**	**11**

Notes:
1. Modified analytical plan as per NYSDEC approval letter dated May 5, 2011.
2. Due to redevelopment activities in Area I, wells A1-MW-4 and A1-MW-M2 will need to be replaced.
3. Per a NYSDEC request, A1-MW-7 was sampled for VOCs, arsenic, chromiuim, and lead in 2011; water level and field parameters annually thereafter.
4. Well A1-MW-8 and piezometer A1-P-4 were replaced June 6-7, 2016 with wells A1-MW-8R and A1-MW-10, respectively.

TABLE 3

GROUNDWATER ELEVATION MEASUREMENTS
June 17, 2016

2016 Comprehensive Groundwater Monitoring Report
Riverbend Site (V00619-9)
Buffalo, New York

Monitoring Location	TOR Elevation (fmsl)	DTP (fbTOR)	DTW (fbTOR)	Product Thickness (feet)	Groundwater Elevation (fmsl)	Corrected Groundwater Elevation [1] (fmsl)
Area I Monitoring Wells [2]						***11 Wells***
A1-MW-1	586.38	NP	10.94	NP	575.44	575.44
A1-MW-2	586.39	NP	9.16	NP	577.23	577.23
A1-MW-3	591.98	NP	16.88	NP	575.10	575.10
A1-MW-4	586.70	NP	7.64	NP	579.06	579.06
A1-MW-5	590.48	NP	8.42	NP	582.06	582.06
A1-MW-6	591.60	17.78	18.55	0.77	573.05	573.73
A1-MW-7	586.97	NP	11.73	NP	575.24	575.24
A1-MW-8R	589.83	NP	14.62	NP	575.21	575.21
A1-MW-9	588.05	NP	12.61	NP	575.44	575.44
A1-MW-M2	587.85	NM	NM	NM	NM	NM
A1-MW-10	589.73	NP	10.98	NP	578.75	578.75
Area II Monitoring Wells [2]						***17 Wells***
A2-MW-3	588.95	NP	7.42	NP	581.53	581.53
A2-MW-4R	588.59	NP	7.07	NP	581.52	581.52
A2-MW-5	587.25	NP	5.85	NP	581.40	581.40
A2-MW-6	592.69	NP	10.80	NP	581.89	581.89
A2-MW-7	602.05	NP	20.20	NP	581.85	581.85
A2-MW-10R	593.59	NP	10.74	NP	582.85	582.85
A2-MW-11	590.11	NP	7.75	NP	582.36	582.36
A2-MW-12	604.12	NP	18.88	NP	585.24	585.24
A2-MW-13	597.90	NP	14.51	NP	583.39	583.39
A2-MW-16	597.62	NP	14.21	NP	583.41	583.41
A2-MW-17	596.94	NP	13.94	NP	583.00	583.00
A2-MW-18	587.64	NP	5.16	NP	582.48	582.48
A2-MW-19	592.02	NP	9.51	NP	582.51	582.51
A2-MW-20	591.54	NP	6.92	NP	584.62	584.62
A2-PW-1	601.76	NP	21.70	NP	580.06	580.06
A2-PW-2	603.91	NP	19.62	NP	584.29	584.29
A2-PW-3	603.88	NP	20.40	NP	583.48	583.48
Area III Monitoring Wells [2]						***5 Wells***
A3-MW-3	585.40	NP	4.78	NP	580.62	580.62
A3-MW-6	585.70	NP	3.88	NP	581.82	581.82
A3-MW-7	586.39	NP	5.34	NP	581.05	581.05
A3-MW-9	597.61	NP	15.28	NP	582.33	582.33
A3-MW-10	585.41	NP	6.57	NP	578.84	578.84

TABLE 3

GROUNDWATER ELEVATION MEASUREMENTS
June 17, 2016

2016 Comprehensive Groundwater Monitoring Report
Riverbend Site (V00619-9)
Buffalo, New York

Monitoring Location	TOR Elevation (fmsl)	DTP (fbTOR)	DTW (fbTOR)	Product Thickness (feet)	Groundwater Elevation (fmsl)	Corrected Groundwater Elevation [1] (fmsl)
Area III ORC Monitoring Wells [2]						***11 Wells***
A3-ORC-1	587.17	NP	6.11	NP	581.06	581.06
A3-ORC-2	587.35	NP	6.18	NP	581.17	581.17
A3-ORC-3	587.55	NP	6.00	NP	581.55	581.55
A3-ORC-4	587.14	NP	5.62	NP	581.52	581.52
A3-ORC-5	587.77	NP	6.18	NP	581.59	581.59
A3-ORC-6	587.53	NP	6.21	NP	581.32	581.32
A3-ORC-7	587.16	NP	6.99	NP	580.17	580.17
A3-ORC-8	587.51	NP	6.98	NP	580.53	580.53
A3-ORC-9	585.15	NP	4.15	NP	581.00	581.00
A3-ORC-10	587.60	NP	6.63	NP	580.97	580.97
A3-ORC-11	587.70	NP	6.55	NP	581.15	581.15
Surface Water [4,5]						***3 Locations***
SG-01 (downstream)	585.07	NP	10.85	NP	574.22	574.22
SG-02 (upstream)	590.72	NP	16.48	NP	574.24	574.24
Lake Erie	NA	NA	NA	NA	NA	572.62

Notes:
1. Groundwater elevations are corrected if free product (i.e., LNAPL) is present.
2. Monitoring well reference point elevations (i.e., top of riser for wells and sheet pile for staff gauges) have been surveyed at various times by TurnKey or Steelfields.
4. Staff Gauge (SG) locations are located at the upstream and downstream locations indicated on Figure 1. Each staff gauge was surveyed on January 3, 2008 by Niagara Boundary personnel.
5. Source: NOAA Tides & Currents Web Page- Buffalo, NY Station ID 9063020; average daily elevation of Buffalo, New York Station #9063020.

Definitions:
DTP = depth to product, if present
DTW = detph to water
fmsl = feet above mean sea level
fbTOR = feet below top of riser
NP = no measureable product was present
NM = not measured for this event
R = replacement well
TOR = top of riser

TABLE 4

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS [1,2]
Area I: Former Steel Plant Parcel

Comprehensive Groundwater Monitoring Report
Riverbend Site (V00619-9)
Buffalo, New York

Parameter	Monitoring Location and Date of Sample Collection											GWQS/GV [1]
	A1-MW-1	A1-MW-2	A1-MW-3	A1-MW-4	A1-MW-5	A1-MW-6 [3]	A1-MW-7	A1-MW-8R	A1-MW-9	A1-MW-M2 [4]	A1-MW-10	
	06/22/16	06/24/16	06/24/16	06/22/16	06/22/16	06/23/16	06/24/16	06/24/16	06/22/16	07/15/15	06/24/16	
Field Measurements (units as indicated) [2]												
pH (units)	7.90	7.71	7.06	6.98	**9.65**	6.89	6.82	7.07	7.25	NS	7.13	**6.5 - 8.5**
Temperature (degrees C)	13.3	15.2	16.4	13.1	14.7	14.3	14.1	14.3	13.5	NS	14.7	**NA**
Specific Conductance (uS)	675	765.5	1319	877.3	596	1252	1016	898.2	1425	NS	674.6	**NA**
Turbidity (NTU)	5.7	13.7	107	5.41	4.14	74.3	4.47	90.9	19	NS	49.6	**NA**
Dissolved Oxygen (mg/L)	1.34	4.34	1.44	3.22	2.44	1.24	1.72	1.52	1.45	NS	1.34	**NA**
Eh (mV)	-133	-62	-93	42	-104	-115	15	-70	-119	NS	-104	**NA**
Visual Observation	Black	Clear	Clear	Sl. Turbid	clear	Black/Sheen	Clear	Sl. Turbid	Clear	NS	Clear	**NA**
Olfactory Observation	Sl Sulfur	Sl Sulfur	No odor	No odor	Sl Sulfur	Sl Petroleum	No odor	No odor	No odor	NS	No odor	**NA**
Volatile Organic Compounds (ug/L)												
Benzene	-	NS	NS	NS	ND	ND	NS	-	NS	NS	-	**1**
n-Butylbenzene	-	NS	NS	NS	ND	ND	NS	-	NS	NS	-	**5**
sec-Butylbenzene	-	NS	NS	NS	ND	ND	NS	-	NS	NS	-	**5**
tert-Butylbenzene	-	NS	NS	NS	ND	ND	NS	-	NS	NS	-	**5**
p-Cymene (4-Isopropyltoluene)	-	NS	NS	NS	ND	ND	NS	-	NS	NS	-	**5**
Ethylbenzene	-	NS	NS	NS	ND	ND	NS	-	NS	NS	-	**5**
Isopropylbenzene	-	NS	NS	NS	ND	ND	NS	-	NS	NS	-	**5**
Methyl tert butyl ether	-	NS	NS	NS	ND	ND	NS	-	NS	NS	-	**10**
n-Propylbenzene	-	NS	NS	NS	ND	**5.2 J**	NS	-	NS	NS	-	**5**
Toluene	-	NS	NS	NS	ND	ND	NS	-	NS	NS	-	**5**
1,2,4-Trimethylbenzene	-	NS	NS	NS	ND	ND	NS	-	NS	NS	-	**5**
1,3,5-Trimethylbenzene	-	NS	NS	NS	ND	ND	NS	-	NS	NS	-	**5**
Xylenes, Total	-	NS	NS	NS	ND	ND	NS	-	NS	NS	-	**15**
Total VOCs	***52.0***	***0.0***	***0.0***	***0.0***	***0.0***	***5.2***	***-***	***-***	***0.0***	***0.0***	***-***	**10**
Total Inorganics (mg/L)												
Total Arsenic	0.0102	NS	NS	NS	-	**0.0735**	NS	0.0085	NS	NS	-	**0.025**
Total Chromium	-	NS	NS	NS	-	-	NS	-	NS	NS	0.0016	**0.05**

Notes:

1. NYSDEC Class "GA" Groundwater Quality Standard/Guidance Value 6NYCRR Part 703 (effective June 1998)
2. Field measurements were collected immediately before and after groundwater sample collection.
3. Light non-aqueous phase liquid (LNAPL) detected.
4. Due to redevelopment activities in Area I, well A1-MW-M2 was not sampled.
5. " NA " = Not Applicable, a GWQS/GV has not been established for this parameter.
6. " ND " = the sample location was analyzed for this parameter, but reported at a concentration less than the method detection limit.
7. " NS " = monitoring location was damaged and could not be sampled.
8. " -- " = compound is not analyzed at this location

Color Code:

= Shaded values represent exceedances of the NYSDEC Class "GA" Groundwater Quality Standard/Guidance Value.

TABLE 5

SUMMARY OF LNAPL THICKNESS / REMOVAL IN A1-MW-6
Area I: Former Republic (LTV) Steel Plant Parcel

Comprehensive Groundwater Monitoring Report
Riverbend Site (V00619-9)
Buffalo, New York

Date	Days Since Last Visit	LNAPL Measurement			Quantity Removed [1] (oz.)	Height of Petro-Trap (fbTOR)	Comments
		Top (fbTOR)	Bottom (fbTOR)	Thickness (feet)			
09/21/04	0	18.10	18.40	0.30	NA	--	well development
09/23/04	2	18.10	18.40	0.30	NA	--	Fall 2004 groundwater monitoring event
02/01/05	**131**	**17.50**	**20.85**	**3.35**	**NA**	**16.0**	**installed PetroTrap passive skimmer**
02/08/05	7	17.94	19.89	1.95	16	16.0	first LNAPL removal from Petro Trap
02/11/05	3	17.89	19.75	1.86	20	16.0	ok
02/15/05	4	18.10	18.52	0.42	20	16.0	ok
02/18/05	3	17.59	17.91	0.32	12	16.0	ok
02/25/05	7	18.02	18.51	0.49	2	16.0	Petro Trap tubing was tangled
03/04/05	7	18.13	18.63	0.50	6	16.0	Petro Trap tubing was tangled
03/18/05	14	18.00	18.74	0.74	3.5	16.0	checked Petro Trap for leaks, none located
04/08/05	21	17.37	18.20	0.83	24	15.0	ok; raised Petro Trap approximately 1-foot
04/14/05	6	17.65	17.81	0.16	22	15.0	ok
04/28/05	14	16.23	16.25	0.02	25.6	15.0	ok
05/17/05	19	17.62	17.80	0.18	14	14.0	~14 oz. of water in Petro Trap; raised approx. 1-foot
06/21/05	35	17.68	17.71	0.03	14	14.0	ok
07/18/05	27	18.03	18.11	0.08	12	15.0	ok, lowered approx. 1-foot
09/09/05	53	18.34	18.42	0.08	8	15.0	ok
09/20/05	11	18.33	18.38	0.05	22	15.0	ok; Area I LTGWM Event
10/31/05	41	18.50	18.52	0.02	24	15.0	ok
11/23/05	23	18.95	18.96	0.01	22	15.0	ok
12/28/05	35	19.35	19.36	0.01	22	15.0	ok
01/30/06	33	18.43	18.44	0.01	24	15.0	ok
02/27/06	28	18.38	19.06	0.68	24	15.0	ok
03/28/06	29	18.44	19.31	0.87	24	15.0	ok
04/27/06	30	18.39	19.17	0.78	24	15.0	ok
05/18/06	21	18.41	19.05	0.64	8	15.0	ok; Area I LTGWM Event
06/30/06	43	17.82	18.35	0.53	8	15.0	ok
07/31/06	31	17.95	18.64	0.69	16	15.0	ok
12/01/06	123	19.41	21.65	2.24	16	15.0	ok; Area I LTGWM Event, removed oily water.
06/30/07	211	17.98	20.51	2.53	8	15.0	ok
07/31/07	31	18.31	21.40	3.09	22	14.0	~12oz. Water in Trap; raised PetroTrap approx. 1'
08/22/07	22	18.50	20.11	1.61	4	14.0	ok
09/29/07	38	18.86	21.72	2.86	4	14.0	ok
10/30/07	31	19.10	21.04	1.94	3	14.0	ok
11/28/07	29	19.47	20.52	1.05	2	14.0	checked Petro Trap for leaks, none located
12/28/07	30	18.93	20.42	1.49	14	15.0	~12oz. Water in Trap; lowered PetroTrap approx. 1'
08/12/08	228	17.98	19.60	1.62	30	15.0	ok, bailed down product removed ~1.0 gal. TK took over monitor
09/10/08	29	18.61	20.10	1.49	4	15.0	Needs to be ajusted and claened
10/08/08	28	18.90	20.46	1.56	8	17.5	Lowered trap to 17.41 fbgs, cleaned off filter.
11/11/08	34	18.79	21.00	2.21	11	17.5	ok
12/16/08	35	18.64	20.86	2.22	1	17.5	ok
01/07/09	22	18.28	21.20	2.92	1	17.0	raised trap to 17.0 fbgs
02/11/09	35	18.52	21.22	2.70	64	17.0	17 oz in trap, bailed 47 oz
03/10/09	27	17.50	19.63	2.13	2	17.0	ok
04/01/09	22	18.12	19.08	0.96	48	17.0	Bailed ~40oz, ~8 was removed from trap
05/06/09	35	17.61	19.81	2.20	3	17.0	ok
05/12/09	6	17.65	17.96	0.31	18	17.0	ok
06/02/09	21	17.64	18.17	0.53	2	17.0	ok
07/08/09	36	17.96	18.17	0.21	20	17.0	ok
08/06/09	29	18.05	19.75	1.70	1.5	17.0	ok
09/01/09	26	18.11	19.20	1.09	3	17.0	ok
10/06/09	35	17.84	19.62	1.78	6	17.0	ok
11/03/09	28	17.82	19.11	1.29	10	17.0	ok
12/01/09	28	18.07	18.50	0.43	20	17.0	ok
01/13/10	43	18.22	18.75	0.53	5	17.0	ok
02/10/10	28	18.03	19.00	0.97	4	17.0	ok
03/05/10	23	19.31	20.81	1.50	3	17.0	ok
04/06/10	32	18.61	20.41	1.80	4	17.0	ok
05/05/10	29	18.41	20.20	1.79	1	17.0	ok
05/17/10	12	18.03	20.42	2.39	1	17.0	ok
06/04/10	18	17.83	19.88	2.05	3	17.0	ok
07/14/10	40	17.95	19.70	1.75	16	17.0	ok
08/06/10	23	18.00	20.17	2.17	1	17.0	ok
09/10/10	35	18.64	20.90	2.26	2	17.0	ok

TABLE 5

SUMMARY OF LNAPL THICKNESS / REMOVAL IN A1-MW-6
Area I: Former Republic (LTV) Steel Plant Parcel

Comprehensive Groundwater Monitoring Report
Riverbend Site (V00619-9)
Buffalo, New York

Date	Days Since Last Visit	LNAPL Measurement			Quantity Removed [1] (oz.)	Height of Petro-Trap (fbTOR)	Comments
		Top (fbTOR)	Bottom (fbTOR)	Thickness (feet)			
10/15/10	35	18.82	20.61	1.79	2	17.0	ok
11/02/10	18	19.25	19.60	0.35	24	17.0	Less 0.5oz was removed via petro trap, bailed 24oz
12/14/10	42	18.30	19.48	1.18	1	17.0	ok
01/20/11	37	19.03	20.34	1.31	10	17.0	ok
02/18/11	29	18.84	19.83	0.99	18	17.0	Bailed ~15 oz of product
04/27/11	68	17.15	18.00	0.85	1	17.0	TOP was over petro-trap.
05/23/11	26	17.82	19.91	2.09	16	17.0	4 oz. removed from trap, bailed 12 oz.
06/07/11	15	16.47	20.28	3.81	21	17.0	7 oz. removed from trap, bailed 14 oz.
07/13/11	36	17.64	20.12	2.48	14	17.0	5 oz. removed from trap, bailed 9 oz
08/10/11	28	18.32	20.09	1.77	5	17.0	3 oz. removed from trap, bailed 2 oz
09/29/11	50	17.28	18.40	1.12	22	17.0	2 oz. removed from trap, bailed 22 oz.
10/17/11	18	16.93	18.65	1.72	13	17.0	ok
11/29/11	43	18.66	19.84	1.18	26	17.0	ok
12/22/11	23	19.24	19.77	0.53	19	17.0	ok
01/12/12	21	18.14	19.67	1.53	21	17.0	ok
02/06/12	25	18.79	19.84	1.05	18	17.0	ok
03/08/12	31	17.38	21.18	3.80	21	17.0	ok
04/05/12	28	19.16	20.33	1.17	22	17.0	ok
05/03/12	28	18.71	20.03	1.32	24	17.0	ok
06/19/12	47	18.20	19.61	1.41	24	17.0	1 oz. removed from trap, bailed 23 oz.
07/25/12	36	18.69	20.42	1.73	28	17.0	ok
12/21/12	149	18.97	19.30	0.33	5	17.0	1 oz. removed from trap, bailed 4 oz.
01/17/13	27	19.25	20.40	1.15	30	17.0	2 oz. removed from trap, bailed 28 oz.
02/25/13	39	19.18	20.45	1.27	19	16.5	1 oz. removed from trap, bailed 18 oz.
03/28/13	31	18.95	19.30	0.35	13	17.0	2 oz. removed from trap, bailed 11 oz.
04/29/13	32	18.45	19.40	0.95	25	17.0	3 oz. removed from trap, bailed 22 oz.
05/24/13	25	19.05	19.63	0.58	18	17.0	3 oz. removed from trap, bailed 15 oz.
06/17/13	24	18.13	18.43	0.30	8	16.0	0 oz. removed from trap, bailed 8 oz.
07/18/13	31	17.67	18.05	0.38	13	16.0	2 oz. removed from trap, bailed 11 oz.
08/19/13	32	18.02	18.75	0.73	26	16.0	4 oz. removed from trap, bailed 22 oz.
09/13/13	25	18.85	19.07	0.22	11	16.5	0 oz. removed from trap, bailed 11 oz.
10/17/13	34	18.55	18.85	0.30	7.5	16.0	0.5 oz. removed from trap, bailed 7 oz.
11/06/13	20	18.62	19.15	0.53	22	16.0	3 oz. removed from trap, bailed 19 oz.
12/03/13	27	19.33	19.69	0.36	19	16.0	3 oz. removed from trap, bailed 16 oz.
01/13/14	41	18.34	19.30	0.96	21	17.0	2 oz. removed from trap, bailed 19 oz.
02/20/14	38	19.62	20.21	0.59	20	17.0	4 oz. removed from trap, bailed 16 oz.
03/27/14	35	18.91	19.67	0.76	28.5	17.0	5.5 oz. removed from trap, bailed 23 oz.
04/17/14	21	18.17	19.06	0.89	20	17.0	1 oz. removed from trap, bailed 19 oz.
05/27/14	40	17.52	17.87	0.35	9	17.0	3 oz. removed from trap, bailed 6 oz.
06/20/14	24	17.83	18.19	0.36	5	17.0	0.5 oz. removed from trap, bailed 4.5 oz.
07/10/14	20	18.24	18.28	0.04	2	17.0	0.0 oz. removed from trap, bailed 2 oz.
August through October: RiverBend Area I sold, no measurements obtained							
11/06/14	119	18.71	19.18	0.47	23	17.0	2.0 oz. removed from trap, bailed 21 oz.
12/11/14	35	17.64	18.55	0.91	32	17.0	4.0 oz. removed from trap, bailed 28 oz.
01/29/15	49	18.67	20.82	2.15	35	17.0	1.0 oz. removed from trap, bailed 34 oz.
02/27/15	29	19.22	19.25	0.03	2	17.0	0.0 oz. removed from trap, bailed 2 oz.
03/23/15	24	19.18	19.24	0.06	4	17.0	1.0 oz. removed from trap, bailed 3 oz.
04/27/15	35	18.92	19.22	0.30	12	17.0	2.0 oz. removed from trap, bailed 10 oz.
05/26/15	29	19.50	19.57	0.07	6	17.0	1.0 oz. removed from trap, bailed 5 oz.
06/10/15	15	18.32	18.35	0.03	3	17.0	1.0 oz. removed from trap, bailed 2 oz.
07/24/15	44	17.60	17.62	0.02	1.5	17.0	0.5 oz. removed from trap, bailed 1 oz.
08/31/15	38	18.10	18.12	0.02	2	17.0	0.5 oz. removed from trap, bailed 1.5 oz.
09/30/15	30	18.60	18.64	0.04	6	17.0	1.0 oz. removed from trap, bailed 5 oz.
10/30/15	30	18.28	18.36	0.08	6.5	17.0	0.5 oz. removed from trap, bailed 6 oz.
12/27/15	58	18.14	18.20	0.06	4.5	17.0	0.5 oz. removed from trap, bailed 1.5 oz.
01/28/16	32	18.12	18.14	0.02	1.5	17.0	0.0 oz. removed from trap, bailed 1.5 oz.
02/27/16	30	18.10	18.13	0.03	2	17.0	0.5 oz. removed from trap, bailed 1.5 oz.
03/27/16	29	17.51	17.54	0.03	4.5	17.0	0.0 oz. removed from trap, bailed 4.5 oz.
04/25/16	29	17.38	17.42	0.04	2.5	17.0	0.5 oz. removed from trap, bailed 2 oz.
05/31/16	36	17.29	17.31	0.02	2	17.0	0.5 oz. removed from trap, bailed 1.5 oz.
06/28/16	28	17.21	17.29	0.08	2	17.0	0.5 oz. removed from trap, bailed 1 oz.

TABLE 5

SUMMARY OF LNAPL THICKNESS / REMOVAL IN A1-MW-6
Area I: Former Republic (LTV) Steel Plant Parcel

Comprehensive Groundwater Monitoring Report
Riverbend Site (V00619-9)
Buffalo, New York

Date	Days Since Last Visit	LNAPL Measurement			Quantity Removed [1] (oz.)	Height of Petro-Trap (fbTOR)	Comments
		Top (fbTOR)	Bottom (fbTOR)	Thickness (feet)			
07/29/16	31	17.16	17.18	0.02	1	17.0	0.5 oz. removed from trap, bailed 0.5 oz.
08/30/16	32	17.70	17.72	0.02	2.5	17.0	1.0 oz. removed from trap, bailed 1.5 oz.
09/30/16	31	18.35	18.36	0.01	1	17.0	0.0 oz. removed from trap, bailed 1 oz.
12/30/16	91	18.03	18.26	0.23	30.5	17.0	0.5 oz. removed from trap, bailed 30 oz.
Total Quantity Removed To Date:					**1641.6 oz.**	**or 12.82 gal.**	

Notes:
1. The PetroTrap canister used has a capacity of 25.6 oz. (0.2 gal).
2. Data from January 1, 2007 through July 31, 2008 was collected by EnSol, Inc.; data before and after this time has been collected by TurnKey Environmmental Restoration, LLC.

TABLE 6

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS [1,2]
Area II: Former Coke Plant Parcel

Comprehensive Groundwater Monitoring Report
Riverbend Site (V00619-9)
Buffalo, New York

Parameter	Monitoring Location and Date of Sample Collection							GWQS/GV [1]
	A2-MW-3	A2-MW-4R	A2-MW-5	A2-MW-10R	A2-MW-13	A2-MW-16	A2-MW-17	
	06/20/16	06/20/16	06/20/16	06/21/16	06/21/16	06/22/16	06/21/16	
Field Measurements (units as indicated) [2]								
pH (units)	7.69	7.38	7.15	7.96	7.1	6.63	7.03	**6.5 - 8.5**
Temperature (degrees C)	15.5	13	14.5	16.3	13.2	18.0	13.5	**NA**
Specific Conductance (uS)	779.8	982.7	725.6	1339	2560	2003	2754	**NA**
Turbidity (NTU)	5.21	5.04	3.48	2.72	1.33	397	1.37	**NA**
Dissolved Oxygen (mg/L)	2.39	1.32	1.54	1.93	1.58	2.12	2.19	**NA**
Eh (mV)	- 70	- 76	- 73	- 139	- 112	-41	- 116	**NA**
Visual Observation	Clear	Clear	Clear	Clear	Clear	Turbid	Clear	**NA**
Olfactory Observation	No odor	No odor	No odor	No Odor	No odor	Mothball Odor	No Odor	**NA**
Volatile Organic Compounds (ug/L)								
Benzene	NS	NS	NS	NS	NS	**1.8**	ND	**1**
n-Butylbenzene	NS	NS	NS	NS	NS	ND	ND	**5**
sec-Butylbenzene	NS	NS	NS	NS	NS	ND	ND	**5**
tert-Butylbenzene	NS	NS	NS	NS	NS	ND	1.4 J	**5**
p-Cymene (4-Isopropyltoluene)	NS	NS	NS	NS	NS	ND	ND	**5**
Ethylbenzene	NS	NS	NS	NS	NS	ND	ND	**5**
Isopropylbenzene	NS	NS	NS	NS	NS	ND	ND	**5**
Methyl tert butyl ether	NS	NS	NS	NS	NS	ND	ND	**10**
n-Propylbenzene	NS	NS	NS	NS	NS	ND	ND	**5**
Toluene	NS	NS	NS	NS	NS	ND	ND	**5**
1,2,4-Trimethylbenzene	NS	NS	NS	NS	NS	ND	ND	**5**
1,3,5-Trimethylbenzene	NS	NS	NS	NS	NS	ND	ND	**5**
Xylenes, Total	NS	NS	NS	NS	NS	ND	ND	**15**
Total VOCs	**--**	**--**	**--**	**--**	**--**	***1.8***	***1.4***	**10**
Inorganics (mg/L)								
Total Arsenic	NS	NS	NS	NS	NS	0.0095	--	**0.025**
Total Chromium	NS	NS	NS	NS	NS	0.0085	--	**0.05**
Total Lead	NS	NS	NS	NS	NS	0.0101	--	**0.025**

Notes:

1. NYSDEC Class "GA" Groundwater Quality Standard/Guidance Value 6NYCRR Part 703 (effective June 1998)
2. Field measurements were collected immediately before and after groundwater sample collection.
3. " NA " = Not Applicable, a GWQS/GV has not been established for this parameter.
4. " ND " = the sample location was analyzed for this parameter, but reported at a concentration less than the method detection limit.
5. " NS " = this monitoring location was damaged and was not sampled
6. " -- " = This parameter was not analyzed.

Color Code:

= Shaded values represent exceedances of the NYSDEC Class "GA" Groundwater Quality Standard/Guidance Value.

TABLE 7

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS [1,2]
Area III: Former Warehouse Parcel

Comprehensive Groundwater Monitoring Report
Riverbend Site (V00619-9)
Buffalo, New York

Parameter	Monitoring Location and Date of Sample Collection					GWQS/GV [1]
	A3-MW-3	A3-MW-6	A3-MW-7	A3-MW-9	A3-MW-10	
	06/22/16	06/21/16	06/21/16	06/22/16	06/21/16	
Field Measurements (units as indicated) [2]						
pH (units)	6.71	8.32	**9.98**	**12.01**	**5.58**	**6.5 - 8.5**
Temperature (degrees C)	20.4	16.4	16.9	11.5	15.3	**NA**
Specific Conductance (uS)	1251	1013	503.3	1437	4997	**NA**
Turbidity (NTU)	41.4	1.63	3.3	75.7	19.4	**NA**
Dissolved Oxygen (mg/L)	3.00	1.30	1.94	2.95	0.19	**NA**
Eh (mV)	143	- 154	- 229	- 106	- 23	**NA**
Visual Observation	Sl. Turbid	clear	clear	clear	Clear	**NA**
Olfactory Observation	No odor	no odor	Sulfur	no odor	no odor	**NA**
Volatile Organic Compounds (ug/L)						
Benzene	ND	ND	**11**	0.8 J	**1.6**	**1**
n-Butylbenzene	ND	ND	ND	ND	ND	**5**
sec-Butylbenzene	ND	ND	ND	ND	ND	**5**
tert-Butylbenzene	ND	ND	ND	ND	ND	**5**
p-Cymene (4-Isopropyltoluene)	ND	ND	ND	ND	ND	**5**
Ethylbenzene	ND	ND	ND	ND	ND	**5**
Isopropylbenzene	ND	ND	ND	ND	ND	**5**
Methyl tert butyl ether	ND	ND	ND	ND	ND	**10**
n-Propylbenzene	ND	ND	ND	ND	ND	**5**
Toluene	ND	ND	ND	ND	ND	**5**
1,2,4-Trimethylbenzene	ND	ND	ND	ND	ND	**5**
1,3,5-Trimethylbenzene	ND	ND	ND	ND	ND	**5**
Xylenes, Total	ND	ND	ND	ND	ND	**15**
Total VOCs	***0***	***0***	***11***	***0.8***	***1.6***	**10**
Inorganics (mg/L)						
Total Arsenic	**0.1861**	0.0056	-	-	-	**0.025**
Total Lead	-	-	-	**0.0366**	-	**0.025**
Wet Chemistry (mg/L)						
Cyanide	**7.96**	0.026	0.064	-	**0.198**	**0.2**

Notes:
1. NYSDEC Class "GA" Groundwater Quality Standard/Guidance Value 6NYCRR Part 703 (effective June 1998)
2. Field measurements were collected immediately before and after groundwater sample collection.
4. "-" Analysis was not performed for this parameter.
5. " J " = Estimated Value
6. " NA " = Not Applicable, a GWQS/GV has not been established for this parameter.
7. " ND " = the sample location was analyzed for this parameter, but reported at a concentration less than the method detection limit.

Color Code:
= Shaded values represent exceedances of the NYSDEC Class "GA" Groundwater Quality Standard/Guidance Value.

TURNKEY ENVIRONMENTAL RESTORATION, LLC

TABLE 8

SUMMARY OF JUNE 2016 ORC ANALYTICAL RESULTS [1,2,3]
Area III: Former Warehouse Parcel

Comprehensive Groundwater Monitoring Report
Riverbend Site (V00619-9)
Buffalo, New York

Parameter	Monitoring Location											GWQS [2]
	A3-ORC-1	A3-ORC-2	A3-ORC-3	A3-ORC-4	A3-ORC-5	A3-ORC-6	A3-ORC-7	A3-ORC-8	A3-ORC-9	A3-ORC-10	A3-ORC-11	
Field Measurements During Purge (units as shown) [1]												
Static Depth to Water (fbTOR)	6.21	6.18	6.11	5.82	6.25	6.21	8.00	6.77	4.21	6.62	6.72	--
Total Depth (fbTOR)	14.08	14.43	14.38	14.38	14.03	14.36	14.36	14.63	14.03	14.55	14.57	--
One Casing Volume (gallons)	5.13	5.39	5.40	5.59	5.08	5.32	4.15	5.13	6.41	5.18	5.13	--
Number of Volumes Purged	5.7	6.7	4.4	4.7	6.1	4.9	6.7	4.7	10.0	5.8	10.5	--
Sample Determination [3]	4-days	4-days	4-days	4-days	4-days	4-days	4-days	4-days	4-days	4-days	volume	--
Purge: Day 1 (06/20/16) (gallons)	8.0	9.0	6.0	6.0	9.0	7.5	7.0	6.0		9.0	15.0	--
Purge: Day 2 (06/21/16) (gallons)	7.0	10.0	6.0	6.0	8.0	6.5	8.0	6.0		9.0	12.0	--
Purge: Day 3 (06/22/16) (gallons)	7.0	9.0	6.0	7.0	7.0	6.0	7.0	6.0	64.0	6.0	15.0	--
Purge: Day 4 (06/23/16) (gallons)	7.0	8.0	6.0	7.0	7.0	6.0	6.0	6.0		6.0	12.0	
Sample Collection (date indicated)	06/23/16	06/23/16	06/23/16	06/23/16	06/23/16	06/23/16	06/23/16	06/23/16	06/22/16	06/23/16	07/17/15	--
Cumulative Volume Purged (gallons)	29.0	36.0	24.0	26.0	31.0	26.0	28.0	24.0	64.0	30.0	54.0	--
Field Measurements During Sample Collection (units as shown) [3]												
pH (units)	**10.53**	**5.01**	**4.80**	**5.89**	**5.10**	**4.66**	**5.45**	**4.55**	**2.97**	**6.08**	**5.39**	6.5 - 8.5
Temperature (deg C)	14.0	19.1	18.0	18.2	18.2	20.0	13.3	18.7	18.2	20.0	18.0	--
Specific Conductance (uS)	1762	6004	6984	4640	6419	10,480	9725	9,848	8327	9365	6209	--
Turbidity (NTU)	47.1	52.6	27.9	111	96.3	112	>1000	88.5	87	158	59.6	--
Dissolved Oxygen (ppm)	0.09	2.15	2.23	1.42	3.06	1.55	1.44	1.31	1.44	0.45	1.11	--
ORP (mV)	- 303	32	108	- 55	104	124	20	68	267	- 84	7	--
Visual Observation	black	orange	orange	orange	orange/brown	orange/brown	light brown	yellow	clear yellow	orange	light brown	--
Volatile Organic Compounds (mg/L):												
Benzene	**2**	**3.9**	**1.7**	0.001	**6.6**	**4.4**	**0.013**	**15**	**120**	**12**	**0.0014**	0.001
Wet Chemistry (mg/L):												
Alkalinity	217	ND	ND	296	15.7	ND	133	ND	ND	722	122	--

Notes:

1. Field measurements were collected immediately before groundwater sample collection.
2. NYSDEC Class "GA" Groundwater Quality Standard/Guidance Value 6NYCRR Part 703 (effective June 1998).
3. NYSDEC requirement: purge 10 well volumes or to dryness for 4 consecutive days, then sample. "Volume" indicates that 10 well volumes were purged prior to sample collection and "4-days" indicates that the well was purged to
4. "B" = Analyte is found in the associated blank, as well as the sample.
5. " D " = Analysis performed at the secondary dilution factor.
6. " ND " indicates parameter was not detected above laboratory reporting limit and is reported herein as not detected (ND).

Color Code:

= Shaded values represent exceedances of the NYSDEC Class "GA" Groundwater Quality Standard/Guidance Value.

TABLE 9

SUMMARY OF DECEMBER 2016 ORC ANALYTICAL RESULTS [1,2,3]
Area III: Former Warehouse Parcel

Comprehensive Groundwater Monitoring Report
Riverbend Site (V00619-9)
Buffalo, New York

Parameter	Monitoring Location											GWQS [2]
	A3-ORC-1	A3-ORC-2	A3-ORC-3	A3-ORC-4	A3-ORC-5	A3-ORC-6	A3-ORC-7	A3-ORC-8	A3-ORC-9	A3-ORC-10	A3-ORC-11	
Field Measurements During Purge (units as shown) [1]												
Static Depth to Water (fbTOR)	4.85	5.15	5.55	4.10	4.67	5.56	6.19	6.02	3.41	5.65	5.31	--
Total Depth (fbTOR)	14.08	14.43	14.38	14.38	14.03	14.36	14.36	14.63	14.03	14.55	14.57	--
One Casing Volume (gallons)	6.00	6.00	5.70	6.70	6.10	5.70	5.30	5.60	6.90	5.80	6.00	--
Number of Volumes Purged	6.2	6.2	5.6	5.4	9.8	5.6	10.6	6.8	9.4	12.8	14.0	--
Sample Determination [3]	4-days	4-days	4-days	4-days	4-days	4-days	volume	4-days	4-days	volume	volume	--
Purge: Day 1 (11/9/15) (gallons)	9.0	9.0	10.0	15.0	28.0	8.0	30.0	14.0		30.0	30.0	--
Purge: Day 2 (11/10/15) (gallons)	10.0	12.0	8.0	7.0	10.0	10.0	9.0	9.0		25.0	35.0	--
Purge: Day 3 (11/11/15) (gallons)	10.0	9.0	7.0	7.0	12.0	7.0	10.0	7.0		10.0	9.0	--
Purge: Day 4 (11/12/15) (gallons)	8.0	7.0	7.0	7.0	10.0	7.0	7.0	8.0	65.0	9.0	10.0	--
Sample Collection (date indicated)	12/02/16	12/02/16	12/02/16	12/02/16	12/02/16	12/02/16	12/02/16	12/02/16	12/02/16	12/02/16	12/02/16	--
Cumulative Volume Purged (gallons)	37.0	37.0	32.0	36.0	60.0	32.0	56.0	38.0	65.0	74.0	84.0	--
Field Measurements During Sample Collection (units as shown) [3]												
pH (units)	**9.72**	**5.15**	**4.74**	**6.00**	**6.69**	**4.63**	**5.84**	**5.10**	**3.05**	**6.81**	**6.02**	6.5 - 8.5
Temperature (deg C)	7.3	7.0	7.4	8.1	7.2	9.8	9.8	8.2	9.3	10.2	9.8	--
Specific Conductance (uS)	1709	6188	7416	4720	2106	10940	5164	5703	7050	2466	5274	--
Turbidity (NTU)	NA	56	126	123	41.7	242	87.7	106	56.9	78.2	82.1	--
Dissolved Oxygen (ppm)	0.27	4.55	4.72	5.28	365	4.71	3	2.91	1.97	3.24	3.57	--
ORP (mV)	-37	30	77	63	7	90	56	58	132	-31	-22	--
Visual Observation	black	clear	yellowish	yellowish	clear yellow	light brown	light brown	light brown	yellowish	clear	clear	--
Volatile Organic Compounds (mg/L):												
Benzene	**1.5**	**4.6**	**2.1**	**0.0019**	**0.036**	**7**	**0.038**	**15**	**130**	**0.2**	**0.0012**	0.001
Wet Chemistry (mg $CaCO_3$/L):												
Alkalinity	189	23.2	2.8	353	356	ND	71.7	49.8	ND	353	136	--

Notes:

1. Field measurements were collected immediately before groundwater sample collection.
2. NYSDEC Class "GA" Groundwater Quality Standard/Guidance Value 6NYCRR Part 703 (effective June 1998).
3. NYSDEC requirement: purge 10 well volumes or to dryness for 4 consecutive days, then sample. "volume" indicates that 10 well volumes were purged prior to sample collection and "4-days" indicates that the well was purged to dryness 4 consecutive days prior to sample collection.
4. " ND " indicates parameter was not detected above laboratory reporting limit and is reported herein as not detected (ND).

Color Code:

= Shaded values represent exceedances of the NYSDEC Class "GA" Groundwater Quality Standard/Guidance Value.

TURNKEY ENVIRONMENTAL RESTORATION, LLC

TABLE 10

AREA-BY-AREA MOVING AVERAGE TREND ANALYSIS (MATA) SUMMARY

Comprehensive Groundwater Monitoring Report
Riverbend Site (V00619-9)
Buffalo, New York

Location	No. of Data Pts.	MATA Pts.	Moving Average Trend [1] [increasing (I), decreasing (D), neutral (N)]						
			pH	Benzene	n-Butylbenzene	Isopropylbenzene	n-Propylbenzene	Total Arsenic	Cyanide
Area I Monitoring Wells									
A1-MW-1	**13**	**NA**	NA	NA	NA	NA	NA	NA	--
A1-MW-2	**13**	**NA**	NA	NA	NA	NA	NA	NA	--
A1-MW-3	**13**	**NA**	NA	NA	NA	NA	NA	NA	--
A1-MW-4	**14**	**NA**	NA	NA	NA	NA	NA	NA	--
A1-MW-5	**14**	**11**	**N**	NA	NA	NA	NA	NA	--
A1-MW-6	**14**	**11**	NA	NA	NA	NA	**D**	**D**	--
A1-MW-7	**6**	**NA**	NA	NA	NA	NA	NA	NA	--
A1-MW-8R	**1**	**0**	NA	NA	NA	NA	NA	NA	--
A1-MW-9	**14**	**NA**	NA	NA	NA	NA	NA	NA	--
A1-MW-M2	**12**	**NA**	NA	NA	NA	NA	NA	NA	--
A1-MW-10	**1**	**0**	NA	NA	NA	NA	NA	NA	--
Area II Monitoring Wells									
A2-MW-3	**11**	**NA**	NA	NA	NA	NA	NA	NA	--
A2-MW-4R	**11**	**NA**	NA	NA	NA	NA	NA	NA	--
A2-MW-5	**11**	**NA**	NA	NA	NA	NA	NA	NA	--
A2-MW-10R	**10**	**NA**	NA	NA	NA	NA	NA	NA	--
A2-MW-13	**11**	**NA**	NA	NA	NA	NA	NA	NA	--
A2-MW-16	**11**	**8**	**N**	**N**	NA	NA	NA	NA	--
A2-MW-17	**11**	**NA**	NA	NA	NA	NA	NA	NA	--
Area III Monitoring Wells									
A3-MW-3	**9**	**6**	NA	NA	NA	NA	NA	NA	**D**
A3-MW-6	**9**	**NA**	NA	NA	NA	NA	NA	NA	NA
A3-MW-7	**11**	**8**	**N**	**D**	NA	NA	NA	NA	**D**
A3-MW-9	**10**	**7**	**I**	**D**	NA	NA	NA	NA	NA
A3-MW-10	**10**	**7**	**N**	**D**	NA	NA	NA	NA	NA

Notes:

1. In general accordance with the LTGWM Plan for each Area and based upon the groundwater results to date any parameter exceeding the groundwater quality standard for two (2) consecutive
2. " -- " = not analyzed for this parameter.
3. NA = indicates there have not been two consecutive exceedances of the GWQS/GV at this location and trending is "not applicable".

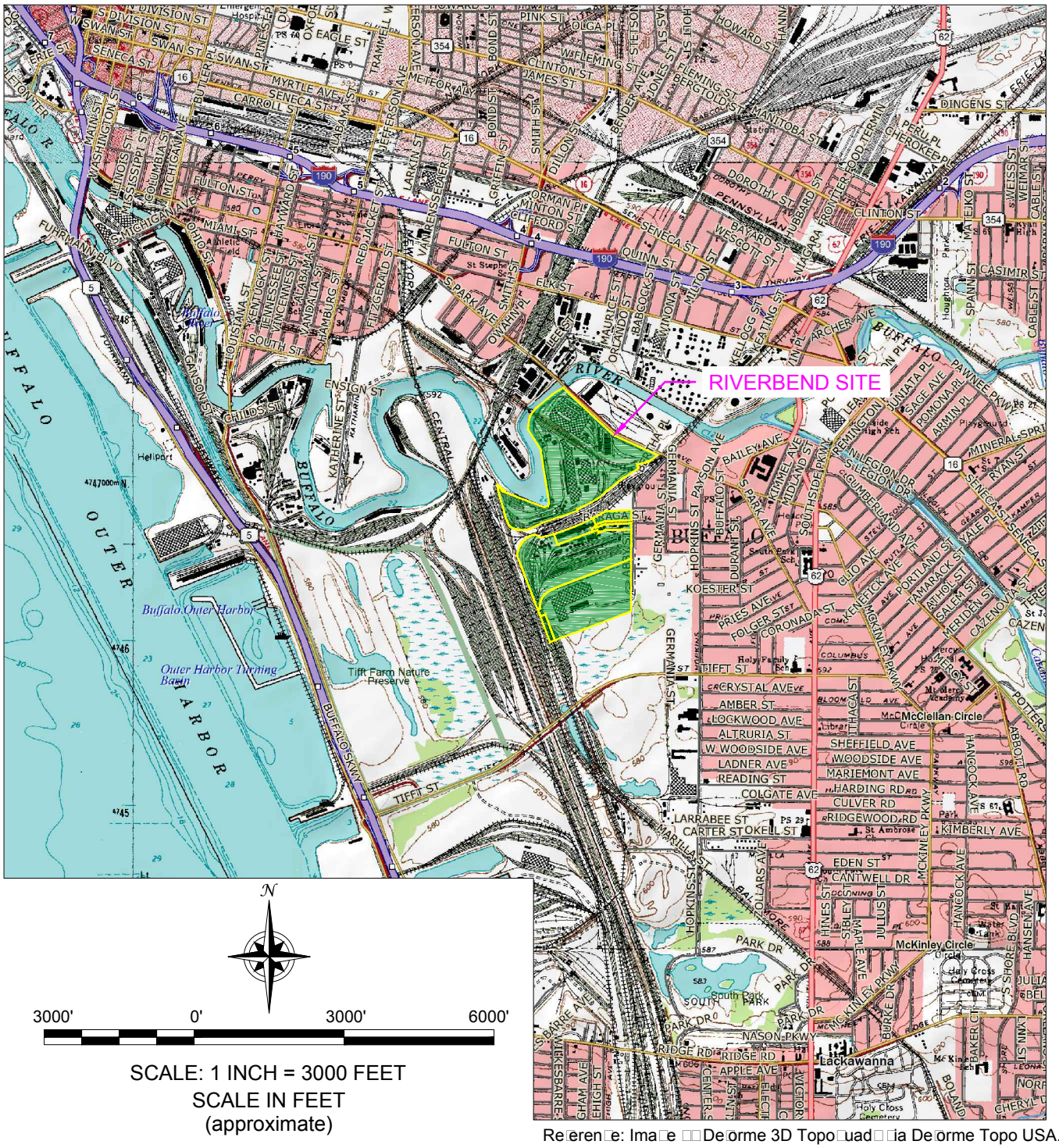
Color Code:

= Concentration versus time and 4-event moving average plots are provided in Attachment 2.

FIGURES

F:\CAD\TurnKey\Riverbend (formerly Steelfields)\LTGWM Program\2016 Comprehenssive GWM Report\Figure 1; Site Vicinity and Location Map (2016).dwg

FIGURE 1



Reference: Image © DeLorme 3D TopoQuad © DeLorme Topo USA.

TurnKey Environmental Restoration, LLC
2558 HAMBURG TURNPIKE
SUITE 300
BUFFALO, NY 14218
(716) 856-0635

PROJECT NO.: 0322-016-500

DATE: JUNE 2016

DRAFTED BY: BCH

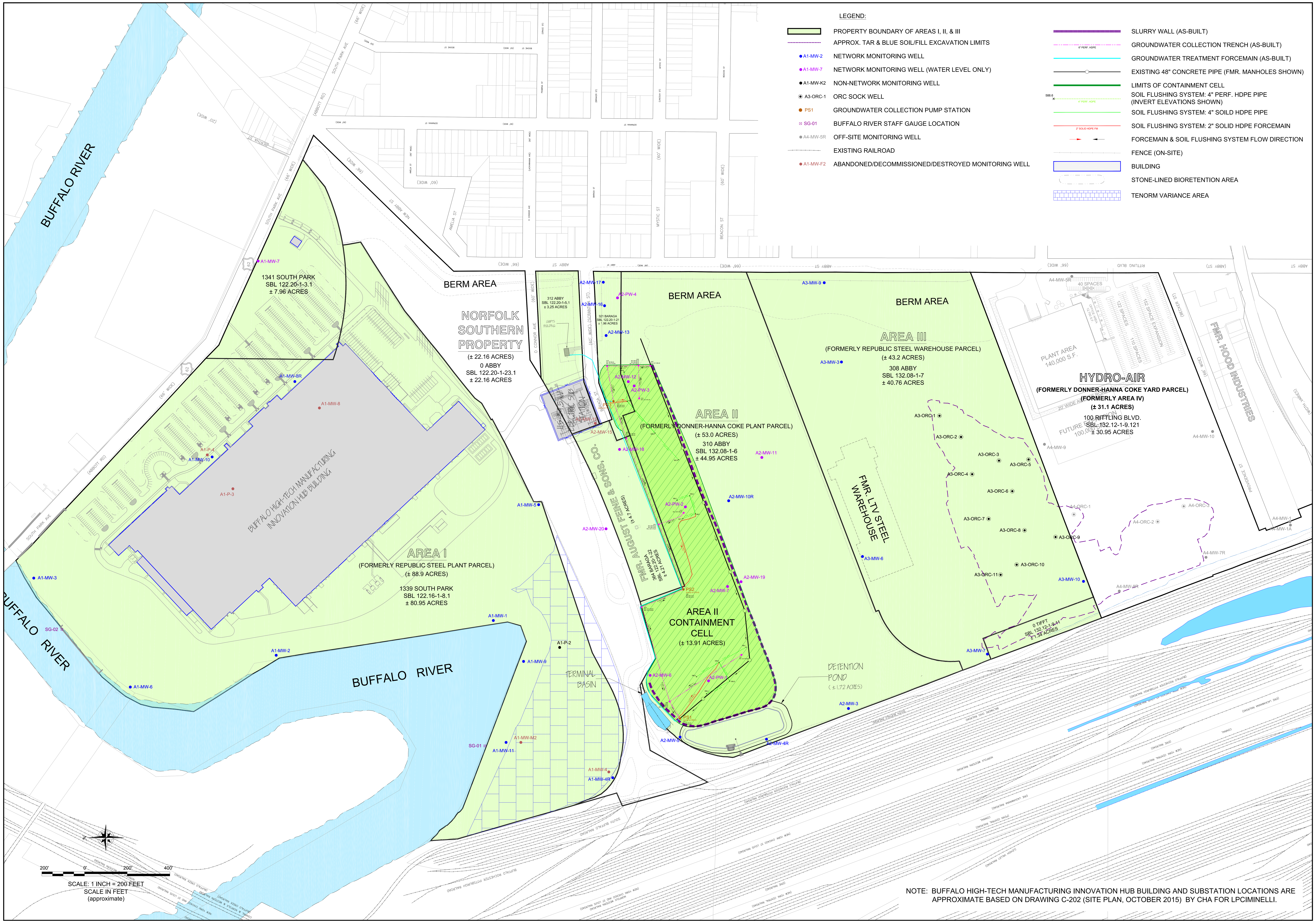
SITE VICINITY & LOCATION MAP

ANNUAL GROUNDWATER MONITORING REPORT

RIVERBEND SITE
BUFFALO, NEW YORK

PREPARED FOR

FORT SCHUYLER MANAGEMENT CORPORATION



LEGEND:
PROPERTY BOUNDARY OF AREAS I, II, & III
APPROX. TAR & BLUE SOIL/FILL EXCAVATION LIMITS
NETWORK MONITORING WELL
NETWORK MONITORING WELL (WATER LEVEL ONLY)
NON-NETWORK MONITORING WELL
ORC SOCK WELL
GROUNDWATER COLLECTION PUMP STATION
BUFFALO RIVER STAFF GAUGE LOCATION
OFF-SITE MONITORING WELL
EXISTING RAILROAD
ABANDONED/DECOMMISSIONED/DESTROYED MONITORING WELL
SLURRY WALL (AS-BUILT)
GROUNDWATER COLLECTION TRENCH (AS-BUILT)
GROUNDWATER TREATMENT FORCEMAIN (AS-BUILT)
EXISTING 48" CONCRETE PIPE (FMR. MANHOLES SHOWN)
LIMITS OF CONTAINMENT CELL
SOIL FLUSHING SYSTEM: 4" PERF. HDPE PIPE (INVERT ELEVATIONS SHOWN)
SOIL FLUSHING SYSTEM: 4" SOILD HDPE PIPE
SOIL FLUSHING SYSTEM: 2" SOLID HDPE FORCEMAIN
FORCEMAIN & SOIL FLUSHING SYSTEM FLOW DIRECTION
FENCE (ON-SITE)
BUILDING
STONE-LINED BIORETENTION AREA
TENORM VARIANCE AREA
BUFFALO RIVER
1341 SOUTH PARK
SBL 122.20-1-3.1
± 7.96 ACRES
BERM AREA
NORFOLK SOUTHERN PROPERTY
(± 22.16 ACRES)
0 ABBY
SBL 122.20-1-23.1
± 22.16 ACRES
BUFFALO HIGH-TECH MANUFACTURING INNOVATION HUB BUILDING
AREA I
(FORMERLY REPUBLIC STEEL PLANT PARCEL)
(± 88.9 ACRES)
1339 SOUTH PARK
SBL 122.16-1-8.1
± 80.95 ACRES
AREA II
(FORMERLY DONNER-HANNA COKE PLANT PARCEL)
(± 53.0 ACRES)
310 ABBY
SBL 132.08-1-6
± 44.95 ACRES
AREA II CONTAINMENT CELL
(± 13.91 ACRES)
FMR. AUGUST FEINE & SONS, CO.
AREA III
(FORMERLY REPUBLIC STEEL WAREHOUSE PARCEL)
(± 43.2 ACRES)
308 ABBY
SBL 132.08-1-7
± 40.76 ACRES
FMR. LTV STEEL WAREHOUSE
HYDRO-AIR
(FORMERLY DONNER-HANNA COKE YARD PARCEL)
(FORMERLY AREA IV)
(± 31.1 ACRES)
100 RITTLING BLVD.
SBL 132.12-1-9.121
± 30.95 ACRES
PLANT AREA
140,000 S.F.
FMR. HOOD INDUSTRIES
TERMINAL BASIN
DETENTION POND
(± 1.72 ACRES)
ABBY ST
SOUTH PARK AVE
SCALE: 1 INCH = 200 FEET
SCALE IN FEET
(approximate)

NOTE: BUFFALO HIGH-TECH MANUFACTURING INNOVATION HUB BUILDING AND SUBSTATION LOCATIONS ARE APPROXIMATE BASED ON DRAWING C-202 (SITE PLAN, OCTOBER 2015) BY CHA FOR LPCIMINELLI.

TURNKEY ENVIRONMENTAL RESTORATION, LLC
2558 HAMBURG TURNPIKE
SUITE 300
BUFFALO, NY 14218
(716) 856-0635

JOB NO.: 0322-017-500

REVISIONS

NO.	BY	DATE	REMARKS

SEAL

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DATE: JULY 2017
CHECKED BY:
APPROVED BY:

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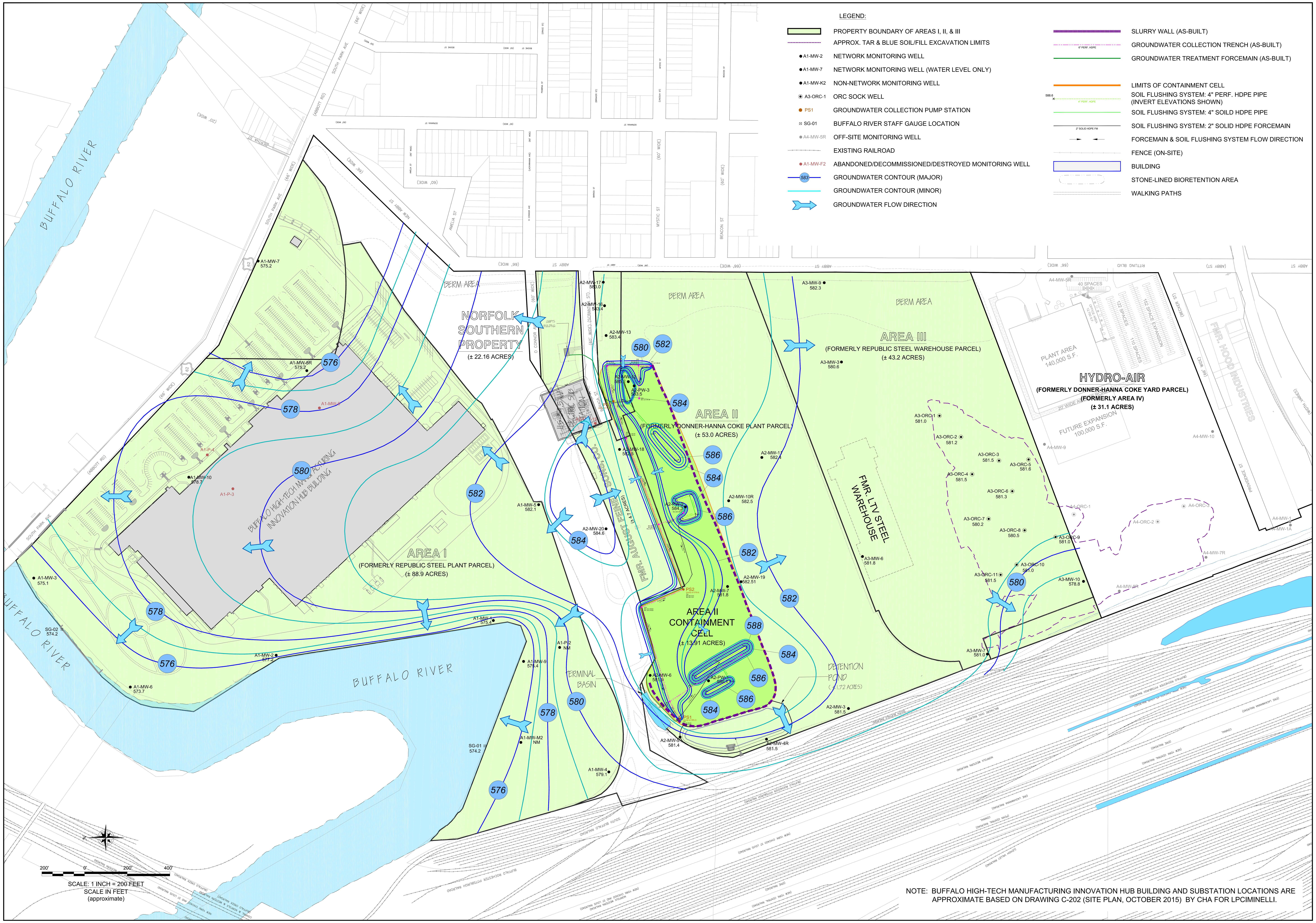
SITE PLAN

ANNUAL GROUNDWATER MONITORING REPORT
FORMER STEEL MANUFACTURING SITE
BUFFALO, NEW YORK

PREPARED FOR
FORT SCHUYLER MANAGEMENT CORPORATION

FIGURE 2


LEGEND:
PROPERTY BOUNDARY OF AREAS I, II, & III
APPROX. TAR & BLUE SOIL/FILL EXCAVATION LIMITS
NETWORK MONITORING WELL
NETWORK MONITORING WELL (WATER LEVEL ONLY)
NON-NETWORK MONITORING WELL
ORC SOCK WELL
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BUFFALO RIVER STAFF GAUGE LOCATION
OFF-SITE MONITORING WELL
EXISTING RAILROAD
ABANDONED/DECOMMISSIONED/DESTROYED MONITORING WELL
GROUNDWATER CONTOUR (MAJOR)
GROUNDWATER CONTOUR (MINOR)
GROUNDWATER FLOW DIRECTION
SLURRY WALL (AS-BUILT)
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FORCEMAIN & SOIL FLUSHING SYSTEM FLOW DIRECTION
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BUILDING
STONE-LINED BIORETENTION AREA
WALKING PATHS
BUFFALO RIVER
NORFOLK SOUTHERN PROPERTY
(± 22.16 ACRES)
AREA I
(FORMERLY REPUBLIC STEEL PLANT PARCEL)
(± 88.9 ACRES)
BUFFALO HIGH-TECH MANUFACTURING INNOVATION HUB BUILDING
AREA II
(FORMERLY DONNER-HANNA COKE PLANT PARCEL)
(± 53.0 ACRES)
AREA II CONTAINMENT CELL
(± 13.91 ACRES)
AREA III
(FORMERLY REPUBLIC STEEL WAREHOUSE PARCEL)
(± 43.2 ACRES)
FMR. LTV STEEL WAREHOUSE
HYDRO-AIR
(FORMERLY DONNER-HANNA COKE YARD PARCEL)
(FORMERLY AREA IV)
(± 31.1 ACRES)
FMR. HOOD INDUSTRIES
BERM AREA
TERMINAL BASIN
DETENTION POND
FMR. AUGUST STREET
SCALE: 1 INCH = 200 FEET
SCALE IN FEET
(approximate)

NOTE: BUFFALO HIGH-TECH MANUFACTURING INNOVATION HUB BUILDING AND SUBSTATION LOCATIONS ARE APPROXIMATE BASED ON DRAWING C-202 (SITE PLAN, OCTOBER 2015) BY CHA FOR LPCIMINELLI.

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DATE: JUNE 2016
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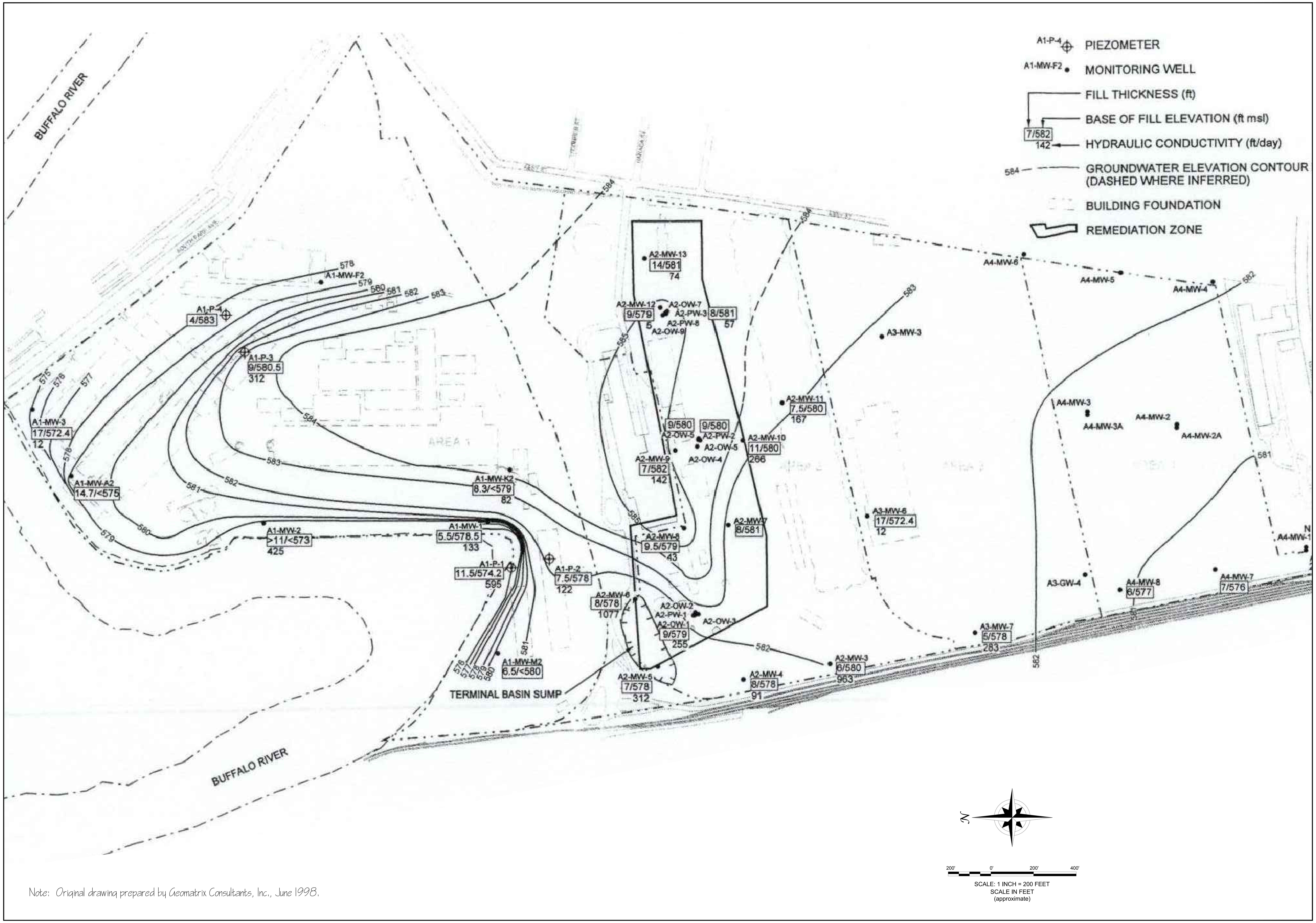
APPROVED BY:

ISOPOTENTIAL MAP FOR JUNE 17 2016

ANNUAL GROUNDWATER MONITORING REPORT
FORMER STEEL MANUFACTURING SITE
BUFFALO, NEW YORK

PREPARED FOR
FORT SCHUYLER MANAGEMENT CORPORATION

FIGURE 3



Note: Original drawing prepared by Geomatrix Consultants, Inc., June 1998.

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2558 HAMBURG TURNPIKE
SUITE 300
BUFFALO, NY 14218
(716) 856-0635

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DATE: JUNE 2016
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ISOPOTENTIAL MAP - JUNE 1998

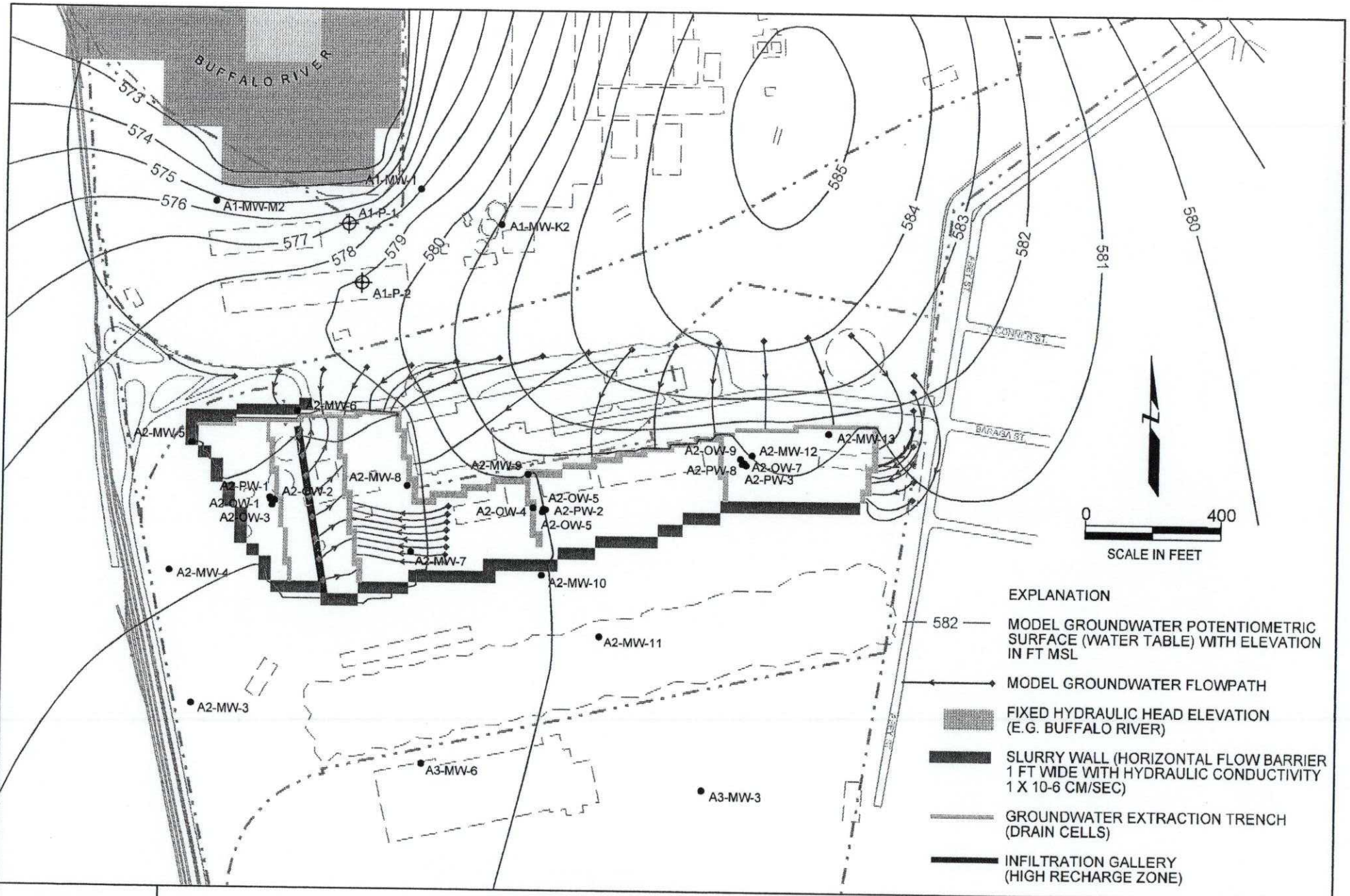
GROUNDWATER / ORC MONITORING EVENT
FORMER STEEL MANUFACTURING SITE
BUFFALO, NEW YORK

PREPARED FOR
FORT SCHUYLER MANAGEMENT CORPORATION

FIGURE 4

ATTACHMENT 1

GROUNDWATER FLOW MODEL (GEOMATRIX, DECEMBER 1998)



GEOMATRIX

SIMULATED GROUNDWATER CONTOURS AND FLOWPATHS
REMEDIAL ALTERNATIVE 2
LTV Steel
Buffalo, New York

Figure 11

Project No. B4991

MAP_WT3X.pen

CHECKED:_____ \\SFPRNT2\Splash Hold Job-Name\matrix.ctb

q:\buffalo\b4991\gfm_981f_fig_11.dgn

ATTACHMENT 2

CONCENTRATION VERSUS TIME & MOVING AVERAGE TREND ANALYSIS (MATA) PLOTS

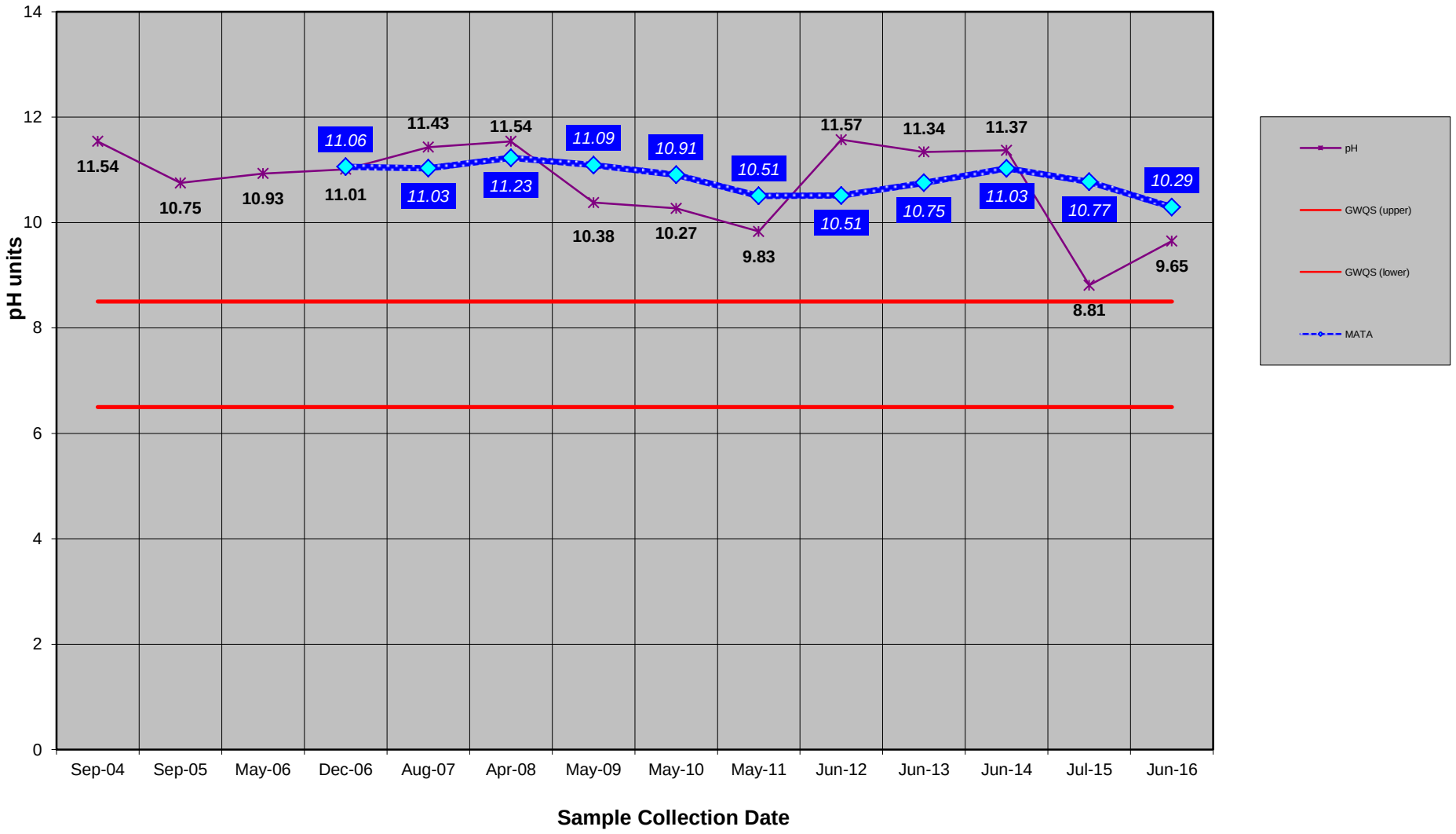
ATTACHMENT 2A

pH

ATTACHMENT 2

MOVING AVERAGE TREND ANALYSIS
A1-MW-5
pH

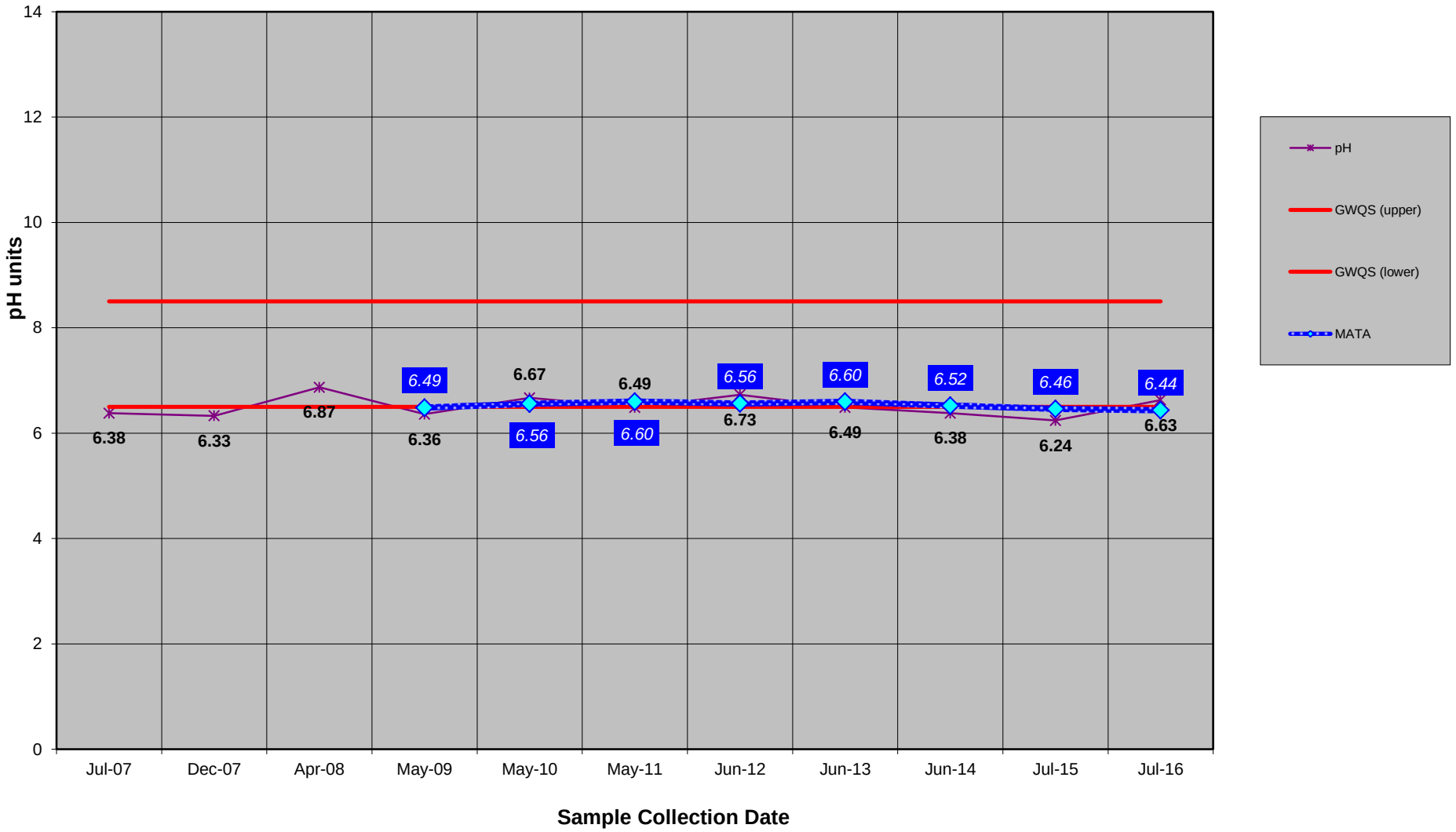
Riverbend Area I LTGWM
Buffalo, New York



ATTACHMENT 2

MOVING AVERAGE TREND ANALYSIS
A2-MW-16
pH

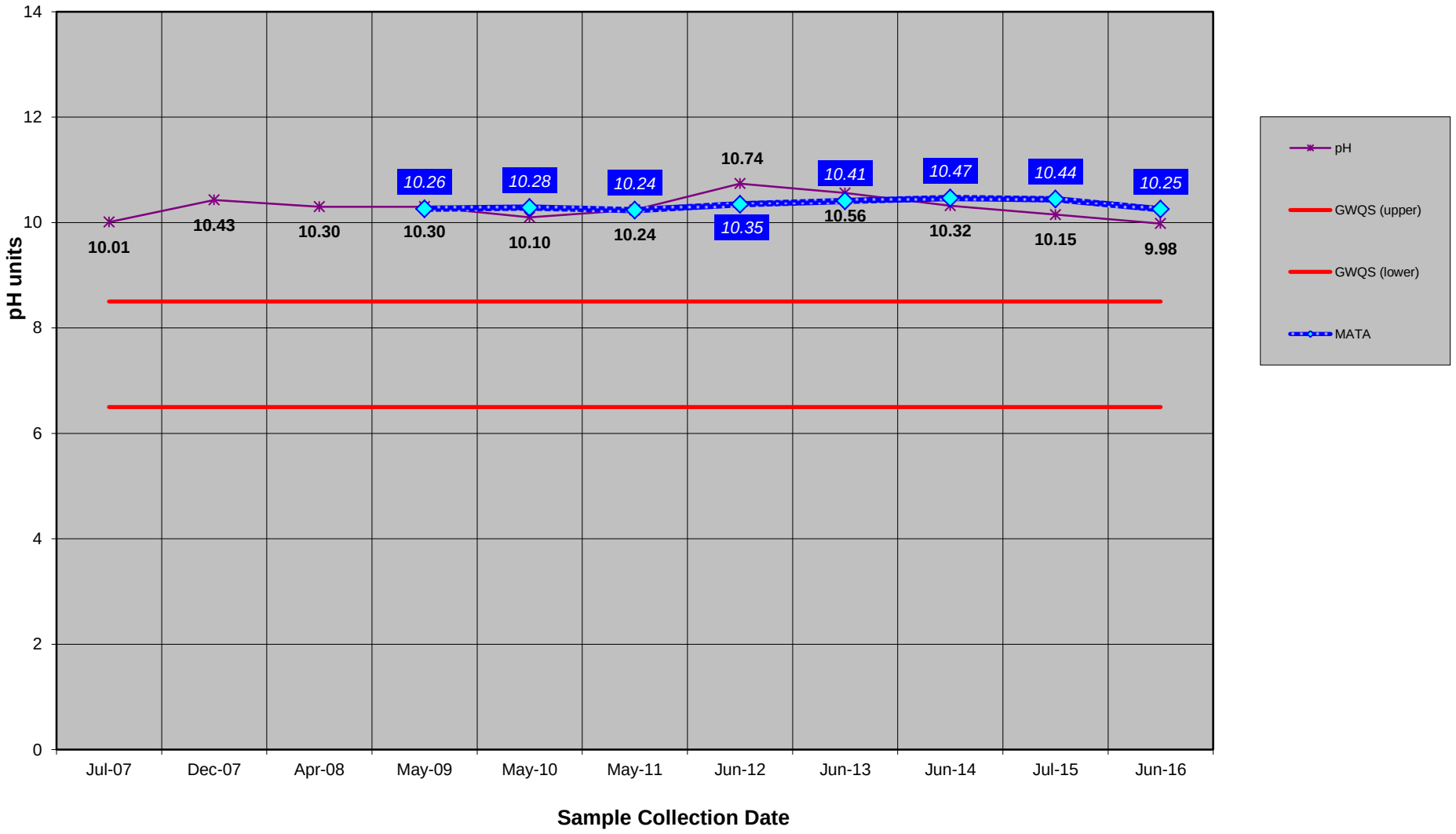
Riverbend Area I LTGWM
Buffalo, New York



ATTACHMENT 2

MOVING AVERAGE TREND ANALYSIS
A3-MW-7
pH

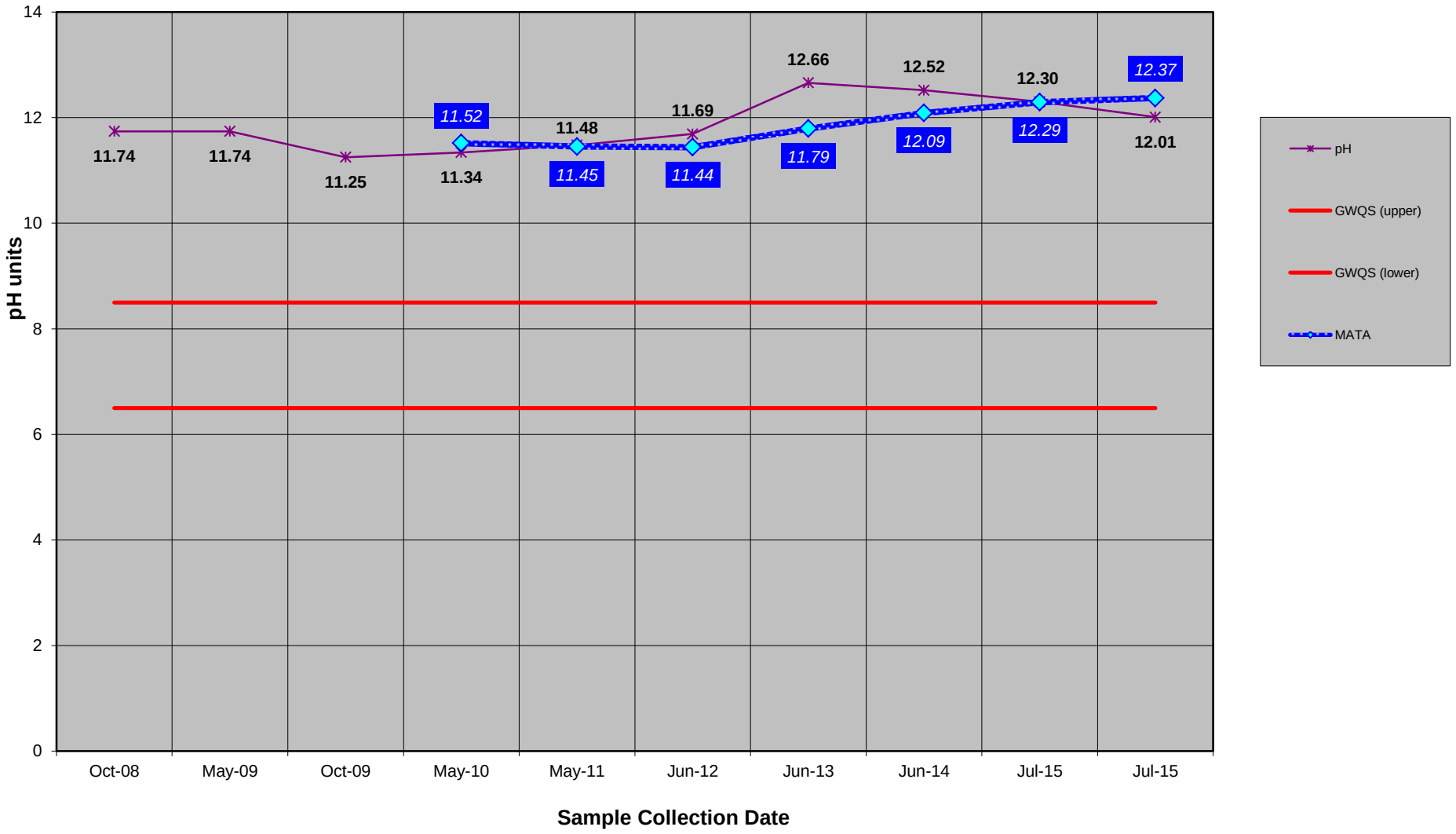
Riverbend Area I LTGWM
Buffalo, New York



ATTACHMENT 2

MOVING AVERAGE TREND ANALYSIS
A3-MW-9
pH

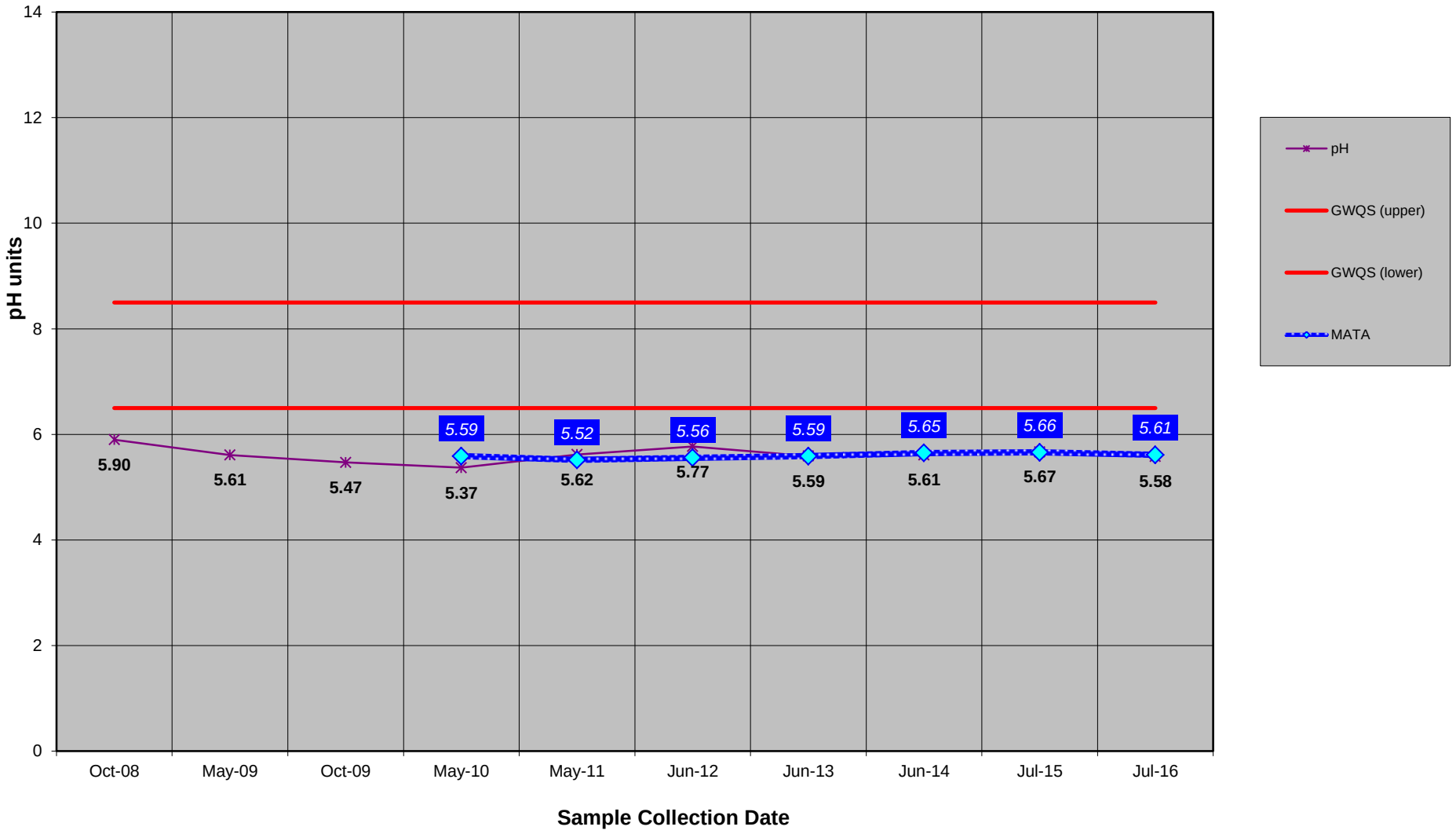
Riverbend Area I LTGWM
Buffalo, New York



ATTACHMENT 2

MOVING AVERAGE TREND ANALYSIS
A3-MW-10
pH

Riverbend Area I LTGWM
Buffalo, New York



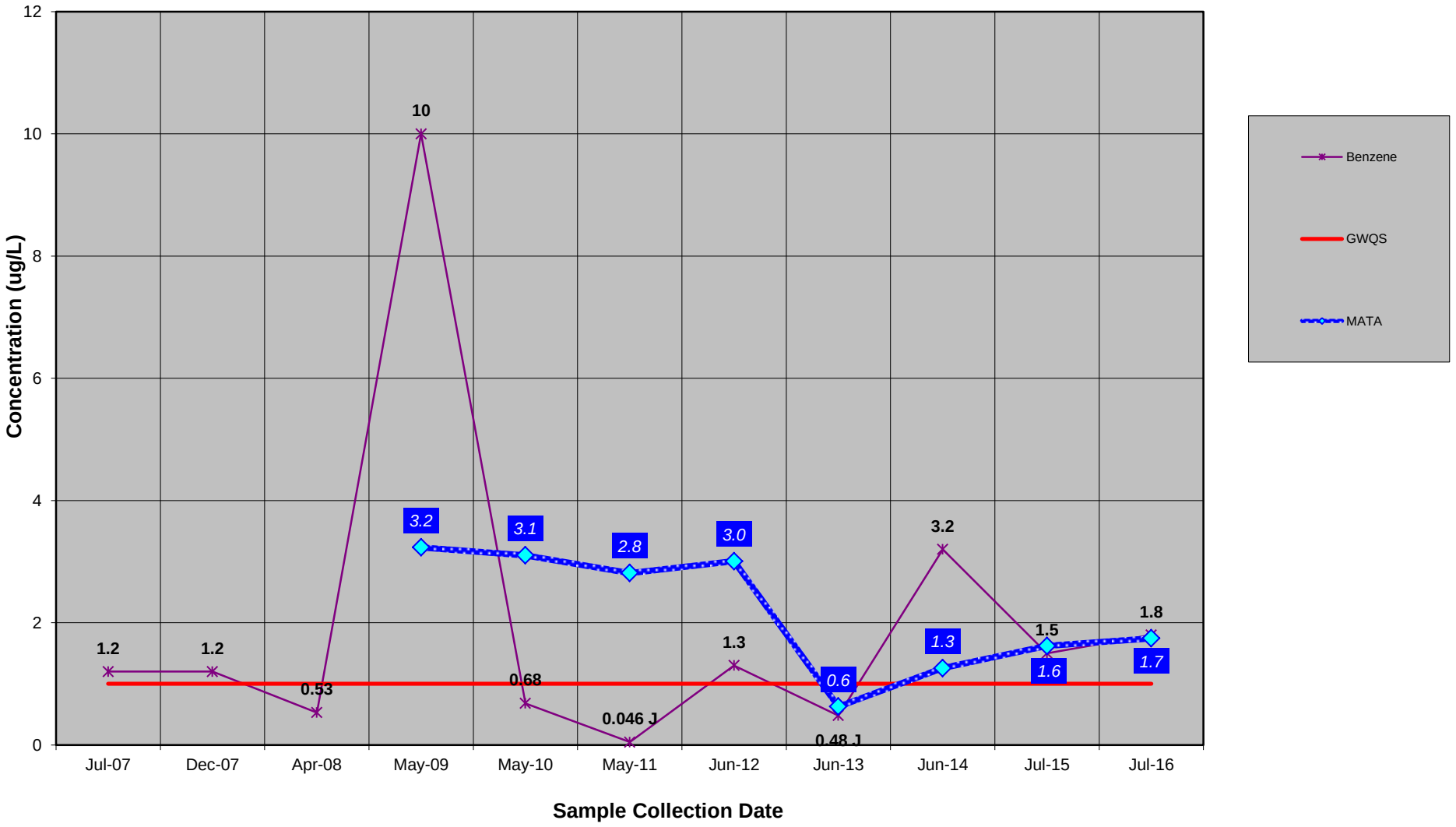
ATTACHMENT 2B

BENZENE

ATTACHMENT 2

MOVING AVERAGE TREND ANALYSIS
A2-MW-16
BENZENE

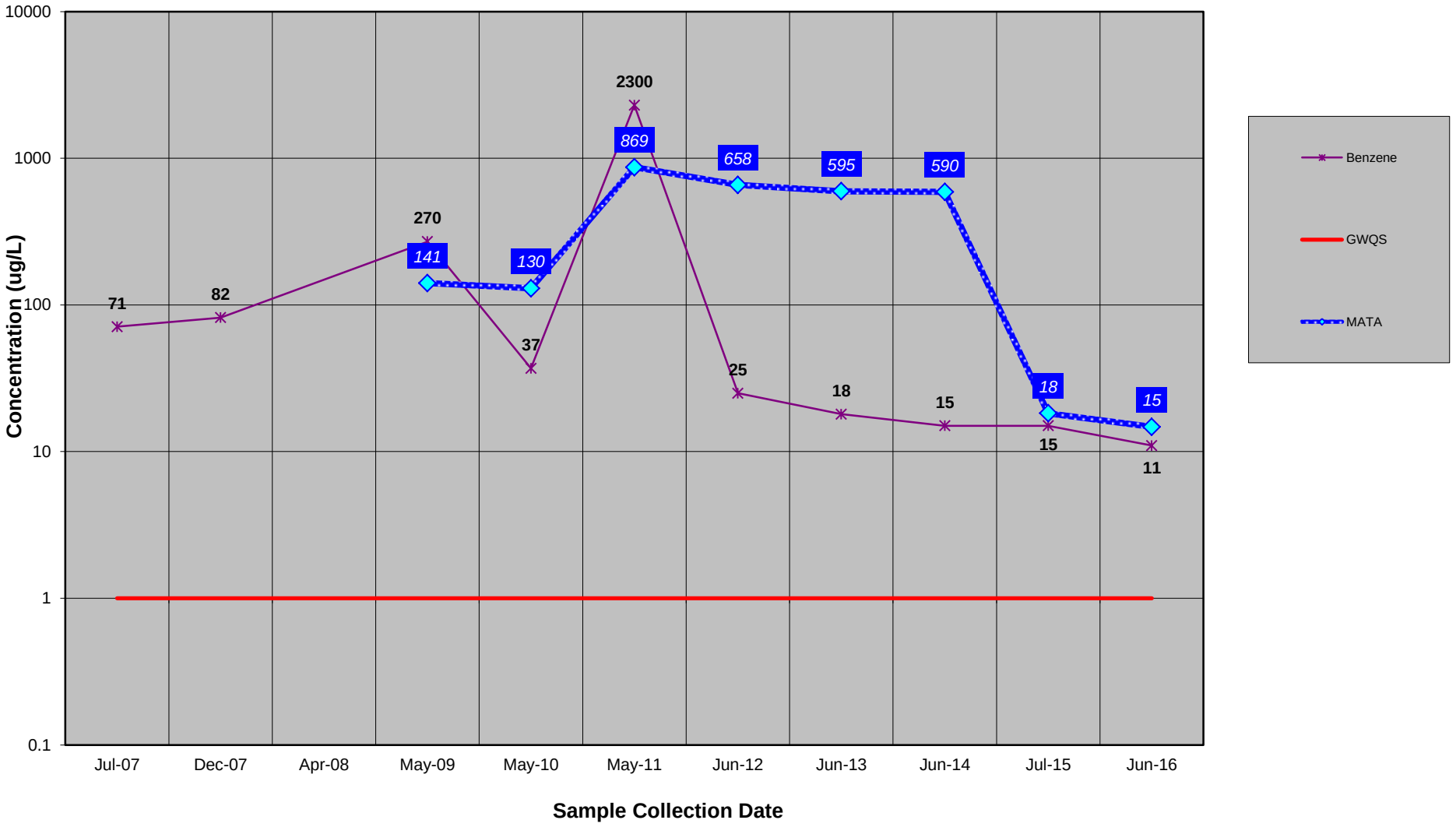
Riverbend Area I LTGWM
Buffalo, New York



ATTACHMENT 2

MOVING AVERAGE TREND ANALYSIS
A3-MW-7
BENZENE

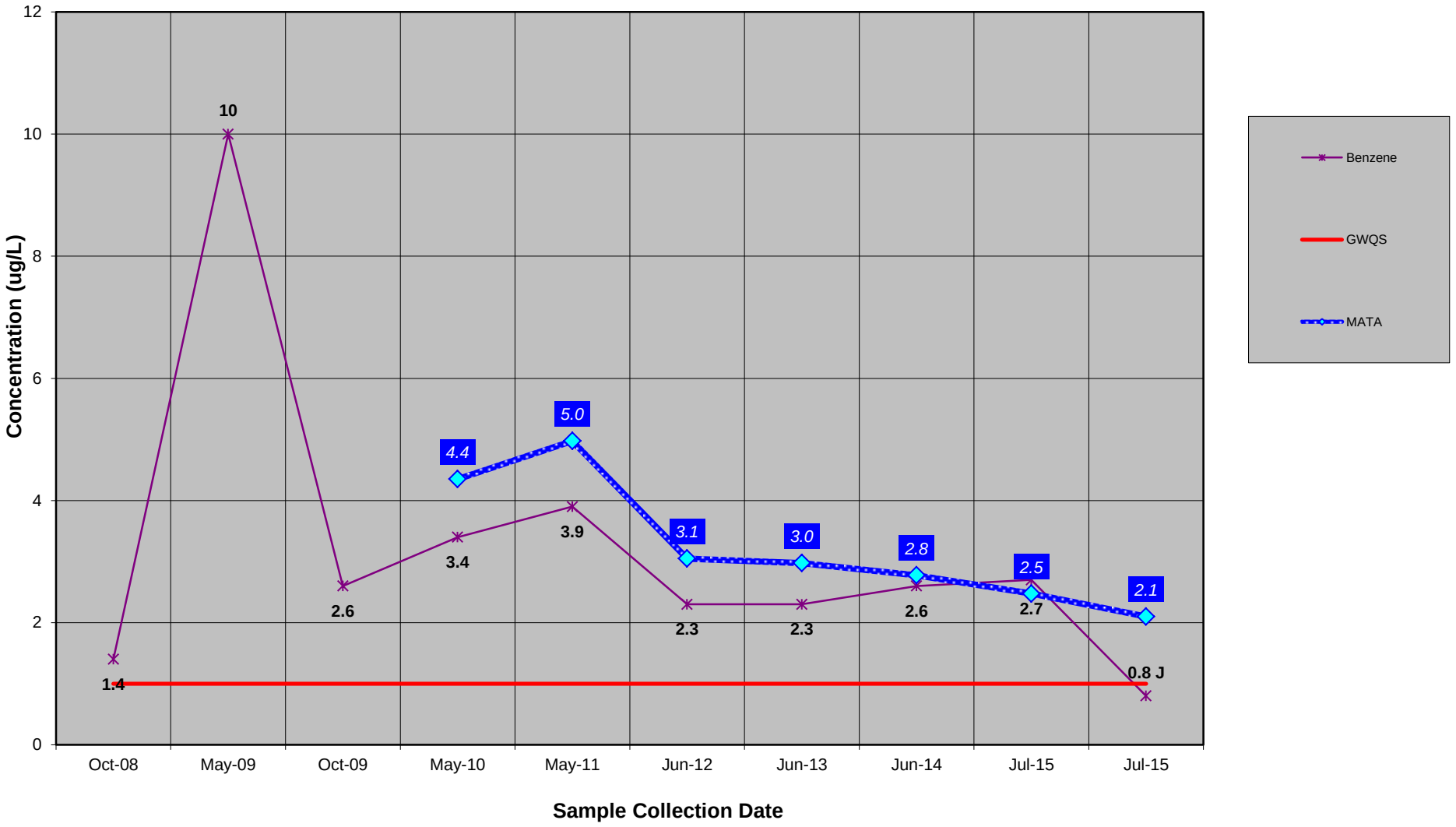
Riverbend Area I LTGWM
Buffalo, New York



ATTACHMENT 2

MOVING AVERAGE TREND ANALYSIS
A3-MW-9
BENZENE

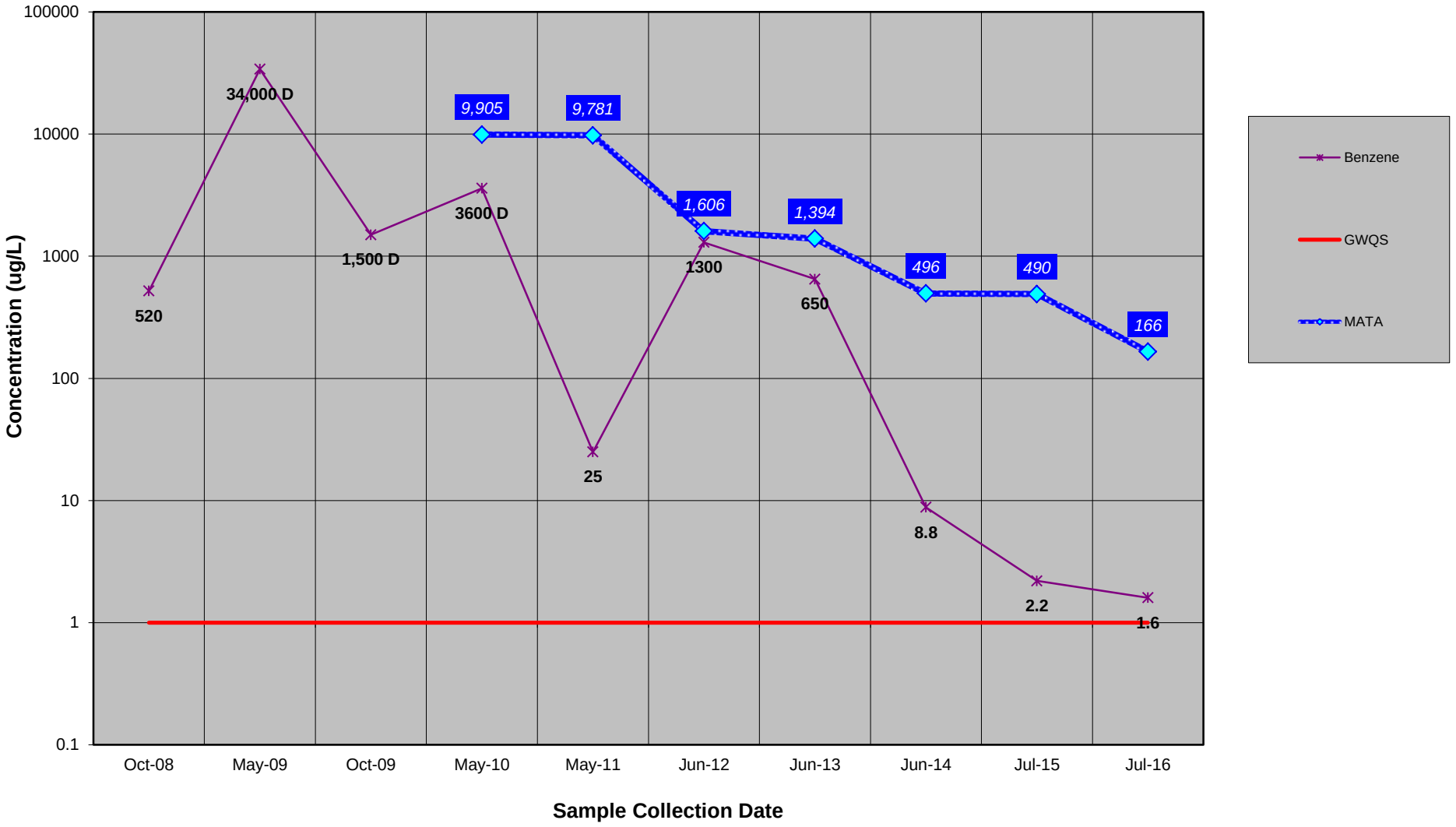
Riverbend Area I LTGWM
Buffalo, New York



ATTACHMENT 2

MOVING AVERAGE TREND ANALYSIS
A3-MW-10
BENZENE

Riverbend Area I LTGWM
Buffalo, New York



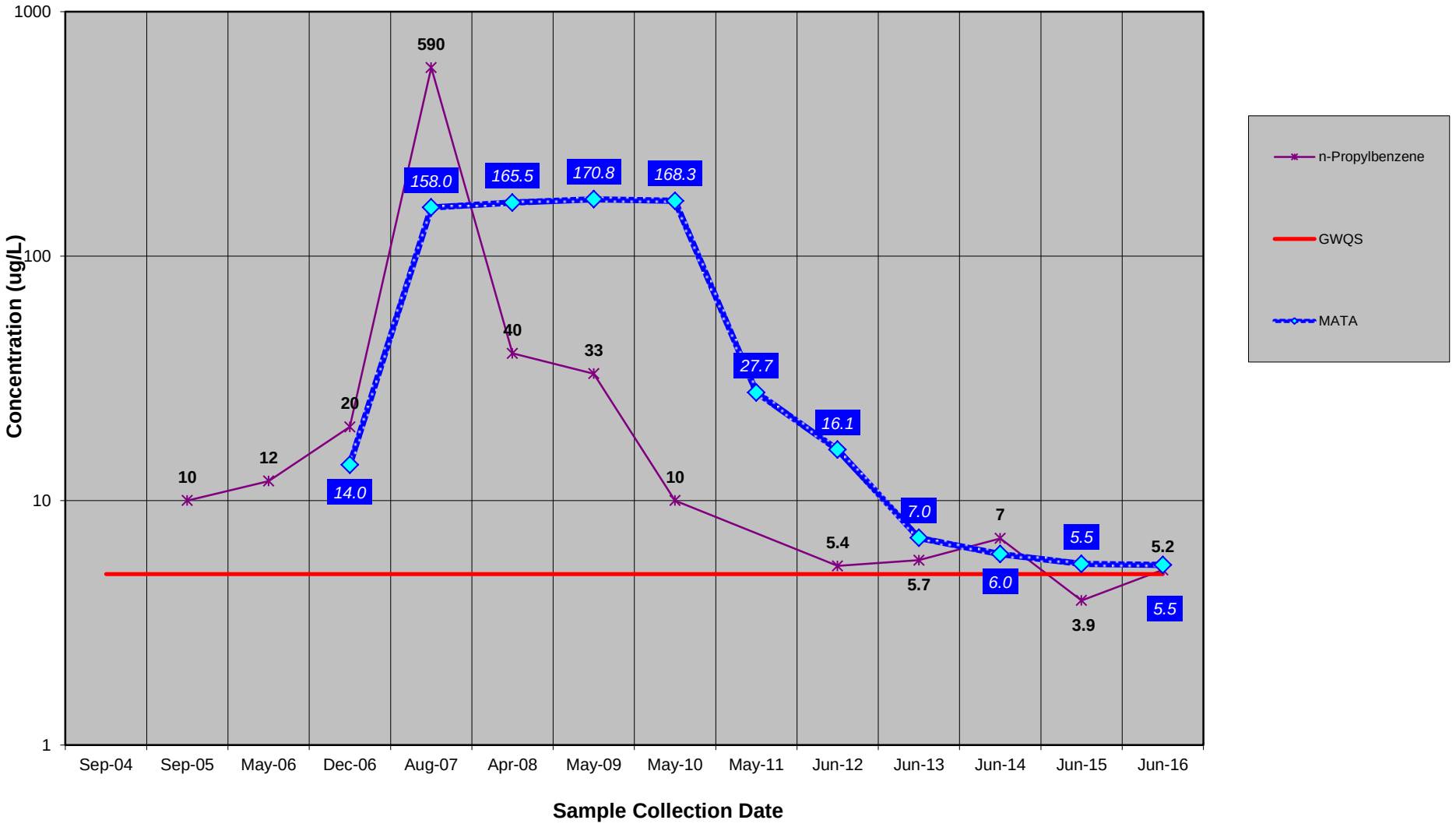
ATTACHMENT 2C

N-PROPYLBENZENE

ATTACHMENT 2

MOVING AVERAGE TREND ANALYSIS
A1-MW-6
n-PROPYLBENZENE

Riverbend Area I LTGWM
Buffalo, New York



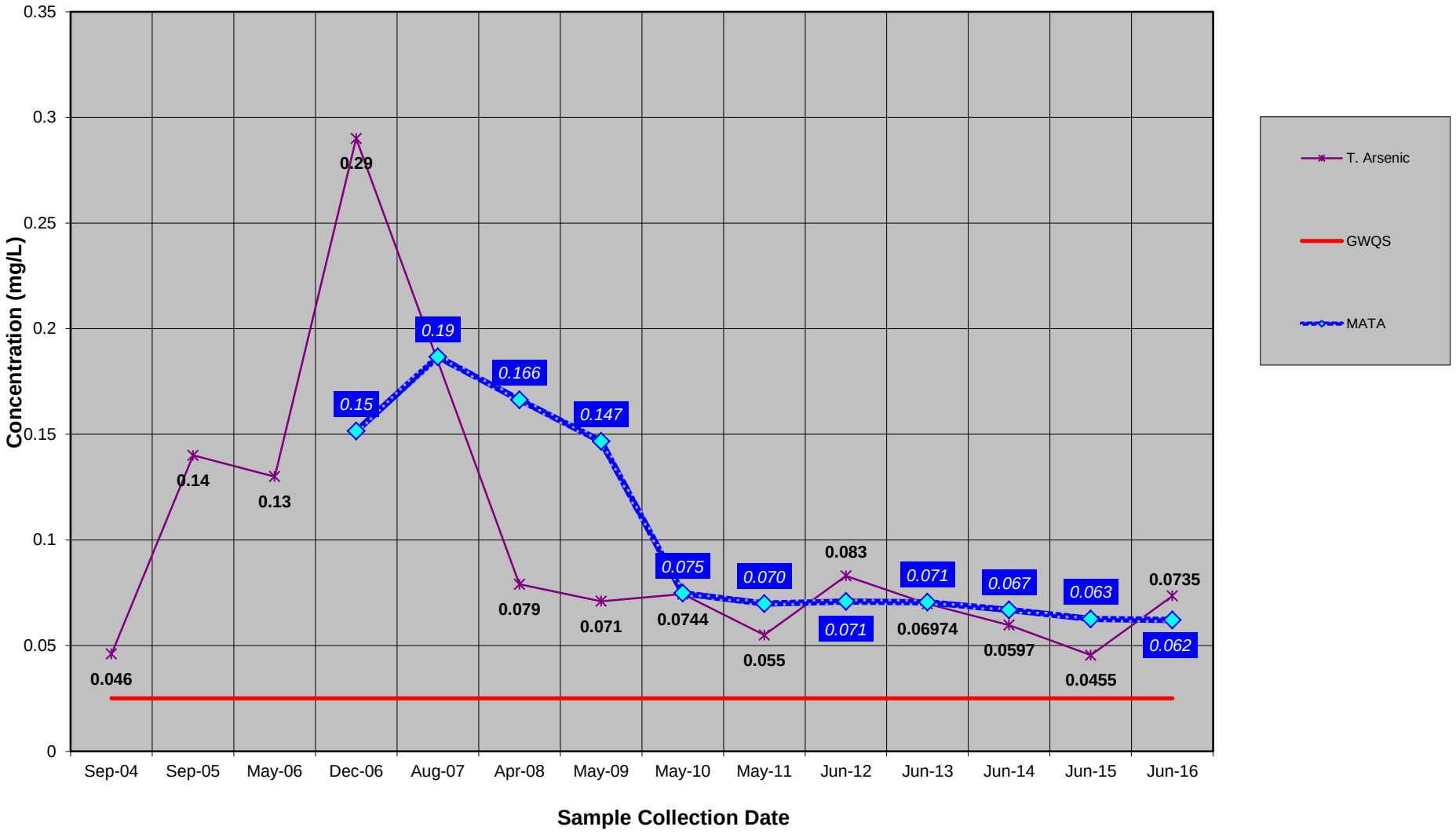
ATTACHMENT 2D

TOTAL ARSENIC

ATTACHMENT 2

MOVING AVERAGE TREND ANALYSIS
A1-MW-6
TOTAL ARSENIC

Riverbend Area I LTGWM
Buffalo, New York



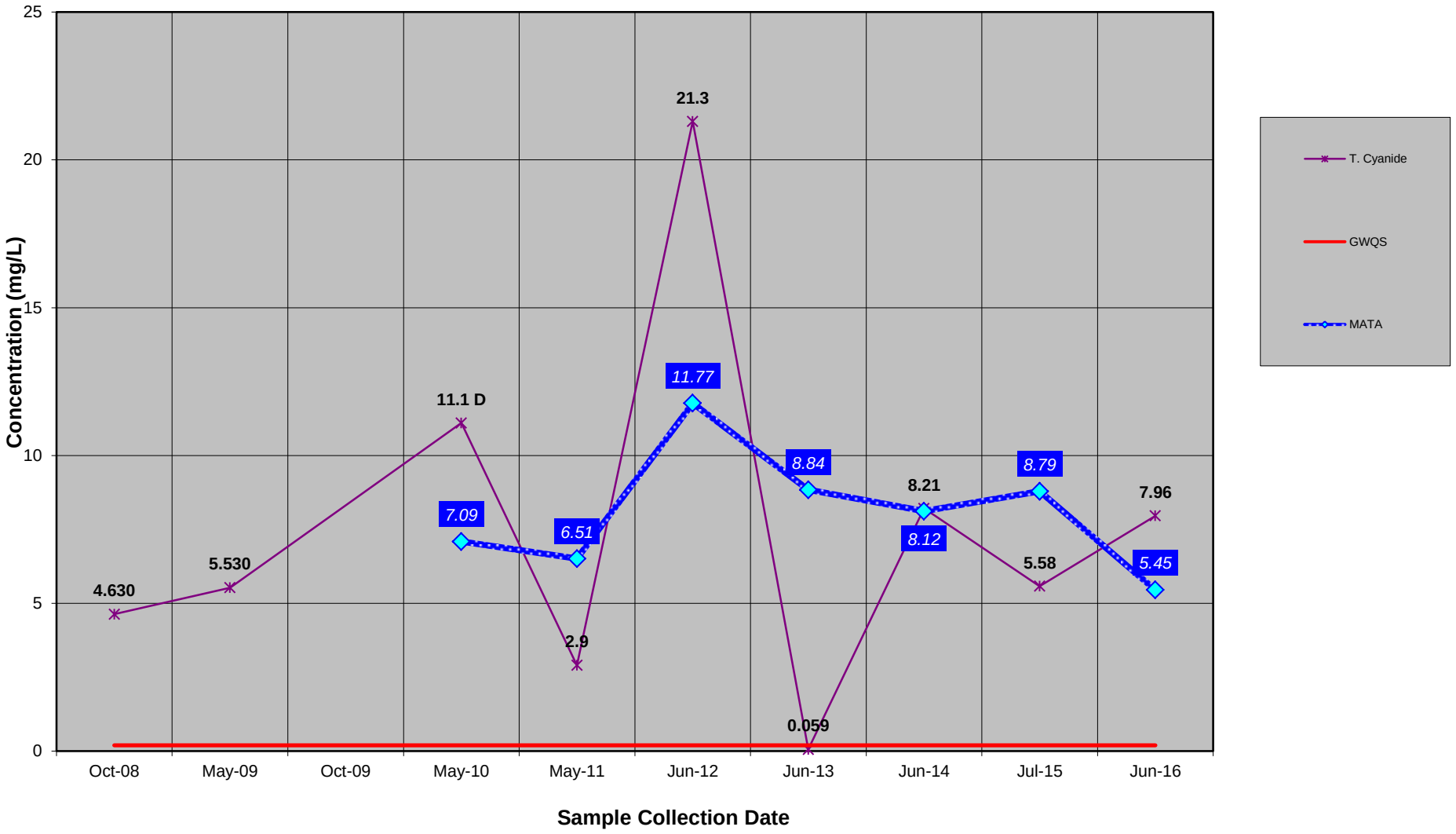
ATTACHMENT 2E

TOTAL CYANIDE

ATTACHMENT 2

MOVING AVERAGE TREND ANALYSIS
A3-MW-3
TOTAL CYANIDE

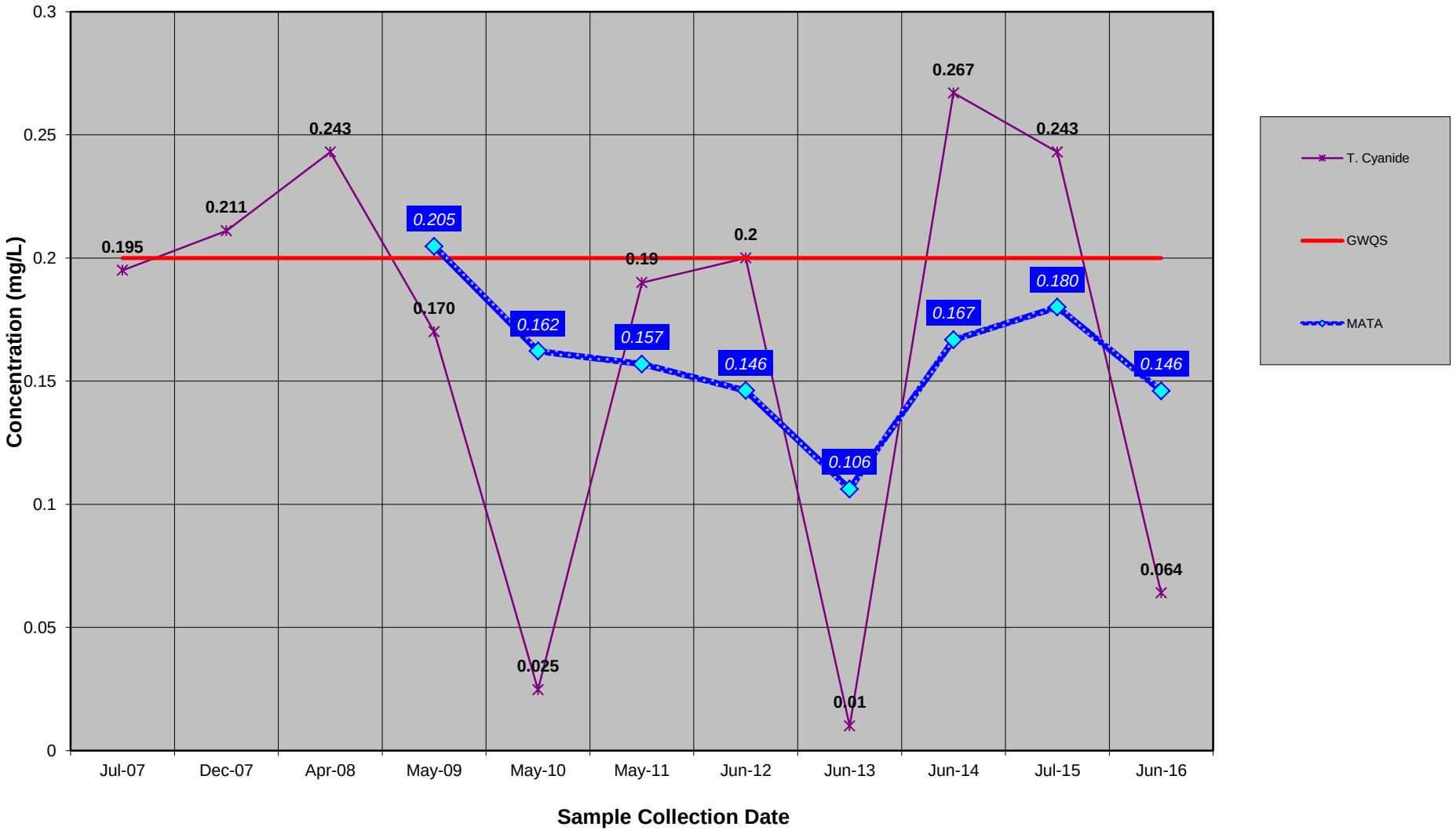
Riverbend Area I LTGWM
Buffalo, New York



ATTACHMENT 2

MOVING AVERAGE TREND ANALYSIS
A3-MW-7
TOTAL CYANIDE

Riverbend Area I LTGWM
Buffalo, New York



ATTACHMENT 3

WELL DEVELOPMENT, BOREHOLE LOGS, & WELL COMPLETION DETAILS

GROUNDWATER FIELD FORM

Project Name: Rikbed - Area I Date: 6/17/2016

Location: Buffalo, NY Project No.: T0330-015-001 Field Team: JJR

Well No. May A1-MW-8R | Diameter (inches): 2 | Sample Date / Time: N/A

Product Depth (fbTOR): — | Water Column (ft): 9.51 | DTW when sampled: N/A

DTW (static) (fbTOR): 14.62 | One Well Volume (gal): 1.55 | Purpose: ☒ Development ☐ Sample ☐ Purge & Sample

Total Depth (fbTOR): 24.13 | Total Volume Purged (gal): | Purge Method: Bailer - Non dedicated (4')

Time		Water Level (fbTOR)	Acc. Volume (gallons)	pH (units)	Temp. (deg. C)	SC (uS)	Turbidity (NTU)	DO (mg/L)	ORP (mV)	Appearance & Odor
1110	0	Initial	<0.25	7.33	17.2	1013	>1000	0.98	-71	Turbid + no odor
1114	1	15.89	1.50	6.83	18.7	1123	>1000	1.60	-46	" " "
1118	2	17.82	3.00	6.81	18.0	1120	>1000	1.72	-50	" " "
1122	3	16.65	4.50	6.86	18.3	1098	>1000	0.94	-40	" " "
1126	4	17.09	6.0	6.90	16.3	1061	>1000	2.13	-42	" " "
1128	5	17.38	7.5	6.93	15.6	1026	>1000	2.18	-9	" " "
1135	6	17.71	9.0	6.92	15.8	1024	>1000	3.61	-5	" " "
1142	7	17.92	10.5	6.91	16.1	1131	>1000	3.92	-4	" " "
1145	8	18.21	12.0	6.92	15.8	961.9	>1000	4.51	-1	" " "
1149	9	18.32	13.5	6.91	15.6	957.2	>1000	5.12	1	" " "
1155	10	18.41	15.0	6.94	18.2	931.9	>1000	4.92	5	" " "
Sample Information:										
	S1									
	S2									

Well No. A1-MW-10 | Diameter (inches): 2 | Sample Date / Time: N/A

Product Depth (fbTOR): — | Water Column (ft): 11.9 | DTW when sampled: N/A

DTW (static) (fbTOR): 14.68 | One Well Volume (gal): 1.9 | Purpose: ☒ Development ☐ Sample ☐ Purge & Sample

Total Depth (fbTOR): 26.58 | Total Volume Purged (gal): 25 | Purge Method: Bailer - Non dedicated (4')

Time		Water Level (fbTOR)	Acc. Volume (gallons)	pH (units)	Temp. (deg. C)	SC (uS)	Turbidity (NTU)	DO (mg/L)	ORP (mV)	Appearance & Odor
0846	0	Initial	<0.25	7.27	18.2	1141	>1000	0.91	-89	Turbid + no odor
0855	1	15.72	2.0	7.30	17.2	1052	>1000	0.45	-108	Turbid + no odor
0900	2	16.45	4.0	7.33	16.2	1002	>1000	1.15	-107	Turbid + no odor
0904	3	15.22	6.0	7.39	16.6	869.5	>1000	1.49	-90	" " "
0910	4	16.54	8.0	7.47	15.5	829.6	>1000	1.37	-83	" " "
0914	5	16.58	10.0	7.48	15.9	815.1	>1000	1.52	-96	" " "
0920	6	15.22	12.0	7.49	15.8	791.5	>1000	3.26	-76	" " "
0924	7	16.11	14.0	7.42	16.0	785.8	>1000	1.58	-79	" " "
0927	8	15.98	16.0	7.32	[illegible]	789.9	>1000	1.29	-68	" " "
0934	9	16.15	18.0	7.30	15.0	747.4	>1000	1.73	-92	" " "
0940	10	15.88	20.0	7.30	17.3	742.2	>1000	1.89	-93	" " "
Sample Information:										
	S1									
	S2									

REMARKS: Pulled an additional 5 gallons to see if well would decrease in turbidity still >1000 NTU

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

Volume Calculation

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

Stabilization Criteria

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

PREPARED BY: Josh Robinson

Project No: T0330-015-001

Borehole Number: A1-MW-8R

Project: Riverend Area I

A.K.A.: N/A

Client: Fort Schulyer Management Corporation (FSMC)

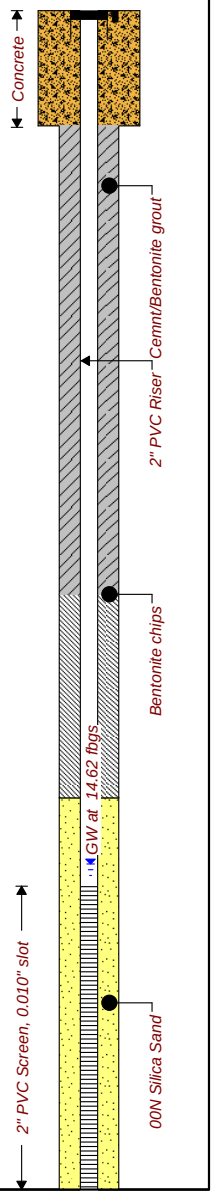
Logged By: JJR

Site Location: 1339 South Park Avenue Buffalo, NY

Checked By: BCH

TurnKey Environmental Restoration, LLC
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0635

SUBSURFACE PROFILE			SAMPLE						
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol	PID VOCs ppm (0 – 12.5 – 25)	Lab Sample	Well Completion Details or Remarks
0.0	0.0	Ground Surface							
	0.0 / -0.5	***Imported Topsoil Cover*** Brown, moist, mostly non-plastic fines, some fine sand, trace coarse, sand, medium dense	S1	54	2		0.0		
	0.5 / -1.0 / 1.0						0.0		
	-2.0 / 2.0	***Imported Bank Run Gravel*** Light brown, moist, mostly fine sand, some coarse sand, little fine gravel (sub rounded, trace coarse gravel (sub rouned), dense	S2	50 / WH	1.8		0.0		
	-3.5 / 3.5	***Fill Material*** Dark brown, moist, mostly fine sand, some fine to coarse gravel (sub angular), few slag, trace brick, loose					0.0		
5.0	-5.0 / 5.0	***Fill Material*** Dark brown, moist, mostly fine sand, some coarse sand, little fine gravel, few slag, little concrete, tarce brick, very dense	S3	50 / WH	1.1		0.0		
	-6.0 / 6.0						0.0		
	-8.0 / 8.0	***Fill Material*** Dark brown, moist, mostly fine sand, some brick, few coarse sand and fine gravel, trace slag, very dense	S4	43	1.2		0.0		
		Limestone Cobble Grey, dry, fractured limestone cobble	S5	6	2		0.0		
10.0	-9.8 / 9.8	***Clayey Fill Material*** Dark brown, moist, mostly medium plasticity fines, little non plastic fines, little slag, trace brick, medium dense					0.0		
		Clayey Silt Black, moist, mostly non plastic fines, few non plastic fines, trace fine sand, firm, no dry strength, no dilatency, low toughness, firm	S6	11	1.1		0.0		
	-13.0 / 13.0	***Lean Clay*** Light brown, moist, mostly medium plasticity fines, little non plastic fines, trace fine sand, firm, high dry strength, no dilatency, stiff	S7	14	2		0.0		
15.0		***Clayey Silt*** Grey, moist, mostly non plastic fines, little medium plasicity fines, trace fine sand, trace depositional wood, no dilatency, firm	S8	8	1.9		0.0		
	-16.0 / 16.0	***Clayey Silt*** Grey, moist, wet at 16', mostly non plastic fines, little medium plastiity fines, trace fine sand, soft	S9	5	2		0.0		
			S10	4	2.2		0.0		
20.0									



Drilled By: Earth Dimensions, Inc.
Drill Rig Type: CME 550
Drill Method: 4 1/4-inch HSA w/continuous SS
Comments: NA
Drill Date(s): June 6, 2016

Hole Size: 8 1/4 - inch
Stick-up: NA
Datum: Mean Sea Level

Sheet: 1 of 2

Project No: T0330-015-001

Borehole Number: A1-MW-8R

Project: Riverend Area I

A.K.A.: N/A

Client: Fort Schulyer Management Corporation (FSMC)

Logged By: JJR

Site Location: 1339 South Park Avenue Buffalo, NY

Checked By: BCH

TurnKey Environmental Restoration, LLC
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0635

SUBSURFACE PROFILE			SAMPLE						
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol	PID VOCs ppm (0 / 12.5 / 25)	Lab Sample	Well Completion Details or Remarks
	-20.8 / 20.8	***Poorly Graded Sand*** Grey, wet, mostly fine sand, loose	S11	WR	2		0.0		
	-23.0 / 23.0	***Poorly Graded Sand*** Brown, wet, mostly coarse sand, some medium sand, trace fine sand, medium dense	S12	13	1.7		0.0		
	-24.0 / 24.0	End of Borehole					0.0		
25.0									
30.0									
35.0									
40.0									

Drilled By: Earth Dimensions, Inc.
Drill Rig Type: CME 550
Drill Method: 4 1/4-inch HSA w/continuous SS
Comments: NA
Drill Date(s): June 6, 2016

Hole Size: 8 1/4 - inch
Stick-up: NA
Datum: Mean Sea Level

Project No: T0330-015-001

Borehole Number: A1-MW-10

Project: Riverend Area I

A.K.A.: N/A

Client: Fort Schulyer Management Corporation (FSMC)

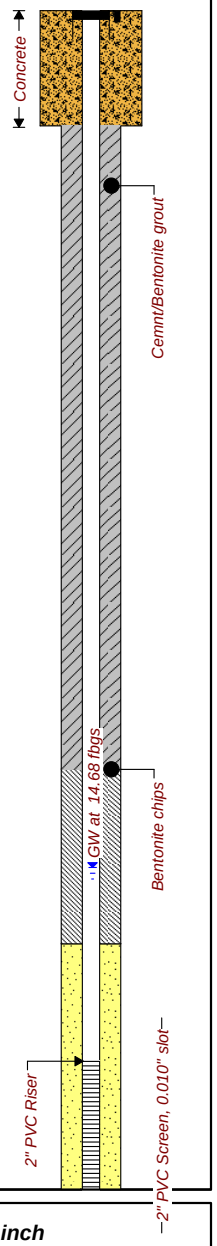
Logged By: JJR

Site Location: 1339 South Park Avenue Buffalo, NY

Checked By: BCH

TurnKey Environmental Restoration, LLC
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0635

SUBSURFACE PROFILE			SAMPLE						
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol	PID VOCs ppm (0 – 12.5 – 25)	Lab Sample	Well Completion Details or Remarks
0.0	0.0	Ground Surface							
	0.0 / -0.5	***Imported Topsoil Cover*** Brown, moist, mostly non-plastic fines, some fine sand, trace coarse, sand, loose	S1	22	1.5		0.0 / 0.0		
	0.5 / -1.0 / 1.0 / -2.0	***Imported Bank Run Gravel*** Light brown, moist, mostly fine sand, some coarse sand, little fine gravel (sub rounded, trace coarse gravel (sub rouned), medium dense	S2	123	1.4		0.0 / 0.0		
	2.0	***Fill Material*** Brown, dry, mostly fine sand, some slag, little brick, ash and glass, medium dense							
5.0		***Fill Material*** Black, dry, mostly fine sand, some slag, few brick, trace ash and cinders, very dense	S3	45	1.5		0.0 / 0.0		
	-6.0 / 6.0	***Slag with Fill Material*** Blue/grey, dry, mostly slag (coarse sand sized, loose), little fine sand, very dense	S4	50 / WH	0.6		0.0 / 0.0		
	-8.0 / 8.0	***Slag*** Blue/grey slag, dry, medium dense, spoon refusal at 7', augered to 8'	S5	12	1.9		0.0 / 0.0		
10.0	-10.0 / 10.0	***Lean Clay*** Light brown, moist, mostly medium plasticity fines, little non plastic fines, trace fine sand, firm, high dry strength, no dilatency, medium toughness, firm to stiff	S6	11	1.9		0.0 / 0.0		
			S7	6	1.9		0.0 / 0.0		
	-13.5 / 13.5	***Clayey Silt*** Grey, moist, mostly non plastic fines, little medium plasicity fines, trace fine sand, trace wood, soft to firm	S8	9	2.0		0.0 / 0.0		
15.0			S9	4	2		0.0 / 0.0		
			S10	4	1.9		0.0 / 0.0		
20.0									



Drilled By: Earth Dimensions, Inc.
Drill Rig Type: CME 550
Drill Method: 4 1/4-inch HSA w/continuous SS
Comments: NA
Drill Date(s): June 6 and 7, 2016

Hole Size: 8 1/4 - inch
Stick-up: NA
Datum: Mean Sea Level

Sheet: 1 of 2

Project No: T0330-015-001

Borehole Number: A1-MW-10

Project: Riverend Area I

A.K.A.: N/A

Client: Fort Schulyer Management Corporation (FSMC)

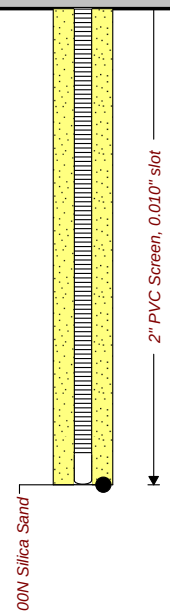
Logged By: JJR

Site Location: 1339 South Park Avenue Buffalo, NY

Checked By: BCH

TurnKey Environmental Restoration, LLC
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0635

SUBSURFACE PROFILE			SAMPLE						
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol	PID VOCs ppm	Lab Sample	Well Completion Details or Remarks
			S11	5	2		0.0		
	-22.0 / 22.0	***Clayey Silt*** Grey, moist, wet at 22.5', mostly non plastic fines, little medium plastiity fines, trace fine sand, very soft	S12	WH	2		0.0		
	-23.5 / 23.5	***Well Graded Sand*** Grey, wet, mostly fine sand, little coarse sand (sub rounded), trace fine gravel (sub rounded), loose	S13	6	1.2		0.0		
25.0			S14	11	1.2		0.0		
	-27.5 / 27.5						0.0		
	-28.0 / 28.0	***Poorly Graded Sand*** Grey, wet, mostly coarse sand, trace fine sand, loose to medium dense							
		End of Borehole							
30.0									
35.0									
40.0									



Drilled By: Earth Dimensions, Inc.
Drill Rig Type: CME 550
Drill Method: 4 1/4-inch HSA w/continuous SS
Comments: NA
Drill Date(s): June 6 and 7, 2016

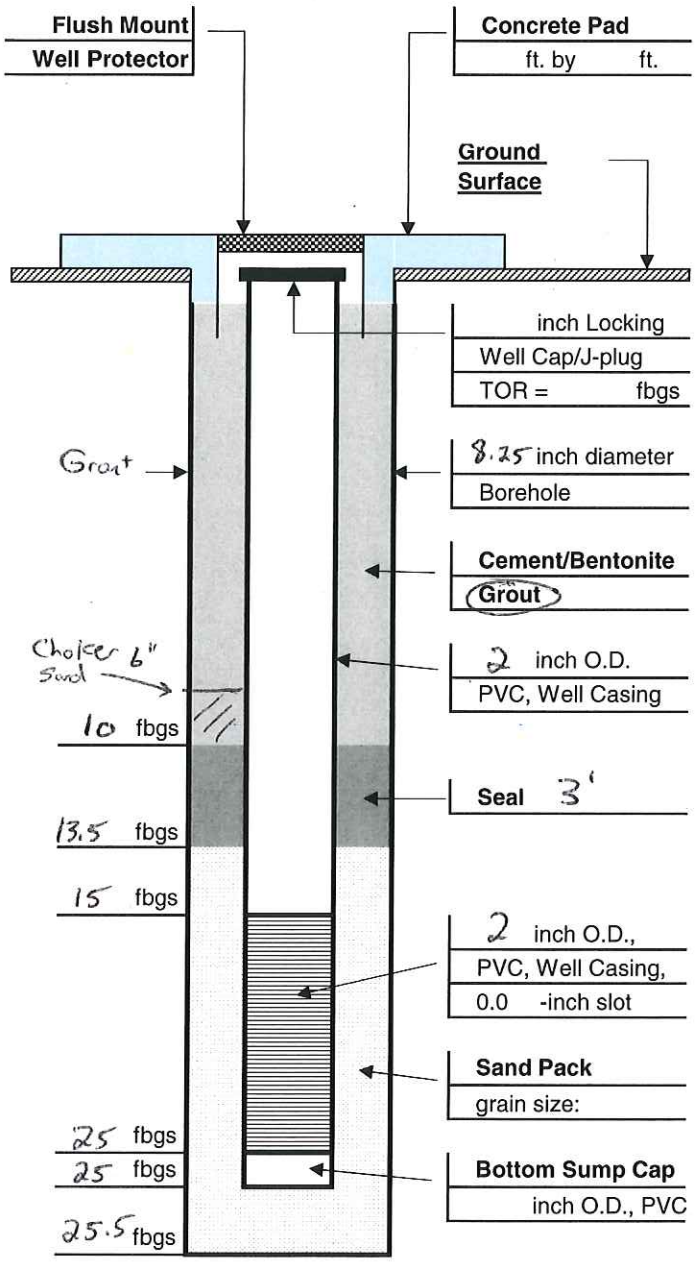
Hole Size: 8 1/4 - inch
Stick-up: NA
Datum: Mean Sea Level

Sheet: 2 of 2

FLUSHMOUNT WELL COMPLETION DETAIL

Project Name: Riverbend SolarCity Project
Client: LPCiminelli / Fort Schuyler
Boring Location: Riverbend Area I

WELL NUMBER: A1-MW-8R
Date Installed: June 6, 2016
Project Number: 0330-015-001



Driller Information

Company:	Earth Dimensions, Inc.
Driller:	Andy Fenpiatski
Helper:	Kyle Shearing
Permit Number:	N/A
Drill Rig Type:	Hollow Stem Auger, Truck Mounted

Well Information

Land Surface Elevation:	589.83	fmsl (approximate)
Drilling Method:	Hollow Stem Auger	
Soil Sample Collection Method:	Split Spoon Sampler	
Drilling Fluid:	N/A	
Fluid Loss During Drilling:	N/A	gallons (approximate)

Material of Well Construction

Casing:	PVC
Screen:	~~PVC~~ PVC
Sump:	N/A
Sand Pack:	OON sand
Annular Seal:	Bentonite

Well Development

Well Purpose:	Groundwater Monitoring	
Technique(s):	Non-Dedicated Bailer	
Date Completed:	6/17/2016	
BM/TK Personnel:	Josh Robinson (JJR)	
Total Volume Purge:	15	gallons
Static Water Level (SWL):	14.62	fbTOR
Pump Depth:	N/A	
Purge Duration:	45	minutes
Yield:	N/A	gpm
Specific Capacity:	N/A	gpm/ft

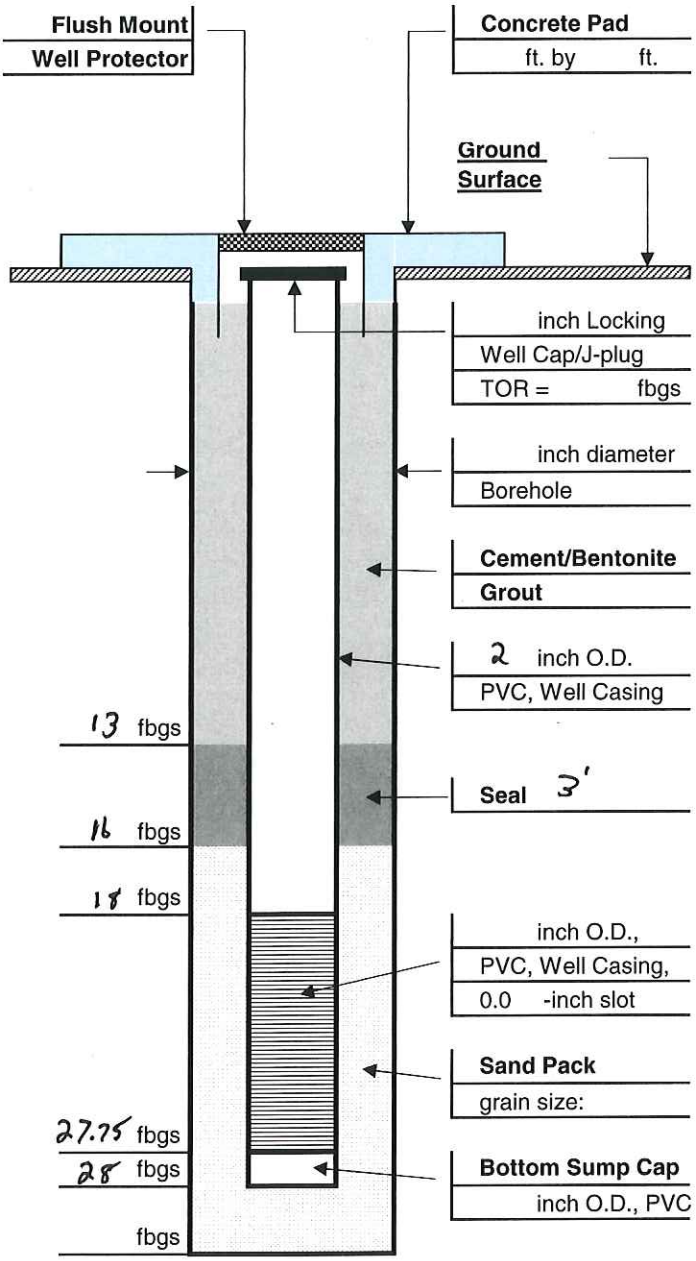
Comments: Cap is 1.5' in length

PREAPRED BY: Josh Robinson DATE: June 6, 2016

FLUSHMOUNT WELL COMPLETION DETAIL

Project Name: Riverhead Solarcity Project
Client: LPCimilli / Fort Schuyler
Boring Location: A1-MW-10 North of Solarcity Building

WELL NUMBER: A1-MW-10
Date Installed: 6/6 + 6/7/16
Project Number: 0330-015-001



Driller Information

Company:	Earth Dimensions, Inc.
Driller:	Andy Feyinski
Helper:	Kyle Shearing
Permit Number:	NA
Drill Rig Type:	Hollow Stem Auger, Truck Mounted

Well Information

Land Surface Elevation:	89.73	fmsl (approximate)
Drilling Method:	Hollow Stem Auger	
Soil Sample Collection Method:	Split Spoon Sampler	
Drilling Fluid:	N/A	
Fluid Loss During Drilling:	N/A	gallons (approximate)

Material of Well Construction

Casing:	PVC
Screen:	PVC
Sump:	N/A
Sand Pack:	OON Sand
Annular Seal:	Bentonite

Well Development

Well Purpose:	Groundwater Monitoring	
Technique(s):	Non-Dedicated Bailer	
Date Completed:	6/7/16	
BM/TK Personnel:	Josh Robinson (JJR)	
Total Volume Purge:	20.0	gallons
Static Water Level (SWL):	14.68	fbTOR
Pump Depth:	N/A	
Purge Duration:	54	minutes
Yield:	N/A	gpm
Specific Capacity:	N/A	gpm/ft

Comments:

PREAPRED BY: Josh Robinson DATE: 6/7/16

ATTACHMENT 4

WELL DECOMMISSIONING LOGS

TurnKey Environmental Restoration, LLC

WELL ABANDONMENT/ DECOMMISSIONING LOG

PROJECT INFORMATION		WELL INFORMATION	
PROJECT/SITE NAME:	~~AL Surface~~ Riverbed Solarcity Project - Area I	WELL I.D.:	A1-MW-4
Client:	Fort Schuyler Management Corp.	Stick-up (feet):	
Project Job Number:	T0330-015-001	Screen Interval (fbgs):	
Date:	9/29/2016	Drilling Company:	
Weather:	54°F, Overcast, wind ENE at 13 mph	Drill Rig Type:	
Prepared by:	Josh Robinson	Drilling Company Personnel:	

DECOMMISSIONING PROCEDURES (per NYSDEC DER-10)

	YES	NO
Well visibile? (If not, provide directions below)	X	
Well I.D. visible?	X	
Well location matches site map? (If not, sketch actual location on back)	X	

Well I.D. as it appears on protective casing or well:

Surface seal present?	X	
Surface seal competenet? (If cracked, heaved, etc., describe below)	X	
Protective casing in good condition? (If damaged, describe below)	X	

Headspace reading (ppm) and instrument used: N/A

Type of protective casing and height of stickup in feet (if applicable): Steel,

Protective casing material type: Steel

Measure protective casing inside diameter (inches): 4"

Lock present?	X	
Lock functional?	X	
Did you replace the lock?		X
Is there evidence that the well is double cased? (If yes, describe below)		X
Well measuring point visible?	X	

Measure depth to water from measuring point (feet): 6.91 fbTS

Measure well depth from measuring point (feet):

Measure well diameter (inches): 2

Well casing material: PVC

Physical condition of visible well casing: Good

Attach I.D. marker (if well I.D. is confirmed) and identify marker type: N/A

Proximity to underground or overhead utilities: Power lines ~75' to 100' east of A1-MW-4

Describe access to well: (Include accessibility to truck mounted rig, natural obstructions, overhead utilities, proximity to permenant structures, etc.); Add sketch of location on back, if necessary.

truck accessible, flat

Describe well setting (for example, located in a field, in a playground, on pavement, in a garden, etc.) and assess the type of restoration required.

open area

Identify any nearby potential sources of contamination, if present (e.g., gas station, salt pile, etc.)

N/A

Remarks: ~~Solarcity~~ Cover System Installation in vicinity for Solarcity

TurnKey Environmental Restoration, LLC

WELL ABANDONMENT/ DECOMMISSIONING LOG

DECOMMISSIONING PROCEDURES (per NYSDEC DER-10) - continued

PROJECT/SITE NAME: Riverbed Solarcity Project - Area I

WELL I.D.: A1-MW-4

Decommissioning Data (Fill in all that apply)

Overdrillling
- Interval Drilled: 0-14 fbgs
- Drilling Method(s): Hollow stem Auger
- Borehole Diameter (in.): 8.25"
- Temp. Casing Installed? (Y/N): Yes
- Depth temp. casing installed: 0-14 fbgs
- Casing type/diam (in.): 4 inch
- Method of Installation: Air Rotary

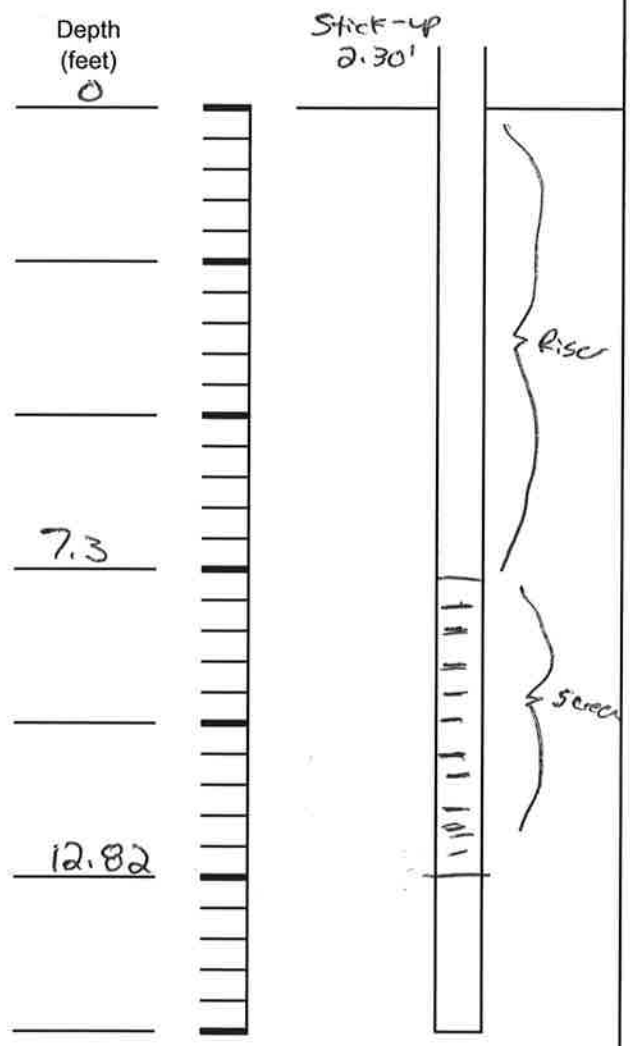
Casing Pulling
- Method employed: Manual (Pulled)
- Casing retrieved (feet): 15.12
- Casing type/diam. (in.): PVC, 2 inch

Casing Perforating
- Equipment used: N/A
- Number of perforaitons/foot
- Size of perforations
- Interval perforated

Grouting
- Interval grouted (fbgs)
- No. of batches prepared
- For each batch record:
  - Quantity of water used (gal.)
  - Quantity of cement used (lbs.)
  - Cement type
  - Quantity of bentonite used (lbs.)
  - Quantity of calcium chloride used (lbs.)
  - Volume of grout prepared (gal.)
  - Volume of grount used (gal.)

Comments

Well Schematic*



* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.

Drilling Contractor:

Department Rep.:

TurnKey Environmental Restoration, LLC

WELL ABANDONMENT/ DECOMMISSIONING LOG

PROJECT INFORMATION		WELL INFORMATION	
PROJECT/SITE NAME:	Riverbend Solarcity Project - Area I	WELL I.D.:	A1-MW-M2
Client:	Fort Schuyler Management Corp.	Stick-up (feet):	
Project Job Number:	T0370-015-001	Screen Interval (fbgs):	
Date:	09/29/2016	Drilling Company:	Earth Dimensions
Weather:	54°F, overcast, wind ENE at 13mph	Drill Rig Type:	CME-550 Hollow Stem Auger
Prepared by:	Josh Robinson	Drilling Company Personnel:	Brian Barton

DECOMMISSIONING PROCEDURES (per NYSDEC DER-10)

	YES	NO
Well visibile? (If not, provide directions below)	X	
Well I.D. visible?		X
Well location matches site map? (If not, sketch actual location on back)	X	

Well I.D. as it appears on protective casing or well:

Surface seal present?	X	
Surface seal competenet? (If cracked, heaved, etc., describe below)	X	
Protective casing in good condition? (If damaged, describe below)		X

Headspace reading (ppm) and instrument used: N/A

Type of protective casing and height of stickup in feet (if applicable): Steel, Dislodged (broke during construction

Protective casing material type: Steel

Measure protective casing inside diameter (inches): 4"

Lock present?		X
Lock functional?		X
Did you replace the lock?		X
Is there evidence that the well is double cased? (If yes, describe below)		X
Well measuring point visible?		X

Measure depth to water from measuring point (feet): Could not gauge, soil at 5'bgs

Measure well depth from measuring point (feet): Could not gauge

Measure well diameter (inches): 2 inches

Well casing material: PVC

Physical condition of visible well casing: Broken off just below Site grade

Attach I.D. marker (if well I.D. is confirmed) and identify marker type:

Proximity to underground or overhead utilities: N/A

Describe access to well: (Include accessibility to truck mounted rig, natural obstructions, overhead utilities, proximity to permenant structures, etc.); Add sketch of location on back, if necessary.

Truck accessible, flat

Describe well setting (for example, located in a field, in a playground, on pavement, in a garden, etc.) and assess the type of restoration required.

Open Area

Identify any nearby potential sources of contamination, if present (e.g., gas station, salt pile, etc.)

N/A

Remarks: Cover System Installation in vicinity for Solarcity

TurnKey Environmental Restoration, LLC

WELL ABANDONMENT/ DECOMMISSIONING LOG

DECOMMISSIONING PROCEDURES (per NYSDEC DER-10) - continued

PROJECT/SITE NAME: Riverbend Solarcity Project

WELL I.D.: A1-MW-M2

Decommissioning Data (Fill in all that apply)

Overdrillling
- Interval Drilled: 0-15 ft bgs
- Drilling Method(s): Hollow Stem Auger
- Borehole Diameter (in.): 8.25"
- Temp. Casing Installed? (Y/N): Yes
- Depth temp. casing installed: 0-14 ft bgs
- Casing type/diam (in.): 4 inch
- Method of Installation: Air Rotary

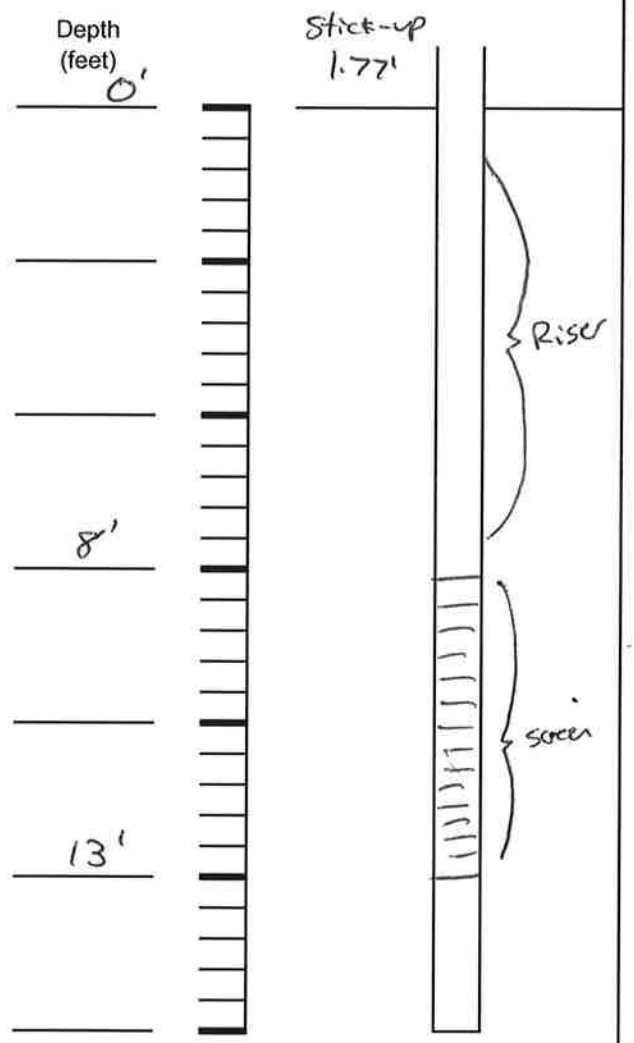
Casing Pulling
- Method employed: Pulled (Manual)
- Casing retrieved (feet): 14.81
- Casing type/diam. (in.): PVC, 2 inch

Casing Perforating
- Equipment used: N/A
- Number of perforaitons/foot
- Size of perforations
- Interval perforated

Grouting
- Interval grouted (fbgs): ~13 ft bgs
- No. of batches prepared
- For each batch record:
  - Quantity of water used (gal.)
  - Quantity of cement used (lbs.)
  - Cement type
  - Quantity of bentonite used (lbs.)
  - Quantity of calcium chloride used (lbs.)
  - Volume of grout prepared (gal.)
  - Volume of grount used (gal.)

Comments

Well Schematic*



* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.

Drilling Contractor:

Department Rep.:

TurnKey Environmental Restoration, LLC

WELL ABANDONMENT/ DECOMMISSIONING LOG

PROJECT INFORMATION		WELL INFORMATION	
PROJECT/SITE NAME:	Riverbend SolarCity Project - Area I	WELL I.D.:	A1 - P - 2
Client:	Fort Schuyler Management Corp.	Stick-up (feet):	
Project Job Number:	T0330-015-001	Screen Interval (fbgs):	
Date:	9/29/2016	Drilling Company:	Earth Dimensions
Weather:	54°F, Overcast, wind ENE at 13mph	Drill Rig Type:	CME-550 Hollow Stem Auger
Prepared by:	Josh Robinson	Drilling Company Personnel:	Brian Bertron

DECOMMISSIONING PROCEDURES (per NYSDEC DER-10)

	YES	NO
Well visibile? (If not, provide directions below)	X	
Well I.D. visible?		X
Well location matches site map? (If not, sketch actual location on back)	X	

Well I.D. as it appears on protective casing or well:

Surface seal present?	X	
Surface seal competenet? (If cracked, heaved, etc., describe below)	X	
Protective casing in good condition? (If damaged, describe below) N/A		

Headspace reading (ppm) and instrument used:	N/A
Type of protective casing and height of stickup in feet (if applicable):	N/A
Protective casing material type:	N/A
Measure protective casing inside diameter (inches):	N/A

Lock present?	X	
Lock functional?	X	
Did you replace the lock?		X
Is there evidence that the well is double cased? (If yes, describe below)		X
Well measuring point visible?	X	

Measure depth to water from measuring point (feet): Could not Gauge

Measure well depth from measuring point (feet): Could not Gauge

Measure well diameter (inches): 2inch

Well casing material: PVC

Physical condition of visible well casing: Poor

Attach I.D. marker (if well I.D. is confirmed) and identify marker type: NA

Proximity to underground or overhead utilities: NA

Describe access to well: (Include accessibility to truck mounted rig, natural obstructions, overhead utilities, proximity to permenant structures, etc.); Add sketch of location on back, if necessary.

Open area, truck accessible, Flat

Describe well setting (for example, located in a field, in a playground, on pavement, in a garden, etc.) and assess the type of restoration required.

open area

Identify any nearby potential sources of contamination, if present (e.g., gas station, salt pile, etc.)

NA

Remarks:

Cover System Installation in vicinity for SolarCity

TurnKey Environmental Restoration, LLC

WELL ABANDONMENT/ DECOMMISSIONING LOG

DECOMMISSIONING PROCEDURES (per NYSDEC DER-10) - continued

PROJECT/SITE NAME: Rivebed Solarcity Project - Area I

WELL I.D.: A1 - P - 2

Decommissioning Data (Fill in all that apply)

Overdrillling
- Interval Drilled: 0 - 8.41 fbgs
- Drilling Method(s): Hollow stem Auger
- Borehole Diameter (in.): 8.25"
- Temp. Casing Installed? (Y/N): Yes
- Depth temp. casing installed: 0-8.41 fbgs
- Casing type/diam (in.): 4inch
- Method of Installation: Air Rotary

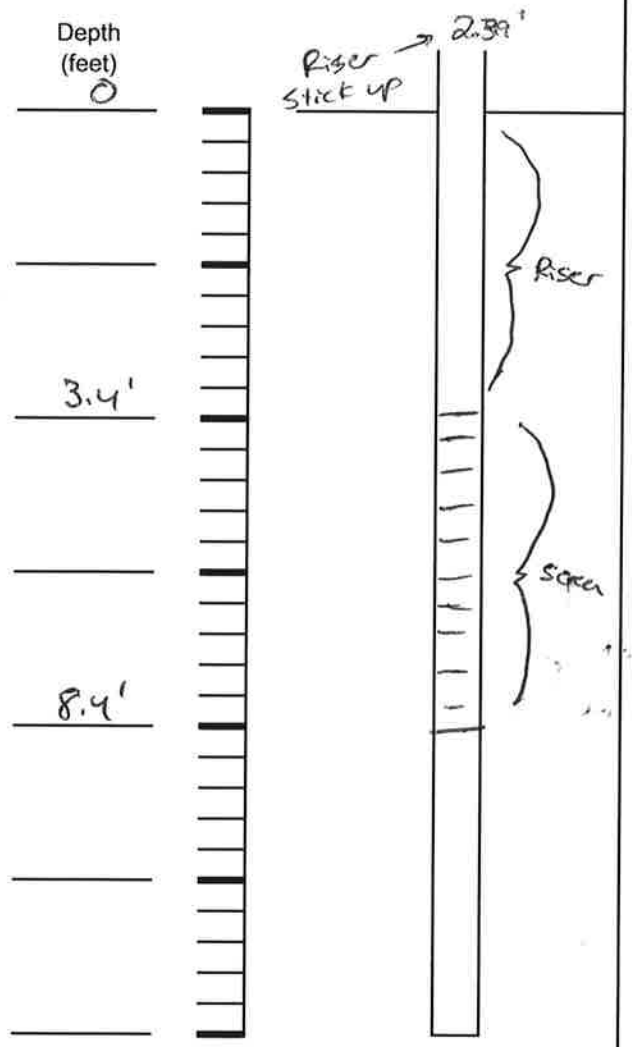
Casing Pulling
- Method employed: Manual (Pulled)
- Casing retrieved (feet): 10.80 feet
- Casing type/diam. (in.): PVC, 2inch

Casing Perforating
- Equipment used: N/A
- Number of perforaitons/foot
- Size of perforations
- Interval perforated

Grouting
- Interval grouted (fbgs): ~8.41 fbgs
- No. of batches prepared
- For each batch record:
  - Quantity of water used (gal.)
  - Quantity of cement used (lbs.)
  - Cement type
  - Quantity of bentonite used (lbs.)
  - Quantity of calcium chloride used (lbs.)
  - Volume of grout prepared (gal.)
  - Volume of grount used (gal.)

Comments

Well Schematic*



* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.

Drilling Contractor: Earth Dimensions

Department Rep.: Brian Barton

APPENDIX D

AREA III

ORC ANNUAL INSPECTION FORMS
JUNE & DECEMBER

ORC WELL ANNUAL INSPECTION FORM

Project Name: RiverBend Site - LTGWM | Project No.: 0322-016-500

Project Location: Area III | Client: FSMC

Preparer's Name: BCH | Date/Time: 6/23/16

sample location:	A3-ORC-1	A3-ORC-2	A3-ORC-3	A3-ORC-4	A3-ORC-5	A3-ORC-6
purge start date:	6/20/16	6/20/16	6/20/16	6/20/16	6/20/16	6/20/16
purge end date:	6/23/16	6/23/16	6/23/16	6/23/16	6/23/16	6/23/16
volume purged (gallons):	29	36	24	26	31	23.5

Field groundwater quality measurements:

sample date:	6/23/16	6/23/16	6/23/16	6/23/16	6/23/16	6/23/16
sample time:	1406	13:54	13:30	13:45	13:22	13:12
DTW (fbTOR)	6.25	6.36	6.35	6.94	6.32	6.45
pH (units)	10.53	5.01	4.80	5.89	5.10	4.66
Temp. (deg F)	14.0	19.1	18.0	18.2	18.2	20.0
SC (uS)	1762	6004	6984	4640	6419	10,480
Turbidity (NTU)	47.1	52.6	27.9	111	96.3	112
DO (ppm)	0.09	2.15	2.23	1.42	3.05	1.55
ORP (mV)	-303	32	108	-35	104	129

Well Integrity Observations:

Cement seal	good	good	good	good	good	good
Pro-Casing condition	NA	NA	NA	NA	NA	NA
Lock condition	good	good	good	good	good	good
J-plug condition	good	good	good	good	good	good

Refer to Site Plan for well locations

ORC Sock's:

Have any Socks been replaced? ☐ yes ☒ no

If replaced, provide date and explanation:

Are socks fully submerged in well screens. ☒ yes ☐ no

If no, explain.

Are all ORC wells being sampled and maintained according to the site management plan ☒ yes ☐ no

If no, explain.

Initial: BCH Date: 6/23/16

ORC WELL ANNUAL INSPECTION FORM

Project Name: RiverBend Site - LTGWM | Project No.: 0322-016-500

Project Location: Area III | Client: FSMC

Preparer's Name: PCH | Date/Time: 6/23/16

sample location:	A3-ORC-7	A3-ORC-8	A3-ORC-9	A3-ORC-10	A3-ORC-11
purge start date:	6/20/16	6/20/16	6/22/16	6/20/16	6/20/16
purge end date:	6/23/16	6/23/16	6/22/16	6/23/16	6/23/16
volume purged (gallons):	20	24	64	30	57

Field groundwater quality measurements:

sample date:	6/23/16	6/23/16	6/22/16	6/23/16	6/23/16
sample time:	1234	12:58	13:03	12:32	12:18
DTW (fbTOR)	7.22	6.88	4.21	6.92	6.71
pH (units)	5.81	4.55	2.97	6.08	5.39
Temp. (deg F)	14.6	18.7	18.2	20.0	18.0
SC (uS)	7502	9848	8327	9365	6209
Turbidity (NTU)	158	88.5	87	158	54.6
DO (ppm)	0.89	1.31	1.44	0.45	1.11
ORP (mV)	-44	68	267	-84	7

Well Integrity Observations:

Cement seal	good	good	good	good	good
Pro-Casing condition	NA	NA	NA	NA	NA
Lock condition	good	good	good	good	good
J-plug condition	good	good	good	good	good

Refer to Site Plan for well locations

ORC Sock's:

Have any Socks been replaced? ☐ yes ☒ no

If no, explain.

Are socks fully submerged in well screens. ☒ yes ☐ no

If no explain why.

Are all ORC wells being sampled and maintained according to the site management plan ☒ yes ☐ no

If no, explain.

Initial: PCH Date: 6/23/16

ORC WELL ANNUAL INSPECTION FORM

Project Name: RiverBend Site - LTGWM
Project No.: 0322-016-500
Project Location: Area III
Client: FSMC
Preparer's Name: BCH
Date/Time: 12/5/16

sample location:	A3-ORC-1	A3-ORC-2	A3-ORC-3	A3-ORC-4	A3-ORC-5	A3-ORC-6
purge start date:	11/29/16	11/29/16	11/29/16	11/29/16	11/29/16	11/29/16
purge end date:	12/2/16	12/2/16	12/2/16	12/2/16	12/2/16	12/2/16
volume purged (gallons):	37	37	32	36	60	32

Field groundwater quality measurements:

sample date:	12/2/16	12/2/16	12/2/16	12/2/16	12/2/16	12/2/16
sample time:	14:00	1345	13:10	13:30	12:58	12:30
DTW (fbTOR)	4.85	5.15	5.55	4.80	4.67	5.56
pH (units)	9.72	5.15	4.74	6.00	6.69	4.63
Temp. (deg F)	7.3	7.0	7.4	8.1	7.2	9.8
SC (uS)	1709	6188	7416	4720	2106	10,940
Turbidity (NTU)	—	56	126	123	41.7	242
DO (ppm)	0.27	4.55	4.72	5.28	3.65	4.71
ORP (mV)	-37	30	77	63	7	90

Well Integrity Observations:

Cement seal	good	good	good	good	good	good
Pro-Casing condition	NA	NA	NA	NA	NA	NA
Lock condition	good	good	good	good	good	good
J-plug condition	good	good	good	good	good	good

Refer to Site Plan for well locations

ORC Sock's:

Have any Socks been replaced? ☐ yes ☒ no

If replaced, provide date and explanation:

Are socks fully submerged in well screens. ☒ yes ☐ no

If no explain why.

Are all ORC wells being sampled and maintained according to the site management plan ☒ yes ☐ no

If no please state why.

Initial: BCH Date: 12/5/16

ORC WELL ANNUAL INSPECTION FORM

Project Name: RiverBend Site - LTGWM | Project No.: 0322-016-500

Project Location: Area III | Client: FSMC

Preparer's Name: BCH | Date/Time: 12/5/16

sample location:	A3-ORC-7	A3-ORC-8	A3-ORC-9	A3-ORC-10	A3-ORC-11
purge start date:	11/29/16	11/29/16	12/2/16	11/29/16	11/29/16
purge end date:	12/2/16	12/2/16	12/2/16	12/2/16	12/2/16
volume purged (gallons):	56	38	65	74	84

Field groundwater quality measurements:

sample date:	12/2/16	12/2/16	12/2/16	12/2/16	12/2/16
sample time:	11:50	12:10	11:25	10:25	10:50
DTW (fbTOR)	6.19	6.02	3.41	5.65	5.31
pH (units)	5.84	5.10	3.05	6.81	6.02
Temp. (deg F)	9.8	8.2	9.3	10.2	9.3
SC (uS)	5164	5703	7050	2466	5274
Turbidity (NTU)	87.7	106	56.9	78.2	82.1
DO (ppm)	3.00	2.91	1.97	3.24	3.57
ORP (mV)	56	58	132	-31	-22

Well Integrity Observations:

Cement seal	good	good	good	good	good
Pro-Casing condition	NA	NA	NA	NA	NA
Lock condition	good	good	good	good	good
J-plug condition	good	good	good	good	good

Refer to Site Plan for well locations

ORC Sock's:

Have any Socks been replaced? ☐ yes ☒ no

If replaced, provide date and explanation:

Are socks fully submerged in well screens. ☒ yes ☐ no

If no explain why.

Are all ORC wells being sampled and maintained according to the site management plan ☒ yes ☐ no

If no please state why.

Initial: BCH Date: 12/5/16

APPENDIX E

MONITORING WELL DOCUMENTATION

TurnKey Environmental Restoration, LLC

WELL ABANDONMENT/ DECOMMISSIONING LOG

PROJECT INFORMATION		WELL INFORMATION	
PROJECT/SITE NAME:	~~AL Surface~~ Riverbed Solarcity Project - Area I	WELL I.D.:	A1-MW-4
Client:	Fort Schuyler Management Corp.	Stick-up (feet):	
Project Job Number:	T0330-015-001	Screen Interval (fbgs):	
Date:	9/29/2016	Drilling Company:	
Weather:	54°F, Overcast, wind ENE at 13 mph	Drill Rig Type:	
Prepared by:	Josh Robinson	Drilling Company Personnel:	

DECOMMISSIONING PROCEDURES (per NYSDEC DER-10)

	YES	NO
Well visibile? (If not, provide directions below)	X	
Well I.D. visible?	X	
Well location matches site map? (If not, sketch actual location on back)	X	

Well I.D. as it appears on protective casing or well:

Surface seal present?	X	
Surface seal competenet? (If cracked, heaved, etc., describe below)	X	
Protective casing in good condition? (If damaged, describe below)	X	

Headspace reading (ppm) and instrument used: N/A

Type of protective casing and height of stickup in feet (if applicable): Steel,

Protective casing material type: Steel

Measure protective casing inside diameter (inches): 4"

Lock present?	X	
Lock functional?	X	
Did you replace the lock?		X
Is there evidence that the well is double cased? (If yes, describe below)		X
Well measuring point visible?	X	

Measure depth to water from measuring point (feet): 6.91 fbTS

Measure well depth from measuring point (feet):

Measure well diameter (inches): 2

Well casing material: PVC

Physical condition of visible well casing: Good

Attach I.D. marker (if well I.D. is confirmed) and identify marker type: N/A

Proximity to underground or overhead utilities: Power lines ~75' to 100' east of A1-MW-4

Describe access to well: (Include accessibility to truck mounted rig, natural obstructions, overhead utilities, proximity to permenant structures, etc.); Add sketch of location on back, if necessary.

truck accessible, flat

Describe well setting (for example, located in a field, in a playground, on pavement, in a garden, etc.) and assess the type of restoration required.

open area

Identify any nearby potential sources of contamination, if present (e.g., gas station, salt pile, etc.)

N/A

Remarks: ~~Solarcity~~ Cover System Installation in vicinity for Solarcity

TurnKey Environmental Restoration, LLC

WELL ABANDONMENT/ DECOMMISSIONING LOG

DECOMMISSIONING PROCEDURES (per NYSDEC DER-10) - continued

PROJECT/SITE NAME: Riverbed Solarcity Project - Area I

WELL I.D.: A1-MW-4

Decommissioning Data (Fill in all that apply)

Overdrillling
- Interval Drilled: 0-14 fbgs
- Drilling Method(s): Hollow stem Auger
- Borehole Diameter (in.): 8.25"
- Temp. Casing Installed? (Y/N): Yes
- Depth temp. casing installed: 0-14 fbgs
- Casing type/diam (in.): 4 inch
- Method of Installation: Air Rotary

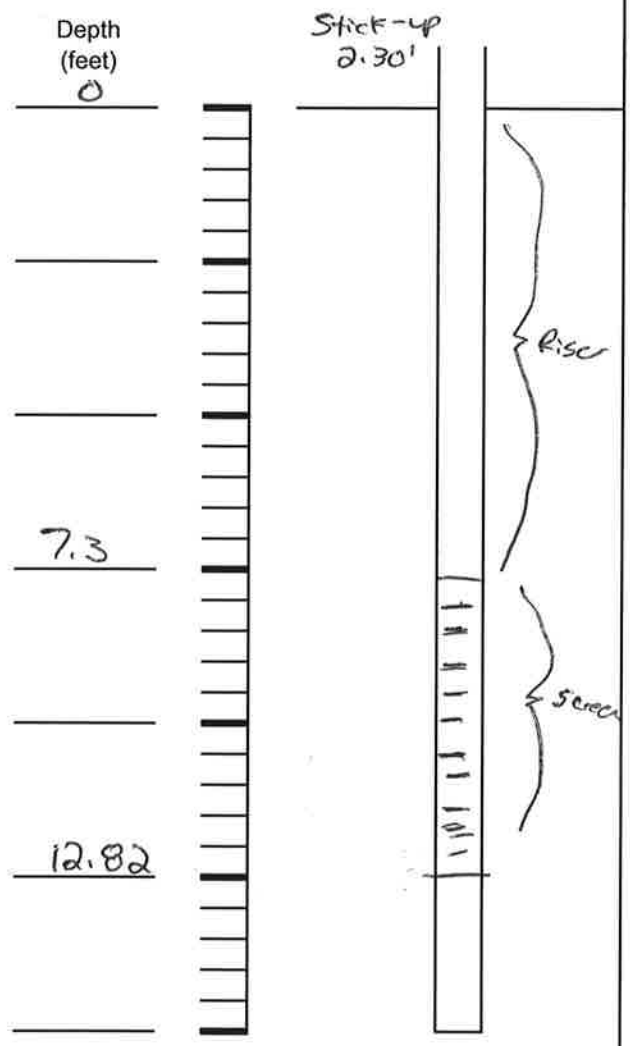
Casing Pulling
- Method employed: Manual (Pulled)
- Casing retrieved (feet): 15.12
- Casing type/diam. (in.): PVC, 2 inch

Casing Perforating
- Equipment used: N/A
- Number of perforaitons/foot
- Size of perforations
- Interval perforated

Grouting
- Interval grouted (fbgs)
- No. of batches prepared
- For each batch record:
  - Quantity of water used (gal.)
  - Quantity of cement used (lbs.)
  - Cement type
  - Quantity of bentonite used (lbs.)
  - Quantity of calcium chloride used (lbs.)
  - Volume of grout prepared (gal.)
  - Volume of grount used (gal.)

Comments

Well Schematic*



* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.

Drilling Contractor:

Department Rep.:

TurnKey Environmental Restoration, LLC

WELL ABANDONMENT/ DECOMMISSIONING LOG

PROJECT INFORMATION		WELL INFORMATION	
PROJECT/SITE NAME:	Riverbend Solarcity Project - Area I	WELL I.D.:	A1-MW-M2
Client:	Fort Schuyler Management Corp.	Stick-up (feet):	
Project Job Number:	T0370-015-001	Screen Interval (fbgs):	
Date:	09/29/2016	Drilling Company:	Earth Dimensions
Weather:	54°F, overcast, wind ENE at 13mph	Drill Rig Type:	CME-550 Hollow Stem Auger
Prepared by:	Josh Robinson	Drilling Company Personnel:	Brian Barton

DECOMMISSIONING PROCEDURES (per NYSDEC DER-10)

	YES	NO
Well visibile? (If not, provide directions below)	X	
Well I.D. visible?		X
Well location matches site map? (If not, sketch actual location on back)	X	

Well I.D. as it appears on protective casing or well:

Surface seal present?	X	
Surface seal competenet? (If cracked, heaved, etc., describe below)	X	
Protective casing in good condition? (If damaged, describe below)		X

Headspace reading (ppm) and instrument used: N/A

Type of protective casing and height of stickup in feet (if applicable): Steel, Dislodged (broke during construction

Protective casing material type: Steel

Measure protective casing inside diameter (inches): 4"

Lock present?		X
Lock functional?		X
Did you replace the lock?		X
Is there evidence that the well is double cased? (If yes, describe below)		X
Well measuring point visible?		X

Measure depth to water from measuring point (feet): Could not gauge, soil at 5'bgs

Measure well depth from measuring point (feet): Could not gauge

Measure well diameter (inches): 2 inches

Well casing material: PVC

Physical condition of visible well casing: Broken off just below Site grade

Attach I.D. marker (if well I.D. is confirmed) and identify marker type:

Proximity to underground or overhead utilities: N/A

Describe access to well: (Include accessibility to truck mounted rig, natural obstructions, overhead utilities, proximity to permenant structures, etc.); Add sketch of location on back, if necessary.

Truck accessible, flat

Describe well setting (for example, located in a field, in a playground, on pavement, in a garden, etc.) and assess the type of restoration required.

Open Area

Identify any nearby potential sources of contamination, if present (e.g., gas station, salt pile, etc.)

N/A

Remarks: Cover System Installation in vicinity for Solarcity

TurnKey Environmental Restoration, LLC

WELL ABANDONMENT/ DECOMMISSIONING LOG

DECOMMISSIONING PROCEDURES (per NYSDEC DER-10) - continued

PROJECT/SITE NAME: Riverbend Solarcity Project

WELL I.D.: A1-MW-M2

Decommissioning Data (Fill in all that apply)

Overdrillling
- Interval Drilled: 0-15 ft bgs
- Drilling Method(s): Hollow Stem Auger
- Borehole Diameter (in.): 8.25"
- Temp. Casing Installed? (Y/N): Yes
- Depth temp. casing installed: 0-14 ft bgs
- Casing type/diam (in.): 4 inch
- Method of Installation: Air Rotary

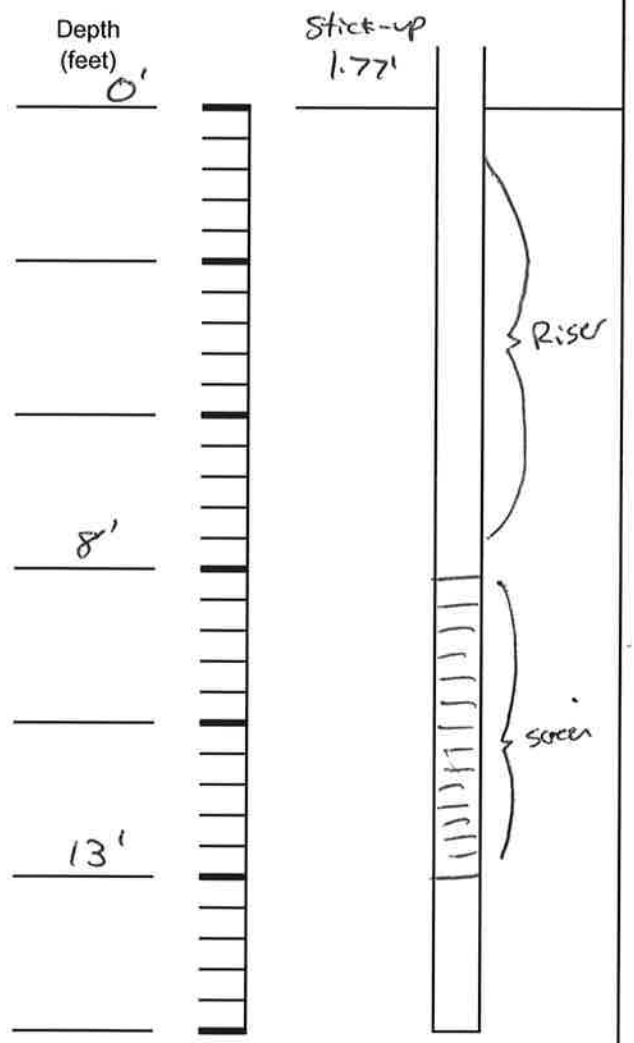
Casing Pulling
- Method employed: Pulled (Manual)
- Casing retrieved (feet): 14.81
- Casing type/diam. (in.): PVC, 2 inch

Casing Perforating
- Equipment used: N/A
- Number of perforaitons/foot
- Size of perforations
- Interval perforated

Grouting
- Interval grouted (fbgs): ~13 ft bgs
- No. of batches prepared
- For each batch record:
  - Quantity of water used (gal.)
  - Quantity of cement used (lbs.)
  - Cement type
  - Quantity of bentonite used (lbs.)
  - Quantity of calcium chloride used (lbs.)
  - Volume of grout prepared (gal.)
  - Volume of grount used (gal.)

Comments

Well Schematic*



* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.

Drilling Contractor:

Department Rep.:

TurnKey Environmental Restoration, LLC

WELL ABANDONMENT/ DECOMMISSIONING LOG

PROJECT INFORMATION		WELL INFORMATION	
PROJECT/SITE NAME:	Riverbend SolarCity Project - Area I	WELL I.D.:	A1 - P - 2
Client:	Fort Schuyler Management Corp.	Stick-up (feet):	
Project Job Number:	T0330-015-001	Screen Interval (fbgs):	
Date:	9/29/2016	Drilling Company:	Earth Dimensions
Weather:	54°F, Overcast, wind ENE at 13mph	Drill Rig Type:	CME-550 Hollow Stem Auger
Prepared by:	Josh Robinson	Drilling Company Personnel:	Brian Bertron

DECOMMISSIONING PROCEDURES (per NYSDEC DER-10)

	YES	NO
Well visibile? (If not, provide directions below)	X	
Well I.D. visible?		X
Well location matches site map? (If not, sketch actual location on back)	X	

Well I.D. as it appears on protective casing or well:

Surface seal present?	X	
Surface seal competenet? (If cracked, heaved, etc., describe below)	X	
Protective casing in good condition? (If damaged, describe below) N/A		

Headspace reading (ppm) and instrument used:	N/A
Type of protective casing and height of stickup in feet (if applicable):	N/A
Protective casing material type:	N/A
Measure protective casing inside diameter (inches):	N/A

Lock present?	X	
Lock functional?	X	
Did you replace the lock?		X
Is there evidence that the well is double cased? (If yes, describe below)		X
Well measuring point visible?	X	

Measure depth to water from measuring point (feet): Could not Gauge

Measure well depth from measuring point (feet): Could not Gauge

Measure well diameter (inches): 2inch

Well casing material: PVC

Physical condition of visible well casing: Poor

Attach I.D. marker (if well I.D. is confirmed) and identify marker type: NA

Proximity to underground or overhead utilities: NA

Describe access to well: (Include accessibility to truck mounted rig, natural obstructions, overhead utilities, proximity to permenant structures, etc.); Add sketch of location on back, if necessary.

Open area, truck accessible, Flat

Describe well setting (for example, located in a field, in a playground, on pavement, in a garden, etc.) and assess the type of restoration required.

open area

Identify any nearby potential sources of contamination, if present (e.g., gas station, salt pile, etc.)

NA

Remarks:

Cover System Installation in vicinity for SolarCity

TurnKey Environmental Restoration, LLC

WELL ABANDONMENT/ DECOMMISSIONING LOG

DECOMMISSIONING PROCEDURES (per NYSDEC DER-10) - continued

PROJECT/SITE NAME: Rivebed Solarcity Project - Area I

WELL I.D.: A1 - P - 2

Decommissioning Data (Fill in all that apply)

Overdrillling
- Interval Drilled: 0 - 8.41 fbgs
- Drilling Method(s): Hollow stem Auger
- Borehole Diameter (in.): 8.25"
- Temp. Casing Installed? (Y/N): Yes
- Depth temp. casing installed: 0-8.41 fbgs
- Casing type/diam (in.): 4inch
- Method of Installation: Air Rotary

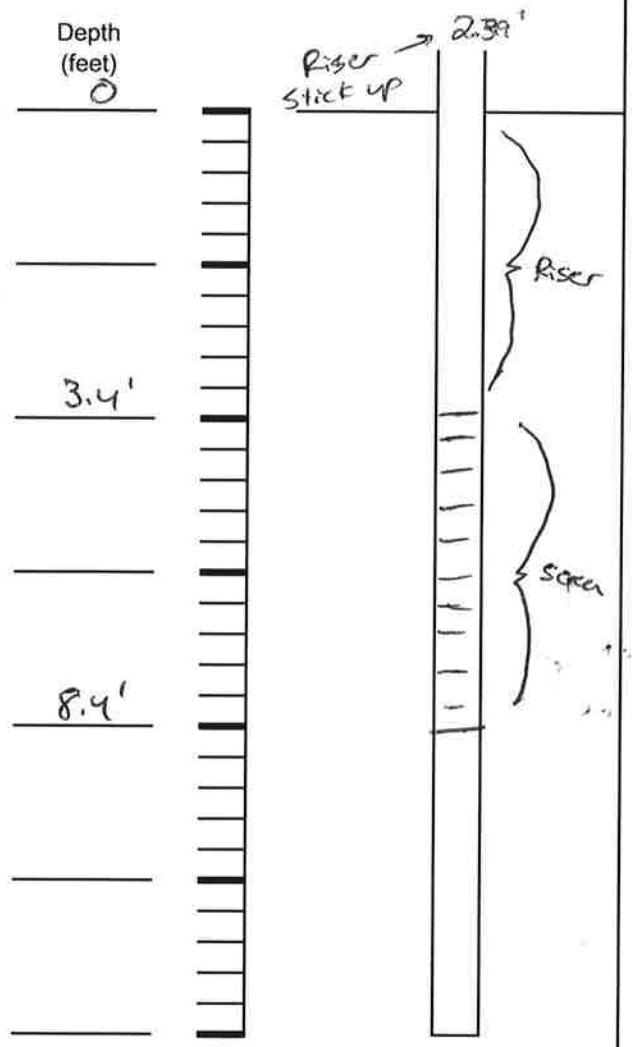
Casing Pulling
- Method employed: Manual (Pulled)
- Casing retrieved (feet): 10.80 feet
- Casing type/diam. (in.): PVC, 2inch

Casing Perforating
- Equipment used: N/A
- Number of perforaitons/foot
- Size of perforations
- Interval perforated

Grouting
- Interval grouted (fbgs): ~8.41 fbgs
- No. of batches prepared
- For each batch record:
  - Quantity of water used (gal.)
  - Quantity of cement used (lbs.)
  - Cement type
  - Quantity of bentonite used (lbs.)
  - Quantity of calcium chloride used (lbs.)
  - Volume of grout prepared (gal.)
  - Volume of grount used (gal.)

Comments

Well Schematic*



* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.

Drilling Contractor: Earth Dimensions

Department Rep.: Brian Barton

GROUNDWATER FIELD FORM

Project Name: Rikbed - Area I Date: 6/17/2016

Location: Buffalo, NY Project No.: T0330-015-001 Field Team: JJR

Well No. May A1-MW-8R | Diameter (inches): 2 | Sample Date / Time: N/A

Product Depth (fbTOR): — | Water Column (ft): 9.51 | DTW when sampled: N/A

DTW (static) (fbTOR): 14.62 | One Well Volume (gal): 1.55 | Purpose: ☒ Development ☐ Sample ☐ Purge & Sample

Total Depth (fbTOR): 24.13 | Total Volume Purged (gal): | Purge Method: Bailer - Non dedicated (4')

Time		Water Level (fbTOR)	Acc. Volume (gallons)	pH (units)	Temp. (deg. C)	SC (uS)	Turbidity (NTU)	DO (mg/L)	ORP (mV)	Appearance & Odor
1110	0	Initial	<0.25	7.33	17.2	1013	>1000	0.98	-71	Turbid + no odor
1114	1	15.89	1.50	6.83	18.7	1123	>1000	1.60	-46	" " "
1118	2	17.82	3.00	6.81	18.0	1120	>1000	1.72	-50	" " "
1122	3	16.65	4.50	6.86	18.3	1098	>1000	0.94	-40	" " "
1126	4	17.09	6.0	6.90	16.3	1061	>1000	2.13	-42	" " "
1128	5	17.38	7.5	6.93	15.6	1026	>1000	2.18	-9	" " "
1135	6	17.71	9.0	6.92	15.8	1024	>1000	3.61	-5	" " "
1142	7	17.92	10.5	6.91	16.1	1131	>1000	3.92	-4	" " "
1145	8	18.21	12.0	6.92	15.8	961.9	>1000	4.51	-1	" " "
1149	9	18.32	13.5	6.91	15.6	957.2	>1000	5.12	1	" " "
1155	10	18.41	15.0	6.94	18.2	931.9	>1000	4.92	5	" " "
Sample Information:										
	S1									
	S2									

Well No. A1-MW-10 | Diameter (inches): 2 | Sample Date / Time: N/A

Product Depth (fbTOR): — | Water Column (ft): 11.9 | DTW when sampled: N/A

DTW (static) (fbTOR): 14.68 | One Well Volume (gal): 1.9 | Purpose: ☒ Development ☐ Sample ☐ Purge & Sample

Total Depth (fbTOR): 26.58 | Total Volume Purged (gal): 25 | Purge Method: Bailer - Non dedicated (4')

Time		Water Level (fbTOR)	Acc. Volume (gallons)	pH (units)	Temp. (deg. C)	SC (uS)	Turbidity (NTU)	DO (mg/L)	ORP (mV)	Appearance & Odor
0846	0	Initial	<0.25	7.27	18.2	1141	>1000	0.91	-89	Turbid + no odor
0855	1	15.72	2.0	7.30	17.2	1052	>1000	0.45	-108	Turbid + no odor
0900	2	16.45	4.0	7.33	16.2	1002	>1000	1.15	-107	Turbid + no odor
0904	3	15.22	6.0	7.39	16.6	869.5	>1000	1.49	-90	" " "
0910	4	16.54	8.0	7.47	15.5	829.6	>1000	1.37	-83	" " "
0914	5	16.58	10.0	7.48	15.9	815.1	>1000	1.52	-96	" " "
0920	6	15.22	12.0	7.49	15.8	791.5	>1000	3.26	-76	" " "
0924	7	16.11	14.0	7.42	16.0	785.8	>1000	1.58	-79	" " "
0927	8	15.98	16.0	7.32	[illegible]	789.9	>1000	1.29	-68	" " "
0934	9	16.15	18.0	7.30	15.0	747.4	>1000	1.73	-92	" " "
0940	10	15.88	20.0	7.30	17.3	742.2	>1000	1.89	-93	" " "
Sample Information:										
	S1									
	S2									

REMARKS: Pulled an additional 5 gallons to see if well would decrease in turbidity still >1000 NTU

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

Volume Calculation

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

Stabilization Criteria

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

PREPARED BY: Josh Robinson

TurnKey Environmental Restoration, LLC

EQUIPMENT CALIBRATION LOG

PROJECT INFORMATION:

Project Name: Riverbend : AI Well Decommissioning
Date: 7-12-17
Project No.: 0322-016-502
Client: Fort Schuyler Management Corp
Instrument Source: ☑ BM ☐ Rental

METER TYPE	UNITS	TIME	MAKE/MODEL	SERIAL NUMBER	CAL. BY	STANDARD	POST CAL. READING	SETTINGS
☑ pH meter	units	1000	Myron L Company Ultra Meter 6P	6213516 ☐ 6243084 ☑ 6212375 ☐ 6223973 ☐	BMB	4.00 7.00 10.01	4.00 6.98 9.95	
☑ Turbidity meter	NTU	935	Hach 2100P or 2100Q Turbidimeter	06120C020523 (P) ☑ 13120C030432 (Q) ☐	BMB	< 0.4 or 10 for 2100 Q 20 100 800	0.4 21 105 808	
☐ Turbidity meter	NTU		LaMotte 2020	6523-1816 (La) ☐		0.0 NTU 1.0 NTU 10.0 NTU		
☑ Sp. Cond. meter	uS mS	940	Myron L Company Ultra Meter 6P	6213516 ☐ 6243084 ☑ 6212375 ☐ 6223973 ☐	BMB	1413 mS @ 25 °C	1414	
☐ PID	ppm		MinRAE 2000			open air zero ____ ppm Iso. Gas		MIBK response factor = 1.0
☑ Dissolved Oxygen	ppm	930	HACH Model HQ30d	080700023281 ☐ 100500041867 ☐ 140200100319 ☑	BMB	100% Satuartion	100%	
☐ Particulate meter	mg/m³					zero air		
☐ Oxygen	%					open air		
☐ Hydrogen sulfide	ppm					open air		
☐ Carbon monoxide	ppm					open air		
☐ LEL	%					open air		
☐ Radiation Meter	uR/H					background area		

ADDITIONAL REMARKS:

PREPARED BY: Brock Breen **DATE:** 7-12-17

GROUNDWATER FIELD FORM

Project Name: Riverbend : Alwell Depo missing Date: 7-12-17
Location: Riverbend Project No.: 0322-016-502 Field Team: BMG

Well No. Al-MW-4R			Diameter (inches): 2"			Sample Date / Time:			
Product Depth (fbTOR): NA			Water Column (ft): 11.8			DTW when sampled:			
DTW (static) (fbTOR): 9.12			One Well Volume (gal): 1.92			Purpose: ☑ Development ☐ Sample ☐ Purge & Sample			
Total Depth (fbTOR): 20.92			Total Volume Purged (gal): 20			Purge Method: Bailer			
Time	Water Level (fbTOR)	Acc. Volume (gallons)	pH (units)	Temp. (deg. C)	SC (uS)	Turbidity (NTU)	DO (mg/L)	ORP (mV)	Appearance & Odor
1117	0 Initial	0	6.27	16.9	1182	43	4.01	76	clear, No odor
1132	1 13.41	4	6.78	16.9	1501	OR	6.36	14	brown turbid, No odor
1155	2 16.25	8	6.82	17.3	1333	OR	6.38	37	" "
1212	3 17.90	12	6.95	15.7	1107	OR	6.78	57	" "
1523	4 9.40	16	7.49	15.9	1058	OR	7.46	149	" "
1536	5 9.35	20	7.16	15.9	1046	OR	7.89	118	" "
	6								
	7								
	8								
	9								
	10								
Sample Information:									
	S1								
	S2								

Well No. Al-MW-11			Diameter (inches): 2"			Sample Date / Time:			
Product Depth (fbTOR): NA			Water Column (ft):			DTW when sampled:			
DTW (static) (fbTOR): Dry			One Well Volume (gal):			Purpose: ☐ Development ☐ Sample ☐ Purge & Sample			
Total Depth (fbTOR): 18.65			Total Volume Purged (gal):			Purge Method:			
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								
Sample Information:									
	S1								
	S2								

REMARKS: See reverse side for survey data
Not able to develope Al-MW-11

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

Volume Calculation

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

Stabilization Criteria

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

PREPARED BY: Brock Greene

Project No: 0322-017-500

Borehole Number: A1-MW-4R

Project: RiverBend Area I Well Decomissioning & Replacement

A.K.A.:

Client: Fort Schuyler Management Corporation

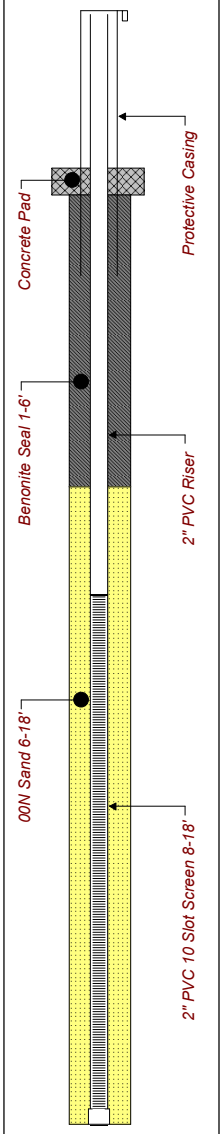
Logged By: BMG

Site Location: Buffalo, NY

Checked By: BCH

TurnKey Environmental Restoration, LLC
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0635

SUBSURFACE PROFILE			SAMPLE						
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol	PID VOCs (ppm)	Lab Sample	Well Completion Details or Remarks
-3.0							0 12.5 25		
	0.0	Ground Surface							
	0.0	***Final Cover*** Imported 2" Crusher Run	S1	4	0.4		0.0		
	-2.0								
2.0	2.0	***Fill*** Black, dry, cinders and ash(fine to coarse sand sized particles with few angular fine gravel sized particles)	S2	13	1.2		0.5		
	-3.5								
	3.5	***Lean Clay*** Yellowish brown, moist, mostly medium placticity fines with trace non plastic fines, firm	S3	8	1.0		0.3		
	-6.0								
	6.0	***Lean Clay with Sand and Gravel*** Dark brown, moist, mostly low plasticity fines with few fine sand and few fine angular gravel, very soft	S4	2	1.2		0.1		
	-6.7								
	6.7								
7.0	-7.2								
	7.2	***Poorly Graded Gravel with Silt _Sand*** Dark brown, wet, mostly fine angular gravel with some fine to coarse sand and few non-plastic fines, loose	S5	6	1.5		0.1		
		Lean Clay Grayish brown, moist, mostly low (grading to medium) plasticity fines with trace non-plastic fines, very soft grading to firm then stiff	S6	8	1.5		0.2		
	-10.0								
	10.0								
	-11.3								
	11.3	As above, yellowish brown and gray							
	-12.0								
12.0	12.0	As above, grayish brown, wet,	S7	6	1.7		0.2		
		As above, yellowish brown and gray, thin sand lenses	S8	14	1.7		0.2		
17.0			S9	13	2.0		0.2		
	-18.0								
	18.0	End of Borehole							



Drilled By: Earth Dimensions
Drill Rig Type: CME 550
Drill Method: Split Spoon/ Hollow Stem Auger (4 1/4")
Comments:
Drill Date(s): 7-11-17

Hole Size: 8"
Stick-up: 2.92'
Datum: Mean Sea Level

Sheet: 1 of 1

Project No: T0330-015-001

Borehole Number: A1-MW-8R

Project: Riverend Area I

A.K.A.: N/A

Client: Fort Schulyer Management Corporation (FSMC)

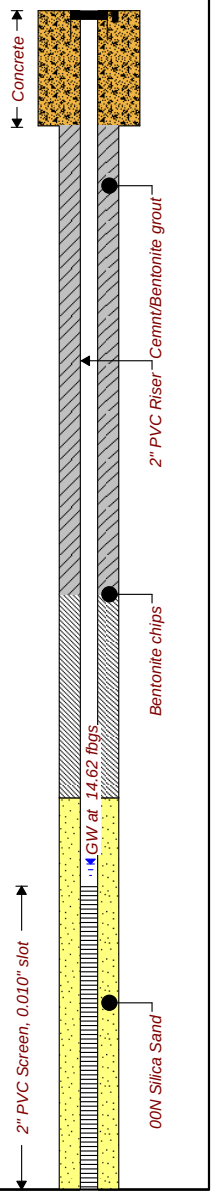
Logged By: JJR

Site Location: 1339 South Park Avenue Buffalo, NY

Checked By: BCH

TurnKey Environmental Restoration, LLC
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0635

SUBSURFACE PROFILE			SAMPLE						
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol	PID VOCs ppm (0 – 12.5 – 25)	Lab Sample	Well Completion Details or Remarks
0.0	0.0	Ground Surface							
	0.0 / -0.5	***Imported Topsoil Cover*** Brown, moist, mostly non-plastic fines, some fine sand, trace coarse, sand, medium dense	S1	54	2		0.0		
	0.5 / -1.0 / 1.0						0.0		
	-2.0 / 2.0	***Imported Bank Run Gravel*** Light brown, moist, mostly fine sand, some coarse sand, little fine gravel (sub rounded, trace coarse gravel (sub rouned), dense	S2	50 / WH	1.8		0.0		
	-3.5 / 3.5	***Fill Material*** Dark brown, moist, mostly fine sand, some fine to coarse gravel (sub angular), few slag, trace brick, loose					0.0		
5.0	-5.0 / 5.0	***Fill Material*** Dark brown, moist, mostly fine sand, some coarse sand, little fine gravel, few slag, little concrete, tarce brick, very dense	S3	50 / WH	1.1		0.0		
	-6.0 / 6.0						0.0		
	-8.0 / 8.0	***Fill Material*** Dark brown, moist, mostly fine sand, some brick, few coarse sand and fine gravel, trace slag, very dense	S4	43	1.2		0.0		
		Limestone Cobble Grey, dry, fractured limestone cobble	S5	6	2		0.0		
10.0	-9.8 / 9.8	***Clayey Fill Material*** Dark brown, moist, mostly medium plasticity fines, little non plastic fines, little slag, trace brick, medium dense					0.0		
		Clayey Silt Black, moist, mostly non plastic fines, few non plastic fines, trace fine sand, firm, no dry strength, no dilatency, low toughness, firm	S6	11	1.1		0.0		
	-13.0 / 13.0	***Lean Clay*** Light brown, moist, mostly medium plasticity fines, little non plastic fines, trace fine sand, firm, high dry strength, no dilatency, stiff	S7	14	2		0.0		
15.0		***Clayey Silt*** Grey, moist, mostly non plastic fines, little medium plasicity fines, trace fine sand, trace depositional wood, no dilatency, firm	S8	8	1.9		0.0		
	-16.0 / 16.0	***Clayey Silt*** Grey, moist, wet at 16', mostly non plastic fines, little medium plastiity fines, trace fine sand, soft	S9	5	2		0.0		
			S10	4	2.2		0.0		
20.0									



Drilled By: Earth Dimensions, Inc.
Drill Rig Type: CME 550
Drill Method: 4 1/4-inch HSA w/continuous SS
Comments: NA
Drill Date(s): June 6, 2016

Hole Size: 8 1/4 - inch
Stick-up: NA
Datum: Mean Sea Level

Sheet: 1 of 2

Project No: T0330-015-001

Borehole Number: A1-MW-8R

Project: Riverend Area I

A.K.A.: N/A

Client: Fort Schulyer Management Corporation (FSMC)

Logged By: JJR

Site Location: 1339 South Park Avenue Buffalo, NY

Checked By: BCH

TurnKey Environmental Restoration, LLC
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0635

SUBSURFACE PROFILE			SAMPLE						
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol	PID VOCs ppm (0 / 12.5 / 25)	Lab Sample	Well Completion Details or Remarks
	-20.8 / 20.8	***Poorly Graded Sand*** Grey, wet, mostly fine sand, loose	S11	WR	2		0.0		
	-23.0 / 23.0	***Poorly Graded Sand*** Brown, wet, mostly coarse sand, some medium sand, trace fine sand, medium dense	S12	13	1.7		0.0		
	-24.0 / 24.0	End of Borehole					0.0		
25.0									
30.0									
35.0									
40.0									

Drilled By: Earth Dimensions, Inc.
Drill Rig Type: CME 550
Drill Method: 4 1/4-inch HSA w/continuous SS
Comments: NA
Drill Date(s): June 6, 2016

Hole Size: 8 1/4 - inch
Stick-up: NA
Datum: Mean Sea Level

Project No: T0330-015-001

Borehole Number: A1-MW-10

Project: Riverend Area I

A.K.A.: N/A

Client: Fort Schulyer Management Corporation (FSMC)

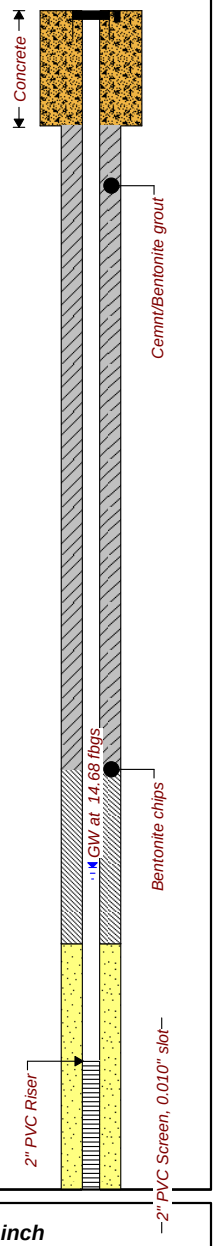
Logged By: JJR

Site Location: 1339 South Park Avenue Buffalo, NY

Checked By: BCH

TurnKey Environmental Restoration, LLC
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0635

SUBSURFACE PROFILE			SAMPLE						
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol	PID VOCs ppm (0 – 12.5 – 25)	Lab Sample	Well Completion Details or Remarks
0.0	0.0	Ground Surface							
	0.0 / -0.5	***Imported Topsoil Cover*** Brown, moist, mostly non-plastic fines, some fine sand, trace coarse, sand, loose	S1	22	1.5		0.0 / 0.0		
	0.5 / -1.0 / 1.0 / -2.0	***Imported Bank Run Gravel*** Light brown, moist, mostly fine sand, some coarse sand, little fine gravel (sub rounded, trace coarse gravel (sub rouned), medium dense	S2	123	1.4		0.0 / 0.0		
	2.0	***Fill Material*** Brown, dry, mostly fine sand, some slag, little brick, ash and glass, medium dense							
5.0		***Fill Material*** Black, dry, mostly fine sand, some slag, few brick, trace ash and cinders, very dense	S3	45	1.5		0.0 / 0.0		
	-6.0 / 6.0	***Slag with Fill Material*** Blue/grey, dry, mostly slag (coarse sand sized, loose), little fine sand, very dense	S4	50 / WH	0.6		0.0 / 0.0		
	-8.0 / 8.0	***Slag*** Blue/grey slag, dry, medium dense, spoon refusal at 7', augered to 8'	S5	12	1.9		0.0 / 0.0		
10.0	-10.0 / 10.0	***Lean Clay*** Light brown, moist, mostly medium plasticity fines, little non plastic fines, trace fine sand, firm, high dry strength, no dilatency, medium toughness, firm to stiff	S6	11	1.9		0.0 / 0.0		
			S7	6	1.9		0.0 / 0.0		
	-13.5 / 13.5	***Clayey Silt*** Grey, moist, mostly non plastic fines, little medium plasicity fines, trace fine sand, trace wood, soft to firm	S8	9	2.0		0.0 / 0.0		
15.0			S9	4	2		0.0 / 0.0		
			S10	4	1.9		0.0 / 0.0		
20.0									



Drilled By: Earth Dimensions, Inc.
Drill Rig Type: CME 550
Drill Method: 4 1/4-inch HSA w/continuous SS
Comments: NA
Drill Date(s): June 6 and 7, 2016

Hole Size: 8 1/4 - inch
Stick-up: NA
Datum: Mean Sea Level

Sheet: 1 of 2

Project No: T0330-015-001

Borehole Number: A1-MW-10

Project: Riverend Area I

A.K.A.: N/A

Client: Fort Schulyer Management Corporation (FSMC)

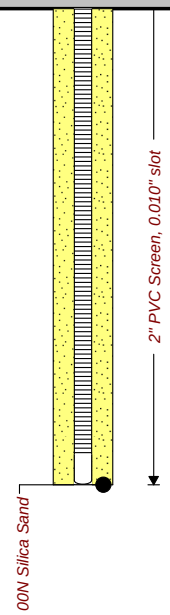
Logged By: JJR

Site Location: 1339 South Park Avenue Buffalo, NY

Checked By: BCH

TurnKey Environmental Restoration, LLC
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0635

SUBSURFACE PROFILE			SAMPLE						
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol	PID VOCs ppm	Lab Sample	Well Completion Details or Remarks
			S11	5	2		0.0		
	-22.0 / 22.0	***Clayey Silt*** Grey, moist, wet at 22.5', mostly non plastic fines, little medium plastiity fines, trace fine sand, very soft	S12	WH	2		0.0		
	-23.5 / 23.5	***Well Graded Sand*** Grey, wet, mostly fine sand, little coarse sand (sub rounded), trace fine gravel (sub rounded), loose	S13	6	1.2		0.0		
25.0			S14	11	1.2		0.0		
	-27.5 / 27.5						0.0		
	-28.0 / 28.0	***Poorly Graded Sand*** Grey, wet, mostly coarse sand, trace fine sand, loose to medium dense							
		End of Borehole							
30.0									
35.0									
40.0									



Drilled By: Earth Dimensions, Inc.
Drill Rig Type: CME 550
Drill Method: 4 1/4-inch HSA w/continuous SS
Comments: NA
Drill Date(s): June 6 and 7, 2016

Hole Size: 8 1/4 - inch
Stick-up: NA
Datum: Mean Sea Level

Sheet: 2 of 2

Project No: 0322-017-500

Borehole Number: A1-MW-11

Project: RiverBend Area I Well Decomissioning & Replacement

A.K.A.:

Client: Fort Schuyler Management Corporation

Logged By: BMG

Site Location: Buffalo, NY

Checked By: BCH

TurnKey Environmental Restoration, LLC
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0635

SUBSURFACE PROFILE			SAMPLE						
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol	PID VOCs (ppm)	Lab Sample	Well Completion Details or Remarks
-3.0							0 – 12.5 – 25		
	0.0	Ground Surface							
	0.0	***Final Cover*** Brown, moist, mostly fine to coarse sand with some non-plastic fines and few fine angular gravel, dense	S1	34	1.5		2.8		
	-1.2 / 1.2	***Fill*** Dark brown, moist, mostly fine to coarse sized cinders and slag with some fine to coarse sand and few non-plastic fines, trace brick and concerete, dense	S2	34	1.2		0.5		
2.0			S3	62	1.9		0.3		
7.0			S4	76	1.2		11.5		
	-8.0 / 8.0	***Lean Clay*** Grayish brown, moist, mostly medium plasticity fines with little non-plastic fines, firm	S5	6	1.7		0.5		
	-9.7 / 9.7	As above, yellowish brown, stiff	S6	11	1.6		0.3		
12.0			S7	11	1.9		0.3		
			S8	9	1.8		0.3		
17.0			S9	8	1.8		0.3		
	-18.0 / 18.0	End of Borehole							

Well Completion Details: Concrete Pad; Protective Casing; Betonite; PVC Riser; 00N Sand; PVC 10 Slot Screen

Drilled By: Earth Dimensions
Drill Rig Type: CME 550
Drill Method: Split Spoon/ Hollow Stem Auger (4 1/4")
Comments:
Drill Date(s): 7-11-17

Hole Size: 8"
Stick-up: 2'
Datum: Mean Sea Level

Sheet: 1 of 1

Riverbend Area I Groundwater Replacement Wells

Josh J. Robinson

Sent: Friday, June 03, 2016 9:05 AM
To: maurice.moore@dec.ny.gov
Cc: Zientek, Danielle [DZientek@lpciminelli.com]; Chris Z. Boron; Bryan C. Hann
Attachments: Figure 1; Site Plan (Febru~1.pdf (688 KB)

Maurice,

Just wanted to give you a heads up that Earth Dimensions will be on Site on Monday, 6/6, to install the new Monitoring Wells in Area I. The MWs A1-MW-8R and A1-MW-10 will be installed at the locations previously provided to you to replace former wells A1-P-4 and A1-MW-8 (figure attached). We will be starting the work around 0800 am on Monday and it will be completed by end of day Tuesday.

Please let me know if you have any questions.

Thanks,

Josh J. Robinson
Project Scientist
jrobinson@turnkeyllc.com

TurnKey Environmental Restoration, LLC
www.benchmarkturnkey.com
2558 Hamburg Turnpike, Suite 300, Buffalo, NY 14218
Phone: (716) 856-0635, *Direct Dial:* (716) 725-6969, *Facsimile: (*716) 856-0583

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RE: Riverbend GW Monitoring Well Install

Moore, Maurice (DEC) [maurice.moore@dec.ny.gov]
Sent: Thursday, June 09, 2016 10:00 AM
To: Josh J. Robinson
Cc: Bryan C. Hann; Zientek, Danielle [DZientek@lpciminelli.com]

Sounds good, Thanks Josh

From: Josh J. Robinson [mailto:JRobinson@benchmarkturnkey.com]
Sent: Thursday, June 09, 2016 9:33 AM
To: Moore, Maurice (DEC) <maurice.moore@dec.ny.gov>
Cc: Bryan C. Hann <BHann@turnkeyllc.com>; Zientek, Danielle <DZientek@lpciminelli.com>
Subject: Riverbend GW Monitoring Well Install

Maurice,

The groundwater monitoring wells, A1-MW-8R and A1-MW-10, were successfully installed on Monday and Tuesday (6/6 and 6/7). The wells will be developed early next week and we plan to sample the wells as part of the 2016 Area I groundwater monitoring event scheduled for the week of June 20th. The monitoring well logs and field forms will be included in the 2016 groundwater monitoring report.

Please let us know if you have any questions. Thanks

Josh J. Robinson
Project Scientist
jrobinson@turnkeyllc.com

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Bryan C. Hann

From: Moore, Maurice (DEC) <maurice.moore@dec.ny.gov>
Sent: Wednesday, September 28, 2016 8:30 AM
To: Bryan C. Hann
Cc: Chris Z. Boron; Josh J. Robinson; Zientek, Danielle (LPC); Lachut, Keegan J. (LPC)
Subject: RE: RiverBend - Area I Well Decommissioning & Replacement

Good morning Brian

Sorry I did not get to this sooner. This proposal is approved.

Thanks, Maurice

From: Bryan C. Hann [mailto:BHann@turnkeyllc.com]
Sent: Friday, September 23, 2016 3:49 PM
To: Moore, Maurice (DEC) <maurice.moore@dec.ny.gov>
Cc: Chris Z. Boron <CBoron@benchmarkturnkey.com>; Josh J. Robinson <JRobinson@benchmarkturnkey.com>; Zientek, Danielle (LPC) <DZientek@lpciminelli.com>; Lachut, Keegan J. (LPC) <KLachut@lpciminelli.com>
Subject: RiverBend - Area I Well Decommissioning & Replacement

Maurice,

As you are already aware and per my voice mail this afternoon, the Variance Area of RiverBend Site covers the southwestern portion of Area I which unfortunately includes three existing monitoring wells, two of which are an integral part of the Area I LTGWM Program. As such, we propose to decommission existing Area I wells A1-MW-M2 and A1-MW-4, currently located within the Variance Area, and relocate replacement wells to an area outside the Variance Area (see attached figure). Replacement well locations will be roughly 20 to 30 feet away from their existing locations and are expected to continue adequately monitoring Site perimeter groundwater quality as originally intended in the SMP. Replacement wells will be of similar construction and depth. The third well, A1-P-2, is of little use to the LTGWM Plan and will therefore not be replaced.

Assuming the Department is ok with this proposal and due to time constraints, I will be contacting Earth Dimensions this afternoon to get them tentatively scheduled for next week to perform the requested well decommissioning (per CP-43) and replacement concurrent with the Variance Area construction slated to begin next Wednesday (9/28). Upon your approval, I will finalize the drilling schedule.

Let me know if you require anything more formal (e.g., letter request).
I look forward to your response.

Bryan C. Hann
Project Manager
bhann@turnkeyllc.com

TurnKey Environmental Restoration, LLC

www.benchmarkturnkey.com
2558 Hamburg Turnpike, Suite 300, Buffalo, NY 14218
Phone: (716) 856-0635*, Facsimile:* (716) 856-0583

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APPENDIX F

SITE PHOTOGRAPH LOG

SITE PHOTOGRAPHS

Photo 1:

Photo 2:

Photo 3:

Photo 4:

Photo 1: Area I – looking north, east side of Tesla building

Photo 2: Area I – looking south, east side of Tesla building

Photo 3: Area I – looking east, 2nd northernmost bioswale

Photo 4: Area I – looking east, northernmost bioswale

SITE PHOTOGRAPHS

Photo 5:

Photo 6:

Photo 7:

Photo 8:

Photo 5: Area I – looking north, vegetated river buffer

Photo 6: Area I – looking west, vegetated river buffer

Photo 7: Area I – looking west, storm sewer outfall

Photo 8: Area I – looking southwest at riprap cover, facing north building

SITE PHOTOGRAPHS

Photo 9:

Photo 10:

Photo 11:

Photo 12:

Photo 9: Area I – looking southeast, northwest side of Tesla building

Photo 10: Area I – looking southwest, river embankment along fence

Photo 11: Area I – looking northeast, west side of Tesla building

Photo 12: Area I – looking southeast, west side of Tesla building

SITE PHOTOGRAPHS

Photo 13:

Photo 14:

Photo 15:

Photo 16:

Photo 13: Area I – looking west/northwest, TENORM reuse area

Photo 14: Area II – looking south, substation on A2

Photo 15: Area I – looking north at riprap, south side of Tesla building

Photo 16: Area I – looking west, south side of Tesla building

SITE PHOTOGRAPHS

Photo 17:

Photo 18:

Photo 19:

Photo 20:

Photo 17: Area II – looking south/southwest, Abby St Berm near South Park Ave.

Photo 18: Area II – looking south/southwest, Abby St Berm near O'Connor

Photo 19: Area II – looking south/southwest, Abby St Berm near Mystic

Photo 20: Area II – looking northwest, pretreatment building

SITE PHOTOGRAPHS

Photo 21:

Photo 22:

Photo 23:

Photo 24:

Photo 21: Area II – looking east, pretreatment building control panel

Photo 22: Area II – looking west, pretreatment building system

Photo 23: Area II – looking west/southwest, pretreatment building system

Photo 24: Area II – looking west/northwest, pretreatment building flow meter demonstrating flow

SITE PHOTOGRAPHS

Photo 25:

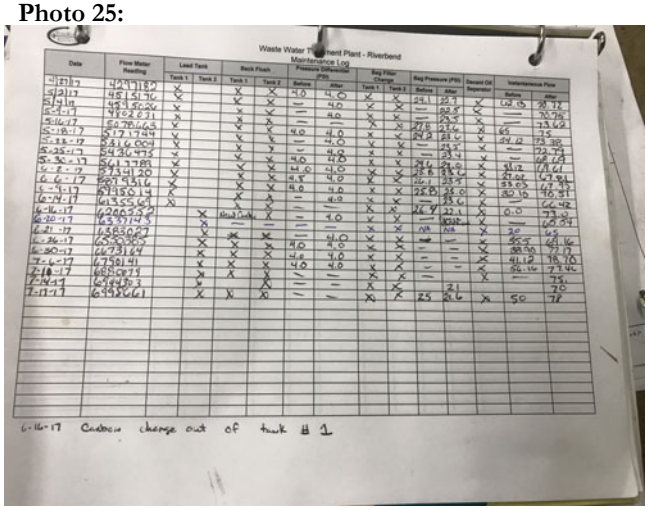

Photo 26:

Photo 27:

Photo 28:

Photo 25: Area II – pretreatment system maintenance log

Photo 26: Area II – looking west, east end of A2 cover

Photo 27: Area II – looking west, A2 gas vents

Photo 28: Area II – looking south, south side of A2

SITE PHOTOGRAPHS

Photo 29:

Photo 30:

Photo 31:

Photo 32:

Photo 29: Area II – looking north/northwest, concrete placement area/former Feine building

Photo 30: Area III – looking northwest, showing A3 cover

Photo 31: Area III – looking south toward Hydro-Air (A4), showing A3 cover

Photo 32: Area III – looking south, south side of A3