Buffalo Business Park

ERIE COUNTY, NEW YORK

Annual Report
2019

NYSDEC Site Number: V00663-9

Prepared for:
Buffalo Business Park

1800 Broadway Street
Buffalo, New York

Prepared by:
Environmental & Geologic Management Services. LLC

15 Briar Hill Road
Orchard Park, New York 14127

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I. Introduction

A. Remedial History

The Buffalo Business Park site is a warehousing & light manufacturing industrial park located on the site of an old railroad yard. It is suspected that the groundwater contamination on the site is the result of activities associated with this previous use.

The site contains two operable units: Unit 1 was an area of soil contamination which has been remediated by removal of contaminated soils; and Unit 2 is an area of groundwater contamination located in the same area where the soil contamination was located. In addition to the groundwater remedial program, there was concern regarding the potential for vapor intrusion into one of the buildings located south of the area of groundwater contamination.

B. Effectiveness of the Remedial Program

Remediation of the groundwater contamination at the site consists of a groundwater pumping system using three wells (MW-3BR, MW-4BR and MW-5 ABR) located within the groundwater contaminant plume. Wells are pumped using appropriate controllers to achieve drawdown of the water table and thus achieve hydraulic capture of contaminated groundwater. Wells are sampled periodically to evaluate if decreases in contaminant levels are being achieved. The primary goal of the pumping program is to achieve groundwater flow control such that flow of contaminated groundwater does not leave the site but is captured by the pumping system. Based on groundwater contour maps, this goal is being achieved.

Groundwater quality data has historically shown reductions in contaminant concentrations in some wells. Total concentrations of volatile organic compounds (VOCs) in three of the five wells (MW-2BR, 4-BR and 5-BR) decreased from the previous year. Total VOC concentrations increased slightly in MW 3-BR, while total VOC concentrations did increase in MW 5-ABR; primarily tetrachloroethene and trichloroethene. At this time, there are no clear trends showing significant reductions in contaminant levels.

Table 3 provides the historic totalizer readings. Historic groundwater quality data is provided in Table 4.

Operation of the pumping system has historically demonstrated that the primary goal of capture can be achieved with ongoing pumping operations.

Achievement of the secondary goal of contaminant reduction may be achievable, but it may take longer to achieve this goal.

Operation of the sub-slab venting system is effectively preventing soil vapors from entering the building and is ongoing.

C. Compliance

The facility is operating the pumping and venting systems in compliance with the Site Management Plan. The Buffalo Sewer Authority (BSA) Permit has been renewed, and pumped groundwater is being treated and discharged to the BSA.

D. Recommendations

At this time, no changes to the Site Management Plan (SMP) are recommended. The requirements for discontinuing the SMP have not been met.

Pumping volumes, water level measurements along with sampling and analysis of groundwater will continue as described in the SMP.

II. Site Overview

A. Site Description

The site consists of a 1 Acre portion of the Buffalo Business Park property located at 1800 Broadway in Buffalo, New York. The site is located at the entrance to the property and consists primarily of parking and driveway areas and a portion of the commercial/industrial building fronting on Broadway.

B. Remedial Program for the Site

The remedial program for the site consists of the following:

- excavation of contaminated soil (completed);
- pumping of contaminated groundwater to achieve capture (no contaminated groundwater leaving the site) as well as reduction of groundwater contaminant concentrations; and
- installation and operation of a sub-slab depressurization system in the building (ongoing).

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III. Remedy Performance, Effectiveness, and Protectiveness

A. Groundwater Capture

A review of site potentiometric surface maps for groundwater from 2009 through 2019 show that the use of pumping wells has historically prevented contaminated groundwater from leaving the site. The 2019 potentiometric surface maps show the capture zone is centered between pumping wells MW-4BR and MW-5ABR (Figures 1 and 2).

B. Groundwater Contamination Levels

There are three principal contaminants present in groundwater: tetrachloroethene, trichloroethene and dichloroethene. Two of these compounds (trichloroethene and dichloroethene) are degradation products of tetrachloroethene. Review and comparison of the 2019 groundwater analytical results shows the following:

MW-2BR. Two volatile organic compounds (VOCs) were present in the groundwater sample that was analyzed from monitoring well MW-2BR. Dichloroethene and vinyl chloride (both detected in the 2018 groundwater sample from this well) were also present in the 2019 groundwater sample analyzed from MW-2BR. Dichoroethene was present at a significantly lower concentration of 280 micrograms per liter (ug/l) than 2018 (450 ug/l) and previous years. Vinyl chloride was present at a significantly lower concentration (25 ug/l) than the 2018 concentration of 67 ug/l (Table 4).

MW-3BR. Four VOCs were present in the groundwater sample that was analyzed from monitoring well MW-3BR. The concentration of dichloroethene, tetrachloroethene and trichloroethene increased in 2019 (Table 4) over 2018 concentrations; whereas the concentration of vinyl chloride decreased significantly in 2019 (240 ug/l) from the 2018 concentration (630 ug/l) for this compound (Table 4).

MW-4BR. Four VOCs were present in the groundwater sample that was analyzed from monitoring well MW-4BR. 2-Butanone (MEK) was present for the first time at an estimated concentration of 150 ug/l. The concentration of dichloroethene was slightly less in 2019 (2300 ug/l) compared to the 2018 concentration (2500 ug/l). The 2019 concentrations of tetrachloroethene and trichloroethene were both significantly less than the concentrations of these compounds when compared to the 2018 analytical results (Table 4).

MW-5BR. Four VOCs were present in the groundwater sample that was analyzed from monitoring well MW-5BR. The 2019 concentration of dichloroethene (3500 ug/l) increased from the 2018 concentration of 3100 ug/l. The concentration of tetrachloroethene decreased significantly from 2018 (12,000ug/l) to 510 ug/l in 2019. The concentration of trichloroethene (290 ug/l) also decreased significantly from 2018 (2700 ug/l) in this well (Table 4). Vinyl chloride was not detected in the 2018 water sample; however, it was detected in 2019 at a concentration of 170 ug/l (Table 4).

MW-5ABR. Four VOCs were present in the groundwater sample that was analyzed from monitoring well MW-5ABR. Dichloroethene (2900 ug/l) was present at a slightly increased concentration in 2019 compared to 2800 ug/l in 2018. Tetrachloroethene and trichloroethene were not present in the groundwater sample during the 2018 sampling event (Table 4). However, both of these compounds were present in the sample analyzed from the 2019 sampling event at elevated concentrations of 3900 ug/l and 960 ug/l respectively. Vinyl chloride (39J estimated) was again detected in the 2019 groundwater sample from MW-5ABR at a concentration lower than the 2018 concentration of (80 ug/l).

The analytical data package is attached as Appendix B.

IV. Institutional Controls/Engineering Controls Plan Compliance (IC/EC Plan)

A. IC/EC Requirements and Compliance

Buffalo Business Park has both engineering controls (Groundwater Pumping; Sub slab venting) and institutional controls (Deed Restriction) are in place.

Institutional Controls - The site continues to be owned and managed by Buffalo Business Park. No sale of the property has been made or is currently contemplated. ICs are noted on survey maps of the area are subject to deed restrictions.

Engineering Controls - Buffalo Business Park continues to operate and maintain the groundwater pumping system. Review of the totalizer information for monitoring wells MW-3BR and MW-4BR indicates the totalizers on these wells may not have operated for some of the year (Table 3).The combined number of gallons pumped on the three well totalizers was 64,930 gallons for the period, which is less than the pretreatment totalizer for gallons treated and discharged to the BSA (121,350 gallons) for a similar period of time.

The sub-slab venting system was continuously operational during the 2018-

2019 period.

Corrective Measures – Trouble shooting of the totalizers and pumps at MW-3BR and MW-4BR will take place, and the pumps/totalizers will be monitored monthly and continuously operated using timers.

No changes to EC/IC Plan are recommended at this time. The IC/E certification is provided in Appendix A.

B. Buffalo Sewer Authority Sewer Permit

Buffalo Business Park received renewal of the Buffalo Sewer Authority Permit during 2019. A groundwater pre-treatment system was installed consisting of a 500 pound activated carbon system. Post treatment water samples were collected and analyzed for VOCs and mercury in February and August. 2019. The results showed the system is performing as designed. The analytical results from these sampling events are presented in (Appendix E).

V. Monitoring Plan Compliance Report

A. Monitoring Plan Requirements

The monitoring plan requires that wells (MW-2BR, MW–3BR, MW-4BR, MW –5BR and MW-5ABR) are sampled annually and samples analyzed for VOCs. Annual groundwater sampling was completed on October 29, 2019.

The plan also requires that all wells are measured for groundwater elevation to evaluate groundwater flow during both equilibrium conditions (pumps turned off) and pumping conditions. Groundwater elevations during equilibrium conditions were measured on November 6, 2019, and under pumping conditions on November 11, 2019.

B. Summary of Monitoring Completed during Reporting Period

Copies of the field sampling logs are provided in Appendix C. A potentiometric contour map based pumping comditio0ns is provided as Figure 2. Equilibrium conditions are shown as Figure 1. 2019 groundwater analytical results are included in Appendix B.

C. Comparisons with Remedial Objectives

Groundwater monitoring results show that the remedial objective of on-site capture of contaminated groundwater is being met. Groundwater quality objectives have shown an historic decrease in contaminant levels until

2014, when the contaminant concentrations in groundwater increased at monitoring wells MW2-BR and MW4- BR. Contaminant concentrations decreased again during the 2015-2016 period; however, contaminant concentrations increased overall again during the 2016-2017 period. In 2018, contaminant concentrations decreased in three of the five wells sampled, and increased in two of the site wells sampled. In 2019, contaminant concentrations again decreased in three of the five wells. Overall, groundwater quality objectives are not being met.

D. Monitoring Deficiencies:

There were no monitoring deficiencies in this period. Groundwater elevations were measured during this period on an annual basis on November 6, 2019 and again on November 11, 2019.

E. Conclusions and Recommendations

No changes to the monitoring program are recommended at this time.

VI. Operation & Maintenance (O & M) Plan Compliance Report

A. Components of O&M Plan

Inspections and data recording were not completed as described in the Site Management Plan. Deficiencies have been corrected with new site personnel and corrective actions will be documented.

B. Summary of O & M Completed During Reporting Period

O & M activities will be summarized and details of O & M actions will be recorded in the monthly inspection reports that are kept onsite. The sub-slab depressurization blowers were recently inspected. This certified inspection form is attached as Appendix D.

C. Evaluation of Remedial Systems

The remedial systems are operating as designed at MW-3BR, MW-4BR and MW- 5ABR. Maintenance performed is routine and not unusual (ex. Pump failure). No changes to this remedial system are recommended at this time.

The newly installed groundwater pre-treatment system is operating as designed to meet the BSA discharge limits.

The sub-slab venting system is also operating as designed. No changes to this remedial system are recommended at this time.

D. O & M Deficiencies

There are no operational or maintenance deficiencies at this time.

E. Conclusions and Recommendations for Improvements

The remedial system as designed and operated is capturing contaminated groundwater at the site. There are no recommendations for improvement to the remedial system. No changes to the O & M plan are recommended.

VII. Overall Conclusions and Recommendations

A. Compliance with SMP

Buffalo Business Park will comply with all aspects of the SMP (IC/EC; O & M and Monitoring) during the next annual reporting period (2020).

B. Performance and Effectiveness of the Remedy

The remedy has been effective in containing groundwater contamination and preventing contamination from leaving the site. Groundwater quality criteria have not been met and pumping should continue.

C. Future Submittals

Frequency of reporting should remain as currently required.

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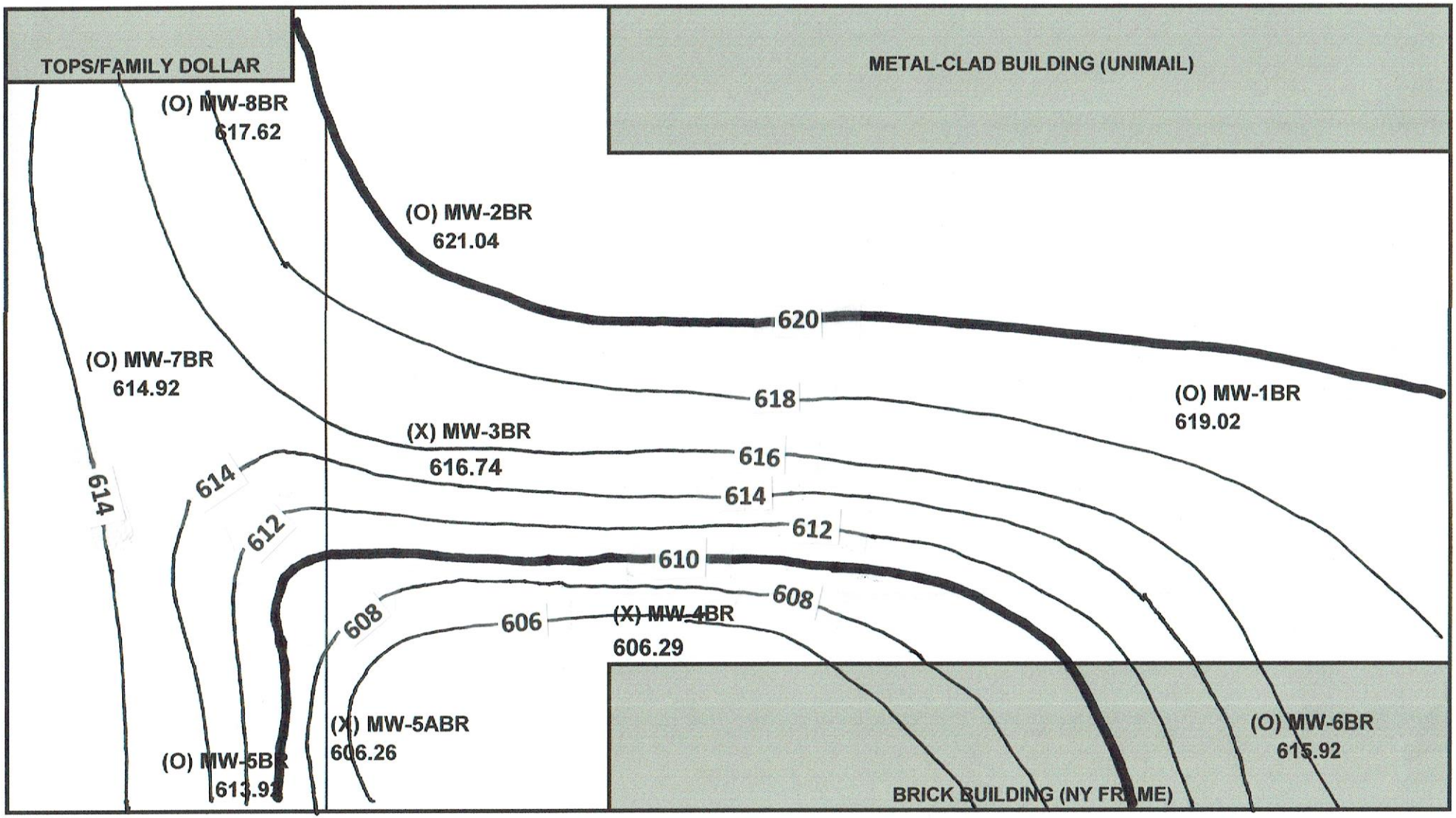
FIGURES

FIGURE 1. BUFFALO BUS. PARK WATER LEVELS - PUMPING CONDITIONS (11/11/19)

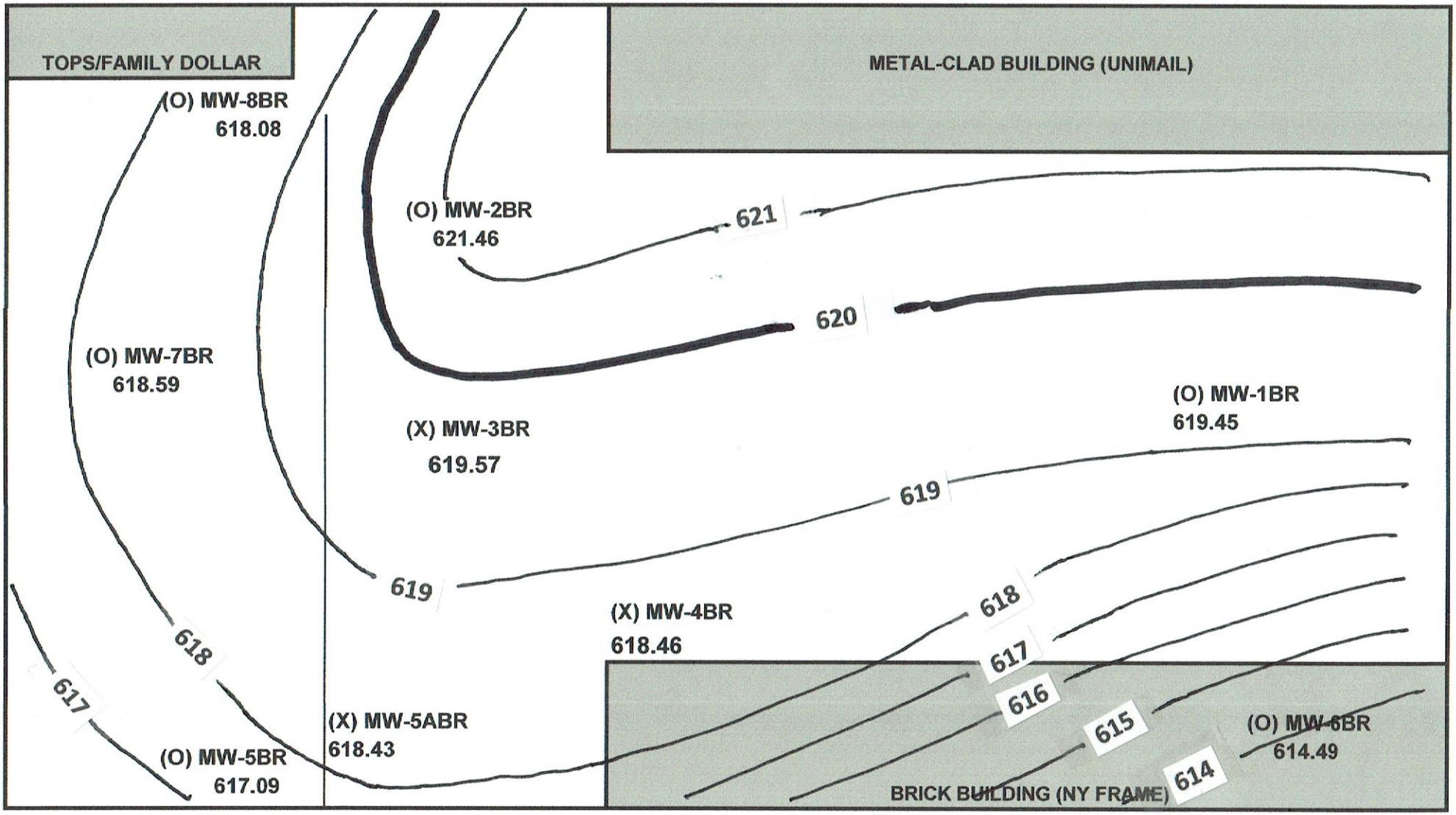


(O) MONITORING WELL

(X) PUMPING WELL

Water levels provided by Buffaslo Business Park

FIGURE 2. BUFFALO BUS. PARK WATER LEVELS - PUMPS OFF (11/6/19)



(O) MONITORING WELL

(X) PUMPING WELL

Water levels provided by Buffalo Business Park

TABLES

TABLE 1. BUFFALO BUSINESS PARK WATER LEVELS
PUMPS TURNED ON
NOVEMBER 11, 2019'

WELL NUMBER	RISER ELEVATION (FT)	DEPTH TO WATER (FT)	WATER LEVEL ELEVATION (FT)
MW-1 BR	624.44	5.42	619.02
MW-2 BR	625.04	4.0	621.04
MW-3 BR *	623.99	7.25	616.74
MW-4 BR *	622.79	16.5	606.29
MW-5 ABR *	619.76	13.5	606.26
MW-5 BR	622.42	8.5	613.92
MW-6 BR	623.57	8.42	615.15
MW-7 BR	623.34	8.4	614.92
MW-8 BR	625.87	8.25	617.62

* PUMPING WELLS

Groundwater levels were provided by Buffalo Business Park

TABLE 2. BUFFALO BUSINESS PARK WATER LEVELS
PUMPS TURNED OFF
NOVEMBER 6, 2019'

WELL NUMBER	RISER ELEVATION (FT)	DEPTH TO WATER (FT)	WATER LEVEL ELEVATION (FT)
MW-1 BR	624.44	5.29	619.15
MW-2 BR	625.04	3.58	621.46
MW-3 BR *	623.99	4.42	619.57
MW-4 BR *	622.79	4.33	618.46
MW-5 ABR *	619.76	1.33	618.43
MW-5 BR	622.42	5.33	617.09
MW-6 BR	623.57	9.08	614.49
MW-7 BR	623.34	4.75	618.59
MW-8 BR	625.87	7.79	618.08

* PUMPING WELLS

Water Level Information Provided by Buffalo Business Park

TABLE 3:
PUMPING WELL & TREATMENT SYSTEM TOTALIZERS
BUFFALO BUSINESS PARK

DATE	MW-4 BR	MW-2 BR	MW-3 BR	MW-5A BR	Treatment System Totalizer
8/7/2008	0	na	na	na	
8/26/2008	15575	na	na	na	
10/13/2008	52364	na	na	na	
10/1/2009	137280	na	na	na	
12/15/2009	148600	0	na	na	
9/8/2010	194590	na	na	na	
9/15/2010	na	na	na	0	
4/27/2011	231020	1220	na	44170	
5/31/2012	256870	4930	na	116430	
5/8/2013	289130	5180	na	170960	
5/15/2014	403380	5310	na	224850	
1/19/2015	421440	5310	na	254600	
5/27/2015	421460	5310	na	272660	
7/17/2015	424105	na	na	279160	
1/7/2016	424130	na	60	279160	
3/9/2016	424140	na	18650	287420	
5/26/2016	424140	na	107920	296980	
9/22/2016	424220	na	123410	297650	
12/23/2016	58	na	235347	305340	
5/17/2017	19531	na	490000	310500	
11/15/2018					0
11/29/2018	80460	na	687690	320500	
3/19/2019					57955
8/19/2019					96495
10/30/2019	80460	na	30	64900	
11/28/2019					121350

*** MW-2 BR - pump removed due to poor recharge - 5/27/15**
**** MW-3 BR - pump started - 1/7/16**

TABLE 4: HISTORIC GROUNDWATER ANALYTICAL RESULTS
BUFFALO BUSINESS PARK

Well ID			MW2-BR	MW2-BR	MW2-BR	MW2-BR	MW2-BR	MW2-BR	MW2-BR	MW2-BR	MW2-BR
Date			4/27/2011	5/31/2012	5/9/2013	5/9/2014	5/28/2015	5/27/2016	5/18/2017	11/13/2018	10/30/2019
Parameter	Units	Criteria									
1,2-Dichloroethene (cis)	ug/l	5	1.5	17	100	2300	4800	2500	1600	450	280
1,2-Dichloroethene, Total	ug/l		1.5		100	2300	4800	2500	1600		
Tetrachloroethene	ug/l	5	1	20	8.1	5500	18,000	95	42		
Trichloroethene	ug/l	5		2.2	0.92J	1000	1,600	69			
Vinyl chloride	ug/l	2								67	25

Well ID			MW3-BR	MW3-BR	MW3-BR	MW3-BR	MW3-BR	MW3-BR	MW3-BR	MW3-BR	MW3-BR
Date			4/27/2011	5/31/2012	5/9/2013	5/9/2014	5/28/2015	5/27/2016	5/18/2017	11/13/2018	10/30/2019
Parameter	Units	Criteria									
1,2-Dichloroethene (cis)	ug/l	5	430	220	1800	520	1,400	1100	1800	5400	5800
1,2-Dichloroethene, Total	ug/l		430		1800	520	1400	1100	1800		
Tetrachloroethene	ug/l	5	4,200	1400	16000	4100	21,000	4400	4300	1300	2800
Trichloroethene	ug/l	5	360	78	810	180	1,200	630	1100	510	1000
Vinyl chloride	ug/l	2								630	240

Well ID			MW4-BR	MW4-BR	MW4-BR	MW4-BR	MW4-BR	MW4-BR	MW4-BR	MW4-BR	MW4-BR
Date			4/27/2011	5/31/2012	5/9/2013	5/9/2014	5/28/2015	5/27/2016	5/18/2017	11/13/2018	10/30/2019
Parameter	Units	Criteria									
2-Butanone (MEK)											150J
1,1-Dichloroethene									12J		
1,2-Dichloroethene (cis)	ug/l	5	21.0	730	990	1700	890	2900	3300	2500	2300
1,2-Dichloroethene, Total	ug/l		22.0		1000	1700	890	2900	3300		
Tetrachloroethene	ug/l	5	710.0	13000	11000	12000	20,000	520	7100	5500	1300
Trans-1,2-Dichloroethene								40	56		
Trichloroethene	ug/l	5	64.0	1500	1600	2200	2,600	290	2200	1700	870
Vinyl chloride	ug/l	2						130			

Well ID			MW5-BR	MW5-BR	MW5-BR	MW5-BR	MW5-BR	MW5-BR	MW5-BR	MW5-BR	MW5-BR
Date			4/27/2011	5/31/2012	5/9/2013	5/9/2014	5/28/2015	5/27/2016	5/18/2017	11/13/2018	10/30/2019
Parameter	Units	Criteria									
1,1-Dichloroethene							15				
1,2-Dichloroethene (cis)	ug/l	5	2700.0	3500	2100	740	3,000	3700	6300	3100	3500
1,2-Dichloroethene, Total	ug/l		2700.0		2100	750	3,000	3700	6300		
Tetrachloroethene	ug/l	5	1300.0	220	320	110	2,100	1500		12000	510
Trichloroethene	ug/l	5	850.0	160	290	77	1,000	1300	190	2700	290
Vinyl chloride	ug/l	2			100	110	130		130		170

Well ID			MW5A-BR	MW5A-BR	MW5A-BR	MW5A-BR	MW5A-BR	MW5A-BR	MW5A-BR	MW5A-BR	MW5A-BR
Date			4/27/2011	5/31/2012	5/9/2013	5/9/2014	5/28/2015	5/27/2016	5/18/2017	11/13/2018	10/30/2019
Parameter	Units	Criteria									
1,1-Dichloroethene							9.6				
1,2-Dichloroethene (cis)	ug/l	5	970.0	1900	870	170	1,500	2100	5100	2800	2900
1,2-Dichloroethene, Total	ug/l		970.0		880	170	1,500	2100	5100		
Tetrachloroethene	ug/l	5	4300.0	8900	1300	410	12,000	4000	180		3900
Trichloroethene	ug/l	5	1300.0	2000	370	110	2,300	1400	1400		960
Vinyl chloride	ug/l	2					76			80	39J

APPENDICES

APPENDIX A

CERTIFICATIONS

Enclosure 2

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Site Management Periodic Review Report Notice
Institutional and Engineering Controls Certification Form

Site Details **Box 1**

Site No. **V00663**

Site Name Buffalo Business Park

Site Address: 1800 Broadway Zip Code: 14212-2001
City/Town: Buffalo
County: Erie
Site Acreage: 1.413

Reporting Period: June 15, 2017 to September 01, 2018

	YES	NO
1. Is the information above correct?	X	
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?		X
3. Has there been any change of use at the site during this Reporting Period (see 6NYCRR 375-1.11(d))?		X
4. Have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property during this Reporting Period?	X	
If you answered YES to questions 2 thru 4, include documentation or evidence that documentation has been previously submitted with this certification form.		
5. Is the site currently undergoing development?		X

Box 2

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

IF THE ANSWER TO EITHER QUESTION 6 OR 7 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.

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

Gary Jensen
Signature of Owner, Remedial Party or Designated Representative

12-10-19
Date

SITE NO. V00663

Box 3

Description of Institutional Controls

Parcel	Owner	Institutional Control
101.19-1-5.1	GARY CREWSON	Ground Water Use Restriction Site Management Plan Soil Management Plan Ground Water Use Restriction Soil Management Plan Landuse Restriction Monitoring Plan Site Management Plan O&M Plan IC/EC Plan

The deed restriction was filed on 11-19-2010. The Controlled Property (1.4137 acres) is subject to the Site Management Plan. The Controlled Property is the south west corner of the entire Buffalo Business Park property (19.93 acres).

Restrictions:

1. The Controlled Property may be used only for industrial or commercial purposes, excluding day care, child care, and medical care uses.
2. The Groundwater beneath the Controlled Property may not be used for potable or non-potable purposes;
3. The Site Management Plan must be implemented for the Controlled Property;
4. Soils at the Controlled Property shall be managed in accordance with the Site Management plan.

Box 4

Description of Engineering Controls

Parcel	Engineering Control
101.19-1-5.1	Groundwater Treatment System Vapor Mitigation

1. SSDS: A sub slab depressurization system (SSDS) is installed in the western end of New York frame building consisting of two active vents.
2. Pumping System: Three bedrock monitoring wells MW4-BR, MW2-BR and MW5A-BR are operated as pumping wells. Recovered groundwater is discharged to BSA.

Box 5

Periodic Review Report (PRR) Certification Statements

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

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

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

YES	NO
X	☐

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
X	☐

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

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

Signature of Owner, Remedial Party or Designated Representative

Date

IC CERTIFICATIONS
SITE NO. V00663

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 Gary Crewson at 1800 BROADWAY AVE, BUFF, NY 14212
print name print business address

am certifying as OWNER (Owner or Remedial Party)

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

Gary Crewson Dec 10/19
Signature of Owner, Remedial Party, or Designated Representative Rendering Certification Date

IC/EC CERTIFICATIONS

Qualified Environmental Professional Signature **Box 7**

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 Norman Wohlabaugh (print name) at EGMS 15 Briar Hill Road Orchard Park NY 14127 (print business address)

am certifying as a Qualified Environmental Professional for the Buffalo Business Park (Owner or Remedial Party)

NK Wohlabaugh
Signature of Qualified Environmental Professional, for the Owner or Remedial Party, Rendering Certification

Stamp (Required for PE)

12/20/19
Date

AUTHORIZATION TO DISCHARGE UNDER THE BUFFALO POLLUTANT DISCHARGE ELIMINATION SYSTEM

PERMIT NO. 19-01-BU124
EPA CATEGORY 40 CFR 403

In accordance with the provisions of the Federal Water Pollution Control Act, as amended, and the Sewer Regulations of the Buffalo Sewer Authority, authorization is hereby granted to:

BUFFALO BUSINESS PARK, INC.

to discharge groundwater from a remediation facility located at:

1800 Broadway Avenue, B-1D, Buffalo, New York 14212

to the Buffalo Municipal Sewer System.

Issuance of this permit is based upon a permit application filed on **December 5, 2018** and analytical data. This permit is granted in accordance with discharge limitations, monitoring requirements and other conditions set forth in Parts I and II hereof.

Effective this 1st day of January, 2019
To Expire the 31st day of December, 2021

General Manager

Signed this 19TH **day of** DECEMBER **, 2018**

APPENDIX B

NOVEMBER 2019 LAB PACKAGE

eurofins | Environment Testing TestAmerica

ANALYTICAL REPORT

Eurofins TestAmerica, Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Tel: (716)691-2600

Laboratory Job ID: 480-161873-1
Client Project/Site: Aqueous VOC Analysis

For:
Environmental & Geological Management Se
15 Briar Hill Rd
Orchard Park, New York 14127

Attn: Mr. Norman Wohlabaugh

Joseph V. Giacomazza

Authorized for release by:
11/12/2019 12:16:29 PM
Joe Giacomazza, Project Management Assistant II
joe.giacomazza@testamericainc.com

Designee for

Brian Fischer, Manager of Project Management
(716)504-9835
brian.fischer@testamericainc.com

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Definitions/Glossary

Client: Environmental & Geological Management Se
Job ID: 480-161873-1
Project/Site: Aqueous VOC Analysis

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Job ID: 480-161873-1

Laboratory: Eurofins TestAmerica, Buffalo

Narrative

Job Narrative
480-161873-1

Comments
No additional comments.

Receipt
The samples were received on 10/31/2019 10:15 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.3º C.

Receipt Exceptions
The collection date listed on the COC for all samples was in client notation error. The client was contacted and the lab was instructed to use 10/30/19 as the sample date.

GC/MS VOA
Method 8260C: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-2BR (480-161873-1), MW-3BR (480-161873-2) and MW-4BR (480-161873-3). Elevated reporting limits (RLs) are provided.

Method 8260C: The following sample was collected in a properly preserved vial; however, the pH was outside the required criteria when verified by the laboratory. The sample was analyzed outside the 7-day holding time specified for unpreserved samples but within the 14-day holding time specified for preserved samples: MW-5ABR (480-161873-5). Sample pH is 7.

Method 8260C: The following sample was diluted to bring the concentration of target analytes within the calibration range: MW-5ABR (480-161873-5). Elevated reporting limits (RLs) are provided.

Method 8260C: The following sample was diluted to bring the concentration of target analytes within the calibration range: MW-5BR (480-161873-4). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: Environmental & Geological Management Se
Job ID: 480-161873-1
Project/Site: Aqueous VOC Analysis

Client Sample ID: MW-2BR — Lab Sample ID: 480-161873-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	280		8.0	6.5	ug/L	8		8260C	Total/NA
Vinyl chloride	25		8.0	7.2	ug/L	8		8260C	Total/NA

Client Sample ID: MW-3BR — Lab Sample ID: 480-161873-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	5800		100	81	ug/L	100		8260C	Total/NA
Tetrachloroethene	2800		100	36	ug/L	100		8260C	Total/NA
Trichloroethene	1000		100	46	ug/L	100		8260C	Total/NA
Vinyl chloride	240		100	90	ug/L	100		8260C	Total/NA

Client Sample ID: MW-4BR — Lab Sample ID: 480-161873-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2-Butanone (MEK)	150	J	1000	130	ug/L	100		8260C	Total/NA
cis-1,2-Dichloroethene	2300		100	81	ug/L	100		8260C	Total/NA
Tetrachloroethene	1300		100	36	ug/L	100		8260C	Total/NA
Trichloroethene	870		100	46	ug/L	100		8260C	Total/NA

Client Sample ID: MW-5BR — Lab Sample ID: 480-161873-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	3500		80	65	ug/L	80		8260C	Total/NA
Tetrachloroethene	510		80	29	ug/L	80		8260C	Total/NA
Trichloroethene	290		80	37	ug/L	80		8260C	Total/NA
Vinyl chloride	170		80	72	ug/L	80		8260C	Total/NA

Client Sample ID: MW-5ABR — Lab Sample ID: 480-161873-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	2900		40	32	ug/L	40		8260C	Total/NA
Tetrachloroethene	3900		40	14	ug/L	40		8260C	Total/NA
Trichloroethene	960		40	18	ug/L	40		8260C	Total/NA
Vinyl chloride	39	J	40	36	ug/L	40		8260C	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Environmental & Geological Management Se
Project/Site: Aqueous VOC Analysis

Job ID: 480-161873-1

Client Sample ID: MW-2BR
Date Collected: 10/30/19 11:05
Date Received: 10/31/19 10:15

Lab Sample ID: 480-161873-1
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		8.0	6.6	ug/L			11/08/19 13:10	8
1,1,2,2-Tetrachloroethane	ND		8.0	1.7	ug/L			11/08/19 13:10	8
1,1,2-Trichloroethane	ND		8.0	1.8	ug/L			11/08/19 13:10	8
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		8.0	2.5	ug/L			11/08/19 13:10	8
1,1-Dichloroethane	ND		8.0	3.0	ug/L			11/08/19 13:10	8
1,1-Dichloroethene	ND		8.0	2.3	ug/L			11/08/19 13:10	8
1,2,4-Trichlorobenzene	ND		8.0	3.3	ug/L			11/08/19 13:10	8
1,2-Dibromo-3-Chloropropane	ND		8.0	3.1	ug/L			11/08/19 13:10	8
1,2-Dibromoethane	ND		8.0	5.8	ug/L			11/08/19 13:10	8
1,2-Dichlorobenzene	ND		8.0	6.3	ug/L			11/08/19 13:10	8
1,2-Dichloroethane	ND		8.0	1.7	ug/L			11/08/19 13:10	8
1,2-Dichloropropane	ND		8.0	5.8	ug/L			11/08/19 13:10	8
1,3-Dichlorobenzene	ND		8.0	6.2	ug/L			11/08/19 13:10	8
1,4-Dichlorobenzene	ND		8.0	6.7	ug/L			11/08/19 13:10	8
2-Hexanone	ND		40	9.9	ug/L			11/08/19 13:10	8
2-Butanone (MEK)	ND		80	11	ug/L			11/08/19 13:10	8
4-Methyl-2-pentanone (MIBK)	ND		40	17	ug/L			11/08/19 13:10	8
Acetone	ND		80	24	ug/L			11/08/19 13:10	8
Benzene	ND		8.0	3.3	ug/L			11/08/19 13:10	8
Bromodichloromethane	ND		8.0	3.1	ug/L			11/08/19 13:10	8
Bromoform	ND		8.0	2.1	ug/L			11/08/19 13:10	8
Bromomethane	ND		8.0	5.5	ug/L			11/08/19 13:10	8
Carbon disulfide	ND		8.0	1.5	ug/L			11/08/19 13:10	8
Carbon tetrachloride	ND		8.0	2.2	ug/L			11/08/19 13:10	8
Chlorobenzene	ND		8.0	6.0	ug/L			11/08/19 13:10	8
Dibromochloromethane	ND		8.0	2.6	ug/L			11/08/19 13:10	8
Chloroethane	ND		8.0	2.6	ug/L			11/08/19 13:10	8
Chloroform	ND		8.0	2.7	ug/L			11/08/19 13:10	8
Chloromethane	ND		8.0	2.8	ug/L			11/08/19 13:10	8
cis-1,2-Dichloroethene	**280**		8.0	6.5	ug/L			11/08/19 13:10	8
cis-1,3-Dichloropropene	ND		8.0	2.9	ug/L			11/08/19 13:10	8
Cyclohexane	ND		8.0	1.4	ug/L			11/08/19 13:10	8
Dichlorodifluoromethane	ND		8.0	5.4	ug/L			11/08/19 13:10	8
Ethylbenzene	ND		8.0	5.9	ug/L			11/08/19 13:10	8
Isopropylbenzene	ND		8.0	6.3	ug/L			11/08/19 13:10	8
Methyl acetate	ND		20	10	ug/L			11/08/19 13:10	8
Methyl tert-butyl ether	ND		8.0	1.3	ug/L			11/08/19 13:10	8
Methylcyclohexane	ND		8.0	1.3	ug/L			11/08/19 13:10	8
Methylene Chloride	ND		8.0	3.5	ug/L			11/08/19 13:10	8
Styrene	ND		8.0	5.8	ug/L			11/08/19 13:10	8
Tetrachloroethene	ND		8.0	2.9	ug/L			11/08/19 13:10	8
Toluene	ND		8.0	4.1	ug/L			11/08/19 13:10	8
trans-1,2-Dichloroethene	ND		8.0	7.2	ug/L			11/08/19 13:10	8
trans-1,3-Dichloropropene	ND		8.0	3.0	ug/L			11/08/19 13:10	8
Trichloroethene	ND		8.0	3.7	ug/L			11/08/19 13:10	8
Trichlorofluoromethane	ND		8.0	7.0	ug/L			11/08/19 13:10	8
Vinyl chloride	**25**		8.0	7.2	ug/L			11/08/19 13:10	8
Xylenes, Total	ND		16	5.3	ug/L			11/08/19 13:10	8

Client: Environmental & Geological Management Se
Job ID: 480-161873-1
Project/Site: Aqueous VOC Analysis

Client Sample ID: MW-2BR
Lab Sample ID: 480-161873-1
Date Collected: 10/30/19 11:05
Matrix: Water
Date Received: 10/31/19 10:15

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		77 - 120		11/08/19 13:10	8
Toluene-d8 (Surr)	95		80 - 120		11/08/19 13:10	8
4-Bromofluorobenzene (Surr)	105		73 - 120		11/08/19 13:10	8
Dibromofluoromethane (Surr)	110		75 - 123		11/08/19 13:10	8

Client: Environmental & Geological Management Se
Project/Site: Aqueous VOC Analysis

Job ID: 480-161873-1

Client Sample ID: MW-3BR
Date Collected: 10/30/19 11:55
Date Received: 10/31/19 10:15

Lab Sample ID: 480-161873-2
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		100	82	ug/L			11/08/19 13:35	100
1,1,2,2-Tetrachloroethane	ND		100	21	ug/L			11/08/19 13:35	100
1,1,2-Trichloroethane	ND		100	23	ug/L			11/08/19 13:35	100
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		100	31	ug/L			11/08/19 13:35	100
1,1-Dichloroethane	ND		100	38	ug/L			11/08/19 13:35	100
1,1-Dichloroethene	ND		100	29	ug/L			11/08/19 13:35	100
1,2,4-Trichlorobenzene	ND		100	41	ug/L			11/08/19 13:35	100
1,2-Dibromo-3-Chloropropane	ND		100	39	ug/L			11/08/19 13:35	100
1,2-Dibromoethane	ND		100	73	ug/L			11/08/19 13:35	100
1,2-Dichlorobenzene	ND		100	79	ug/L			11/08/19 13:35	100
1,2-Dichloroethane	ND		100	21	ug/L			11/08/19 13:35	100
1,2-Dichloropropane	ND		100	72	ug/L			11/08/19 13:35	100
1,3-Dichlorobenzene	ND		100	78	ug/L			11/08/19 13:35	100
1,4-Dichlorobenzene	ND		100	84	ug/L			11/08/19 13:35	100
2-Hexanone	ND		500	120	ug/L			11/08/19 13:35	100
2-Butanone (MEK)	ND		1000	130	ug/L			11/08/19 13:35	100
4-Methyl-2-pentanone (MIBK)	ND		500	210	ug/L			11/08/19 13:35	100
Acetone	ND		1000	300	ug/L			11/08/19 13:35	100
Benzene	ND		100	41	ug/L			11/08/19 13:35	100
Bromodichloromethane	ND		100	39	ug/L			11/08/19 13:35	100
Bromoform	ND		100	26	ug/L			11/08/19 13:35	100
Bromomethane	ND		100	69	ug/L			11/08/19 13:35	100
Carbon disulfide	ND		100	19	ug/L			11/08/19 13:35	100
Carbon tetrachloride	ND		100	27	ug/L			11/08/19 13:35	100
Chlorobenzene	ND		100	75	ug/L			11/08/19 13:35	100
Dibromochloromethane	ND		100	32	ug/L			11/08/19 13:35	100
Chloroethane	ND		100	32	ug/L			11/08/19 13:35	100
Chloroform	ND		100	34	ug/L			11/08/19 13:35	100
Chloromethane	ND		100	35	ug/L			11/08/19 13:35	100
cis-1,2-Dichloroethene	**5800**		100	81	ug/L			11/08/19 13:35	100
cis-1,3-Dichloropropene	ND		100	36	ug/L			11/08/19 13:35	100
Cyclohexane	ND		100	18	ug/L			11/08/19 13:35	100
Dichlorodifluoromethane	ND		100	68	ug/L			11/08/19 13:35	100
Ethylbenzene	ND		100	74	ug/L			11/08/19 13:35	100
Isopropylbenzene	ND		100	79	ug/L			11/08/19 13:35	100
Methyl acetate	ND		250	130	ug/L			11/08/19 13:35	100
Methyl tert-butyl ether	ND		100	16	ug/L			11/08/19 13:35	100
Methylcyclohexane	ND		100	16	ug/L			11/08/19 13:35	100
Methylene Chloride	ND		100	44	ug/L			11/08/19 13:35	100
Styrene	ND		100	73	ug/L			11/08/19 13:35	100
Tetrachloroethene	**2800**		100	36	ug/L			11/08/19 13:35	100
Toluene	ND		100	51	ug/L			11/08/19 13:35	100
trans-1,2-Dichloroethene	ND		100	90	ug/L			11/08/19 13:35	100
trans-1,3-Dichloropropene	ND		100	37	ug/L			11/08/19 13:35	100
Trichloroethene	**1000**		100	46	ug/L			11/08/19 13:35	100
Trichlorofluoromethane	ND		100	88	ug/L			11/08/19 13:35	100
Vinyl chloride	**240**		100	90	ug/L			11/08/19 13:35	100
Xylenes, Total	ND		200	66	ug/L			11/08/19 13:35	100

Client: Environmental & Geological Management Se
Job ID: 480-161873-1
Project/Site: Aqueous VOC Analysis

Client Sample ID: MW-3BR
Lab Sample ID: 480-161873-2
Date Collected: 10/30/19 11:55
Matrix: Water
Date Received: 10/31/19 10:15

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		77 - 120		11/08/19 13:35	100
Toluene-d8 (Surr)	92		80 - 120		11/08/19 13:35	100
4-Bromofluorobenzene (Surr)	98		73 - 120		11/08/19 13:35	100
Dibromofluoromethane (Surr)	112		75 - 123		11/08/19 13:35	100

Client: Environmental & Geological Management Se
Project/Site: Aqueous VOC Analysis

Job ID: 480-161873-1

Client Sample ID: MW-4BR
Date Collected: 10/30/19 12:45
Date Received: 10/31/19 10:15

Lab Sample ID: 480-161873-3
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		100	82	ug/L			11/08/19 13:59	100
1,1,2,2-Tetrachloroethane	ND		100	21	ug/L			11/08/19 13:59	100
1,1,2-Trichloroethane	ND		100	23	ug/L			11/08/19 13:59	100
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		100	31	ug/L			11/08/19 13:59	100
1,1-Dichloroethane	ND		100	38	ug/L			11/08/19 13:59	100
1,1-Dichloroethene	ND		100	29	ug/L			11/08/19 13:59	100
1,2,4-Trichlorobenzene	ND		100	41	ug/L			11/08/19 13:59	100
1,2-Dibromo-3-Chloropropane	ND		100	39	ug/L			11/08/19 13:59	100
1,2-Dibromoethane	ND		100	73	ug/L			11/08/19 13:59	100
1,2-Dichlorobenzene	ND		100	79	ug/L			11/08/19 13:59	100
1,2-Dichloroethane	ND		100	21	ug/L			11/08/19 13:59	100
1,2-Dichloropropane	ND		100	72	ug/L			11/08/19 13:59	100
1,3-Dichlorobenzene	ND		100	78	ug/L			11/08/19 13:59	100
1,4-Dichlorobenzene	ND		100	84	ug/L			11/08/19 13:59	100
2-Hexanone	ND		500	120	ug/L			11/08/19 13:59	100
2-Butanone (MEK)	**150**	**J**	1000	130	ug/L			11/08/19 13:59	100
4-Methyl-2-pentanone (MIBK)	ND		500	210	ug/L			11/08/19 13:59	100
Acetone	ND		1000	300	ug/L			11/08/19 13:59	100
Benzene	ND		100	41	ug/L			11/08/19 13:59	100
Bromodichloromethane	ND		100	39	ug/L			11/08/19 13:59	100
Bromoform	ND		100	26	ug/L			11/08/19 13:59	100
Bromomethane	ND		100	69	ug/L			11/08/19 13:59	100
Carbon disulfide	ND		100	19	ug/L			11/08/19 13:59	100
Carbon tetrachloride	ND		100	27	ug/L			11/08/19 13:59	100
Chlorobenzene	ND		100	75	ug/L			11/08/19 13:59	100
Dibromochloromethane	ND		100	32	ug/L			11/08/19 13:59	100
Chloroethane	ND		100	32	ug/L			11/08/19 13:59	100
Chloroform	ND		100	34	ug/L			11/08/19 13:59	100
Chloromethane	ND		100	35	ug/L			11/08/19 13:59	100
cis-1,2-Dichloroethene	**2300**		100	81	ug/L			11/08/19 13:59	100
cis-1,3-Dichloropropene	ND		100	36	ug/L			11/08/19 13:59	100
Cyclohexane	ND		100	18	ug/L			11/08/19 13:59	100
Dichlorodifluoromethane	ND		100	68	ug/L			11/08/19 13:59	100
Ethylbenzene	ND		100	74	ug/L			11/08/19 13:59	100
Isopropylbenzene	ND		100	79	ug/L			11/08/19 13:59	100
Methyl acetate	ND		250	130	ug/L			11/08/19 13:59	100
Methyl tert-butyl ether	ND		100	16	ug/L			11/08/19 13:59	100
Methylcyclohexane	ND		100	16	ug/L			11/08/19 13:59	100
Methylene Chloride	ND		100	44	ug/L			11/08/19 13:59	100
Styrene	ND		100	73	ug/L			11/08/19 13:59	100
Tetrachloroethene	**1300**		100	36	ug/L			11/08/19 13:59	100
Toluene	ND		100	51	ug/L			11/08/19 13:59	100
trans-1,2-Dichloroethene	ND		100	90	ug/L			11/08/19 13:59	100
trans-1,3-Dichloropropene	ND		100	37	ug/L			11/08/19 13:59	100
Trichloroethene	**870**		100	46	ug/L			11/08/19 13:59	100
Trichlorofluoromethane	ND		100	88	ug/L			11/08/19 13:59	100
Vinyl chloride	ND		100	90	ug/L			11/08/19 13:59	100
Xylenes, Total	ND		200	66	ug/L			11/08/19 13:59	100

Client: Environmental & Geological Management Se
Project/Site: Aqueous VOC Analysis

Job ID: 480-161873-1

Client Sample ID: MW-4BR
Date Collected: 10/30/19 12:45
Date Received: 10/31/19 10:15

Lab Sample ID: 480-161873-3
Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		77 - 120		11/08/19 13:59	100
Toluene-d8 (Surr)	91		80 - 120		11/08/19 13:59	100
4-Bromofluorobenzene (Surr)	99		73 - 120		11/08/19 13:59	100
Dibromofluoromethane (Surr)	101		75 - 123		11/08/19 13:59	100

Client: Environmental & Geological Management Se
Project/Site: Aqueous VOC Analysis

Job ID: 480-161873-1

Client Sample ID: MW-5BR
Date Collected: 10/30/19 14:11
Date Received: 10/31/19 10:15

Lab Sample ID: 480-161873-4
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		80	66	ug/L			11/10/19 11:58	80
1,1,2,2-Tetrachloroethane	ND		80	17	ug/L			11/10/19 11:58	80
1,1,2-Trichloroethane	ND		80	18	ug/L			11/10/19 11:58	80
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		80	25	ug/L			11/10/19 11:58	80
1,1-Dichloroethane	ND		80	30	ug/L			11/10/19 11:58	80
1,1-Dichloroethene	ND		80	23	ug/L			11/10/19 11:58	80
1,2,4-Trichlorobenzene	ND		80	33	ug/L			11/10/19 11:58	80
1,2-Dibromo-3-Chloropropane	ND		80	31	ug/L			11/10/19 11:58	80
1,2-Dibromoethane	ND		80	58	ug/L			11/10/19 11:58	80
1,2-Dichlorobenzene	ND		80	63	ug/L			11/10/19 11:58	80
1,2-Dichloroethane	ND		80	17	ug/L			11/10/19 11:58	80
1,2-Dichloropropane	ND		80	58	ug/L			11/10/19 11:58	80
1,3-Dichlorobenzene	ND		80	62	ug/L			11/10/19 11:58	80
1,4-Dichlorobenzene	ND		80	67	ug/L			11/10/19 11:58	80
2-Hexanone	ND		400	99	ug/L			11/10/19 11:58	80
2-Butanone (MEK)	ND		800	110	ug/L			11/10/19 11:58	80
4-Methyl-2-pentanone (MIBK)	ND		400	170	ug/L			11/10/19 11:58	80
Acetone	ND		800	240	ug/L			11/10/19 11:58	80
Benzene	ND		80	33	ug/L			11/10/19 11:58	80
Bromodichloromethane	ND		80	31	ug/L			11/10/19 11:58	80
Bromoform	ND		80	21	ug/L			11/10/19 11:58	80
Bromomethane	ND		80	55	ug/L			11/10/19 11:58	80
Carbon disulfide	ND		80	15	ug/L			11/10/19 11:58	80
Carbon tetrachloride	ND		80	22	ug/L			11/10/19 11:58	80
Chlorobenzene	ND		80	60	ug/L			11/10/19 11:58	80
Dibromochloromethane	ND		80	26	ug/L			11/10/19 11:58	80
Chloroethane	ND		80	26	ug/L			11/10/19 11:58	80
Chloroform	ND		80	27	ug/L			11/10/19 11:58	80
Chloromethane	ND		80	28	ug/L			11/10/19 11:58	80
cis-1,2-Dichloroethene	**3500**		80	65	ug/L			11/10/19 11:58	80
cis-1,3-Dichloropropene	ND		80	29	ug/L			11/10/19 11:58	80
Cyclohexane	ND		80	14	ug/L			11/10/19 11:58	80
Dichlorodifluoromethane	ND		80	54	ug/L			11/10/19 11:58	80
Ethylbenzene	ND		80	59	ug/L			11/10/19 11:58	80
Isopropylbenzene	ND		80	63	ug/L			11/10/19 11:58	80
Methyl acetate	ND		200	100	ug/L			11/10/19 11:58	80
Methyl tert-butyl ether	ND		80	13	ug/L			11/10/19 11:58	80
Methylcyclohexane	ND		80	13	ug/L			11/10/19 11:58	80
Methylene Chloride	ND		80	35	ug/L			11/10/19 11:58	80
Styrene	ND		80	58	ug/L			11/10/19 11:58	80
Tetrachloroethene	**510**		80	29	ug/L			11/10/19 11:58	80
Toluene	ND		80	41	ug/L			11/10/19 11:58	80
trans-1,2-Dichloroethene	ND		80	72	ug/L			11/10/19 11:58	80
trans-1,3-Dichloropropene	ND		80	30	ug/L			11/10/19 11:58	80
Trichloroethene	**290**		80	37	ug/L			11/10/19 11:58	80
Trichlorofluoromethane	ND		80	70	ug/L			11/10/19 11:58	80
Vinyl chloride	**170**		80	72	ug/L			11/10/19 11:58	80
Xylenes, Total	ND		160	53	ug/L			11/10/19 11:58	80

Client: Environmental & Geological Management Se
Job ID: 480-161873-1
Project/Site: Aqueous VOC Analysis

Client Sample ID: MW-5BR
Lab Sample ID: 480-161873-4
Date Collected: 10/30/19 14:11
Matrix: Water
Date Received: 10/31/19 10:15

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	109		77 - 120		11/10/19 11:58	80
Toluene-d8 (Surr)	97		80 - 120		11/10/19 11:58	80
4-Bromofluorobenzene (Surr)	103		73 - 120		11/10/19 11:58	80
Dibromofluoromethane (Surr)	105		75 - 123		11/10/19 11:58	80

Client: Environmental & Geological Management Se
Project/Site: Aqueous VOC Analysis

Job ID: 480-161873-1

Client Sample ID: MW-5ABR
Date Collected: 10/30/19 14:25
Date Received: 10/31/19 10:15

Lab Sample ID: 480-161873-5
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		40	33	ug/L			11/08/19 22:49	40
1,1,2,2-Tetrachloroethane	ND		40	8.4	ug/L			11/08/19 22:49	40
1,1,2-Trichloroethane	ND		40	9.2	ug/L			11/08/19 22:49	40
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		40	12	ug/L			11/08/19 22:49	40
1,1-Dichloroethane	ND		40	15	ug/L			11/08/19 22:49	40
1,1-Dichloroethene	ND		40	12	ug/L			11/08/19 22:49	40
1,2,4-Trichlorobenzene	ND		40	16	ug/L			11/08/19 22:49	40
1,2-Dibromo-3-Chloropropane	ND		40	16	ug/L			11/08/19 22:49	40
1,2-Dibromoethane	ND		40	29	ug/L			11/08/19 22:49	40
1,2-Dichlorobenzene	ND		40	32	ug/L			11/08/19 22:49	40
1,2-Dichloroethane	ND		40	8.4	ug/L			11/08/19 22:49	40
1,2-Dichloropropane	ND		40	29	ug/L			11/08/19 22:49	40
1,3-Dichlorobenzene	ND		40	31	ug/L			11/08/19 22:49	40
1,4-Dichlorobenzene	ND		40	34	ug/L			11/08/19 22:49	40
2-Hexanone	ND		200	50	ug/L			11/08/19 22:49	40
2-Butanone (MEK)	ND		400	53	ug/L			11/08/19 22:49	40
4-Methyl-2-pentanone (MIBK)	ND		200	84	ug/L			11/08/19 22:49	40
Acetone	ND		400	120	ug/L			11/08/19 22:49	40
Benzene	ND		40	16	ug/L			11/08/19 22:49	40
Bromodichloromethane	ND		40	16	ug/L			11/08/19 22:49	40
Bromoform	ND		40	10	ug/L			11/08/19 22:49	40
Bromomethane	ND		40	28	ug/L			11/08/19 22:49	40
Carbon disulfide	ND		40	7.6	ug/L			11/08/19 22:49	40
Carbon tetrachloride	ND		40	11	ug/L			11/08/19 22:49	40
Chlorobenzene	ND		40	30	ug/L			11/08/19 22:49	40
Dibromochloromethane	ND		40	13	ug/L			11/08/19 22:49	40
Chloroethane	ND		40	13	ug/L			11/08/19 22:49	40
Chloroform	ND		40	14	ug/L			11/08/19 22:49	40
Chloromethane	ND		40	14	ug/L			11/08/19 22:49	40
cis-1,2-Dichloroethene	**2900**		40	32	ug/L			11/08/19 22:49	40
cis-1,3-Dichloropropene	ND		40	14	ug/L			11/08/19 22:49	40
Cyclohexane	ND		40	7.2	ug/L			11/08/19 22:49	40
Dichlorodifluoromethane	ND		40	27	ug/L			11/08/19 22:49	40
Ethylbenzene	ND		40	30	ug/L			11/08/19 22:49	40
Isopropylbenzene	ND		40	32	ug/L			11/08/19 22:49	40
Methyl acetate	ND		100	52	ug/L			11/08/19 22:49	40
Methyl tert-butyl ether	ND		40	6.4	ug/L			11/08/19 22:49	40
Methylcyclohexane	ND		40	6.4	ug/L			11/08/19 22:49	40
Methylene Chloride	ND		40	18	ug/L			11/08/19 22:49	40
Styrene	ND		40	29	ug/L			11/08/19 22:49	40
Tetrachloroethene	**3900**		40	14	ug/L			11/08/19 22:49	40
Toluene	ND		40	20	ug/L			11/08/19 22:49	40
trans-1,2-Dichloroethene	ND		40	36	ug/L			11/08/19 22:49	40
trans-1,3-Dichloropropene	ND		40	15	ug/L			11/08/19 22:49	40
Trichloroethene	**960**		40	18	ug/L			11/08/19 22:49	40
Trichlorofluoromethane	ND		40	35	ug/L			11/08/19 22:49	40
Vinyl chloride	**39**	**J**	40	36	ug/L			11/08/19 22:49	40
Xylenes, Total	ND		80	26	ug/L			11/08/19 22:49	40

Client: Environmental & Geological Management Se
Job ID: 480-161873-1
Project/Site: Aqueous VOC Analysis

Client Sample ID: MW-5ABR
Lab Sample ID: 480-161873-5
Date Collected: 10/30/19 14:25
Matrix: Water
Date Received: 10/31/19 10:15

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		77 - 120		11/08/19 22:49	40
Toluene-d8 (Surr)	98		80 - 120		11/08/19 22:49	40
4-Bromofluorobenzene (Surr)	104		73 - 120		11/08/19 22:49	40
Dibromofluoromethane (Surr)	100		75 - 123		11/08/19 22:49	40

Surrogate Summary

Client: Environmental & Geological Management Se
Job ID: 480-161873-1
Project/Site: Aqueous VOC Analysis

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	TOL	BFB	DBFM
Lab Sample ID	Client Sample ID	(77-120)	(80-120)	(73-120)	(75-123)
480-161873-1	MW-2BR	107	95	105	110
480-161873-2	MW-3BR	105	92	98	112
480-161873-3	MW-4BR	100	91	99	101
480-161873-4	MW-5BR	109	97	103	105
480-161873-5	MW-5ABR	100	98	104	100
LCS 480-503114/6	Lab Control Sample	106	96	105	109
LCS 480-503235/5	Lab Control Sample	98	96	104	99
LCS 480-503504/5	Lab Control Sample	102	98	101	101
MB 480-503114/8	Method Blank	106	94	101	109
MB 480-503235/7	Method Blank	100	98	103	100
MB 480-503504/7	Method Blank	103	101	100	98

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 480-503114/8
Matrix: Water
Analysis Batch: 503114

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			11/08/19 11:23	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			11/08/19 11:23	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			11/08/19 11:23	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			11/08/19 11:23	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			11/08/19 11:23	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			11/08/19 11:23	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			11/08/19 11:23	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			11/08/19 11:23	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			11/08/19 11:23	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			11/08/19 11:23	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			11/08/19 11:23	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			11/08/19 11:23	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			11/08/19 11:23	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			11/08/19 11:23	1
2-Hexanone	ND		5.0	1.2	ug/L			11/08/19 11:23	1
2-Butanone (MEK)	ND		10	1.3	ug/L			11/08/19 11:23	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			11/08/19 11:23	1
Acetone	ND		10	3.0	ug/L			11/08/19 11:23	1
Benzene	ND		1.0	0.41	ug/L			11/08/19 11:23	1
Bromodichloromethane	ND		1.0	0.39	ug/L			11/08/19 11:23	1
Bromoform	ND		1.0	0.26	ug/L			11/08/19 11:23	1
Bromomethane	ND		1.0	0.69	ug/L			11/08/19 11:23	1
Carbon disulfide	ND		1.0	0.19	ug/L			11/08/19 11:23	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			11/08/19 11:23	1
Chlorobenzene	ND		1.0	0.75	ug/L			11/08/19 11:23	1
Dibromochloromethane	ND		1.0	0.32	ug/L			11/08/19 11:23	1
Chloroethane	ND		1.0	0.32	ug/L			11/08/19 11:23	1
Chloroform	ND		1.0	0.34	ug/L			11/08/19 11:23	1
Chloromethane	ND		1.0	0.35	ug/L			11/08/19 11:23	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			11/08/19 11:23	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			11/08/19 11:23	1
Cyclohexane	ND		1.0	0.18	ug/L			11/08/19 11:23	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			11/08/19 11:23	1
Ethylbenzene	ND		1.0	0.74	ug/L			11/08/19 11:23	1
Isopropylbenzene	ND		1.0	0.79	ug/L			11/08/19 11:23	1
Methyl acetate	ND		2.5	1.3	ug/L			11/08/19 11:23	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			11/08/19 11:23	1
Methylcyclohexane	ND		1.0	0.16	ug/L			11/08/19 11:23	1
Methylene Chloride	ND		1.0	0.44	ug/L			11/08/19 11:23	1
Styrene	ND		1.0	0.73	ug/L			11/08/19 11:23	1
Tetrachloroethene	ND		1.0	0.36	ug/L			11/08/19 11:23	1
Toluene	ND		1.0	0.51	ug/L			11/08/19 11:23	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			11/08/19 11:23	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			11/08/19 11:23	1
Trichloroethene	ND		1.0	0.46	ug/L			11/08/19 11:23	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			11/08/19 11:23	1
Vinyl chloride	ND		1.0	0.90	ug/L			11/08/19 11:23	1
Xylenes, Total	ND		2.0	0.66	ug/L			11/08/19 11:23	1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 480-503114/8
Matrix: Water
Analysis Batch: 503114

Client Sample ID: Method Blank
Prep Type: Total/NA

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		77 - 120		11/08/19 11:23	1
Toluene-d8 (Surr)	94		80 - 120		11/08/19 11:23	1
4-Bromofluorobenzene (Surr)	101		73 - 120		11/08/19 11:23	1
Dibromofluoromethane (Surr)	109		75 - 123		11/08/19 11:23	1

Lab Sample ID: LCS 480-503114/6
Matrix: Water
Analysis Batch: 503114

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	25.0	26.6		ug/L		106	73 - 126
1,1,2,2-Tetrachloroethane	25.0	23.3		ug/L		93	76 - 120
1,1,2-Trichloroethane	25.0	24.0		ug/L		96	76 - 122
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	23.5		ug/L		94	61 - 148
1,1-Dichloroethane	25.0	24.3		ug/L		97	77 - 120
1,1-Dichloroethene	25.0	23.2		ug/L		93	66 - 127
1,2,4-Trichlorobenzene	25.0	25.2		ug/L		101	79 - 122
1,2-Dibromo-3-Chloropropane	25.0	20.4		ug/L		81	56 - 134
1,2-Dibromoethane	25.0	24.9		ug/L		100	77 - 120
1,2-Dichlorobenzene	25.0	24.9		ug/L		100	80 - 124
1,2-Dichloroethane	25.0	25.4		ug/L		102	75 - 120
1,2-Dichloropropane	25.0	24.8		ug/L		99	76 - 120
1,3-Dichlorobenzene	25.0	24.2		ug/L		97	77 - 120
1,4-Dichlorobenzene	25.0	24.6		ug/L		99	80 - 120
2-Hexanone	125	128		ug/L		103	65 - 127
2-Butanone (MEK)	125	128		ug/L		103	57 - 140
4-Methyl-2-pentanone (MIBK)	125	123		ug/L		98	71 - 125
Acetone	125	126		ug/L		101	56 - 142
Benzene	25.0	24.8		ug/L		99	71 - 124
Bromodichloromethane	25.0	25.6		ug/L		103	80 - 122
Bromoform	25.0	21.7		ug/L		87	61 - 132
Bromomethane	25.0	28.5		ug/L		114	55 - 144
Carbon disulfide	25.0	21.1		ug/L		85	59 - 134
Carbon tetrachloride	25.0	25.3		ug/L		101	72 - 134
Chlorobenzene	25.0	24.4		ug/L		98	80 - 120
Dibromochloromethane	25.0	23.9		ug/L		96	75 - 125
Chloroethane	25.0	28.0		ug/L		112	69 - 136
Chloroform	25.0	24.6		ug/L		99	73 - 127
Chloromethane	25.0	21.3		ug/L		85	68 - 124
cis-1,2-Dichloroethene	25.0	25.7		ug/L		103	74 - 124
cis-1,3-Dichloropropene	25.0	24.1		ug/L		96	74 - 124
Cyclohexane	25.0	22.8		ug/L		91	59 - 135
Dichlorodifluoromethane	25.0	19.3		ug/L		77	59 - 135
Ethylbenzene	25.0	23.8		ug/L		95	77 - 123
Isopropylbenzene	25.0	22.9		ug/L		92	77 - 122
Methyl acetate	50.0	47.1		ug/L		94	74 - 133
Methyl tert-butyl ether	25.0	25.0		ug/L		100	77 - 120
Methylcyclohexane	25.0	23.8		ug/L		95	68 - 134

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 480-503114/6
Matrix: Water
Analysis Batch: 503114

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methylene Chloride	25.0	23.9		ug/L		96	75 - 124
Styrene	25.0	24.0		ug/L		96	80 - 120
Tetrachloroethene	25.0	24.4		ug/L		98	74 - 122
Toluene	25.0	22.8		ug/L		91	80 - 122
trans-1,2-Dichloroethene	25.0	24.0		ug/L		96	73 - 127
Trichloroethene	25.0	25.6		ug/L		102	74 - 123
Trichlorofluoromethane	25.0	26.3		ug/L		105	62 - 150
Vinyl chloride	25.0	21.9		ug/L		88	65 - 133

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*106*		*77 - 120*
Toluene-d8 (Surr)	*96*		*80 - 120*
4-Bromofluorobenzene (Surr)	*105*		*73 - 120*
Dibromofluoromethane (Surr)	*109*		*75 - 123*

Lab Sample ID: MB 480-503235/7
Matrix: Water
Analysis Batch: 503235

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			11/08/19 22:24	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			11/08/19 22:24	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			11/08/19 22:24	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			11/08/19 22:24	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			11/08/19 22:24	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			11/08/19 22:24	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			11/08/19 22:24	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			11/08/19 22:24	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			11/08/19 22:24	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			11/08/19 22:24	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			11/08/19 22:24	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			11/08/19 22:24	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			11/08/19 22:24	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			11/08/19 22:24	1
2-Hexanone	ND		5.0	1.2	ug/L			11/08/19 22:24	1
2-Butanone (MEK)	ND		10	1.3	ug/L			11/08/19 22:24	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			11/08/19 22:24	1
Acetone	ND		10	3.0	ug/L			11/08/19 22:24	1
Benzene	ND		1.0	0.41	ug/L			11/08/19 22:24	1
Bromodichloromethane	ND		1.0	0.39	ug/L			11/08/19 22:24	1
Bromoform	ND		1.0	0.26	ug/L			11/08/19 22:24	1
Bromomethane	ND		1.0	0.69	ug/L			11/08/19 22:24	1
Carbon disulfide	ND		1.0	0.19	ug/L			11/08/19 22:24	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			11/08/19 22:24	1
Chlorobenzene	ND		1.0	0.75	ug/L			11/08/19 22:24	1
Dibromochloromethane	ND		1.0	0.32	ug/L			11/08/19 22:24	1
Chloroethane	ND		1.0	0.32	ug/L			11/08/19 22:24	1
Chloroform	ND		1.0	0.34	ug/L			11/08/19 22:24	1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 480-503235/7
Matrix: Water
Analysis Batch: 503235

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	ND		1.0	0.35	ug/L			11/08/19 22:24	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			11/08/19 22:24	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			11/08/19 22:24	1
Cyclohexane	ND		1.0	0.18	ug/L			11/08/19 22:24	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			11/08/19 22:24	1
Ethylbenzene	ND		1.0	0.74	ug/L			11/08/19 22:24	1
Isopropylbenzene	ND		1.0	0.79	ug/L			11/08/19 22:24	1
Methyl acetate	ND		2.5	1.3	ug/L			11/08/19 22:24	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			11/08/19 22:24	1
Methylcyclohexane	ND		1.0	0.16	ug/L			11/08/19 22:24	1
Methylene Chloride	ND		1.0	0.44	ug/L			11/08/19 22:24	1
Styrene	ND		1.0	0.73	ug/L			11/08/19 22:24	1
Tetrachloroethene	ND		1.0	0.36	ug/L			11/08/19 22:24	1
Toluene	ND		1.0	0.51	ug/L			11/08/19 22:24	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			11/08/19 22:24	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			11/08/19 22:24	1
Trichloroethene	ND		1.0	0.46	ug/L			11/08/19 22:24	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			11/08/19 22:24	1
Vinyl chloride	ND		1.0	0.90	ug/L			11/08/19 22:24	1
Xylenes, Total	ND		2.0	0.66	ug/L			11/08/19 22:24	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*77 - 120*		*11/08/19 22:24*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*		*11/08/19 22:24*	*1*
4-Bromofluorobenzene (Surr)	*103*		*73 - 120*		*11/08/19 22:24*	*1*
Dibromofluoromethane (Surr)	*100*		*75 - 123*		*11/08/19 22:24*	*1*

Lab Sample ID: LCS 480-503235/5
Matrix: Water
Analysis Batch: 503235

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	25.0	26.3		ug/L		105	73 - 126
1,1,2,2-Tetrachloroethane	25.0	23.1		ug/L		92	76 - 120
1,1,2-Trichloroethane	25.0	24.2		ug/L		97	76 - 122
1,1,2-Trichloro-1,2,2-trifluoroetha ne	25.0	26.3		ug/L		105	61 - 148
1,1-Dichloroethane	25.0	23.6		ug/L		94	77 - 120
1,1-Dichloroethene	25.0	24.4		ug/L		98	66 - 127
1,2,4-Trichlorobenzene	25.0	26.0		ug/L		104	79 - 122
1,2-Dibromo-3-Chloropropane	25.0	22.8		ug/L		91	56 - 134
1,2-Dibromoethane	25.0	25.7		ug/L		103	77 - 120
1,2-Dichlorobenzene	25.0	25.1		ug/L		100	80 - 124
1,2-Dichloroethane	25.0	24.4		ug/L		98	75 - 120
1,2-Dichloropropane	25.0	24.1		ug/L		97	76 - 120
1,3-Dichlorobenzene	25.0	24.9		ug/L		100	77 - 120
1,4-Dichlorobenzene	25.0	24.6		ug/L		99	80 - 120
2-Hexanone	125	116		ug/L		93	65 - 127
2-Butanone (MEK)	125	112		ug/L		89	57 - 140

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 480-503235/5
Matrix: Water
Analysis Batch: 503235

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
4-Methyl-2-pentanone (MIBK)	125	113		ug/L		90	71 - 125
Acetone	125	107		ug/L		85	56 - 142
Benzene	25.0	24.1		ug/L		97	71 - 124
Bromodichloromethane	25.0	24.7		ug/L		99	80 - 122
Bromoform	25.0	29.0		ug/L		116	61 - 132
Bromomethane	25.0	24.9		ug/L		100	55 - 144
Carbon disulfide	25.0	23.1		ug/L		92	59 - 134
Carbon tetrachloride	25.0	27.1		ug/L		108	72 - 134
Chlorobenzene	25.0	24.8		ug/L		99	80 - 120
Dibromochloromethane	25.0	26.8		ug/L		107	75 - 125
Chloroethane	25.0	22.6		ug/L		90	69 - 136
Chloroform	25.0	25.4		ug/L		101	73 - 127
Chloromethane	25.0	20.4		ug/L		81	68 - 124
cis-1,2-Dichloroethene	25.0	24.4		ug/L		98	74 - 124
cis-1,3-Dichloropropene	25.0	25.6		ug/L		102	74 - 124
Cyclohexane	25.0	24.1		ug/L		96	59 - 135
Dichlorodifluoromethane	25.0	22.5		ug/L		90	59 - 135
Ethylbenzene	25.0	25.3		ug/L		101	77 - 123
Isopropylbenzene	25.0	25.0		ug/L		100	77 - 122
Methyl acetate	50.0	43.2		ug/L		86	74 - 133
Methyl tert-butyl ether	25.0	25.3		ug/L		101	77 - 120
Methylcyclohexane	25.0	26.3		ug/L		105	68 - 134
Methylene Chloride	25.0	23.6		ug/L		94	75 - 124
Styrene	25.0	26.6		ug/L		107	80 - 120
Tetrachloroethene	25.0	26.9		ug/L		108	74 - 122
Toluene	25.0	24.9		ug/L		99	80 - 122
trans-1,2-Dichloroethene	25.0	24.2		ug/L		97	73 - 127
Trichloroethene	25.0	24.8		ug/L		99	74 - 123
Trichlorofluoromethane	25.0	27.1		ug/L		108	62 - 150
Vinyl chloride	25.0	24.3		ug/L		97	65 - 133

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*98*		*77 - 120*
Toluene-d8 (Surr)	*96*		*80 - 120*
4-Bromofluorobenzene (Surr)	*104*		*73 - 120*
Dibromofluoromethane (Surr)	*99*		*75 - 123*

Lab Sample ID: MB 480-503504/7
Matrix: Water
Analysis Batch: 503504

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			11/10/19 10:50	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			11/10/19 10:50	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			11/10/19 10:50	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			11/10/19 10:50	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			11/10/19 10:50	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			11/10/19 10:50	1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 480-503504/7
Matrix: Water
Analysis Batch: 503504

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			11/10/19 10:50	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			11/10/19 10:50	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			11/10/19 10:50	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			11/10/19 10:50	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			11/10/19 10:50	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			11/10/19 10:50	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			11/10/19 10:50	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			11/10/19 10:50	1
2-Hexanone	ND		5.0	1.2	ug/L			11/10/19 10:50	1
2-Butanone (MEK)	ND		10	1.3	ug/L			11/10/19 10:50	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			11/10/19 10:50	1
Acetone	ND		10	3.0	ug/L			11/10/19 10:50	1
Benzene	ND		1.0	0.41	ug/L			11/10/19 10:50	1
Bromodichloromethane	ND		1.0	0.39	ug/L			11/10/19 10:50	1
Bromoform	ND		1.0	0.26	ug/L			11/10/19 10:50	1
Bromomethane	ND		1.0	0.69	ug/L			11/10/19 10:50	1
Carbon disulfide	ND		1.0	0.19	ug/L			11/10/19 10:50	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			11/10/19 10:50	1
Chlorobenzene	ND		1.0	0.75	ug/L			11/10/19 10:50	1
Dibromochloromethane	ND		1.0	0.32	ug/L			11/10/19 10:50	1
Chloroethane	ND		1.0	0.32	ug/L			11/10/19 10:50	1
Chloroform	ND		1.0	0.34	ug/L			11/10/19 10:50	1
Chloromethane	ND		1.0	0.35	ug/L			11/10/19 10:50	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			11/10/19 10:50	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			11/10/19 10:50	1
Cyclohexane	ND		1.0	0.18	ug/L			11/10/19 10:50	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			11/10/19 10:50	1
Ethylbenzene	ND		1.0	0.74	ug/L			11/10/19 10:50	1
Isopropylbenzene	ND		1.0	0.79	ug/L			11/10/19 10:50	1
Methyl acetate	ND		2.5	1.3	ug/L			11/10/19 10:50	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			11/10/19 10:50	1
Methylcyclohexane	ND		1.0	0.16	ug/L			11/10/19 10:50	1
Methylene Chloride	ND		1.0	0.44	ug/L			11/10/19 10:50	1
Styrene	ND		1.0	0.73	ug/L			11/10/19 10:50	1
Tetrachloroethene	ND		1.0	0.36	ug/L			11/10/19 10:50	1
Toluene	ND		1.0	0.51	ug/L			11/10/19 10:50	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			11/10/19 10:50	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			11/10/19 10:50	1
Trichloroethene	ND		1.0	0.46	ug/L			11/10/19 10:50	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			11/10/19 10:50	1
Vinyl chloride	ND		1.0	0.90	ug/L			11/10/19 10:50	1
Xylenes, Total	ND		2.0	0.66	ug/L			11/10/19 10:50	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*77 - 120*		*11/10/19 10:50*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*11/10/19 10:50*	*1*
4-Bromofluorobenzene (Surr)	*100*		*73 - 120*		*11/10/19 10:50*	*1*
Dibromofluoromethane (Surr)	*98*		*75 - 123*		*11/10/19 10:50*	*1*

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 480-503504/5
Matrix: Water
Analysis Batch: 503504

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	25.0	23.6		ug/L		94	73 - 126
1,1,2,2-Tetrachloroethane	25.0	24.7		ug/L		99	76 - 120
1,1,2-Trichloroethane	25.0	24.3		ug/L		97	76 - 122
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	24.0		ug/L		96	61 - 148
1,1-Dichloroethane	25.0	24.1		ug/L		96	77 - 120
1,1-Dichloroethene	25.0	24.7		ug/L		99	66 - 127
1,2,4-Trichlorobenzene	25.0	26.8		ug/L		107	79 - 122
1,2-Dibromo-3-Chloropropane	25.0	25.0		ug/L		100	56 - 134
1,2-Dibromoethane	25.0	23.4		ug/L		93	77 - 120
1,2-Dichlorobenzene	25.0	24.2		ug/L		97	80 - 124
1,2-Dichloroethane	25.0	24.7		ug/L		99	75 - 120
1,2-Dichloropropane	25.0	24.9		ug/L		100	76 - 120
1,3-Dichlorobenzene	25.0	25.1		ug/L		100	77 - 120
1,4-Dichlorobenzene	25.0	24.0		ug/L		96	80 - 120
2-Hexanone	125	133		ug/L		106	65 - 127
2-Butanone (MEK)	125	141		ug/L		113	57 - 140
4-Methyl-2-pentanone (MIBK)	125	129		ug/L		103	71 - 125
Acetone	125	165		ug/L		132	56 - 142
Benzene	25.0	23.2		ug/L		93	71 - 124
Bromodichloromethane	25.0	23.7		ug/L		95	80 - 122
Bromoform	25.0	23.4		ug/L		93	61 - 132
Bromomethane	25.0	23.7		ug/L		95	55 - 144
Carbon disulfide	25.0	23.9		ug/L		96	59 - 134
Carbon tetrachloride	25.0	24.7		ug/L		99	72 - 134
Chlorobenzene	25.0	23.4		ug/L		93	80 - 120
Dibromochloromethane	25.0	24.6		ug/L		99	75 - 125
Chloroethane	25.0	28.3		ug/L		113	69 - 136
Chloroform	25.0	23.2		ug/L		93	73 - 127
Chloromethane	25.0	25.9		ug/L		104	68 - 124
cis-1,2-Dichloroethene	25.0	23.2		ug/L		93	74 - 124
cis-1,3-Dichloropropene	25.0	24.0		ug/L		96	74 - 124
Cyclohexane	25.0	25.2		ug/L		101	59 - 135
Dichlorodifluoromethane	25.0	23.3		ug/L		93	59 - 135
Ethylbenzene	25.0	24.0		ug/L		96	77 - 123
Isopropylbenzene	25.0	25.4		ug/L		102	77 - 122
Methyl acetate	50.0	51.5		ug/L		103	74 - 133
Methyl tert-butyl ether	25.0	25.0		ug/L		100	77 - 120
Methylcyclohexane	25.0	23.1		ug/L		92	68 - 134
Methylene Chloride	25.0	26.0		ug/L		104	75 - 124
Styrene	25.0	24.8		ug/L		99	80 - 120
Tetrachloroethene	25.0	23.3		ug/L		93	74 - 122
Toluene	25.0	23.2		ug/L		93	80 - 122
trans-1,2-Dichloroethene	25.0	23.6		ug/L		94	73 - 127
Trichloroethene	25.0	23.8		ug/L		95	74 - 123
Trichlorofluoromethane	25.0	25.4		ug/L		102	62 - 150
Vinyl chloride	25.0	24.7		ug/L		99	65 - 133

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 480-503504/5
Matrix: Water
Analysis Batch: 503504

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	102		77 - 120
Toluene-d8 (Surr)	98		80 - 120
4-Bromofluorobenzene (Surr)	101		73 - 120
Dibromofluoromethane (Surr)	101		75 - 123

QC Association Summary

Client: Environmental & Geological Management Se
Job ID: 480-161873-1
Project/Site: Aqueous VOC Analysis

GC/MS VOA

Analysis Batch: 503114

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-161873-1	MW-2BR	Total/NA	Water	8260C	
480-161873-2	MW-3BR	Total/NA	Water	8260C	
480-161873-3	MW-4BR	Total/NA	Water	8260C	
MB 480-503114/8	Method Blank	Total/NA	Water	8260C	
LCS 480-503114/6	Lab Control Sample	Total/NA	Water	8260C	

Analysis Batch: 503235

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-161873-5	MW-5ABR	Total/NA	Water	8260C	
MB 480-503235/7	Method Blank	Total/NA	Water	8260C	
LCS 480-503235/5	Lab Control Sample	Total/NA	Water	8260C	

Analysis Batch: 503504

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-161873-4	MW-5BR	Total/NA	Water	8260C	
MB 480-503504/7	Method Blank	Total/NA	Water	8260C	
LCS 480-503504/5	Lab Control Sample	Total/NA	Water	8260C	

Lab Chronicle

Client: Environmental & Geological Management Se
Job ID: 480-161873-1
Project/Site: Aqueous VOC Analysis

Client Sample ID: MW-2BR
Lab Sample ID: 480-161873-1
Date Collected: 10/30/19 11:05
Matrix: Water
Date Received: 10/31/19 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		8	503114	11/08/19 13:10	AMM	TAL BUF

Client Sample ID: MW-3BR
Lab Sample ID: 480-161873-2
Date Collected: 10/30/19 11:55
Matrix: Water
Date Received: 10/31/19 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		100	503114	11/08/19 13:35	AMM	TAL BUF

Client Sample ID: MW-4BR
Lab Sample ID: 480-161873-3
Date Collected: 10/30/19 12:45
Matrix: Water
Date Received: 10/31/19 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		100	503114	11/08/19 13:59	AMM	TAL BUF

Client Sample ID: MW-5BR
Lab Sample ID: 480-161873-4
Date Collected: 10/30/19 14:11
Matrix: Water
Date Received: 10/31/19 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		80	503504	11/10/19 11:58	AMM	TAL BUF

Client Sample ID: MW-5ABR
Lab Sample ID: 480-161873-5
Date Collected: 10/30/19 14:25
Matrix: Water
Date Received: 10/31/19 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		40	503235	11/08/19 22:49	BTP	TAL BUF

Laboratory References:

TAL BUF = Eurofins TestAmerica, Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Accreditation/Certification Summary

Client: Environmental & Geological Management Se
Job ID: 480-161873-1
Project/Site: Aqueous VOC Analysis

Laboratory: Eurofins TestAmerica, Buffalo

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
New York	NELAP	10026	03-31-20

Method Summary

Client: Environmental & Geological Management Se
Job ID: 480-161873-1
Project/Site: Aqueous VOC Analysis

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL BUF
5030C	Purge and Trap	SW846	TAL BUF

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL BUF = Eurofins TestAmerica, Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Sample Summary

Client: Environmental & Geological Management Se
Job ID: 480-161873-1
Project/Site: Aqueous VOC Analysis

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
480-161873-1	MW-2BR	Water	10/30/19 11:05	10/31/19 10:15	
480-161873-2	MW-3BR	Water	10/30/19 11:55	10/31/19 10:15	
480-161873-3	MW-4BR	Water	10/30/19 12:45	10/31/19 10:15	
480-161873-4	MW-5BR	Water	10/30/19 14:11	10/31/19 10:15	
480-161873-5	MW-5ABR	Water	10/30/19 14:25	10/31/19 10:15	

Eurofins TestAmerica, Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information	Sampler: Wohlabaugh	Lab PM: Fischer, Brian J	Carrier Tracking No(s):	COC No: 480-137659-30956.1
Client Contact: Mr. Norman Wohlabaugh	Phone: 716-445-2105	E-Mail: brian.fischer@testamericainc.com		Page: Page 1 of 1
Company: Environmental & Geological Management Se				Job #:
Address: 15 Briar Hill Rd	Due Date Requested:			
City: Orchard Park	TAT Requested (days):			
State, Zip: NY, 14127				
Phone: 716-445-2105(Tel)	PO #: Advance Payment Required			
Email: nwohlabaugh@verizon.net	WO #:			
Project Name: Aqueous VOC Analysis	Project #: 48019236			
Site: Buffalo Business Park	SSOW#:			

Analysis Requested

480-161873 Chain of Custody

Preservation Codes:

A - HCL
B - NaOH
C - Zn Acetate
Nitric Acid
NaHSO4
MeOH
Amchlor
Ascorbic Acid
e
I Water
DTA
DA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260C - TCL list OLM04.2	Total Number of cor	Special Instructions/Note:
			Preservation Code:				A		
MW-2BR	11/30/19	11:05	G	Water			X		
MW-3BR	11/30/19	11:55	G	Water			X		
MW-4BR	11/30/19	12:45	G	Water			X		
MW-5BR	11/30/19	2:11	G	Water			X		
MW-5ABR	11/30/19	2:25	G	Water			X		
				Water					
* Possible High VOC concentrations									

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
NK Wohlabaugh	11/31	EGMS	Kara Mahardt	10-31-19 / 1015	TA/EF
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ∆ Yes ∆ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: 3.3 #11R ICE

Ver: 01/16/2019

Login Sample Receipt Checklist

Client: Environmental & Geological Management Se

Job Number: 480-161873-1

Login Number: 161873

List Source: Eurofins TestAmerica, Buffalo

List Number: 1

Creator: Harper, Marcus D

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time (Excluding tests with immediate HTs)..	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	N/A	
Chlorine Residual checked.	N/A	

APPENDIX C

NOVEMBER 2019 FIELD DATA SHEETS

Field Sampling Log

SITE NAME: **BUFFALO BUSINESS PARK** **WELL NAME: MW - 2BR**

LOCATION: **BUFFALO. NY** **DATE:** **10/30/2019**

SAMPLE MATRIX: **GROUNDWATER**

SAMPLING METHOD: **PERISTALTIC PUMP/U-52-2 HORRIBA FLOW CELL**
LOW FLOW SAMPLING

Time	Gallons	pH	Temp ©	ORP	NTU	DISS O2	Other
Start at 10:15							
10:20	~.5	6.44	17	-99	63.3		
10:30	~1.5	7.4	17	-71	56.2		
10:45	~2.5	7.55	15.14	-158	830		
10:55	~3	7.14	15.97	-149	521		
11:00	~3.5	7.81	15.23	-156	380		
	SAMPLED AT 11:05						
NOTES:	PUMPED DRY AT 10:40 - LOWERED TUBING DEEPER INTO WELL						

Field Sampling Log

SITE NAME: **BUFFALO BUSINESS PARK** **WELL NAME: MW - 3BR**

LOCATION: **BUFFALO. NY** **DATE:** **10/30/2019**

SAMPLE MATRIX: **GROUNDWATER**

SAMPLING METHOD: **PERISTALTIC PUMP/U-52-2 HORRIBA FLOW CELL**
LOW FLOW SAMPLING

Time	Gallons	pH	Temp ©	ORP	NTU	DISS O2	Other
Start at 11:20							
11:20		7.73	15.13	-199	64.6	16.15	
11:30	~.5	7.74	15.21	-235	35.8	10.98	
11:40	~2.0	7.66	15.04	-235	13.6	11.15	
11:55	~3.0	7.56	15.11	-209	8.6	9.43	
	SAMPLED AT 11:55						
NOTES:							

Field Sampling Log

SITE NAME: **BUFFALO BUSINESS PARK** **WELL NAME: MW - 4BR**

LOCATION: **BUFFALO. NY** **DATE:** **10/30/2019**

SAMPLE MATRIX: **GROUNDWATER**

SAMPLING METHOD: **PERISTALTIC PUMP/U-52-2 HORRIBA FLOW CELL**
LOW FLOW SAMPLING

Time	Gallons	pH	Temp ©	ORP	NTU	DISS O2	Other
12:15	~.1	7.58	15.69	-174	156	12.54	
12:25	~2.0	7.46	16.05	-158	213	12.04	
12:40	~3.0	7.49	16.39	-162	177	11.94	
12:45	~3.5	Pumping Dry					
	SAMPLED AT 12:45						
NOTES:							

Field Sampling Log

SITE NAME: BUFFALO BUSINESS PARK   WELL NAME: MW - 5 ABR

LOCATION: BUFFALO. NY   DATE: 10/30/2019

SAMPLE MATRIX: GROUNDWATER

SAMPLING METHOD: PERISTALTIC PUMP/U-52-2 HORRIBA FLOW CELL
LOW FLOW SAMPLING

Time	Gallons	pH	Temp ©	ORP	NTU	DISS O2	Other
1:20	~.1	7.49	16.34	-98	12.5	10.43	
1:30	~2.5.	7.62	16.22				
1:43	Pumped dry						
	SAMPLED AT 2:25						
NOTES:	Well pumped dry at 1:43. The pump was left on. Let well recharge till 2:25.						
	Added additional 5 feet of tubing and collected sample at 2:25						

Field Sampling Log

SITE NAME: BUFFALO BUSINESS PARK

WELL NAME: MW - 5 BR

LOCATION: BUFFALO. NY

DATE: 10/30/2010

SAMPLE MATRIX: GROUNDWATER

SAMPLING METHOD: PERISTALTIC PUMP/U-52-2 HORRIBA FLOW CELL
LOW FLOW SAMPLING

Time	Gallons	pH	Temp ©	ORP	NTU	DISS O2	Other
1:50	~0.1	7.53	16.47	-27	7	10.35	
2:00	~1.5	7.36	16.5	-21	10	10.54	
2:10	~2.0	7.32	16.68	-23	0	11.24	
	SAMPLED AT 2:11						
NOTES:							

APPENDIX D

SUB-SLAB DEPRESSURIZATION SYSTEM CERTIFICATION

studio T3

2495 Main Street, Suite 301
Buffalo, NY 14214
phone: (716) 803-6400
fax: (716) 810-9504

December 16, 2019

Buffalo Business Park
ATTN: Gary Crewson
1800 Broadway, Bldg. 1D
Buffalo, New York 14212
Reference: **SSDS System Site Inspections**

Dear Mr. Crewson,

I completed an inspection of both sub-slab depressurization systems (SSDS) at the Buffalo Business Park in Buffalo, New York on Monday, December 16, 2019. The inspection results are summarized in the table below:

BUFFALO BUSINESS PARK SSDS INSPECTIONS - 12/16/19						
ADDRESS	REFERENCE #	VACUUM	ELECTRIC POWER	PIPING	DRAW	SUCTION
1800 BROADWAY - BLDG 1A	B-1	OPERATIONAL	ON	INTACT	SATISFACTORY	AUDIBLE
1800 BROADWAY - BLDG 1A	B-2	OPERATIONAL	ON	INTACT	SATISFACTORY	AUDIBLE

Based on the results both of the soil vapor extraction systems are functional and operating optimally.

Please do not hesitate to contact me with any questions regarding the above.

Andrew Terragnoli, P.E.

APPENDIX E

POST TREATMENT SYSTEM DATA PACKAGES

EGMS
Environmental & Geologic Management Services, LLC

15 Briar Hill Road
Orchard Park, New York 14127
(716) 445-2105
nwohlabaugh@gmail.com

March 20, 2019

Ms. Traserra Adams, J.D.
Legal Investigator
Industrial Waste Section
Buffalo Sewer Authority
Foot of Ferry Street
90 West Ferry Street
Buffalo, New York 14213-1799

RE: Buffalo Business Park Semi-Annual Self Monitoring Report; March 20, 2019

Ms. Adams:

Pursuant to guidelines described in the Buffalo Sewer Authority Permit #19-01.BU124, Buffalo Business Park (BBP) is providing this semi-annual self monitoring report which provides the analytical results of a post treatment system water (effluent) sample that was collected on March 6th, 2019. In addition, a reading from the system totalizer is also provided.

Analytical Results

A post treatment water sample was collected on the morning of March 6th, 2019 for laboratory analysis. The sample was subsequently hand delivered to Teat America Labs for analysis as follows:

- USEPA Method SM 4500 for pH;
- UEPA 624.1 for volatile organic compounds; and
- USEPA Method 245.1 for mercury.

Review of the results shows that the pH of the water sample was measured at 7.2, well within the required Buffalo Sewer Authority (BSA) range of 5.0 to 12.0 S. U.

Mercury was not detected (ND) in the water sample that was analyzed.

All of the volatile organic compounds that were analyzed for in the water sample were not detected (ND). All method detection limits were in the microgram per liter (ug/l) range, well below the BSA limit of 0.01 milligram per liter (mg/l).

The laboratory analytical data package is attached as Appendix A.

Volumetric Information

The totalizer coming into the onsite treat system was read on March 6th, 2019 to provide volumetric information. The volume of groundwater treated since the start of treatment operations was 57,955.37 gallons. A photo of the totalizer reading is provided as Appendix B.

If you have any questions or need additional informational, please contact Gary Crewson at (716) 867-2369 or myself at (716) 445-2105.

Sincerely,

N. K. Wohlabaugh
Norman K. Wohlabaugh, PG, CPG

Geologist/President
Environmental & Geologic Management Services, LLC

APPENDIX A

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Tel: (716)691-2600

TestAmerica Job ID: 480-149834-1
Client Project/Site: Buffalo Business Park - BSA Analysis

For:
Environmental & Geological Management Se
15 Briar Hill Rd
Orchard Park, New York 14127

Attn: Mr. Norman Wohlabaugh

Joseph V. Giacomazza

Authorized for release by:
3/18/2019 5:03:00 PM
Joe Giacomazza, Project Management Assistant II
joe.giacomazza@testamericainc.com

Designee for

Brian Fischer, Manager of Project Management
(716)504-9835
brian.fischer@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Definitions/Glossary

Client: Environmental & Geological Management Se
Project/Site: Buffalo Business Park - BSA Analysis

TestAmerica Job ID: 480-149834-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Job ID: 480-149834-1

Laboratory: TestAmerica Buffalo

Narrative

Job Narrative
480-149834-1

Comments
No additional comments.

Receipt
The sample was received on 3/6/2019 10:57 AM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 5.5º C.

GC/MS VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
Method(s) 9040C, SM 4500 H+ B: This analysis is normally performed in the field and has a method-defined holding time of 15 minutes. The following samples has been qualified with the "HF" flag to indicate analysis was performed in the laboratory outside the 15 minute timeframe: CTSE 3-6-19 (480-149834-1), (480-149881-C-1) and (480-149881-C-1 DU).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: Environmental & Geological Management Se
Project/Site: Buffalo Business Park - BSA Analysis

TestAmerica Job ID: 480-149834-1

Client Sample ID: CTSE 3-6-19

Lab Sample ID: 480-149834-1

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.2	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Temperature	15.0	HF	0.001	0.001	Degrees C	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: CTSE 3-6-19

Date Collected: 03/06/19 09:40
Date Received: 03/06/19 10:57

Lab Sample ID: 480-149834-1

Matrix: Water

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		5.0	0.39	ug/L			03/07/19 20:50	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.26	ug/L			03/07/19 20:50	1
1,1,2-Trichloroethane	ND		5.0	0.48	ug/L			03/07/19 20:50	1
1,1-Dichloroethane	ND		5.0	0.59	ug/L			03/07/19 20:50	1
1,1-Dichloroethene	ND		5.0	0.85	ug/L			03/07/19 20:50	1
1,2-Dichlorobenzene	ND		5.0	0.44	ug/L			03/07/19 20:50	1
1,2-Dichloroethane	ND		5.0	0.60	ug/L			03/07/19 20:50	1
1,2-Dichloroethene, Total	ND		10	3.2	ug/L			03/07/19 20:50	1
1,2-Dichloropropane	ND		5.0	0.61	ug/L			03/07/19 20:50	1
1,3-Dichlorobenzene	ND		5.0	0.54	ug/L			03/07/19 20:50	1
1,4-Dichlorobenzene	ND		5.0	0.51	ug/L			03/07/19 20:50	1
2-Chloroethyl vinyl ether	ND		25	1.9	ug/L			03/07/19 20:50	1
Acrolein	ND		100	17	ug/L			03/07/19 20:50	1
Acrylonitrile	ND		50	1.9	ug/L			03/07/19 20:50	1
Benzene	ND		5.0	0.60	ug/L			03/07/19 20:50	1
Bromoform	ND		5.0	0.47	ug/L			03/07/19 20:50	1
Bromomethane	ND		5.0	1.2	ug/L			03/07/19 20:50	1
Carbon tetrachloride	ND		5.0	0.51	ug/L			03/07/19 20:50	1
Chlorobenzene	ND		5.0	0.48	ug/L			03/07/19 20:50	1
Chlorodibromomethane	ND		5.0	0.41	ug/L			03/07/19 20:50	1
Chloroethane	ND		5.0	0.87	ug/L			03/07/19 20:50	1
Chloroform	ND		5.0	0.54	ug/L			03/07/19 20:50	1
Chloromethane	ND		5.0	0.64	ug/L			03/07/19 20:50	1
cis-1,3-Dichloropropene	ND		5.0	0.33	ug/L			03/07/19 20:50	1
Dichlorobromomethane	ND		5.0	0.54	ug/L			03/07/19 20:50	1
Ethylbenzene	ND		5.0	0.46	ug/L			03/07/19 20:50	1
Methylene Chloride	ND		5.0	0.81	ug/L			03/07/19 20:50	1
Tetrachloroethene	ND		5.0	0.34	ug/L			03/07/19 20:50	1
Toluene	ND		5.0	0.45	ug/L			03/07/19 20:50	1
trans-1,2-Dichloroethene	ND		5.0	0.59	ug/L			03/07/19 20:50	1
trans-1,3-Dichloropropene	ND		5.0	0.44	ug/L			03/07/19 20:50	1
Trichloroethene	ND		5.0	0.60	ug/L			03/07/19 20:50	1
Vinyl chloride	ND		5.0	0.75	ug/L			03/07/19 20:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*68 - 130*		*03/07/19 20:50*	*1*
4-Bromofluorobenzene (Surr)	*102*		*76 - 123*		*03/07/19 20:50*	*1*
Dibromofluoromethane (Surr)	*100*		*75 - 123*		*03/07/19 20:50*	*1*
Toluene-d8 (Surr)	*96*		*77 - 120*		*03/07/19 20:50*	*1*

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		03/07/19 10:57	03/07/19 13:49	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**7.2**	**HF**	0.1	0.1	SU			03/17/19 14:52	1
Temperature	**15.0**	**HF**	0.001	0.001	Degrees C			03/17/19 14:52	1

Surrogate Summary

Client: Environmental & Geological Management Se
Project/Site: Buffalo Business Park - BSA Analysis

TestAmerica Job ID: 480-149834-1

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(68-130)	(76-123)	(75-123)	(77-120)
480-149834-1	CTSE 3-6-19	102	102	100	96
LCS 480-462023/5	Lab Control Sample	98	104	100	99
MB 480-462023/7	Method Blank	102	103	102	98

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 480-462023/7
Matrix: Water
Analysis Batch: 462023

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		5.0	0.39	ug/L			03/07/19 15:18	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.26	ug/L			03/07/19 15:18	1
1,1,2-Trichloroethane	ND		5.0	0.48	ug/L			03/07/19 15:18	1
1,1-Dichloroethane	ND		5.0	0.59	ug/L			03/07/19 15:18	1
1,1-Dichloroethene	ND		5.0	0.85	ug/L			03/07/19 15:18	1
1,2-Dichlorobenzene	ND		5.0	0.44	ug/L			03/07/19 15:18	1
1,2-Dichloroethane	ND		5.0	0.60	ug/L			03/07/19 15:18	1
1,2-Dichloroethene, Total	ND		10	3.2	ug/L			03/07/19 15:18	1
1,2-Dichloropropane	ND		5.0	0.61	ug/L			03/07/19 15:18	1
1,3-Dichlorobenzene	ND		5.0	0.54	ug/L			03/07/19 15:18	1
1,4-Dichlorobenzene	ND		5.0	0.51	ug/L			03/07/19 15:18	1
2-Chloroethyl vinyl ether	ND		25	1.9	ug/L			03/07/19 15:18	1
Acrolein	ND		100	17	ug/L			03/07/19 15:18	1
Acrylonitrile	ND		50	1.9	ug/L			03/07/19 15:18	1
Benzene	ND		5.0	0.60	ug/L			03/07/19 15:18	1
Bromoform	ND		5.0	0.47	ug/L			03/07/19 15:18	1
Bromomethane	ND		5.0	1.2	ug/L			03/07/19 15:18	1
Carbon tetrachloride	ND		5.0	0.51	ug/L			03/07/19 15:18	1
Chlorobenzene	ND		5.0	0.48	ug/L			03/07/19 15:18	1
Chlorodibromomethane	ND		5.0	0.41	ug/L			03/07/19 15:18	1
Chloroethane	ND		5.0	0.87	ug/L			03/07/19 15:18	1
Chloroform	ND		5.0	0.54	ug/L			03/07/19 15:18	1
Chloromethane	ND		5.0	0.64	ug/L			03/07/19 15:18	1
cis-1,3-Dichloropropene	ND		5.0	0.33	ug/L			03/07/19 15:18	1
Dichlorobromomethane	ND		5.0	0.54	ug/L			03/07/19 15:18	1
Ethylbenzene	ND		5.0	0.46	ug/L			03/07/19 15:18	1
Methylene Chloride	ND		5.0	0.81	ug/L			03/07/19 15:18	1
Tetrachloroethene	ND		5.0	0.34	ug/L			03/07/19 15:18	1
Toluene	ND		5.0	0.45	ug/L			03/07/19 15:18	1
trans-1,2-Dichloroethene	ND		5.0	0.59	ug/L			03/07/19 15:18	1
trans-1,3-Dichloropropene	ND		5.0	0.44	ug/L			03/07/19 15:18	1
Trichloroethene	ND		5.0	0.60	ug/L			03/07/19 15:18	1
Vinyl chloride	ND		5.0	0.75	ug/L			03/07/19 15:18	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*68 - 130*		*03/07/19 15:18*	*1*
4-Bromofluorobenzene (Surr)	*103*		*76 - 123*		*03/07/19 15:18*	*1*
Dibromofluoromethane (Surr)	*102*		*75 - 123*		*03/07/19 15:18*	*1*
Toluene-d8 (Surr)	*98*		*77 - 120*		*03/07/19 15:18*	*1*

Lab Sample ID: LCS 480-462023/5
Matrix: Water
Analysis Batch: 462023

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	20.0	21.1		ug/L		106	52 - 162
1,1,2,2-Tetrachloroethane	20.0	19.8		ug/L		99	46 - 157
1,1,2-Trichloroethane	20.0	19.7		ug/L		98	52 - 150

Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 480-462023/5
Matrix: Water
Analysis Batch: 462023

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethane	20.0	20.6		ug/L		103	59 - 155
1,1-Dichloroethene	20.0	21.4		ug/L		107	1 - 234
1,2-Dichlorobenzene	20.0	20.8		ug/L		104	18 - 190
1,2-Dichloroethane	20.0	20.0		ug/L		100	49 - 155
1,2-Dichloropropane	20.0	20.4		ug/L		102	1 - 210
1,3-Dichlorobenzene	20.0	20.7		ug/L		103	59 - 156
1,4-Dichlorobenzene	20.0	20.8		ug/L		104	18 - 190
2-Chloroethyl vinyl ether	20.0	20.3	J	ug/L		102	1 - 305
Benzene	20.0	20.8		ug/L		104	37 - 151
Bromoform	20.0	20.1		ug/L		100	45 - 169
Bromomethane	20.0	21.3		ug/L		107	1 - 242
Carbon tetrachloride	20.0	21.8		ug/L		109	70 - 140
Chlorobenzene	20.0	20.8		ug/L		104	37 - 160
Chlorodibromomethane	20.0	20.3		ug/L		102	53 - 149
Chloroethane	20.0	20.9		ug/L		104	14 - 230
Chloroform	20.0	20.5		ug/L		103	51 - 138
Chloromethane	20.0	22.1		ug/L		111	1 - 273
cis-1,3-Dichloropropene	20.0	20.6		ug/L		103	1 - 227
Dichlorobromomethane	20.0	20.0		ug/L		100	35 - 155
Ethylbenzene	20.0	21.5		ug/L		107	37 - 162
Methylene Chloride	20.0	17.1		ug/L		86	1 - 221
Tetrachloroethene	20.0	21.3		ug/L		107	64 - 148
Toluene	20.0	20.8		ug/L		104	47 - 150
trans-1,2-Dichloroethene	20.0	20.7		ug/L		104	54 - 156
trans-1,3-Dichloropropene	20.0	20.2		ug/L		101	17 - 183
Trichloroethene	20.0	20.8		ug/L		104	71 - 157
Vinyl chloride	20.0	23.0		ug/L		115	1 - 251

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*98*		*68 - 130*
4-Bromofluorobenzene (Surr)	*104*		*76 - 123*
Dibromofluoromethane (Surr)	*100*		*75 - 123*
Toluene-d8 (Surr)	*99*		*77 - 120*

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 480-461987/1-A
Matrix: Water
Analysis Batch: 462055

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 461987

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		03/07/19 10:57	03/07/19 13:26	1

Method: 245.1 - Mercury (CVAA) (Continued)

Lab Sample ID: LCS 480-461987/2-A
Matrix: Water
Analysis Batch: 462055

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 461987

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00667	0.00673		mg/L		101	85 - 115

Lab Sample ID: 480-149834-1 MS
Matrix: Water
Analysis Batch: 462055

Client Sample ID: CTSE 3-6-19
Prep Type: Total/NA
Prep Batch: 461987

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		0.00667	0.00675		mg/L		101	70 - 130

Lab Sample ID: 480-149834-1 MSD
Matrix: Water
Analysis Batch: 462055

Client Sample ID: CTSE 3-6-19
Prep Type: Total/NA
Prep Batch: 461987

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		0.00667	0.00682		mg/L		102	70 - 130	1	20

Method: SM 4500 H+ B - pH

Lab Sample ID: LCS 480-463339/1
Matrix: Water
Analysis Batch: 463339

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.1		SU		101	99 - 101

QC Association Summary

Client: Environmental & Geological Management Se
Project/Site: Buffalo Business Park - BSA Analysis

TestAmerica Job ID: 480-149834-1

GC/MS VOA

Analysis Batch: 462023

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-149834-1	CTSE 3-6-19	Total/NA	Water	624.1	
MB 480-462023/7	Method Blank	Total/NA	Water	624.1	
LCS 480-462023/5	Lab Control Sample	Total/NA	Water	624.1	

Metals

Prep Batch: 461987

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-149834-1	CTSE 3-6-19	Total/NA	Water	245.1	
MB 480-461987/1-A	Method Blank	Total/NA	Water	245.1	
LCS 480-461987/2-A	Lab Control Sample	Total/NA	Water	245.1	
480-149834-1 MS	CTSE 3-6-19	Total/NA	Water	245.1	
480-149834-1 MSD	CTSE 3-6-19	Total/NA	Water	245.1	

Analysis Batch: 462055

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-149834-1	CTSE 3-6-19	Total/NA	Water	245.1	461987
MB 480-461987/1-A	Method Blank	Total/NA	Water	245.1	461987
LCS 480-461987/2-A	Lab Control Sample	Total/NA	Water	245.1	461987
480-149834-1 MS	CTSE 3-6-19	Total/NA	Water	245.1	461987
480-149834-1 MSD	CTSE 3-6-19	Total/NA	Water	245.1	461987

General Chemistry

Analysis Batch: 463339

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-149834-1	CTSE 3-6-19	Total/NA	Water	SM 4500 H+ B	
LCS 480-463339/1	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	

Lab Chronicle

Client: Environmental & Geological Management Se
Project/Site: Buffalo Business Park - BSA Analysis

TestAmerica Job ID: 480-149834-1

Client Sample ID: CTSE 3-6-19
Date Collected: 03/06/19 09:40
Date Received: 03/06/19 10:57

Lab Sample ID: 480-149834-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	462023	03/07/19 20:50	LCH	TAL BUF
Total/NA	Prep	245.1			461987	03/07/19 10:57	BMB	TAL BUF
Total/NA	Analysis	245.1		1	462055	03/07/19 13:49	BMB	TAL BUF
Total/NA	Analysis	SM 4500 H+ B		1	463339	03/17/19 14:52	KEB	TAL BUF

Laboratory References:

TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Accreditation/Certification Summary

Client: Environmental & Geological Management Se
TestAmerica Job ID: 480-149834-1
Project/Site: Buffalo Business Park - BSA Analysis

Laboratory: TestAmerica Buffalo

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
New York	NELAP	2	10026	03-31-19 *

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
624.1		Water	1,2-Dichloroethene, Total
SM 4500 H+ B		Water	pH
SM 4500 H+ B		Water	Temperature

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Environmental & Geological Management Se
Project/Site: Buffalo Business Park - BSA Analysis

TestAmerica Job ID: 480-149834-1

Method	Method Description	Protocol	Laboratory
624.1	Volatile Organic Compounds (GC/MS)	40CFR136A	TAL BUF
245.1	Mercury (CVAA)	EPA	TAL BUF
SM 4500 H+ B	pH	SM	TAL BUF
245.1	Preparation, Mercury	EPA	TAL BUF

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.
EPA = US Environmental Protection Agency
SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Sample Summary

Client: Environmental & Geological Management Se
Project/Site: Buffalo Business Park - BSA Analysis

TestAmerica Job ID: 480-149834-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-149834-1	CTSE 3-6-19	Water	03/06/19 09:40	03/06/19 10:57

TestAmerica Buffalo
10 Hazelwood Drive
Amherst, NY 14228
Phone: 716.691.2600 Fax: 716.691.7991

Chain of Custody Record

304489

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.
TAL-8210 (0713)

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact			
Company Name: EGMS	Project Manager: Wohlabaugh	Site Contact: Same	Date: 3/6/19
Address: 15 Briar Hill Rd	Tel/Fax: 716-445-2105	Lab Contact: Same	Carrier:
City/State/Zip: OP, NY	Analysis Turnaround Time: ☐ CALENDAR DAYS ☐ WORKING DAYS		
Phone: 716-445-2105	TAT if different from Below ______		
Fax: ______	☒ 2 weeks		
Project Name: Buffalo Business Park	☐ 1 week		
Site: Same	☐ 2 days		
P O # 48019771-0	☐ 1 day		

COC No: ______ of ______ COCs
Sampler:
For Lab Use Only:
Walk-in Client:
Lab Sampling:

480-149834 Chain of Custody

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	245.1 Mercury	SM 4500 pH	624.1 PPL VOA
CTSE 3-6-19	3/6	9:40	G	W	1			X		
CTSE 3-6-19	3/6	9:40	G	W	1				X	
CTSE 3-6-19	3/6	9:40	G	W	3					X

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other ______

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☐ Disposal by Lab ☐ Archive for ______ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: 5.5 Corr'd: ______ | Therm ID No.: 4

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
T.K. Wohlabaugh	EGMS	3/6/19 15:57			
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by: Chilkow Ciko	Company: TB TA	Date/Time: 03/06/19 1657

Login Sample Receipt Checklist

Client: Environmental & Geological Management Se

Job Number: 480-149834-1

Login Number: 149834
List Number: 1
Creator: Toone, Corey D

List Source: TestAmerica Buffalo

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time (Excluding tests with immediate HTs)..	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	EG & MS
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	N/A	
Chlorine Residual checked.	False	NA: Check done at department level as required

APPENDIX B

PULSAFEEDER

005

X100

U.S.GALLONS

Multi jet

Model PME

1"

122°F

NSF

x10

x1

x0.1

x0.01

EGMS
Environmental & Geologic Management Services, LLC

15 Briar Hill Road
Orchard Park, New York 14127
(716) 445-2105
nwohlabaugh@gmail.com

August 27, 2019

Ms. Traserra Adams, J.D.
Legal Investigator
Industrial Waste Section
Buffalo Sewer Authority
Foot of Ferry Street
90 West Ferry Street
Buffalo, New York 14213-1799

RE: Buffalo Business Park Semi-Annual Self Monitoring Report; August 27, 2019

Ms. Adams:

Pursuant to guidelines described in the Buffalo Sewer Authority Permit #19-01.BU124, Buffalo Business Park (BBP) is providing this semi-annual self monitoring report which provides the analytical results of a post treatment system water (effluent) sample that was collected on August 12, 2019. In addition, a reading from the system totalizer is also provided.

Analytical Results

A post treatment water sample was collected on the morning of August 12, 2019 for laboratory analysis. The sample was subsequently hand delivered to Teat America Labs for analysis as follows:

- USEPA Method SM 4500 for pH;
- UEPA 624.1 for volatile organic compounds; and
- USEPA Method 245.1 for mercury.

Review of the results shows that the pH of the water sample was measured at 6.9, well within the required Buffalo Sewer Authority (BSA) range of 5.0 to 12.0 S. U.

Mercury was not detected (ND) in the water sample that was analyzed.

All of the volatile organic compounds that were analyzed for in the water sample were not detected (ND). All method detection limits were in the microgram per liter (ug/l) range, well below the BSA limit of 0.01 milligram per liter (mg/l).

The laboratory analytical data package is attached as Appendix A.

Volumetric Information

The totalizer coming into the onsite treat system was read on August 27, 2019 to provide volumetric information. The volume of groundwater treated since the start of treatment operations was 96,495.00 gallons. The totalizer reading for the last reporting period (March, 2019) was 57,955.37 gallons. Therefore, a total of 38,540 gallons of groundwater were treated and discharged to the BSA during this period. A photo of the totalizer reading is provided as Appendix B.

If you have any questions or need additional informational, please contact Gary Crewson at (716) 867-2369 or myself at (716) 445-2105.

Sincerely,

Norman K. Wohlabaugh, PG, CPG

Geologist/President
Environmental & Geologic Management Services, LLC

Gary Crewson

President
Buffalo Business Park

APPENDIX A

eurofins | Environment Testing TestAmerica

ANALYTICAL REPORT

Eurofins TestAmerica, Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Tel: (716)691-2600

Laboratory Job ID: 480-157512-1
Client Project/Site: Buffalo Business Park - BSA Analysis

For:
Environmental & Geological Management Se
15 Briar Hill Rd
Orchard Park, New York 14127

Attn: Mr. Norman Wohlabaugh

Joseph V. Giacomazza

Authorized for release by:
8/23/2019 3:11:41 PM
Joe Giacomazza, Project Management Assistant II
joe.giacomazza@testamericainc.com

Designee for

Brian Fischer, Manager of Project Management
(716)504-9835
brian.fischer@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Definitions/Glossary

Client: Environmental & Geological Management Se
Job ID: 480-157512-1
Project/Site: Buffalo Business Park - BSA Analysis

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Job ID: 480-157512-1

Laboratory: Eurofins TestAmerica, Buffalo

Narrative

Job Narrative
480-157512-1

Comments
No additional comments.

Receipt
The sample was received on 8/12/2019 11:20 AM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.1° C.

GC/MS VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
Method(s) 9040C, SM 4500 H+ B: This analysis is normally performed in the field and has a method-defined holding time of 15 minutes. The following sample has been qualified with the "HF" flag to indicate analysis was performed in the laboratory outside the 15 minute timeframe: BSA-1-8/12 (480-157512-1).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: Environmental & Geological Management Se
Job ID: 480-157512-1
Project/Site: Buffalo Business Park - BSA Analysis

Client Sample ID: BSA-1-8/12
Lab Sample ID: 480-157512-1

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	6.9	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Temperature	20.6	HF	0.001	0.001	Degrees C	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Environmental & Geological Management Se
Job ID: 480-157512-1
Project/Site: Buffalo Business Park - BSA Analysis

Client Sample ID: BSA-1-8/12
Lab Sample ID: 480-157512-1
Date Collected: 08/12/19 10:15
Matrix: Water
Date Received: 08/12/19 11:20

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		5.0	0.39	ug/L			08/14/19 16:52	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.26	ug/L			08/14/19 16:52	1
1,1,2-Trichloroethane	ND		5.0	0.48	ug/L			08/14/19 16:52	1
1,1-Dichloroethane	ND		5.0	0.59	ug/L			08/14/19 16:52	1
1,1-Dichloroethene	ND		5.0	0.85	ug/L			08/14/19 16:52	1
1,2-Dichlorobenzene	ND		5.0	0.44	ug/L			08/14/19 16:52	1
1,2-Dichloroethane	ND		5.0	0.60	ug/L			08/14/19 16:52	1
1,2-Dichloroethene, Total	ND		10	3.2	ug/L			08/14/19 16:52	1
1,2-Dichloropropane	ND		5.0	0.61	ug/L			08/14/19 16:52	1
1,3-Dichlorobenzene	ND		5.0	0.54	ug/L			08/14/19 16:52	1
1,4-Dichlorobenzene	ND		5.0	0.51	ug/L			08/14/19 16:52	1
2-Chloroethyl vinyl ether	ND		25	1.9	ug/L			08/14/19 16:52	1
Acrolein	ND		100	17	ug/L			08/14/19 16:52	1
Acrylonitrile	ND		50	1.9	ug/L			08/14/19 16:52	1
Benzene	ND		5.0	0.60	ug/L			08/14/19 16:52	1
Bromoform	ND		5.0	0.47	ug/L			08/14/19 16:52	1
Bromomethane	ND		5.0	1.2	ug/L			08/14/19 16:52	1
Carbon tetrachloride	ND		5.0	0.51	ug/L			08/14/19 16:52	1
Chlorobenzene	ND		5.0	0.48	ug/L			08/14/19 16:52	1
Chlorodibromomethane	ND		5.0	0.41	ug/L			08/14/19 16:52	1
Chloroethane	ND		5.0	0.87	ug/L			08/14/19 16:52	1
Chloroform	ND		5.0	0.54	ug/L			08/14/19 16:52	1
Chloromethane	ND		5.0	0.64	ug/L			08/14/19 16:52	1
cis-1,3-Dichloropropene	ND		5.0	0.33	ug/L			08/14/19 16:52	1
Dichlorobromomethane	ND		5.0	0.54	ug/L			08/14/19 16:52	1
Ethylbenzene	ND		5.0	0.46	ug/L			08/14/19 16:52	1
Methylene Chloride	ND		5.0	0.81	ug/L			08/14/19 16:52	1
Tetrachloroethene	ND		5.0	0.34	ug/L			08/14/19 16:52	1
Toluene	ND		5.0	0.45	ug/L			08/14/19 16:52	1
trans-1,2-Dichloroethene	ND		5.0	0.59	ug/L			08/14/19 16:52	1
trans-1,3-Dichloropropene	ND		5.0	0.44	ug/L			08/14/19 16:52	1
Trichloroethene	ND		5.0	0.60	ug/L			08/14/19 16:52	1
Vinyl chloride	ND		5.0	0.75	ug/L			08/14/19 16:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*89*		*68 - 130*		*08/14/19 16:52*	*1*
4-Bromofluorobenzene (Surr)	*110*		*76 - 123*		*08/14/19 16:52*	*1*
Dibromofluoromethane (Surr)	*98*		*75 - 123*		*08/14/19 16:52*	*1*
Toluene-d8 (Surr)	*95*		*77 - 120*		*08/14/19 16:52*	*1*

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		08/19/19 12:17	08/19/19 15:40	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**6.9**	**HF**	0.1	0.1	SU			08/21/19 18:59	1
Temperature	**20.6**	**HF**	0.001	0.001	Degrees C			08/21/19 18:59	1

Surrogate Summary

Client: Environmental & Geological Management Se
Project/Site: Buffalo Business Park - BSA Analysis

Job ID: 480-157512-1

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(68-130)	(76-123)	(75-123)	(77-120)
480-157512-1	BSA-1-8/12	89	110	98	95
LCS 480-486982/5	Lab Control Sample	83	108	95	94
MB 480-486982/7	Method Blank	88	110	97	95

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 480-486982/7
Matrix: Water
Analysis Batch: 486982

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		5.0	0.39	ug/L			08/14/19 16:05	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.26	ug/L			08/14/19 16:05	1
1,1,2-Trichloroethane	ND		5.0	0.48	ug/L			08/14/19 16:05	1
1,1-Dichloroethane	ND		5.0	0.59	ug/L			08/14/19 16:05	1
1,1-Dichloroethene	ND		5.0	0.85	ug/L			08/14/19 16:05	1
1,2-Dichlorobenzene	ND		5.0	0.44	ug/L			08/14/19 16:05	1
1,2-Dichloroethane	ND		5.0	0.60	ug/L			08/14/19 16:05	1
1,2-Dichloroethene, Total	ND		10	3.2	ug/L			08/14/19 16:05	1
1,2-Dichloropropane	ND		5.0	0.61	ug/L			08/14/19 16:05	1
1,3-Dichlorobenzene	ND		5.0	0.54	ug/L			08/14/19 16:05	1
1,4-Dichlorobenzene	ND		5.0	0.51	ug/L			08/14/19 16:05	1
2-Chloroethyl vinyl ether	ND		25	1.9	ug/L			08/14/19 16:05	1
Acrolein	ND		100	17	ug/L			08/14/19 16:05	1
Acrylonitrile	ND		50	1.9	ug/L			08/14/19 16:05	1
Benzene	ND		5.0	0.60	ug/L			08/14/19 16:05	1
Bromoform	ND		5.0	0.47	ug/L			08/14/19 16:05	1
Bromomethane	ND		5.0	1.2	ug/L			08/14/19 16:05	1
Carbon tetrachloride	ND		5.0	0.51	ug/L			08/14/19 16:05	1
Chlorobenzene	ND		5.0	0.48	ug/L			08/14/19 16:05	1
Chlorodibromomethane	ND		5.0	0.41	ug/L			08/14/19 16:05	1
Chloroethane	ND		5.0	0.87	ug/L			08/14/19 16:05	1
Chloroform	ND		5.0	0.54	ug/L			08/14/19 16:05	1
Chloromethane	ND		5.0	0.64	ug/L			08/14/19 16:05	1
cis-1,3-Dichloropropene	ND		5.0	0.33	ug/L			08/14/19 16:05	1
Dichlorobromomethane	ND		5.0	0.54	ug/L			08/14/19 16:05	1
Ethylbenzene	ND		5.0	0.46	ug/L			08/14/19 16:05	1
Methylene Chloride	ND		5.0	0.81	ug/L			08/14/19 16:05	1
Tetrachloroethene	ND		5.0	0.34	ug/L			08/14/19 16:05	1
Toluene	ND		5.0	0.45	ug/L			08/14/19 16:05	1
trans-1,2-Dichloroethene	ND		5.0	0.59	ug/L			08/14/19 16:05	1
trans-1,3-Dichloropropene	ND		5.0	0.44	ug/L			08/14/19 16:05	1
Trichloroethene	ND		5.0	0.60	ug/L			08/14/19 16:05	1
Vinyl chloride	ND		5.0	0.75	ug/L			08/14/19 16:05	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*88*		*68 - 130*		*08/14/19 16:05*	*1*
4-Bromofluorobenzene (Surr)	*110*		*76 - 123*		*08/14/19 16:05*	*1*
Dibromofluoromethane (Surr)	*97*		*75 - 123*		*08/14/19 16:05*	*1*
Toluene-d8 (Surr)	*95*		*77 - 120*		*08/14/19 16:05*	*1*

Lab Sample ID: LCS 480-486982/5
Matrix: Water
Analysis Batch: 486982

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	20.0	18.5		ug/L		92	52 - 162
1,1,2,2-Tetrachloroethane	20.0	18.2		ug/L		91	46 - 157
1,1,2-Trichloroethane	20.0	19.1		ug/L		96	52 - 150

Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 480-486982/5
Matrix: Water
Analysis Batch: 486982

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethane	20.0	19.7		ug/L		99	59 - 155
1,1-Dichloroethene	20.0	18.6		ug/L		93	1 - 234
1,2-Dichlorobenzene	20.0	19.6		ug/L		98	18 - 190
1,2-Dichloroethane	20.0	19.9		ug/L		100	49 - 155
1,2-Dichloropropane	20.0	19.6		ug/L		98	1 - 210
1,3-Dichlorobenzene	20.0	19.6		ug/L		98	59 - 156
1,4-Dichlorobenzene	20.0	19.7		ug/L		98	18 - 190
2-Chloroethyl vinyl ether	20.0	18.7	J	ug/L		94	1 - 305
Benzene	20.0	19.7		ug/L		99	37 - 151
Bromoform	20.0	19.8		ug/L		99	45 - 169
Bromomethane	20.0	20.5		ug/L		102	1 - 242
Carbon tetrachloride	20.0	18.0		ug/L		90	70 - 140
Chlorobenzene	20.0	19.1		ug/L		95	37 - 160
Chlorodibromomethane	20.0	19.5		ug/L		98	53 - 149
Chloroethane	20.0	20.1		ug/L		100	14 - 230
Chloroform	20.0	19.7		ug/L		98	51 - 138
Chloromethane	20.0	20.6		ug/L		103	1 - 273
cis-1,3-Dichloropropene	20.0	19.8		ug/L		99	1 - 227
Dichlorobromomethane	20.0	19.9		ug/L		99	35 - 155
Ethylbenzene	20.0	18.6		ug/L		93	37 - 162
Methylene Chloride	20.0	19.9		ug/L		99	1 - 221
Tetrachloroethene	20.0	18.5		ug/L		93	64 - 148
Toluene	20.0	18.8		ug/L		94	47 - 150
trans-1,2-Dichloroethene	20.0	19.5		ug/L		97	54 - 156
trans-1,3-Dichloropropene	20.0	18.8		ug/L		94	17 - 183
Trichloroethene	20.0	19.6		ug/L		98	71 - 157
Vinyl chloride	20.0	19.1		ug/L		96	1 - 251

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*83*		*68 - 130*
4-Bromofluorobenzene (Surr)	*108*		*76 - 123*
Dibromofluoromethane (Surr)	*95*		*75 - 123*
Toluene-d8 (Surr)	*94*		*77 - 120*

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 480-487714/1-A
Matrix: Water
Analysis Batch: 487800

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 487714

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		08/19/19 12:17	08/19/19 15:38	1

Lab Sample ID: LCS 480-487714/2-A
Matrix: Water
Analysis Batch: 487800

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 487714

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00667	0.00708		mg/L		106	85 - 115

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: 480-157512-1 MS
Matrix: Water
Analysis Batch: 487800

Client Sample ID: BSA-1-8/12
Prep Type: Total/NA
Prep Batch: 487714

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury	ND		0.00667	0.00697		mg/L		104	70 - 130		

Lab Sample ID: 480-157512-1 MSD
Matrix: Water
Analysis Batch: 487800

Client Sample ID: BSA-1-8/12
Prep Type: Total/NA
Prep Batch: 487714

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		0.00667	0.00695		mg/L		104	70 - 130	0	20

Method: SM 4500 H+ B - pH

Lab Sample ID: LCS 480-488219/1
Matrix: Water
Analysis Batch: 488219

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
pH			7.00	7.0		SU		100	99 - 101		

Lab Sample ID: 480-157512-1 DU
Matrix: Water
Analysis Batch: 488219

Client Sample ID: BSA-1-8/12
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	6.9	HF		6.9		SU				0.4	5
Temperature	20.6	HF		20.4		Degrees C				0.7	10

QC Association Summary

Client: Environmental & Geological Management Se
Job ID: 480-157512-1
Project/Site: Buffalo Business Park - BSA Analysis

GC/MS VOA

Analysis Batch: 486982

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-157512-1	BSA-1-8/12	Total/NA	Water	624.1	
MB 480-486982/7	Method Blank	Total/NA	Water	624.1	
LCS 480-486982/5	Lab Control Sample	Total/NA	Water	624.1	

Metals

Prep Batch: 487714

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-157512-1	BSA-1-8/12	Total/NA	Water	245.1	
MB 480-487714/1-A	Method Blank	Total/NA	Water	245.1	
LCS 480-487714/2-A	Lab Control Sample	Total/NA	Water	245.1	
480-157512-1 MS	BSA-1-8/12	Total/NA	Water	245.1	
480-157512-1 MSD	BSA-1-8/12	Total/NA	Water	245.1	

Analysis Batch: 487800

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-157512-1	BSA-1-8/12	Total/NA	Water	245.1	487714
MB 480-487714/1-A	Method Blank	Total/NA	Water	245.1	487714
LCS 480-487714/2-A	Lab Control Sample	Total/NA	Water	245.1	487714
480-157512-1 MS	BSA-1-8/12	Total/NA	Water	245.1	487714
480-157512-1 MSD	BSA-1-8/12	Total/NA	Water	245.1	487714

General Chemistry

Analysis Batch: 488219

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-157512-1	BSA-1-8/12	Total/NA	Water	SM 4500 H+ B	
LCS 480-488219/1	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
480-157512-1 DU	BSA-1-8/12	Total/NA	Water	SM 4500 H+ B	

Lab Chronicle

Client: Environmental & Geological Management Se
Job ID: 480-157512-1
Project/Site: Buffalo Business Park - BSA Analysis

Client Sample ID: BSA-1-8/12
Lab Sample ID: 480-157512-1
Date Collected: 08/12/19 10:15
Matrix: Water
Date Received: 08/12/19 11:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	486982	08/14/19 16:52	S1V	TAL BUF
Total/NA	Prep	245.1			487714	08/19/19 12:17	BMB	TAL BUF
Total/NA	Analysis	245.1		1	487800	08/19/19 15:40	BMB	TAL BUF
Total/NA	Analysis	SM 4500 H+ B		1	488219	08/21/19 18:59	KEB	TAL BUF

Laboratory References:

TAL BUF = Eurofins TestAmerica, Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Accreditation/Certification Summary

Client: Environmental & Geological Management Se
Job ID: 480-157512-1
Project/Site: Buffalo Business Park - BSA Analysis

Laboratory: Eurofins TestAmerica, Buffalo

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
New York	NELAP	10026	03-31-20

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
624.1		Water	1,2-Dichloroethene, Total
SM 4500 H+ B		Water	pH
SM 4500 H+ B		Water	Temperature

Method Summary

Client: Environmental & Geological Management Se
Job ID: 480-157512-1
Project/Site: Buffalo Business Park - BSA Analysis

Method	Method Description	Protocol	Laboratory
624.1	Volatile Organic Compounds (GC/MS)	40CFR136A	TAL BUF
245.1	Mercury (CVAA)	EPA	TAL BUF
SM 4500 H+ B	pH	SM	TAL BUF
245.1	Preparation, Mercury	EPA	TAL BUF

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.
EPA = US Environmental Protection Agency
SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

TAL BUF = Eurofins TestAmerica, Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Sample Summary

Client: Environmental & Geological Management Se
Job ID: 480-157512-1
Project/Site: Buffalo Business Park - BSA Analysis

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
480-157512-1	BSA-1-8/12	Water	08/12/19 10:15	08/12/19 11:20	

Chain of Custody Record

315488

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.
TAL-8210 (0713)

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact	Project Manager: Wohlabaugh	Site Contact: Same	Date: 8/12/19	COC No:
Company Name: EGMS	Tel/Fax: 716-445	Lab Contact:	Carrier: same	___ of ___ COCs
Address: 15 Briar Hill Rd	Analysis Turnaround Time			Sampler:
City/State/Zip: Orchard Park, NY 14127	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
Phone: 716-445-2105	TAT if different from Below ____			Walk-in Client:
Fax:	☒ 2 weeks			Lab Sampling:
Project Name: Buffalo Business Park	☐ 1 week			
Site:	☐ 2 days			Job / SDG No.:
P O #	☐ 1 day			

Filtered Sample (Y / N): N
Perform MS / MSD (Y / N): N

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Method 624.1 VOCs	SM 4500 pH	245.1 Mercury	Sample Specific Notes:
BSA-1-8/12	8/12	10:15	G	aq	3	✓			
BSA-1-8/12	8/12	10:15	G	aq	1		✓		
BSA-1-8/12	8/12	10:15	G	aq	1			✓	

480-157512 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other ______

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☒ Disposal by Lab ☐ Archive for ______ Months

Special Instructions/QC Requirements & Comments:

#1 9.1°C

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:		Cooler Temp. (°C): Obs'd: ____ Corr'd: ____		Therm ID No.: ____
Relinquished by: NC Wohlabaugh	Company: EGMS	Date/Time: 8/12	Received by: [signature]	Company: TAB	Date/Time: 8/13/19 1120
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

Login Sample Receipt Checklist

Client: Environmental & Geological Management Se

Job Number: 480-157512-1

Login Number: 157512

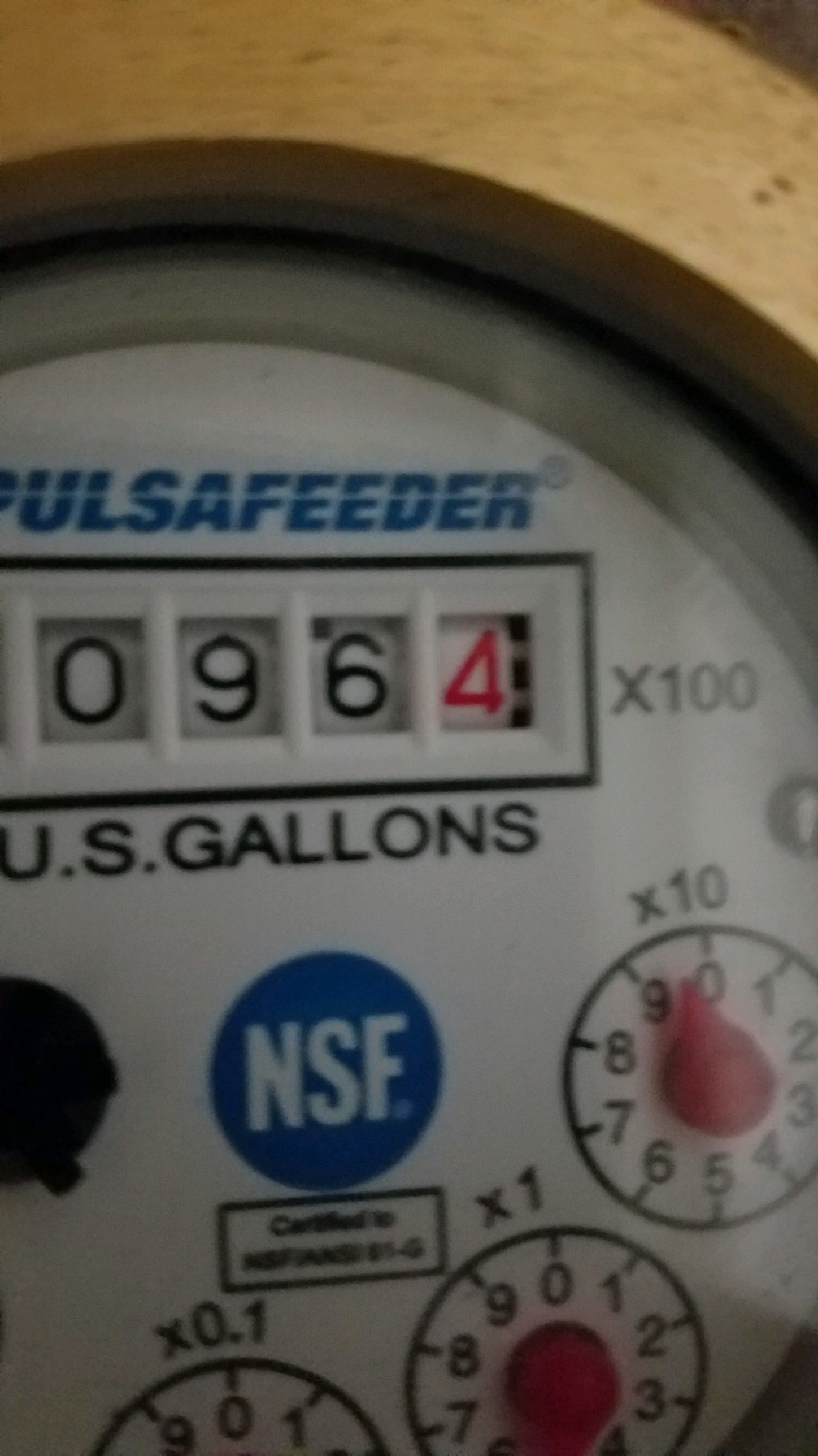
List Source: Eurofins TestAmerica, Buffalo

List Number: 1

Creator: Hulbert, Michael J

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time (Excluding tests with immediate HTs)..	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	EGMS
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	N/A	
Chlorine Residual checked.	N/A	

APPENDIX B


PULSAFEEDER
0964
X100
U.S.GALLONS
x10
NSF
x1
x0.1

APPENDIX F

BUFFALO SEWER AUTHORITY PERMIT

AUTHORIZATION TO DISCHARGE UNDER THE BUFFALO POLLUTANT DISCHARGE ELIMINATION SYSTEM

PERMIT NO. 19-01-BU124
EPA CATEGORY 40 CFR 403

In accordance with the provisions of the Federal Water Pollution Control Act, as amended, and the Sewer Regulations of the Buffalo Sewer Authority, authorization is hereby granted to:

BUFFALO BUSINESS PARK, INC.

to discharge groundwater from a remediation facility located at:

1800 Broadway Avenue, B-1D, Buffalo, New York 14212

to the Buffalo Municipal Sewer System.

Issuance of this permit is based upon a permit application filed on **December 5, 2018** and analytical data. This permit is granted in accordance with discharge limitations, monitoring requirements and other conditions set forth in Parts I and II hereof.

Effective this 1st day of January, 2019
To Expire the 31st day of December, 2021

General Manager

Signed this 19TH **day of** DECEMBER **, 2018**

PART I: SPECIFIC CONDITIONS

A. DISCHARGE LIMITATIONS & MONITORING REQUIREMENTS

During the period beginning the effective date of this Permit and lasting until the expiration date, discharge from the permitted facility outfall(s) (see attached map) shall be limited and monitored by the permittee **semi-annually** as specified below.

Sample Point	Parameter	Discharge Limitations Daily Maximum	Sampling Requirements Period	Type
001	Total Mercury[1]	0.0008 mg/l	1 day	Grab
	EPA Test Method 624[2]	Monitor only	1 day	Grab
	pH	5.0-12.0 S.U.	1 day	Grab
	Total Flow	Monitor only	1 day	Flow Meter

1. This limit is the compliance level for the BSA's Industrial Pretreatment Program approved local limits. When testing for Mercury, EPA Test Method 245 is acceptable. However, the BSA may occasionally request EPA Test Method 1631, Low Level Mercury analysis, and EPA Test Method 1669. EPA Test Method 1669 is the required sampling method for EPA Test Method 1631 when it is believed that Mercury may be present in the manufacturing process or analytical results consistently show the presence of Mercury.

2. The permittee must report any compound whose concentration is greater than 0.01 mg/l. The permittee is not authorized to discharge any of the parameters evaluated by this test procedure which may cause or contribute to a violation of water quality standards or harm the sewerage system. Any parameter detected may, at the discretion of the Buffalo Sewer Authority, be specifically limited and incorporated into the permit.

PART I: SPECIFIC CONDITIONS

B. DISCHARGE MONITORING REPORTING REQUIREMENTS

During the period beginning the effective date of this permit and lasting until the expiration date, discharge monitoring results shall be summarized and reported by the permittee **semi-annually** on the days specified below:

Sample Point	Parameter	Reporting Requirements	
		Initial Report	**Subsequent Reports**
001	All Parameters	March 1, 2019	September 1, 2019 March 1, 2020 September 1, 2020 March 1, 2021 September 1, 2021

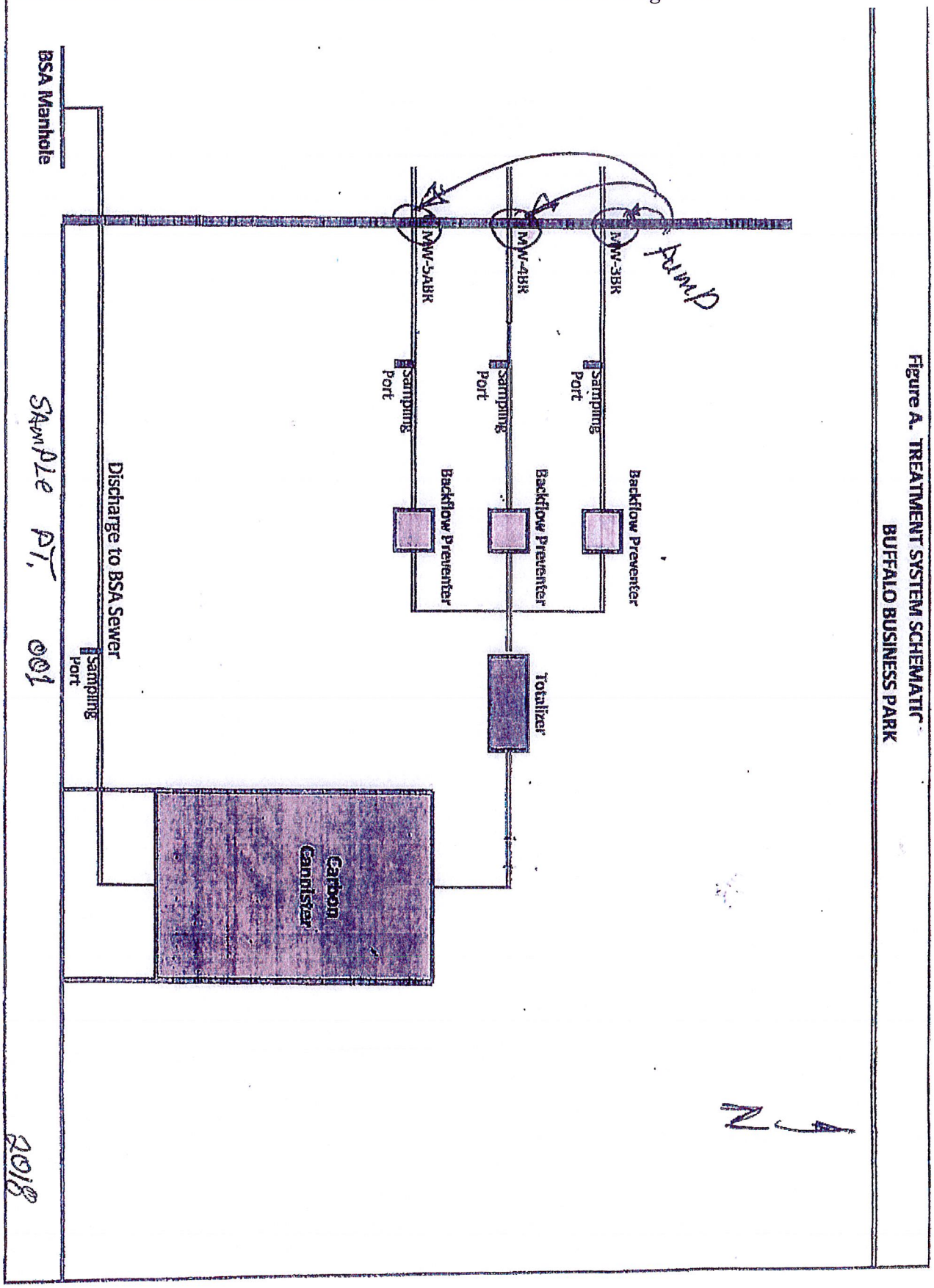


Figure A. TREATMENT SYSTEM SCHEMATIC
BUFFALO BUSINESS PARK

PUMP

SAMPLE PT. 001

BOTH WAY

AVE.

2018

BUFFALO POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT

PART II: GENERAL CONDITIONS

A. MONITORING AND REPORTING

1. Local Limits

Except as otherwise specified in this permit, the permit holder shall comply with all specific prohibitions, limits on pollutants or pollutant parameters set forth in the Buffalo Sewer Authority Sewer Use Regulations, as amended from time to time, and such prohibitions, limits and parameters shall be deemed pretreatment standards for purposes for the Clean Water Act.

2. Definitions

Definitions of terms contained in this permit are as defined in the Buffalo Sewer Authority Sewer Use Regulations.

3. Discharge Sampling Analysis

All Wastewater discharge samples and analyses and flow measurements shall be representative of the volume and character of the monitored discharge. Methods employed for flow measurements and sample collections and analyses shall conform to the Buffalo Sewer Authority "Sampling Measurement and Analytical Guidelines Sheet".

4. Recording of Results

For each measurement or sample taken pursuant to the requirements of the permit, the permittee shall record the information as required in the "Sampling Measurement and Analytical Guidelines Sheet".

5. Additional Monitoring by Permittee

If the permittee monitors any pollutants at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified in 40 CFR Part 136 the results of such monitoring shall be included in the calculation and reporting of values required under Part I, B. Such increased frequency shall also be indicated.

6. Reporting

All reports prepared in accordance with this Permit shall be submitted to:

Industrial Waste Section
Buffalo Sewer Authority Treatment Plant
90 West Ferry Street
Buffalo, New York 14213

All self-monitoring reports shall be prepared in accordance with the BSA "Sampling Measurement and Analytical Guidelines Sheet". These reporting requirements shall not relieve the permittee of any other reports, which may be required by the N.Y.S.D.E.C. or the U.S.E.P.A.

7. Certification Statement

All self-monitoring reports shall include the following certification statement, signed by the preparer of the report:

"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 systems, 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".

B. PERMITTEE REQUIREMENTS

1. Change in Discharge

All discharges authorized herein shall be consistent with the terms and conditions of this permit and with the information contained in the BPDES permit application on which basis this permit is granted. In the event of any facility expansions, production increases, process modifications or the installation, modification or repair of any pretreatment equipment which may result in new, different or increased discharges of pollutants, a new BPDES Permit application must be submitted prior to any change. Following receipt of an amended application, the BSA may modify this permit to specify and limit any pollutants not previously limited. In the event that the proposed change will be covered under an applicable Categorical Standard, a Baseline Monitoring Report must be submitted at least ninety (90) days prior to any discharge.

2. Records Retention

All records and information resulting from the monitoring activities required by this permit including all records of analyses performed, calibration and maintenance of instrumentation, and recordings from continuous monitoring instrumentation shall be retained at this facility for a minimum of three (3) years, or longer if requested by the General Manager.

3. Slug Control Plan

Upon written notification by the BSA that a slug control plan is necessary for the permittee, the plan shall be prepared in accordance with the BSA "Sampling Measurement and Analytical Guidelines" sheet. Within 90 days of the BSA notification, the permittee must implement the slug control plan

4. Notification of Slug, Accidental Discharge or Spill

In the event that a slug, accidental discharge or any spill occurs at the facility for which this permit is issued, it is the responsibility of the permittee to immediately notify the B.S.A. Treatment Plant of the quantity and character of such discharge. During normal business hours, Monday – Friday, 7:30 AM - 3:00 PM call 716-851-4664, ext. 5374. After normal business hours call 716-851-4664, ext. 600. For all slug discharges, and when requested by the BSA following an accidental discharge or spill, within five (5) days following all such discharges, the permittee shall submit a report describing the character and duration of the discharge, the cause of the discharge, and measures taken or that will be taken to prevent a recurrence of such discharge.

5. Noncompliance Notification

If, for any reason, the permittee does not comply with or will be unable to comply with any discharge limitation specified in this permit, the permittee or their assigns must verbally notify the Industrial Waste Section at 716-851-4664 ext. 5374 within twenty-four (24) hours of becoming aware of the violation. The permittee shall provide the Industrial Waste Section with the following information, in writing, within five (5) days of becoming aware of such condition:

a. a description of the discharge and cause of noncompliance and;

b. The period of noncompliance, including exact dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate and prevent recurrence of the non-complying discharge.

Additionally, the permittee shall repeat the sampling and analysis and submit these results of the report analysis to the Industrial Waste Section within 30 days after becoming aware of the violation.

6. Adverse Impact

The permittee shall take all reasonable steps to minimize any adverse impact to the Buffalo Sewerage System resulting from noncompliance with any discharge limitations specified in this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

7. Waste Residuals

Solids, sludges, filter backwash or other pollutants removed in the course of treatment or control of wastewaters and/or the treatment of intake waters, shall be disposed of in a manner such as to prevent any pollutant from such materials from entering the Buffalo Sewer System.

8. Power Failures

In order to maintain compliance with the discharge limitations and prohibitions of this permit, the permittee shall provide an alternative power source sufficient to operate the wastewater control facilities; or, if such alternative power source is not provided the permittee shall halt, reduce or otherwise control production and/or controlled discharges upon the loss of power to the wastewater control facilities.

9. Treatment Upsets

a. Any industrial user which experiences an upset in operations that places it in a temporary state of noncompliance, which is not the result of operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation, shall inform the Industrial Waste Section immediately upon becoming aware of the upset. Where such information is given verbally, a written report shall be filed by the user within five (5) days. The report shall contain:

   (i) A description of the upset, its cause(s) and impact on the discharger's compliance status;

   (ii) The duration of noncompliance, including exact dates and times of noncompliance, and if the non-compliance is continuing, the time by which compliance is reasonably expected to be restored;

   (iii) All steps taken or planned to reduce, eliminate, and prevent recurrence of such an upset.

b. An industrial user which complies with the notification provisions of this Section in a timely manner shall have an affirmative defense to any enforcement action brought by the Industrial Waste Section for any

noncompliance of the limits in this permit, which arises out of violations attributable to and alleged to have occurred during the period of the documented and verified upset.

10. Treatment Bypasses

a. A bypass of the treatment system is prohibited unless the following conditions are met:

(i) The bypass was unavoidable to prevent loss of life, personal injury, or severe property damage; or

(ii) There was no feasible alternative to the bypass, including the use of auxiliary treatment or retention of the wastewater; and

(iii) The industrial user properly notified the Industrial Waste Section as described in paragraph b. below.

b. Industrial users must provide immediate notice to the Industrial Waste Section upon discovery of an unanticipated bypass. If necessary, the Industrial Waste Section may require the industrial user to submit a written report explaining the cause(s), nature, and duration of the bypass, and the steps being taken to prevent its recurrence.

c. An industrial user may allow a bypass to occur which does not cause pretreatment standards or requirements to be violated, but only if it is for essential maintenance to ensure efficient operation of the treatment system. Industrial users anticipating a bypass must submit notice to the Industrial Waste Section at least ten (10) days in advance. The Industrial Waste Section may only approve the anticipated bypass if the circumstances satisfy those set forth in paragraph a. above.

C. PERMITTEE RESPONSIBILITIES

1. Permit Availability

The originally signed permit must be available upon request at all times for review at the address stated on the first page of this permit.

2. Inspections

The permittee shall allow the General Manager of the Buffalo Sewer Authority and/or his authorized representatives, upon the presentation of credentials and during normal working hours or at any other reasonable times, to have access to and copy any records required in this permit; and to sample any discharge of pollutants.

3. Transfer of Ownership or Control

In the event of any change in control or ownership of facilities for which this permit has been issued the permit shall become null and void. The succeeding owner shall submit a completed Buffalo Sewer Authority permit application prior to discharge to the sewer system.

D. PERMITTEE LIABILITIES

1. Permit Modification

After notice and opportunity for a hearing, this permit may be modified, suspended, or revoked in whole or in part during its term for cause including, but not limited to the following:

a. Violation of any terms or conditions of this permit,

b. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts,

c. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

2. Imminent Danger

In the event there exists an imminent danger to health or property, the permitter reserves the right to take immediate action to halt the permitted discharge to the sewerage works.

3. Civil and Criminal Liability

Nothing in this permit shall relieve the permittee from any requirements, liabilities, or penalties under provisions of the "Sewer Regulations of the Buffalo Sewer Authority" or any Federal, State and/or local laws or regulations.

E. NATIONAL PRETREATMENT STANDARDS

If a pretreatment standard or prohibition (including any Schedule of Compliance specified in such pretreatment standard or prohibition) is established under Section 307 (b) of the Act for a pollutant which is present in the discharge and such standard or prohibition is more stringent than any limitation for such pollutant in this permit, this permit shall be revised or modified in accordance with such pretreatment standard or prohibition.

F. PLANT CLOSURE

In the event of plant closure, the permittee is required to notify the Industrial Waste Section in writing as soon as an anticipated closure date is determined, but in no case later than five days of the actual closure.

G. CONFIDENTIALITY

Except for data determined to be confidential under Section 308 of the Act, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Buffalo Sewer Authority. As required by the Act, effluent data shall not be considered confidential. Knowingly making any false statement on any such report may result in the imposition of criminal penalties as provided for in Section 309 of the Act.

H. SEVERABILITY

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.