JULY 2019

GROUNDWATER MONITORING REPORT

For

Former Mobil Service Station 99-MST - 979 Main Street (1001 Main Street) BCP Site No. C915260 City of Buffalo, Erie County, New York

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TABLE OF CONTENTS

<u>1.</u>	INTRODUCTION	1
	GEOLOGY Hydrogeology	1
	Contaminant Transport	2
2.01		_
<u>2.</u>	ISCO TREATMENT	2
<u>3.</u>	GROUNDWATER MONITORING	4
3.1.	GROUNDWATER SAMPLING EVENTS	4
	GROUNDWATER SAMPLING METHODS	4
	GROUNDWATER LEVELS BTEX MONITORING	5 5
5.4.	DIEA MUNIIURING	5
<u>4.</u>	CONCLUSION AND RECOMMENDATIONS	7
FIGU	URES	
Figu	RE 1 – SITE LOCATION	
Figu	re 2 – Offsite and Onsite Groundwater Wells	
Figu	re 3 – Groundwater Contour	
Figu	re 4 – Historic Groundwater Sample Results	
Graf	ph 1 – Groundwater Treatment Monitoring – Total BTEX	
TAB	BLES	
Tabi	le 3-2 – Groundwater analytical results	
	PENDICES	
APPE	ndix A – Laboratory analytical results	
Appe	ENDIX B – GROUNDWATER MONITORING CONSTRUCTION & SAMPLING LOGS	

 $\label{eq:appendix} Appendix \ C-In-situ \ Product \ Information$

ACRONYM LIST

C&S	C&S Engineers, Inc.
NYSDEC	New York State Department of Environmental Conservation
LUST	LEAKING UNDERGROUND STORAGE TANK
BCP	BROWNFIELD CLEANUP PROGRAM
SPH	Separate Phase Hydrocarbons
RI/IRM	Remedial Investigation / Interim Remedial Measures
BTEX	Benzene, Toluene, Ethylbenzene and Toluene
LNAPL	LIGHT NON AQUEOUS PHASE LIQUID
VOC	Volatile Organic Compounds
SCO	SOIL CLEANUP OBJECTIVES
PID	Photo-Ionization Detector

1. INTRODUCTION

C&S Engineers, Inc. (C&S) has prepared this Groundwater Monitoring Report for the former Mobil Service Station 99-MST - 979 Main Street (1001 Main Street) (hereinafter referred to as the Site) located at 1001 Main Street in Buffalo, New York.

The Site was remediated in accordance with Brownfield Cleanup Agreement (BCA) Index #C915260-03-12, Site #C915260, which was executed on June 15, 2012 and last amended on August 7, 2012. A figure showing the Site location and boundaries is provided in **Figure 1** and **Figure 2**.

Remedial activities consisted of installing steel shoring around the property and removing contaminated soil and groundwater to 26 – 40 feet below ground surface. After completion of the remedial work, some contamination remained in the subsurface at this Site. A Site Management Plan (SMP) was prepared on November 28, 2014 to manage remaining groundwater contamination at the Site until the Environmental Easement is extinguished in accordance with ECL Article 71, Title 36.

Petroleum contaminated groundwater is present within a discontinuous layer of coarse sand and gravel located between 32 and 35 feet below ground surface. This layer generally ranges from 6 inches to three feet thick, provides a preferential pathway for groundwater flow, and is confined within dense silt and fine sand present above and below the groundwater bearing zone.

During the remedial efforts, seven groundwater monitoring wells were installed prior to the installation of the two floors of underground parking. These monitoring wells were used to monitor the effectiveness of in-situ chemical injections.

SUBSURFACE CONDITIONS

1.1. Geology

Geologic information is based on observations made during site excavations for the Site remedial efforts, as well as numerous previous studies such as the <u>Supplemental Subsurface</u> <u>Investigation and Quarterly Groundwater Monitoring Report</u>, (December 9, 2008, Groundwater & Environmental Service, Inc.) and the <u>Geotechnical Engineering Report, 1001</u> <u>Main Street Medical Office Building, Buffalo New York</u>; (November 2010; McMahon and Mann Consulting Engineers).

The Site contained urban fill of varying depths. Fill depths ranged from 3 feet of parking lot subgrade and mixed stone to more urban fill ranging from 6 -12 feet of bricks concrete and miscellaneous building rubble, which at times was contained within old building basements.

Underlying the fill were native deposits of fine dense sand with silt with discrete clay lenses. Within this formation is a discrete, discontinuous water bearing zone comprised of coarse sand and fine to medium gravel. This zone is generally found between 32 and 35 feet bgs and ranging in thickness between 6-inches to several feet (GES, 2008).

Below this zone is the dry to moist fine sand and silt formation extends to nearly 70 feet bgs. Below this massive sand and silt formation is a coarse sand and gravel layer that grades to a sand, gravel; and clay till formation. Underlying the overburden is a grey cherty limestone formation at approximately 90 feet bgs (M&M, 2010).

1.2. Hydrogeology

The principal groundwater bearing zone beneath the Site is located within the coarse sand and gravel layer that is generally present between 32 and 35 feet bgs. This layer is of variable thickness (generally six inches to three feet) but is horizontally discontinuous. The layer is located within the central and northeastern portions of the Site, but does not extend completely to the southern, northwestern or southeastern areas of the Site (GES, 2008) and is confined by the dense fine sands and silt above and below the groundwater bearing zone.

Groundwater beneath the Site flows from the west to the northeast, following the depositional area of the confined groundwater bearing zone.

1.3. Contaminant Transport

Petroleum from leaking underground storage tanks (LUSTs) formerly located at a Mobil Service Station at the corner of Main and High Streets spilled petroleum products into the subsurface soils and groundwater for over 30 years. The main release area is located in the approximate area of the former LUSTs where contaminated soils were observed from 10 feet below ground surface (BGS) to approximately 20 feet BGS grade.

From the main release area, historic migration of petroleum product entered into a semiconfined coarse sand and gravel lens observed approximately 32 to 35 feet BGS. The water table is present within this semi-confined coarse sand and gravel lens. This lens varies in thickness (1/2 to 3 feet) and extends to the northeast, confined laterally to the east and west. Petroleum product within this lens generally moved horizontally across the Site with groundwater flow.

Because of low carbon in the fine sand silt and gravel formations, breakdown of benzene, toluene, ethylbenzene and xylene (BTEX) compounds was slow. Dissolved BTEX, once entering the groundwater bearing zone was transported via localized, preferential groundwater flow to the northeast corner of the Site (following the location of the sand/gravel lens).

2. ISCO TREATMENT

The remedial method selected for the Site was in-situ chemical oxidation (ISCO) using RegenOX manufactured by Regenesis. RegenOX is sodium percarbonate formulated to degrade petroleum hydrocarbons through direct oxidation and through the generation of free radical compounds which will also oxidize contaminants. RegenOx produces minimal heat and pressure and is non-corrosive, making it a relatively safe chemical oxidant that is compatible for use in direct contact with underground infrastructure such as utilities, tanks, piping, and communication lines. This was an important characteristic when selecting the ISCO product due to the close proximity of the monitoring wells to the earth retention sheeting for the Conventus Building. The amount of RegenOX used was calculated based on Conventus Site specific data and professional experience of C&S and Regenesis. RegenOX was mixed with tap water in 55 gallon drums at a concentration of 100 pounds of RegenOX with 110 gallons of water for each location.

In-situ treatment consisted of gravity-feeding a chemical oxidizer mixed with water directly into monitoring wells, BCP-MW-3, BCP-MW-4, BCP-MW-5, and BCP-MW-6,. Groundwater samples were collected approximately three months after treatment. The first ISCO treatment was conducted on December 12, 2013.

Evaluation of the gravity fed treatments determined this method was not effective at reducing groundwater contaminants. A work plan for increasing the amount of treatment solution using pressure injections was developed. Borings were advanced in the lower floor of underground parking to apply in-situ treatments under pressure directly into the contaminated sand and gravel lens. The sections below describe the methods used to conduct two in-situ treatment events on June 11th, 12th, and 13th.

The ISCO solution was directly injected into the soil in 12 borings in the sub-basement. Three borings were advanced adjacent to each monitoring wells listed below:

- BCP-MW-3
- BCP-MW-5
- BCP-MW-4
- BCP-MW-6

Each injection boring had to be carefully located to avoid hitting utilities located underneath the floor, with the intent of being within 10 to 15 feet of each monitoring well. Each injection boring was advanced into the coarse sand and gravel layer, approximately 15 feet below the concrete floor.

The ISCO solution was pumped from the mixing station to a truck mounted geo-probe and into the subsurface. The mix of RegenOX and water was injected under pressure in each boring, and the 12 injection borings received approximately 100 pounds of RegenOx. Additionally, 100 pounds of ISCO material was gravity fed directly into each monitoring well. A total of 1,600 pounds of RegenOx was used for each treatment event. For two treatments, a total of 3,200 pounds of RegenOX was used. These large treatment events resulted in mixed results; some locations showed an increase in contaminant concentrations, likely due to additional petroleum desorption, other locations indicated a significant decrease of petroleum contaminants.

The current ISCO treatment method is smaller pressurized injections around each target location on a quarterly schedule. A total of six temporary PVC injection points were installed around BCP-MW-6 and BCP-MW-5. Each quarterly treatment injects a total of 800 pounds (130 pounds per injection point) of chemical oxidant. Groundwater monitoring is conducted biannually.

For this reporting period, the last in-situ treatment was completed on June 11th, 12th, and 13th, 2019.

3. GROUNDWATER MONITORING

3.1. Groundwater Sampling Events

Previously, groundwater samples were collected from the wells on following dates:

- September 20, 2013
- March 19, 2014
- May 22, 2014
- March 11, 2015
- June 17, 2015
- August 3, 2015
- October 7, 2015
- December 14, 2015
- January 27, 2016
- March 22, 2016
- June 3, 2016
- October 25, 2016
- December 8, 2016
- January 20, 2017
- May 17, 2017
- July 5, 2017
- November 2, 2017
- August 18, 2018
- November 30, 2018
- July 30, 2019

For this reporting period, the groundwater sampling was completed on July 30th, 2019.

3.2. Groundwater Sampling Methods

Before purging the wells, water levels were measured using an electric water level sounder capable of measuring to the 0.01-foot accuracy. Peristaltic or bladder pumps using manufacturer-specified tubing was used for purging and sampling groundwater. Calibration, purging and sampling procedures was performed as specified by the USEPA¹ for low-flow sampling. Decontamination was conducted after each well is sampled to reduce the likelihood of cross contamination. Groundwater sampling equipment including the in-well pump, flow cell and water level meter was cleaned with Alconox, a phosphate free cleaner.

Samples were collected for VOCs in two 40 ml glass vials. Groundwater filled each vial until it formed a meniscus and no air bubbles were inside the vial. The cap was placed on the vial

¹ U.S. EPA Region 1 Low Stress (low-flow) Purging and Sampling Procedure for the Collection of Groundwater Samples from Monitoring Wells, January 19, 2010.

and turned over to check if any air bubbles were in the sample. Groundwater samples were kept at 4°C until the laboratory took custody of the samples.

3.3. Groundwater Levels

Groundwater levels were measured from the top of the monitoring well casing an electric water level sounder capable of measuring to the 0.01-foot accuracy. Lidar data, downloaded from the New York State GIS Clearinghouse, was used to obtain ground elevations for each monitoring well. The Lidar dataset, developed in 2008, covers Erie County and achieves a vertical accuracy of 18.5 cm on open bare terrain and 37.0 cm for obscured areas. Groundwater elevations for each monitoring well are provided in **Table 3-1** below.

MONITORING WELL ID	GROUND ELEVATION (FT.)	WATER LEVEI (FT.)	GROUNDWATER ELEVATION (FT.)
BCP-MW-1	663.465	33.6	629.865
BCP-MW-3	663.465	32.8	630.665
BCP-MW-4	663.465	33.2	630.265
BCP-MW-5	663.465	32.2	631.265
BCP-MW-6	663.465	33.5	629.965
BCP-MW-7	663.465	30.5	632.965

Table 3-1: Monitoring Well Ground Elevations

Note: Ground elevations from Lidar Dataset.

Figure 3 presents groundwater elevation contours.

3.4. BTEX Monitoring

Table 3-2 attached to the end of this report presents detected VOC concentrations from December 2012 to July 2019. **Figure 4** presents total BTEX concentrations from each monitoring well. Lab analytical reports are provided in **Appendix A**.

<u>BCP-MW-1</u>

Total BTEX concentrations in this well after sampling showed 0 ug/L. This trend has been consistent since the sampling event that took place in October of 2016.

<u>BCP-MW-2</u>

BCP-MW-2 was installed adjacent to the source area that was backfilled with flowable fill. Since its installation, this well has been dry. NYSDEC requested the well be modified to

evaluate if groundwater underneath the flowable fill mass contains residual contamination. On October 7, 2015 Nature's Way Environmental installed a 1-inch PVC well through the existing BCP-MW-2 to a final depth of 50 feet bgs. The modified well has remained dry.

<u>BCP-MW-3</u>

Sample results indicate total reading of 2.1 ug/L for total VOCs and no reading of BTEX concentrations. BTEX concentration is down to non-detect for the last three sampling events dating back to the August 16th, 2018 sampling event.

BCP-MW-4

Initial analytical results from MW-4 had a BTEX concentration of 76.8 ug/L from September 20, 2013, and had initially increased and peaked at a BTEX concentration of 4,162 ug/L, after the sampling event that took place on August 3, 2015. Since the peak from the sampling event in August of 2015, injection treatments have been successful to decrease the concentrations.

In the latest sampling event that was carried out on July 30, 2019 the BTEX concentration was 8.7 ug/L. This indicates a 99.7% decrease of BTEX concentrations from the peak analytical of 4,162 ug/L from the August, 2015 sampling event.

The 8.7 ug/L BTEX concentration from the July 2019 sampling event is also down 97.1% from the previous sampling event that took place on November 29, 2019.

<u>BCP-MW-5</u>

The initial BTEX concentration of MW-5 was 17,670 ug/L in September of 2013. The analytical that was recorded after the most recent sampling event on July 30, 2019 was 2,440.30 ug/L. That indicates an 86.2% decrease in BTEX concentration since the initial sampling event that occurred in 2013.

<u>BCP-MW-6</u>

Total BTEX concentrations dropped to non-detect for the first time since sampling the wells in 2013. After analyzing the results of the July 2019 sampling event, BTEX concentrations were observed at 0 ug/L. That is a 100% decrease in BTEX concentrations from the previous sampling event that recorded a BTEX concentration of 4.52 ug/L in November of 2018.

<u>BCP-MW-7</u>

MW-7 slightly increased in BTEX concentration. The recorded BTEX concentration after the July 2019 sampling event was 0.77 ug/L. The sample concentration of .77 ug/L is a minimal increase from the previous sampling event in November of 2018, which had a concentration of total BTEX of 0.18 ug/L

4. CONCLUSION AND RECOMMENDATIONS

The June 2019 injection event appeared to be successful in decreasing contaminant concentrations. After the chemical oxidant treatment, petroleum contamination still exists in the one monitoring well. C&S recommends the following:

- Perform another quarterly in-situ treatments within two groundwater monitoring wells (BCP-MW-5 and BCP-MW-6).
- Subsequent in-situ treatments should focus on reducing contaminant concentrations at BCP-MW-5.
- Bi-annual groundwater sampling on all monitoring wells located on the Conventus site.

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FIGURES



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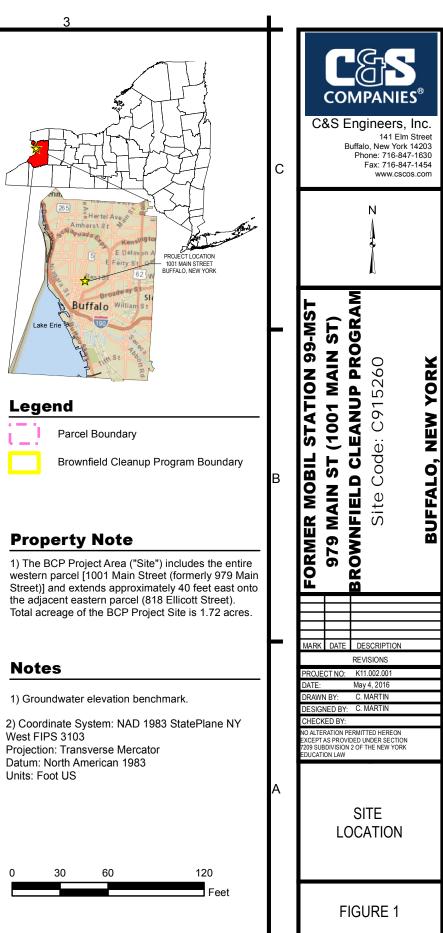
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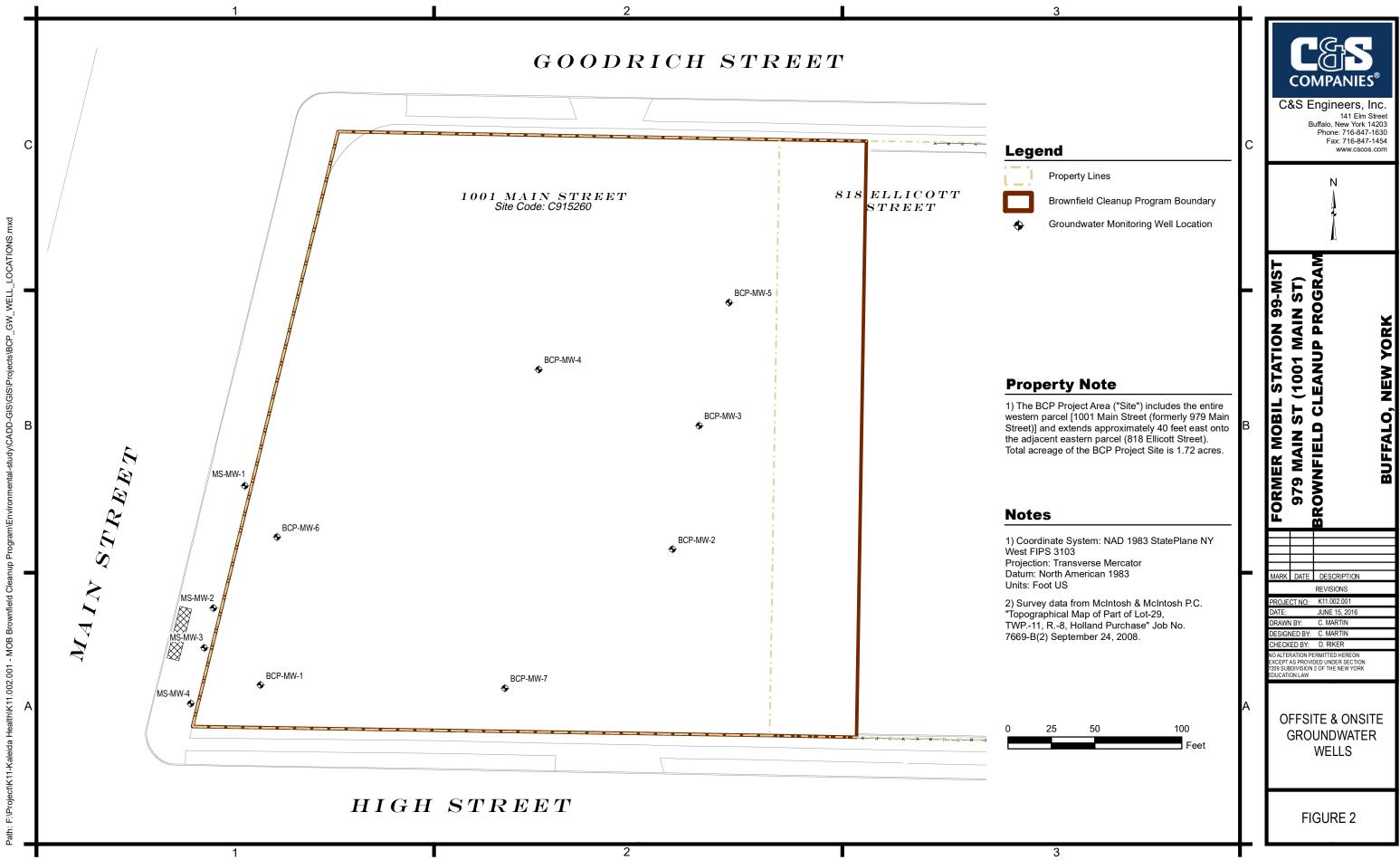
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Notes

West FIPS 3103 Units: Foot US





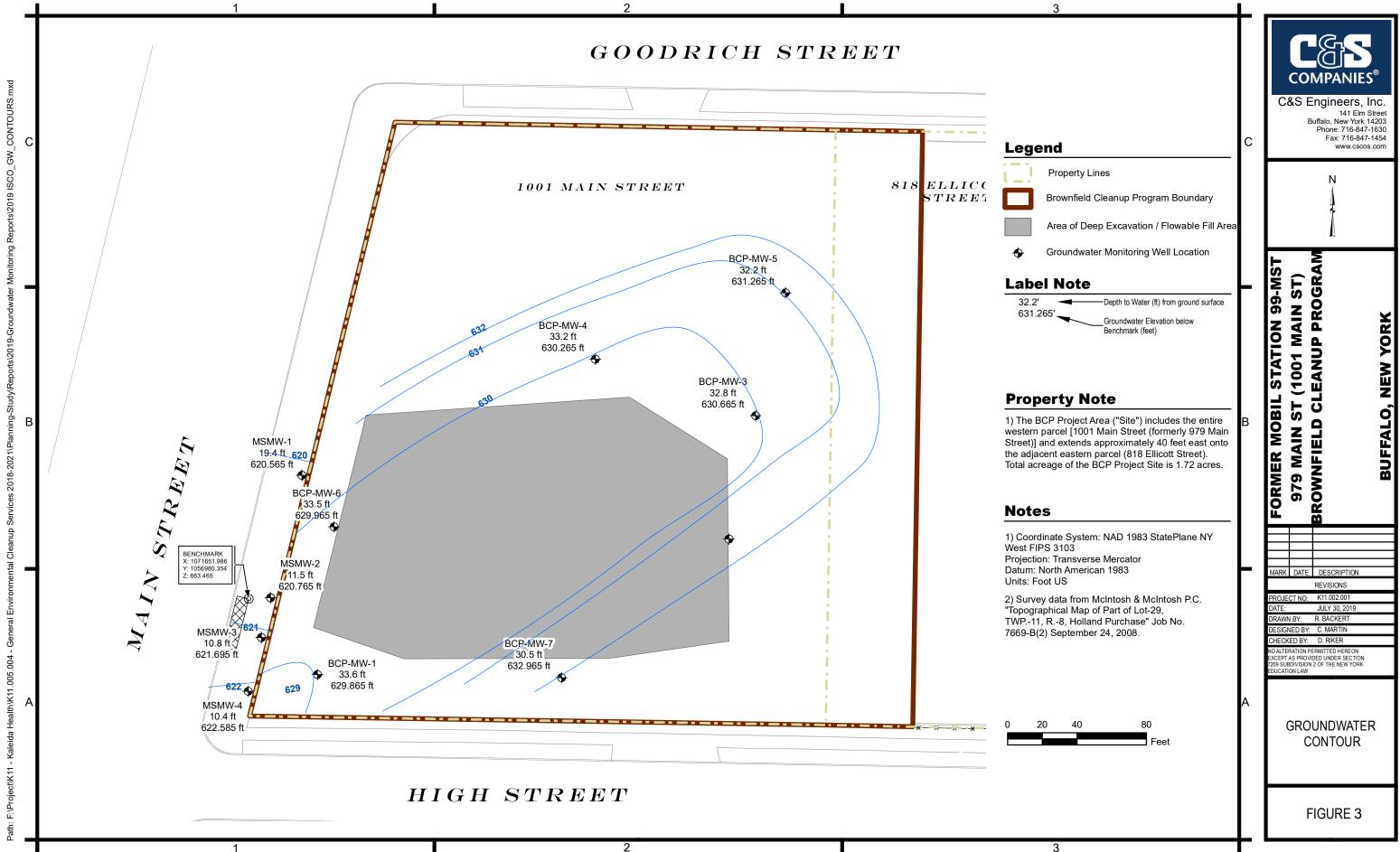
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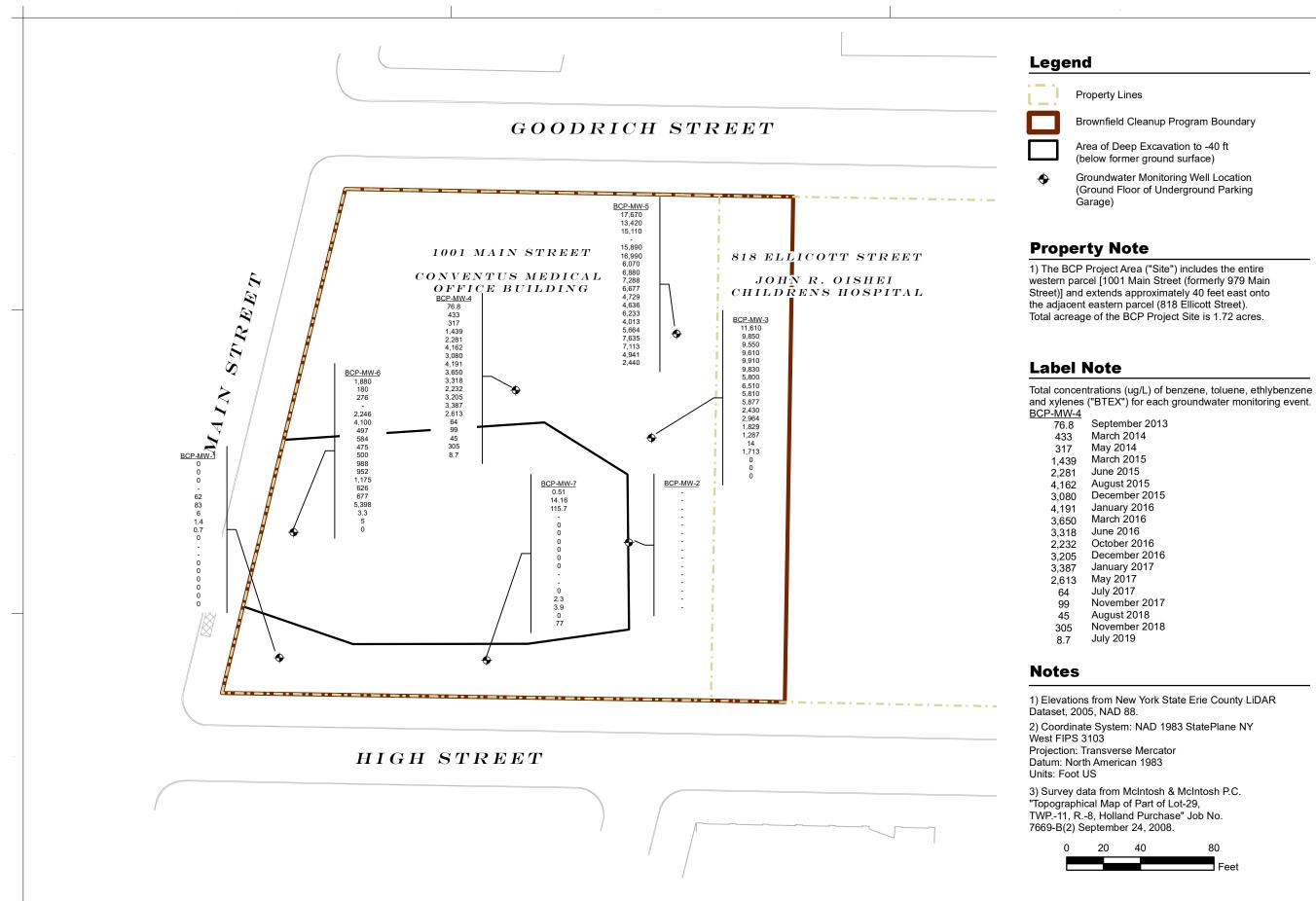
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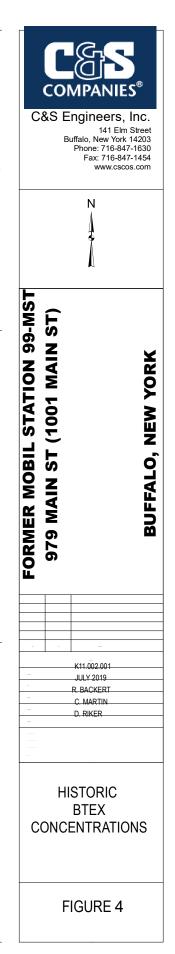
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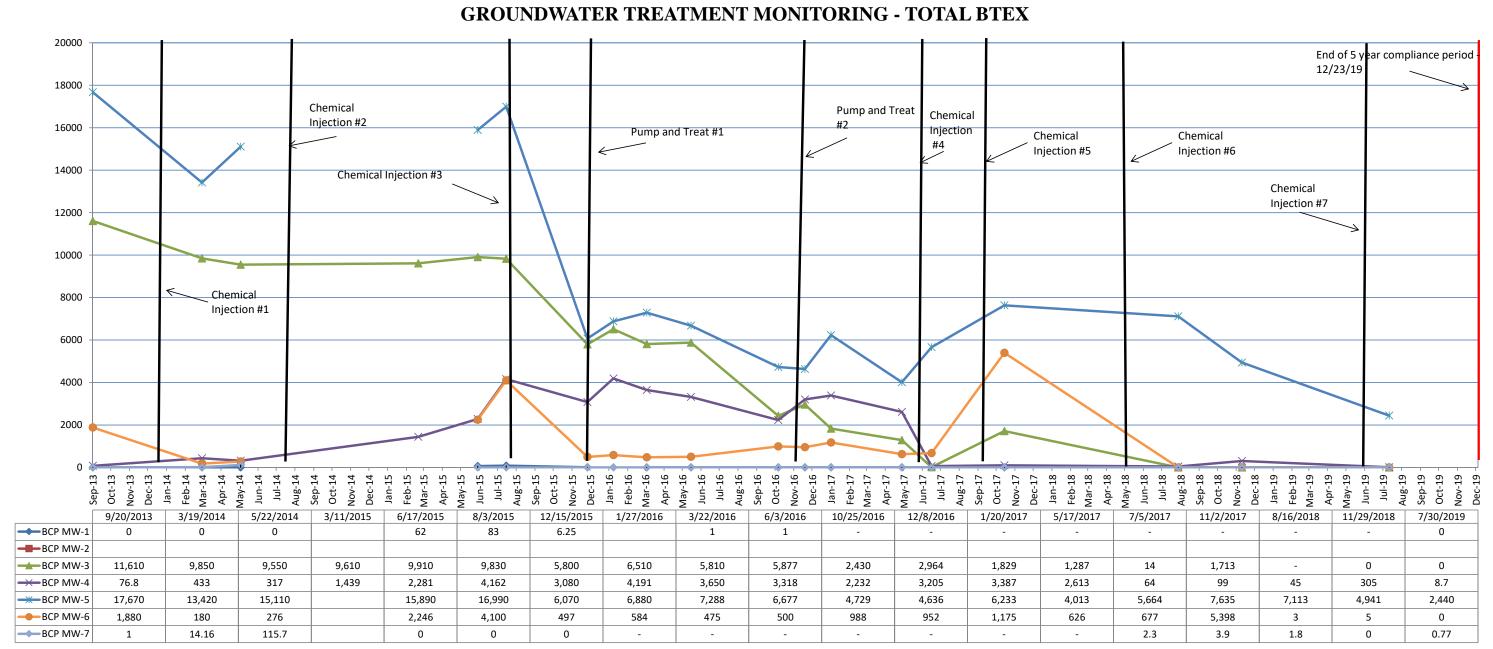
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TABLES

		Sample Name	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1
		Date Collected	9/20/2013	3/19/2014	5/22/2014	3/11/2015	6/17/2015	8/3/2014	12/15/2015	3/22/2016	6/3/2016	10/25/2016	12/8/2016	1/20/2017	5/17/2017	7/5/2017	11/2/2017	8/16/2018	11/29/2018	7/30/2019
		Matrix	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG
		Unit	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
NYSDEC Ambient Water Quality	y Standards & Gu	uidance Values	-																	
Volatile Organic Compound	Surface Water	Groundwater																		
1,2-DICHLOROBENZENE	3	3	ND	ND	ND			ND		ND										ND
1,2-DICHLOROETHANE	0.6	0.6	ND	ND	ND			ND		ND										.15 J
1,3-DICHLOROBENZENE	3	3	ND	ND	ND			ND		ND										ND
2-HEXANONE	50	50	ND	ND	ND		ND	ND	3.5	ND	ND	ND			ND	ND	ND	ND	ND	ND
ACETONE	50	50	ND	ND	ND		ND	ND	ND	ND	ND	ND			ND	5.1	ND	ND	1.8J	2.4 J
BENZENE	1	1	ND	ND	ND		35	39	5.7	1.4	0.72	ND			ND	ND	0.33	ND	ND	ND
DIBROMOCHLOROMETHANE	50	50	ND	ND	ND			ND		ND		ND				ND	ND	ND	ND	ND
DICHLORODIFLUOROMETHANE	5	5	ND	ND	ND			ND		ND		ND				ND	ND	ND	ND	ND
ETHYLBENZENE	5	5	ND	ND	ND		2	1.5	ND	ND	ND	ND			ND	ND	ND	ND	ND	ND
ISOPROPYLBENZENE (CUMENE)	5	5	ND	ND	ND		1.3	ND	ND	ND	ND	ND			ND	ND	ND	ND	ND	ND
METHYL ETHYL KETONE (2-BUTANONE)	50	50	ND	ND	ND		ND	45	ND	ND	ND	ND			ND	ND	ND	ND	ND	ND
METHYLENE CHLORIDE	5	5	ND	ND	ND		ND	ND	ND	ND	ND	ND			ND	ND	ND	ND	ND	ND
TOLUENE	5	5	ND	ND	ND		19	38	0.55	ND	ND	ND			ND	ND	1.1	ND	ND	ND
TRICHLOROETHYLENE (TCE)	5	5	ND	ND	ND		ND	ND	ND	ND	ND	ND			ND	ND	ND	ND	ND	ND
1,1,2-TRICHLOROETHANE	1	1	ND	ND	ND		ND	ND	ND	0.33 J	ND	ND			ND	ND	ND	ND	ND	ND
XYLENES, TOTAL	5	5	ND	ND	ND		6.4	4.2	ND	ND	ND	ND			ND	ND	ND	ND	ND	ND
NAPHTHALENE	10	10	ND	ND	ND		ND	ND	ND	0.33 J	ND	ND			ND	ND	ND	ND	4.3	ND
No Standard																				
CARBON DISULFIDE			ND	ND	0.94		ND	ND	ND	ND	ND	ND			ND	ND	ND	ND	ND	ND
CYCLOHEXANE			ND	ND	ND		35	59	61	51	72	ND			ND	ND	ND	ND	ND	ND
METHYL ISOBUTYL KETONE			ND	ND	ND		ND	13	ND	ND	ND	ND			ND	ND	ND	ND	ND	ND
METHYLCYCLOHEXANE			ND	ND	0.47		3.2	17	15	11	ND	ND			ND	ND	ND	1.5	.88J	ND
Total VOCs			0	0	1.41	-	101.90	216.70	85.75	63.40	72.72	0			-	5.1	1.4	1.5	6.98	2.55
Total BTEX			0	0	0	-	62	83	6	1.4	0.7	0			0.0	0	0	0	0	0
Non-Standard VOC List																				
1,3,5-TRIMETHYLBENZENE	5	5														ND	ND		ND	
1,2,4,5-TETRAMETHYLBENZENE	5	5														ND	ND		ND	
1,2,4-TRIMETHYLBENZENE	5	5														ND	ND		ND	
SEC-BUTYLBENZENE	5	5														ND	ND		ND	
N-PROPYLBENZENE	5	5														ND	ND		ND	
N-BUTYLBENZENE	5	5														ND	ND		ND	
P-ISOPROPYLTOLUENE																ND	ND		ND	
1,4-DIETHYLBENZENE																ND	ND		ND	



1) Blank space = analyte concentration not reported

2) BCP MW-2 was dry and not sampled

3) For the March 11, 2015 monitoring event well MW-1, MW-5, MW-6 and MW-7

were dry or not enough water was inside the well for a representative sample.

		Sample Name	MW-3	MW-3	MW-3	MW-3	MW-3	MW-3	MW-3	MW-3	MW-3	MW-3	MW-3	MW-3	MW-3	MW-3	MW-3	MW-3	MW-3	MW-3	MW-3
		Date Collected	9/20/2013	3/19/2014	5/22/2014	3/11/2015	6/17/2015	8/3/2015	12/15/2015	1/27/2015	3/22/2016	6/3/2016	10/25/2016	12/8/2016	1/20/2017	5/17/2017	7/5/2017	11/2/2017		11/29/2018	7/30/2019
		Matrix	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG
		Unit	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
NYSDEC Ambient Water Quality	Standards & Gu		, in the second s		Ū.	Ū	Ū.	0	, i i i i i i i i i i i i i i i i i i i	Ū	Ū.		Ŭ	Ŭ	Ū.	Ū	Ū	Ŭ	, in the second s	Ū.	, i i i i i i i i i i i i i i i i i i i
Volatile Organic Compound	Surface Water	Groundwater																			
1,2-DICHLOROBENZENE	3	3	ND	ND	ND																
1,2-DICHLOROETHANE	0.6	0.6	ND	ND	ND																
1,3-DICHLOROBENZENE	3	3	ND	ND	ND																
2-HEXANONE	50	50	ND	ND	ND	3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	8	ND	ND	ND	ND
ACETONE	50	50	ND	98	ND	17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	166	ND	2.3	24.0	2.1 J
BENZENE	1	1	6,600	4,500	4,700	3,700	4,300	4,100	2,100	2,200	1,900	3,100	1,390	635	363	451	3	364	ND	ND	ND
DIBROMOCHLOROMETHANE	50	50	ND	ND	ND		ND		ND		ND		ND		ND		ND		ND	ND	ND
DICHLORODIFLUOROMETHANE	5	5	ND	ND	ND		ND		ND		ND		ND		ND		ND		ND	ND	ND
ETHYLBENZENE	5	5	1,200	1,600	1,500	1,600	1,500	1,700	1,400	1,600	1,600	610	194	899	517	197	2.4	384	ND	ND	ND
ISOPROPYLBENZENE (CUMENE)	5	5	ND	37	ND	32	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	8.7	ND	ND	ND
METHYL ETHYL KETONE (2-BUTANONE)	50	50	ND	71	ND	6.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	201	51.4	51.4	ND	ND	ND
METHYLENE CHLORIDE	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	35	ND	ND	ND	ND	ND	ND	ND	ND	ND
TOLUENE	5	5	110	150	150	110	110	130	100	110	110	67	39.4	7 4. 5	38.4	22.6	1.6	34.8	ND	ND	ND
TRICHLOROETHYLENE (TCE)	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND
1,1,2-TRICHLOROETHANE	1	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
XYLENES, TOTAL	5	5	3,700	3,600	3,200	4200	4000	3900	2200	2600	2200	2100	806.3	1430	949	639	7.1	930.0	ND	ND	ND
NAPHTHALENE	10	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	14	357	ND	ND	ND
No Standard																					
CARBON DISULFIDE			ND	ND	ND	0.31	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
CYCLOHEXANE			120	320	270	390	330	210	100	93	110	170	ND	ND	ND	ND	ND	60.5	ND	ND	ND
METHYL ISOBUTYL KETONE			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
METHYLCYCLOHEXANE			ND	130	150	120	160	96	34	33	36 J	170	47.7	ND	ND	29.5	ND	33.4	ND	ND	ND
Total VOCs			11,730	10,506	9,970	10,179	10,400	10,136	5,934	6,636	5,920	6,252	2,477	3,038	1,867	1,540	254	2,224	2.3	24.0	2.1
Total BTEX			11,610	9,850	9,550	9,610	9,910	9,830	5,800	6,510	5,810	5,877	2,430	3,038	1,867	1,310	14	1,713	-	-	-
Non-Standard VOC List			•																		
1,3,5-TRIMETHYLBENZENE	5	5															ND	133	133	ND	ND
1,2,4,5-TETRAMETHYLBENZENE	5	5															ND	ND	ND	ND	ND
1,2,4-TRIMETHYLBENZENE	5	5															4.9	737	737	ND	ND
SEC-BUTYLBENZENE	5	5										-					ND	ND	ND	ND	ND
N-PROPYLBENZENE	5	5															ND	ND	ND	ND	ND
N-BUTYLBENZENE	5	5															ND	ND	ND	ND	ND
P-ISOPROPYLTOLUENE																	ND	ND	ND	ND	ND
1,4-DIETHYLBENZENE																	ND	ND	ND	ND	ND



1) Blank space = analyte concentration not reported

2) BCP MW-2 was dry and not sampled

3) For the March 11, 2015 monitoring event well MW-1, MW-5, MW-6 and MW-7

were dry or not enough water was inside the well for a representative sample.

		Sample Name	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4
		Date Collected	9/20/2013	3/19/2014	5/22/2014	3/11/2015	6/17/2015	8/3/2015	12/15/2015	1/27/2016	3/22/2016	6/3/2016	10/25/2016	12/8/2016	1/20/2017	5/17/2017	7/5/2017	11/17/2017	8/16/2018	11/29/2018	7/30/2019
		Matrix	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG
		Unit	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
NYSDEC Ambient Water Quality	/ Standards & G		Ŭ	Ū	Ŭ	Ŭ	Ū	Ū	Ū	Ū.	, in the second s	Ū	Ŭ	Ū	Ū.	Ū.	·	Ū.	, in the second s	Ū.	ĩ
Volatile Organic Compound	Surface Water	Groundwater																			
1,2-DICHLOROBENZENE	3	3	ND	ND	ND																
1,2-DICHLOROETHANE	0.6	0.6	ND	ND	ND																
1,3-DICHLOROBENZENE	3	3	ND	ND	ND																
2-HEXANONE	50	50	ND	ND	ND	1.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ACETONE	50	50	10	250	170	67	ND	210	ND	ND	ND	ND	ND	ND	ND	ND	38.2	10	1.6	ND	ND
BENZENE	1	1	42	29	15	26	24	242	ND	21	ND	21	9.57	12.8	10.2	10.8	1.3	97.0	45.0	36.0	6.7
DIBROMOCHLOROMETHANE	50	50	ND	ND	ND																
DICHLORODIFLUOROMETHANE	5	5	ND	ND	ND																
ETHYLBENZENE	5	5	4.7	34	32	560	1,000	680	1,100	1300	1,400	1400	1,000	1170	1,300	1220	28	1.8	ND	170	2.0 J
ISOPROPYLBENZENE (CUMENE)	5	5	ND	ND	ND	9.8	15.0	26	ND	ND	ND	ND	19	30.3	28.7	ND	2.3	ND	ND	8.3	1.3 J
METHYL ETHYL KETONE (2-BUTANONE)	50	50	ND	ND	ND	ND	8.50	ND	ND	ND	ND	ND	ND	ND	ND	ND	6.9	ND	ND	ND	ND
METHYLENE CHLORIDE	5	5	ND	ND	1 J	ND	ND	ND	ND	52	ND	42	ND	ND	ND	ND	ND	ND	ND	ND	ND
TOLUENE	5	5	1.1	190	110	53	57	140	180	270	150	97	62.4	130	133	92.2	9.8	ND	ND	15	ND
TRICHLOROETHYLENE (TCE)	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
1,1,2-TRICHLOROETHANE	1	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
XYLENES, TOTAL	5	5	29	180	160	800	1,200	3100	1,800	2600	2,100	1800	1,160	1892	1,944	1289.7	24.5	ND	ND	83.6	ND
NAPHTHALENE	10	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.9	ND	ND	36	ND
No Standard																					
CARBON DISULFIDE			ND	ND	1.9 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
CYCLOHEXANE			8.2	11	7	170	170	110	160	220	250	340	189	259	276	235	276	5.5	ND	24	.41 J
METHYL ISOBUTYL KETONE			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
METHYLCYCLOHEXANE			7.5	3.7	3.1	87	92	69	86	100	110	140	85.1	110	123	99.7	123	2.4	0.47	8.9	ND
Total VOCs			102.5	697.7	497.1	1,774.5	2,566.5	4,577.0	3,326.0	4,563.0	4,010.0	3,840.0	2,525.5	3,604.1	3,814.9	2,947.4	511.9	116.7	47.1	381.8	10.4
Total BTEX			76.8	433	317	1,439	2,281	4,162	3,080	4,191	3,650	3,318	2,232	3,205	3,387	2,613	64	99	45	304.6	8.7
Non-Standard VOC List																					
1,3,5-TRIMETHYLBENZENE	5	5															2	ND	ND	1.4 J	ND
1,2,4,5-TETRAMETHYLBENZENE	5	5															1.1	ND	ND	ND	ND
1,2,4-TRIMETHYLBENZENE	5	5															1.1	ND	ND	150	ND
SEC-BUTYLBENZENE	5	5															ND	ND	ND	1.5 J	ND
N-PROPYLBENZENE	5	5															2.3	ND	ND	37	ND
N-BUTYLBENZENE	5	5															1.7	ND	ND	2.2 J	ND
P-ISOPROPYLTOLUENE																	ND	ND	ND	ND	ND
1,4-DIETHYLBENZENE																	ND	ND	ND	ND	ND

Notes:

Not Sampled

Blank space = analyte concentration not reported
 BCP MW-2 was dry and not sampled
 For the March 11, 2015 monitoring event well MW-1, MW-5, MW-6 and MW-7 were dry or not enough water was inside the well for a representative sample.

		Sample Name	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5
		Date Collected	9/20/2013	3/19/2014	5/22/2014	3/11/2015	6/17/2015	8/3/2015	12/15/2015	1/27/2016	3/22/2016	6/3/2016	10/25/2016	12/8/2016	1/20/2017	5/17/2017	7/5/2017	11/2/2017	8/16/2018	11/29/2018	7/30/20
		Matrix	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG
		Unit	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
NYSDEC Ambient Water Quality	/ Standards & Gu	uidance Values																			
Volatile Organic Compound	Surface Water	Groundwater																			
1,2-DICHLOROBENZENE	3	3	ND	ND	ND																
1,2-DICHLOROETHANE	0.6	0.6	ND	ND	ND																
1,3-DICHLOROBENZENE	3	3	ND	ND	ND																
2-HEXANONE	50	50	11	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		2.7 J
ACETONE	50	50	ND	520	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	15.3	ND	41	69 J	44
BENZENE	1	1	5,600	4,800	4,900		3,700	4,100	1,800	1,800	1,700	1,600	899	949	682	428	574	283	86	26	3.3
DIBROMOCHLOROMETHANE	50	50	ND	ND	ND		ND		ND		ND		ND		ND		ND		ND		ND
DICHLORODIFLUOROMETHANE	5	5	ND	ND	ND		ND		ND		ND		ND		ND		ND		ND		ND
ETHYLBENZENE	5	5	1,900	1,600	1,600		2,800	2,600	1,600	1,900	2,200	2,200	1,490	1,450	2,070	584	534	1,660	1,500	810	520 1
ISOPROPYLBENZENE (CUMENE)	5	5	28	29	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	13.6	ND	20	16 J	23
METHYL ETHYL KETONE (2-BUTANONE)	50	50	10	350	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.1	ND	ND		ND
METHYLENE CHLORIDE	5	5	ND	ND	ND		ND	ND	ND	ND	77	96	ND	ND	ND	ND	ND	ND	ND		ND
TOLUENE	5	5	170	220	310		290	290	70	80	88	77	68.5	84.9	86.6	ND	36.2	82.0	66.0	39 J	38.0
TRICHLOROETHYLENE (TCE)	5	5	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		.22 J
1,1,2-TRICHLOROETHANE	1	1	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND
XYLENES, TOTAL	5	5	10,000	6,800	8,300		9,100	10,000	2,600	3,100	3,300	2,800	2,271.3	2,152.2	3,394.7	3,000.7	4,520.0	5,610.0	5,461.0	4,066.0	1879
NAPHTHALENE	10	10	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	730	1,030	620	1,100	
No Standard																					
CARBON DISULFIDE			ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.1	ND	ND		1.2 J
CYCLOHEXANE			230	340	240		430	260	230	250	280	430	198	148	257	ND	257	238	150	130 J	140
METHYL ISOBUTYL KETONE			23	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		3.0
METHYLCYCLOHEXANE			100	170	150		190	130	92	100	100	140	67.5	58.4	92.8	49	92.8	106	70	82 J	65
Total VOCs			18,072	14,829	15,500	-	16,510	17,380	6,392	7,230	7,745	7,343	4,994	4,843	6,583	4,062	6,780	9,009	8,014	6,338	2,718.
Total BTEX			17,670	13,420	15,110	-	15,890	16,990	6,070	6,880	7,288	6,677	4,729	4,636	6,233	4,013	5,664	7,635	7,113	4,941	2,440.
Non-Standard VOC List																					
1,3,5-TRIMETHYLBENZENE	5	5															823	ND	ND	630	ND
1,2,4,5-TETRAMETHYLBENZENE	5	5															135	ND	ND		ND
1,2,4-TRIMETHYLBENZENE	5	5															2,280	2,490	2,400	2,300	ND
SEC-BUTYLBENZENE	5	5															3.2	ND	ND		ND
N-PROPYLBENZENE	5	5															34.8	ND	110	69	ND
N-BUTYLBENZENE	5	5															43.3	ND	ND		ND
P-ISOPROPYLTOLUENE																	5.7	ND	ND		ND
1,4-DIETHYLBENZENE																	347	ND	ND		ND

Notes: Not Sampled

1) Blank space = analyte concentration not reported

2) BCP MW-2 was dry and not sampled

3) For the March 11, 2015 monitoring event well MW-1, MW-5, MW-6 and MW-7

were dry or not enough water was inside the well for a representative sample.

		Sample Name	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6
		Date Collected	9/20/2013	3/19/2014	5/22/2014	3/11/2015	6/17/2015	8/3/2015	12/14/2015	1/27/2016	3/22/2016	6/3/2016	10/25/2016	12/8/2016	1/20/2017	5/17/2017	7/5/2017	11/2/2017	8/16/2018	11/29/2018	7/30/2019
		Matrix	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG
		Unit	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
NYSDEC Ambient Water Quality	Standards & Gu	iidance Values																			
Volatile Organic Compound	Surface Water	Groundwater																			
1,2-DICHLOROBENZENE	3	3	ND	ND	ND																ND
1,2-DICHLOROETHANE	0.6	0.6	ND	ND	ND																ND
1,3-DICHLOROBENZENE	3	3	ND	ND	ND																ND
2-HEXANONE	50	50	ND	ND	ND		190	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ACETONE	50	50	ND	ND	ND		480	340	ND	ND	ND	ND	ND	ND	ND	ND	102	ND	17	4.5 J	ND
BENZENE	1	1	190	33	16		470	890	250	230	200	120	302	168	200	113	131	774	ND	0.82	ND
DIBROMOCHLOROMETHANE	50	50	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
DICHLORODIFLUOROMETHANE	5	5	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ETHYLBENZENE	5	5	130	20	31		36	210	22	44	67	50	163	169	173	175	85.5	154.0	3.3	1.7 J	ND
ISOPROPYLBENZENE (CUMENE)	5	5	4.4	ND	1.9 J			ND	ND	ND	ND	ND	ND	ND	ND	ND	2.5	ND	1.3	ND	ND
METHYL ETHYL KETONE (2-BUTANONE)	50	50	ND	ND	ND		110	ND	ND	ND	ND	ND	ND	ND	ND	ND	19.6	ND	ND	ND	ND
METHYLENE CHLORIDE	5	5	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TOLUENE	5	5	810	42	79		1,000	1,900	85	120	78	120	130	255	351	147	22.5	2,970.0	ND	ND	ND
TRICHLOROETHYLENE (TCE)	5	5	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND
1,1,2-TRICHLOROETHANE	1	1	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
XYLENES, TOTAL	5	5	750	85	150		740	1,100	140	190	130	210	393	360	451	190.7	438	1,500	ND	2 J	ND
NAPHTHALENE	10	10	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	86.6	ND	1	.8 J	ND
No Standard																					
CARBON DISULFIDE			ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
CYCLOHEXANE			68	ND	130		270	41	62	110	110	91	81.5	ND	ND	ND	ND	84	7.4	3.7 J	.60 J
METHYL ISOBUTYL KETONE			ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
METHYLCYCLOHEXANE			46	16	18		170	27	24	21	10	24	32.2	30.2	36.9	35.3	36.9	44	4.3	3.8 J	ND
Total VOCs			1,998.4	196	424	-	3,466	4,508	583	715	595	615	1,101	983	1,212	661	925	5,526	35	17.32	0.6
Total BTEX			1,880	180	276	-	2,246	4,100	497	584	475	500	988	952	1,175	626	677	5,398	3	4.52	-
Non-Standard VOC List																					
1,3,5-TRIMETHYLBENZENE	5	5															74.3	ND	ND	5.1	ND
1,2,4,5-TETRAMETHYLBENZENE	5	5															14.3	ND	ND	ND	ND
1,2,4-TRIMETHYLBENZENE	5	5															134	ND	ND	ND	ND
SEC-BUTYLBENZENE	5	5																		ND	ND
N-PROPYLBENZENE	5	5															11.3	ND	4.7	1.7 J	ND
N-BUTYLBENZENE	5	5															4.6	ND	0.72	ND	ND
P-ISOPROPYLTOLUENE																	1.6	1.6	1.6	ND	ND
1,4-DIETHYLBENZENE																	32.9	32.9	32.9	ND	ND



Blank space = analyte concentration not reported
 BCP MW-2 was dry and not sampled
 For the March 11, 2015 monitoring event well MW-1, MW-5, MW-6 and MW-7 were dry or not enough water was inside the well for a representative sample.
 WG = groundwater

		Sample Name	MW-7	MW-7	MW-7	MW-7	MW-7	MW-7	MW-7	MW-7	MW-7	MW-7	MW-7	MW-7	MW-7	MW-7	MW-7	MW-7	MW-7	MW-7
		Date Collected	9/20/2013	3/19/2014	5/22/2014	3/11/2015	6/17/2015	8/3/2015	12/15/2015	3/22/2016	6/3/2016	10/25/2016	12/8/2016	1/20/2017	5/17/2017	7/5/2017	11/2/2017	8/16/2018	11/29/2018	7/30/2019
		Matrix	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG
		Unit	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
NYSDEC Ambient Water Quality	y Standards & Gi	uidance Values																		
Volatile Organic Compound	Surface Water	Groundwater																		
1,2-DICHLOROBENZENE	3	3	ND	ND	ND															ND
1,2-DICHLOROETHANE	0.6	0.6	ND	ND	ND															ND
1,3-DICHLOROBENZENE	3	3	ND	ND	ND															ND
2-HEXANONE	50	50	ND	ND	4.8		ND	ND	ND	ND	ND	ND			ND	ND	ND	ND	ND	ND
ACETONE	50	50	ND	3	ND		ND	ND	ND	ND	ND	ND			ND	ND	ND	1.5	ND	4.2 J
BENZENE	1	1	0.51	8.8	14		ND	ND	ND	ND	ND	ND			ND	2.3	2.81	1.8	.18 J	.77
DIBROMOCHLOROMETHANE	50	50	ND	ND	ND		ND		ND		ND				ND		ND			ND
DICHLORODIFLUOROMETHANE	5	5	ND	ND	ND		ND		ND		ND				ND		ND			ND
ETHYLBENZENE	5	5	ND	ND	3		ND	ND	ND	ND	ND	ND			ND	ND	0	ND	ND	ND
ISOPROPYLBENZENE (CUMENE)	5	5	ND	ND	ND		ND	ND	ND	ND	ND	ND			ND	ND	0.45	ND	ND	ND
METHYL ETHYL KETONE (2-BUTANONE)	50	50	ND	ND	ND		ND	ND	ND	ND	ND	ND			ND	ND	ND	ND	ND	ND
METHYLENE CHLORIDE	5	5	ND	ND	ND		ND	ND	ND	ND	ND	ND			ND	ND	ND	ND	ND	ND
TOLUENE	5	5	ND	0.56	4.7		ND	ND	ND	ND	ND	ND			ND	ND	1.1	ND	ND	ND
TRICHLOROETHYLENE (TCE)	5	5	ND	ND	ND		ND		ND		ND				ND		ND			ND
1,1,2-TRICHLOROETHANE	1	1																		ND
XYLENES, TOTAL	5	5	0.96	4.8	94		ND	ND	ND	0.99 J	ND	ND			ND	ND	ND	ND	ND	ND
NAPHTHALENE	10	10																1.50	.86 J	ND
No Standard																				
CARBON DISULFIDE			ND	ND	0.97		ND	ND	ND	ND	ND	ND			ND	ND	ND	ND	ND	ND
CYCLOHEXANE			ND	4.3	9.6		ND	ND	0.71	ND	ND	ND			ND	ND	0.99	0.66	ND	ND
METHYL ISOBUTYL KETONE			ND	ND	ND		ND	ND	ND	ND	ND	ND			ND	ND	ND	ND	ND	ND
METHYLCYCLOHEXANE			ND	1.7	5.1		0.18	ND	ND	ND	ND	ND			ND	ND	ND	ND	ND	ND
Total VOCs			1.47	23.16	136.17	-	0.18	-	0.71	-	-	-	-	-	-	2.30	5.35	3.66	1.04	4.97
Total BTEX			0.51	14.16	115.7	-	-	-	-	-	-	-	-	-	-	2.3	3.9	1.8	0.18	8 0.77
Non-Standard VOC List																				
1,3,5-TRIMETHYLBENZENE	5	5														ND	ND	3.2		3.2
1,2,4,5-TETRAMETHYLBENZENE	5	5														ND	ND	ND	ND	ND
1,2,4-TRIMETHYLBENZENE	5	5														ND	ND	ND	ND	ND
SEC-BUTYLBENZENE	5	5																		
N-PROPYLBENZENE	5	5																		
N-BUTYLBENZENE	5	5																		
P-ISOPROPYLTOLUENE																				
1,4-DIETHYLBENZENE																				<u> </u>



1) Blank space = analyte concentration not reported

2) BCP MW-2 was dry and not sampled

3) For the March 11, 2015 monitoring event well MW-1, MW-5, MW-6 and MW-7

were dry or not enough water was inside the well for a representative sample.

APPENDICES

APPENDIX A LABORATORY ANALYTICAL RESULTS



ANALYTICAL REPORT

Lab Number:	L1933935
Client:	C&S Companies 141 Elm Street, Suite 100 Buffalo, NY 14203
ATTN: Phone:	Cody Martin (716) 847-1630
Project Name:	CONVENTUS
Project Number:	K11.002.001
Report Date:	08/12/19

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Serial_No:08121919:22

Project Name:	CONVENTUS
Project Number:	K11.002.001

Lab Number:	L1933935
Report Date:	08/12/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1933935-01	MS-MW01072919	WATER	1001 MAIN ST.	07/29/19 10:30	07/31/19
L1933935-02	MS-MW02072919	WATER	1001 MAIN ST.	07/29/19 11:30	07/31/19
L1933935-03	MS-MW03072919	WATER	1001 MAIN ST.	07/29/19 12:30	07/31/19
L1933935-04	MS-MW04072919	WATER	1001 MAIN ST.	07/29/19 13:45	07/31/19
L1933935-05	BCP-MW01073019	WATER	1001 MAIN ST.	07/30/19 10:00	07/31/19
L1933935-06	BCP-MW07073019	WATER	1001 MAIN ST.	07/30/19 10:45	07/31/19
L1933935-07	BCP-MW04073019	WATER	1001 MAIN ST.	07/30/19 11:20	07/31/19
L1933935-08	BCP-MW03073019	WATER	1001 MAIN ST.	07/30/19 12:05	07/31/19
L1933935-09	BCP-MW06073019	WATER	1001 MAIN ST.	07/30/19 13:00	07/31/19
L1933935-10	BCP-MW05073019	WATER	1001 MAIN ST.	07/30/19 14:00	07/31/19
L1933935-11	TRIP BLANKS	WATER	1001 MAIN ST.	07/30/19 15:00	07/31/19



Project Name: CONVENTUS Project Number: K11.002.001

 Lab Number:
 L1933935

 Report Date:
 08/12/19

Case Narrative

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

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

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

Please contact Project Management at 800-624-9220 with any questions.



Project Name:CONVENTUSProject Number:K11.002.001

 Lab Number:
 L1933935

 Report Date:
 08/12/19

Case Narrative (continued)

Report Submission

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

Volatile Organics

L1933935-04, -08, -09, and -10 were received in the proper acid-preserved containers; however, upon analysis, the pH was determined to be greater than 2, and thus the method required holding time was exceeded.

L1933935-10: Differences were noted between the results of the analyses which have been attributed to vial discrepancies. Further re-analysis could not be performed due to the existing vials being compromised.

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

Elly Stendow Kelly Stenstrom

Authorized Signature:

Title: Technical Director/Representative

Date: 08/12/19



ORGANICS



VOLATILES



			Serial_N	o:08121919:22
Project Name:	CONVENTUS		Lab Number:	L1933935
Project Number:	K11.002.001		Report Date:	08/12/19
		SAMPLE RESULTS		
Lab ID:	L1933935-01		Date Collected:	07/29/19 10:30
Client ID:	MS-MW01072919		Date Received:	07/31/19
Sample Location:	1001 MAIN ST.		Field Prep:	Not Specified
Sample Depth:				
Matrix:	Water			
Analytical Method:	1,8260C			
Analytical Date:	08/09/19 17:30			
Analyst:	PD			

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor		
Volatile Organics by GC/MS - Westborough Lab								
Methylene chloride	ND		ug/l	2.5	0.70	1		
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1		
Chloroform	ND		ug/l	2.5	0.70	1		
Carbon tetrachloride	ND		ug/l	0.50	0.13	1		
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1		
Dibromochloromethane	ND		ug/l	0.50	0.15	1		
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1		
Tetrachloroethene	ND		ug/l	0.50	0.18	1		
Chlorobenzene	ND		ug/l	2.5	0.70	1		
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1		
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1		
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1		
Bromodichloromethane	ND		ug/l	0.50	0.19	1		
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1		
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1		
Bromoform	ND		ug/l	2.0	0.65	1		
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1		
Benzene	ND		ug/l	0.50	0.16	1		
Toluene	ND		ug/l	2.5	0.70	1		
Ethylbenzene	ND		ug/l	2.5	0.70	1		
Chloromethane	ND		ug/l	2.5	0.70	1		
Bromomethane	ND		ug/l	2.5	0.70	1		
Vinyl chloride	ND		ug/l	1.0	0.07	1		
Chloroethane	ND		ug/l	2.5	0.70	1		
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1		
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1		
Trichloroethene	0.24	J	ug/l	0.50	0.18	1		
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1		



					:	Serial_No	:08121919:22	
Project Name:	CONVENTUS				Lab Nu	mber:	L1933935	
Project Number:	K11.002.001				Report	Date:	08/12/19	
		SAMP		6	-			
Lab ID: Client ID: Sample Location:	L1933935-01 MS-MW01072919 1001 MAIN ST.				Date Col Date Ree Field Pre	ceived:	07/29/19 10:30 07/31/19 Not Specified	
Sample Depth:								
Parameter		Result	Qualifier	Units	RL	MDL	Dilution Factor	
Volatile Organics b	y GC/MS - Westborough	Lab						
1,3-Dichlorobenzene		ND		ug/l	2.5	0.70	1	
1,4-Dichlorobenzene		ND		ug/l	2.5	0.70	1	
Methyl tert butyl ether		ND		ug/l	2.5	0.70	1	
p/m-Xylene		ND		ug/l	2.5	0.70	1	
o-Xylene		ND		ug/l	2.5	0.70	1	
cis-1,2-Dichloroethene		ND		ug/l	2.5	0.70	1	
Styrene		ND		ug/l	2.5	0.70	1	
Dichlorodifluoromethane		ND		ug/l	5.0	1.0	1	
Acetone		3.6	J	ug/l	5.0	1.5	1	
Carbon disulfide		ND		ug/l	5.0	1.0	1	
2-Butanone		ND		ug/l	5.0	1.9	1	
4-Methyl-2-pentanone		ND		ug/l	5.0	1.0	1	
2-Hexanone		ND		ug/l	5.0	1.0	1	
Bromochloromethane		ND		ug/l	2.5	0.70	1	
1,2-Dibromoethane		ND		ug/l	2.0	0.65	1	
1,2-Dibromo-3-chloroprop	pane	ND		ug/l	2.5	0.70	1	
Isopropylbenzene		ND		ug/l	2.5	0.70	1	
1,2,3-Trichlorobenzene		ND		ug/l	2.5	0.70	1	
1,2,4-Trichlorobenzene		ND		ug/l	2.5	0.70	1	
Methyl Acetate		ND		ug/l	2.0	0.23	1	
Cyclohexane		ND		ug/l	10	0.27	1	
1,4-Dioxane		ND		ug/l	250	61.	1	
Freon-113		ND		ug/l	2.5	0.70	1	
Methyl cyclohexane		ND		ug/l	10	0.40	1	

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
1,2-Dichloroethane-d4	130		70-130	
Toluene-d8	99		70-130	
4-Bromofluorobenzene	102		70-130	
Dibromofluoromethane	107		70-130	



				Serial_No	o:08121919:22
Project Name:	CONVENTUS			Lab Number:	L1933935
Project Number:	K11.002.001			Report Date:	08/12/19
			SAMPLE RESULTS		
Lab ID: Client ID: Sample Location:	L1933935-02 MS-MW02072919 1001 MAIN ST.	D		Date Collected: Date Received: Field Prep:	07/29/19 11:30 07/31/19 Not Specified
Sample Depth: Matrix: Analytical Method: Analytical Date: Analyst:	Water 1,8260C 08/09/19 18:14 PD				

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor		
Volatile Organics by GC/MS - Westborough Lab								
Methylene chloride	ND		ug/l	25	7.0	10		
1,1-Dichloroethane	ND		ug/l	25	7.0	10		
Chloroform	ND		ug/l	25	7.0	10		
Carbon tetrachloride	ND		ug/l	5.0	1.3	10		
1,2-Dichloropropane	ND		ug/l	10	1.4	10		
Dibromochloromethane	ND		ug/l	5.0	1.5	10		
1,1,2-Trichloroethane	ND		ug/l	15	5.0	10		
Tetrachloroethene	ND		ug/l	5.0	1.8	10		
Chlorobenzene	ND		ug/l	25	7.0	10		
Trichlorofluoromethane	ND		ug/l	25	7.0	10		
1,2-Dichloroethane	ND		ug/l	5.0	1.3	10		
1,1,1-Trichloroethane	ND		ug/l	25	7.0	10		
Bromodichloromethane	ND		ug/l	5.0	1.9	10		
trans-1,3-Dichloropropene	ND		ug/l	5.0	1.6	10		
cis-1,3-Dichloropropene	ND		ug/l	5.0	1.4	10		
Bromoform	ND		ug/l	20	6.5	10		
1,1,2,2-Tetrachloroethane	ND		ug/l	5.0	1.7	10		
Benzene	230		ug/l	5.0	1.6	10		
Toluene	550		ug/l	25	7.0	10		
Ethylbenzene	94		ug/l	25	7.0	10		
Chloromethane	ND		ug/l	25	7.0	10		
Bromomethane	ND		ug/l	25	7.0	10		
Vinyl chloride	ND		ug/l	10	0.71	10		
Chloroethane	ND		ug/l	25	7.0	10		
1,1-Dichloroethene	ND		ug/l	5.0	1.7	10		
trans-1,2-Dichloroethene	ND		ug/l	25	7.0	10		
Trichloroethene	ND		ug/l	5.0	1.8	10		
1,2-Dichlorobenzene	ND		ug/l	25	7.0	10		



					:	Serial_No	0:08121919:22	
Project Name:	CONVENTUS				Lab Nu	mber:	L1933935	
Project Number:	K11.002.001				Report	Date:	08/12/19	
-		SA	MPLE RESUL	TS	-			
Lab ID: Client ID: Sample Location:	L1933935-02 MS-MW02072919 1001 MAIN ST.	D			Date Col Date Re Field Pre	ceived:	07/29/19 11:30 07/31/19 Not Specified	
Sample Depth:								
Parameter		Resul	t Qualifier	Units	RL	MDL	Dilution Factor	
Volatile Organics b	y GC/MS - Westboroug	gh Lab						
1,3-Dichlorobenzene		ND		ug/l	25	7.0	10	
1,4-Dichlorobenzene		ND		ug/l	25	7.0	10	
Methyl tert butyl ether		ND		ug/l	25	7.0	10	
p/m-Xylene		2000		ug/l	25	7.0	10	
o-Xylene		2800		ug/l	25	7.0	10	
cis-1,2-Dichloroethene		ND		ug/l	25	7.0	10	
Styrene		ND		ug/l	25	7.0	10	
Dichlorodifluoromethane		ND		ug/l	50	10.	10	
Acetone		170		ug/l	50	15.	10	
Carbon disulfide		ND		ug/l	50	10.	10	
2-Butanone		ND		ug/l	50	19.	10	
4-Methyl-2-pentanone		26	J	ug/l	50	10.	10	
2-Hexanone		10	J	ug/l	50	10.	10	
Bromochloromethane		ND		ug/l	25	7.0	10	
1,2-Dibromoethane		ND		ug/l	20	6.5	10	
1,2-Dibromo-3-chloroprop	ane	ND		ug/l	25	7.0	10	
Isopropylbenzene		ND		ug/l	25	7.0	10	
1,2,3-Trichlorobenzene		ND		ug/l	25	7.0	10	
1,2,4-Trichlorobenzene		ND		ug/l	25	7.0	10	
Methyl Acetate		ND		ug/l	20	2.3	10	
Cyclohexane		150		ug/l	100	2.7	10	
1,4-Dioxane		ND		ug/l	2500	610	10	
Freon-113		ND		ug/l	25	7.0	10	
Methyl cyclohexane		ND		ug/l	100	4.0	10	

Surrogate	% Recovery	Acceptance Qualifier Criteria
1,2-Dichloroethane-d4	121	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	99	70-130
Dibromofluoromethane	104	70-130



			Serial_N	o:08121919:22
Project Name:	CONVENTUS		Lab Number:	L1933935
Project Number:	K11.002.001		Report Date:	08/12/19
		SAMPLE RESULTS		
Lab ID: Client ID: Sample Location: Sample Depth: Matrix: Analytical Method: Analytical Date:	L1933935-03 MS-MW03072919 1001 MAIN ST. Water 1,8260C 08/12/19 15:11		Date Collected: Date Received: Field Prep:	07/29/19 12:30 07/31/19 Not Specified
Analyst:	AD			

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - We	stborough Lab					
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	2.1	J	ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	0.76		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	1.1		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	0.18	J	ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	6.8		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
Trichloroethene	0.28	J	ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1



		Serial_No:08121919:22					
Project Name:	CONVENTUS				Lab Nu	mber:	L1933935
Project Number:	K11.002.001				Report	Date:	08/12/19
-		SAMP	LE RESULTS	6			
Lab ID: Client ID: Sample Location:	L1933935-03 MS-MW03072919 1001 MAIN ST.				Date Col Date Ree Field Pre	ceived:	07/29/19 12:30 07/31/19 Not Specified
Sample Depth:							
Parameter		Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics b	y GC/MS - Westborough	Lab					
	, 0						
1,3-Dichlorobenzene		ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene		ND		ug/l	2.5	0.70	1
Methyl tert butyl ether		ND		ug/l	2.5	0.70	1
p/m-Xylene		0.73	J	ug/l	2.5	0.70	1
o-Xylene		6.3		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene		ND		ug/l	2.5	0.70	1
Styrene		ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane		ND		ug/l	5.0	1.0	1
Acetone		120		ug/l	5.0	1.5	1
Carbon disulfide		ND		ug/l	5.0	1.0	1
2-Butanone		3.6	J	ug/l	5.0	1.9	1
4-Methyl-2-pentanone		ND		ug/l	5.0	1.0	1
2-Hexanone		ND		ug/l	5.0	1.0	1
Bromochloromethane		ND		ug/l	2.5	0.70	1
1,2-Dibromoethane		ND		ug/l	2.0	0.65	1
1,2-Dibromo-3-chloroprop	pane	ND		ug/l	2.5	0.70	1
Isopropylbenzene		ND		ug/l	2.5	0.70	1
1,2,3-Trichlorobenzene		ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene		ND		ug/l	2.5	0.70	1
Methyl Acetate		ND		ug/l	2.0	0.23	1
Cyclohexane		8.3	J	ug/l	10	0.27	1
1,4-Dioxane		ND		ug/l	250	61.	1
Freon-113		ND		ug/l	2.5	0.70	1
Methyl cyclohexane		1.3	J	ug/l	10	0.40	1
				-			

% Recovery			
111		70-130	
97		70-130	
97		70-130	
98		70-130	
	111 97 97	% Recovery Qualifier (111 97 97	111 70-130 97 70-130 97 70-130 97 70-130

			Serial_N	o:08121919:22
Project Name:	CONVENTUS		Lab Number:	L1933935
Project Number:	K11.002.001		Report Date:	08/12/19
		SAMPLE RESULTS		
Lab ID:	L1933935-04		Date Collected:	07/29/19 13:45
Client ID:	MS-MW04072919		Date Received:	07/31/19
Sample Location:	1001 MAIN ST.		Field Prep:	Not Specified
Sample Depth:				
Matrix:	Water			
Analytical Method:	1,8260C			
Analytical Date:	08/09/19 22:33			
Analyst:	PD			

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor			
Volatile Organics by GC/MS - Wes	/olatile Organics by GC/MS - Westborough Lab								
Methylene chloride	ND		ug/l	2.5	0.70	1			
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1			
Chloroform	0.96	J	ug/l	2.5	0.70	1			
Carbon tetrachloride	ND		ug/l	0.50	0.13	1			
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1			
Dibromochloromethane	0.48	J	ug/l	0.50	0.15	1			
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1			
Tetrachloroethene	ND		ug/l	0.50	0.18	1			
Chlorobenzene	ND		ug/l	2.5	0.70	1			
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1			
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1			
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1			
Bromodichloromethane	0.66		ug/l	0.50	0.19	1			
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1			
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1			
Bromoform	ND		ug/l	2.0	0.65	1			
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1			
Benzene	2.5		ug/l	0.50	0.16	1			
Toluene	ND		ug/l	2.5	0.70	1			
Ethylbenzene	2.5		ug/l	2.5	0.70	1			
Chloromethane	ND		ug/l	2.5	0.70	1			
Bromomethane	ND		ug/l	2.5	0.70	1			
Vinyl chloride	ND		ug/l	1.0	0.07	1			
Chloroethane	ND		ug/l	2.5	0.70	1			
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1			
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1			
Trichloroethene	0.45	J	ug/l	0.50	0.18	1			
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1			



					Ş	Serial_No	:08121919:22	
Project Name:	CONVENTUS				Lab Nu	mber:	L1933935	
Project Number:	K11.002.001				Report	Date:	08/12/19	
		SAMP		6	-			
Lab ID: Client ID: Sample Location:	L1933935-04 MS-MW04072919 1001 MAIN ST.				Date Col Date Rec Field Pre	ceived:	07/29/19 13:45 07/31/19 Not Specified	
Sample Depth:								
Parameter		Result	Qualifier	Units	RL	MDL	Dilution Factor	
Volatile Organics b	y GC/MS - Westborough	Lab						
1,3-Dichlorobenzene		ND		ug/l	2.5	0.70	1	
1,4-Dichlorobenzene		ND		ug/l	2.5	0.70	1	
Methyl tert butyl ether		ND		ug/l	2.5	0.70	1	
p/m-Xylene		ND		ug/l	2.5	0.70	1	
o-Xylene		1.1	J	ug/l	2.5	0.70	1	
cis-1,2-Dichloroethene		ND		ug/l	2.5	0.70	1	
Styrene		ND		ug/l	2.5	0.70	1	
Dichlorodifluoromethane		ND		ug/l	5.0	1.0	1	
Acetone		ND		ug/l	5.0	1.5	1	
Carbon disulfide		ND		ug/l	5.0	1.0	1	
2-Butanone		ND		ug/l	5.0	1.9	1	
4-Methyl-2-pentanone		ND		ug/l	5.0	1.0	1	
2-Hexanone		ND		ug/l	5.0	1.0	1	
Bromochloromethane		ND		ug/l	2.5	0.70	1	
1,2-Dibromoethane		ND		ug/l	2.0	0.65	1	
1,2-Dibromo-3-chloroprop	bane	ND		ug/l	2.5	0.70	1	
Isopropylbenzene		ND		ug/l	2.5	0.70	1	
1,2,3-Trichlorobenzene		ND		ug/l	2.5	0.70	1	
1,2,4-Trichlorobenzene		ND		ug/l	2.5	0.70	1	
Methyl Acetate		ND		ug/l	2.0	0.23	1	
Cyclohexane		1.6	J	ug/l	10	0.27	1	
1,4-Dioxane		ND		ug/l	250	61.	1	
Freon-113		ND		ug/l	2.5	0.70	1	
Methyl cyclohexane		ND		ug/l	10	0.40	1	

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
1,2-Dichloroethane-d4	117		70-130	
Toluene-d8	95		70-130	
4-Bromofluorobenzene	102		70-130	
Dibromofluoromethane	103		70-130	



			Serial_N	o:08121919:22
Project Name:	CONVENTUS		Lab Number:	L1933935
Project Number:	K11.002.001		Report Date:	08/12/19
		SAMPLE RESULTS		
Lab ID:	L1933935-05		Date Collected:	07/30/19 10:00
Client ID:	BCP-MW01073019		Date Received:	07/31/19
Sample Location:	1001 MAIN ST.		Field Prep:	Not Specified
Sample Depth:				
Matrix:	Water			
Analytical Method:	1,8260C			
Analytical Date:	08/09/19 22:55			
Analyst:	PD			

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westb	orough Lab					
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	0.15	J	ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1



						Serial_No	:08121919:22	
Project Name:	CONVENTUS				Lab Nu	mber:	L1933935	
Project Number:	K11.002.001				Report	Date:	08/12/19	
-		SAMPI		6	-			
Lab ID: Client ID: Sample Location:	L1933935-05 BCP-MW01073019 1001 MAIN ST.				Date Col Date Red Field Pre	ceived:	07/30/19 10:00 07/31/19 Not Specified	
Sample Depth:								
Parameter		Result	Qualifier	Units	RL	MDL	Dilution Factor	
Volatile Organics by	GC/MS - Westborough L	ab						
1,3-Dichlorobenzene		ND		ug/l	2.5	0.70	1	
1,4-Dichlorobenzene		ND		ug/l	2.5	0.70	1	
Methyl tert butyl ether		ND		ug/l	2.5	0.70	1	
p/m-Xylene		ND		ug/l	2.5	0.70	1	
o-Xylene		ND		ug/l	2.5	0.70	1	
cis-1,2-Dichloroethene		ND		ug/l	2.5	0.70	1	
Styrene		ND		ug/l	2.5	0.70	1	
Dichlorodifluoromethane		ND		ug/l	5.0	1.0	1	
Acetone		2.4	J	ug/l	5.0	1.5	1	
Carbon disulfide		ND		ug/l	5.0	1.0	1	
2-Butanone		ND		ug/l	5.0	1.9	1	
4-Methyl-2-pentanone		ND		ug/l	5.0	1.0	1	
2-Hexanone		ND		ug/l	5.0	1.0	1	
Bromochloromethane		ND		ug/l	2.5	0.70	1	
1,2-Dibromoethane		ND		ug/l	2.0	0.65	1	
1,2-Dibromo-3-chloropropar	ne	ND		ug/l	2.5	0.70	1	
Isopropylbenzene		ND		ug/l	2.5	0.70	1	
1,2,3-Trichlorobenzene		ND		ug/l	2.5	0.70	1	
1,2,4-Trichlorobenzene		ND		ug/l	2.5	0.70	1	
Methyl Acetate		ND		ug/l	2.0	0.23	1	
Cyclohexane		ND		ug/l	10	0.27	1	
1,4-Dioxane		ND		ug/l	250	61.	1	
Freon-113		ND		ug/l	2.5	0.70	1	
		ND		ug/l	10	0.40	1	

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
1,2-Dichloroethane-d4	120		70-130	
Toluene-d8	99		70-130	
4-Bromofluorobenzene	103		70-130	
Dibromofluoromethane	104		70-130	



			Serial_N	p:08121919:22
Project Name:	CONVENTUS		Lab Number:	L1933935
Project Number:	K11.002.001		Report Date:	08/12/19
		SAMPLE RESULTS		
Lab ID:	L1933935-06		Date Collected:	07/30/19 10:45
Client ID:	BCP-MW07073019		Date Received:	07/31/19
Sample Location:	1001 MAIN ST.		Field Prep:	Not Specified
Sample Depth:				
Matrix:	Water			
Analytical Method:	1,8260C			
Analytical Date:	08/09/19 23:17			
Analyst:	PD			
-				

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - We	estborough Lab					
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	0.77		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1

					Ş	Serial_No	:08121919:22	
Project Name:	CONVENTUS				Lab Nu	mber:	L1933935	
Project Number:	K11.002.001				Report	Date:	08/12/19	
-		SAMP		6	-			
Lab ID: Client ID: Sample Location:	L1933935-06 BCP-MW07073019 1001 MAIN ST.				Date Col Date Rec Field Pre	ceived:	07/30/19 10:45 07/31/19 Not Specified	
Sample Depth:								
Parameter		Result	Qualifier	Units	RL	MDL	Dilution Factor	
Volatile Organics b	y GC/MS - Westborough I	Lab						
	-							
1,3-Dichlorobenzene		ND		ug/l	2.5	0.70	1	
1,4-Dichlorobenzene		ND		ug/l	2.5	0.70	1	
Methyl tert butyl ether		ND		ug/l	2.5	0.70	1	
p/m-Xylene		ND		ug/l	2.5	0.70	1	
o-Xylene		ND		ug/l	2.5	0.70	1	
cis-1,2-Dichloroethene		ND		ug/l	2.5	0.70	1	
Styrene		ND		ug/l	2.5	0.70	1	
Dichlorodifluoromethane		ND		ug/l	5.0	1.0	1	
Acetone		4.2	J	ug/l	5.0	1.5	1	
Carbon disulfide		ND		ug/l	5.0	1.0	1	
2-Butanone		ND		ug/l	5.0	1.9	1	
4-Methyl-2-pentanone		ND		ug/l	5.0	1.0	1	
2-Hexanone		ND		ug/l	5.0	1.0	1	
Bromochloromethane		ND		ug/l	2.5	0.70	1	
1,2-Dibromoethane		ND		ug/l	2.0	0.65	1	
1,2-Dibromo-3-chloroprop	ane	ND		ug/l	2.5	0.70	1	
Isopropylbenzene		ND		ug/l	2.5	0.70	1	
1,2,3-Trichlorobenzene		ND		ug/l	2.5	0.70	1	
1,2,4-Trichlorobenzene		ND		ug/l	2.5	0.70	1	
Methyl Acetate		ND		ug/l	2.0	0.23	1	
Cyclohexane		ND		ug/l	10	0.27	1	
1,4-Dioxane		ND		ug/l	250	61.	1	
Freon-113		ND		ug/l	2.5	0.70	1	
Methyl cyclohexane		ND		ug/l	10	0.40	1	

Surrogate	% Recovery	Acceptance Qualifier Criteria
1,2-Dichloroethane-d4	125	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	95	70-130
Dibromofluoromethane	101	70-130



			Serial_N	o:08121919:22
Project Name:	CONVENTUS		Lab Number:	L1933935
Project Number:	K11.002.001		Report Date:	08/12/19
		SAMPLE RESULTS		
Lab ID: Client ID: Sample Location: Sample Depth: Matrix: Analytical Method: Analytical Date:	L1933935-07 BCP-MW04073019 1001 MAIN ST. Water 1,8260C 08/09/19 23:39 PD		Date Collected: Date Received: Field Prep:	07/30/19 11:20 07/31/19 Not Specified
Analyst:				

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor		
/olatile Organics by GC/MS - Westborough Lab								
Methylene chloride	ND		ug/l	2.5	0.70	1		
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1		
Chloroform	ND		ug/l	2.5	0.70	1		
Carbon tetrachloride	ND		ug/l	0.50	0.13	1		
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1		
Dibromochloromethane	ND		ug/l	0.50	0.15	1		
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1		
Tetrachloroethene	ND		ug/l	0.50	0.18	1		
Chlorobenzene	ND		ug/l	2.5	0.70	1		
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1		
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1		
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1		
Bromodichloromethane	ND		ug/l	0.50	0.19	1		
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1		
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1		
Bromoform	ND		ug/l	2.0	0.65	1		
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1		
Benzene	6.7		ug/l	0.50	0.16	1		
Toluene	ND		ug/l	2.5	0.70	1		
Ethylbenzene	2.0	J	ug/l	2.5	0.70	1		
Chloromethane	ND		ug/l	2.5	0.70	1		
Bromomethane	ND		ug/l	2.5	0.70	1		
Vinyl chloride	ND		ug/l	1.0	0.07	1		
Chloroethane	ND		ug/l	2.5	0.70	1		
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1		
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1		
Trichloroethene	ND		ug/l	0.50	0.18	1		
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1		



					ç	Serial_No	:08121919:22	
Project Name:	CONVENTUS				Lab Nu	mber:	L1933935	
Project Number:	K11.002.001				Report	Date:	08/12/19	
-		SAMPI		6	•			
Lab ID:	L1933935-07				Date Col	lected:	07/30/19 11:20	
Client ID:	BCP-MW04073019				Date Red	ceived:	07/31/19	
Sample Location:	1001 MAIN ST.				Field Pre	ep:	Not Specified	
Sample Depth:								
Parameter		Result	Qualifier	Units	RL	MDL	Dilution Factor	
	y GC/MS - Westborough							
Volatile Organics b		Lab						
1,3-Dichlorobenzene		ND		ug/l	2.5	0.70	1	
1,4-Dichlorobenzene		ND		ug/l	2.5	0.70	1	
Methyl tert butyl ether		ND		ug/l	2.5	0.70	1	
p/m-Xylene		ND		ug/l	2.5	0.70	1	
o-Xylene		ND		ug/l	2.5	0.70	1	
cis-1,2-Dichloroethene		ND		ug/l	2.5	0.70	1	
Styrene		ND		ug/l	2.5	0.70	1	
Dichlorodifluoromethane		ND		ug/l	5.0	1.0	1	
Acetone		ND		ug/l	5.0	1.5	1	
Carbon disulfide		ND		ug/l	5.0	1.0	1	
2-Butanone		ND		ug/l	5.0	1.9	1	
4-Methyl-2-pentanone		ND		ug/l	5.0	1.0	1	
2-Hexanone		ND		ug/l	5.0	1.0	1	
Bromochloromethane		ND		ug/l	2.5	0.70	1	
1,2-Dibromoethane		ND		ug/l	2.0	0.65	1	
1,2-Dibromo-3-chloroprop	ane	ND		ug/l	2.5	0.70	1	
Isopropylbenzene		1.3	J	ug/l	2.5	0.70	1	
1,2,3-Trichlorobenzene		ND		ug/l	2.5	0.70	1	
1,2,4-Trichlorobenzene		ND		ug/l	2.5	0.70	1	
Methyl Acetate		ND		ug/l	2.0	0.23	1	
Cyclohexane		0.41	J	ug/l	10	0.27	1	
1,4-Dioxane		ND		ug/l	250	61.	1	
Freon-113		ND		ug/l	2.5	0.70	1	
Methyl cyclohexane		ND		ug/l	10	0.40	1	

Surrogate	% Recovery	Acceptance Qualifier Criteria	
1,2-Dichloroethane-d4	128	70-130	
Toluene-d8	100	70-130	
4-Bromofluorobenzene	100	70-130	
Dibromofluoromethane	108	70-130	



			Serial_N	o:08121919:22
Project Name:	CONVENTUS		Lab Number:	L1933935
Project Number:	K11.002.001		Report Date:	08/12/19
		SAMPLE RESULTS		
Lab ID:	L1933935-08		Date Collected:	07/30/19 12:05
Client ID:	BCP-MW03073019		Date Received:	07/31/19
Sample Location:	1001 MAIN ST.		Field Prep:	Not Specified
Sample Depth:				
Matrix:	Water			
Analytical Method:	1,8260C			
Analytical Date:	08/10/19 00:01			
Analyst:	PD			
•				

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Wes	tborough Lab					
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1



					ç	Serial_No	:08121919:22	
Project Name:	CONVENTUS				Lab Nu	mber:	L1933935	
Project Number:	K11.002.001				Report	Date:	08/12/19	
		SAMP		5	-			
Lab ID: Client ID: Sample Location:	L1933935-08 BCP-MW03073019 1001 MAIN ST.				Date Col Date Rec Field Pre	ceived:	07/30/19 12:05 07/31/19 Not Specified	
Sample Depth:								
Parameter		Result	Qualifier	Units	RL	MDL	Dilution Factor	
Volatile Organics b	y GC/MS - Westborough	Lab						
		ND			0.5	0.70	<u>.</u>	
1,3-Dichlorobenzene		ND		ug/l	2.5	0.70	1	
1,4-Dichlorobenzene		ND		ug/l	2.5	0.70	1	
Methyl tert butyl ether		ND		ug/l	2.5	0.70	1	
p/m-Xylene		ND		ug/l	2.5	0.70		
o-Xylene		ND		ug/l	2.5	0.70	1	
cis-1,2-Dichloroethene		ND		ug/l	2.5	0.70	1	
Styrene Dichlorodifluoromethane		ND ND		ug/l	5.0	0.70	1	
		2.1	J	ug/l	5.0	1.0	1	
Acetone Carbon disulfide		ND	J	ug/l	5.0	1.0	1	
2-Butanone		ND		ug/l	5.0	1.0	1	
4-Methyl-2-pentanone		ND		ug/l	5.0	1.9	1	
2-Hexanone		ND		ug/l	5.0	1.0	1	
Bromochloromethane		ND		ug/l ug/l	2.5	0.70	1	
1,2-Dibromoethane		ND		ug/l	2.0	0.65	1	
1,2-Dibromo-3-chloroprop	ane	ND		ug/l	2.5	0.70	1	
Isopropylbenzene		ND		ug/l	2.5	0.70	1	
1.2.3-Trichlorobenzene		ND		ug/l	2.5	0.70	1	
1,2,4-Trichlorobenzene		ND		ug/l	2.5	0.70	1	
Methyl Acetate		ND		ug/l	2.0	0.23	1	
Cyclohexane		ND		ug/l	10	0.20	1	
1,4-Dioxane		ND		ug/l	250	61.	1	
Freon-113		ND		ug/l	2.5	0.70	1	
Methyl cyclohexane		ND		ug/l	10	0.40	1	
				~9/ ·			•	

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
1,2-Dichloroethane-d4	122		70-130	
Toluene-d8	98		70-130	
4-Bromofluorobenzene	97		70-130	
Dibromofluoromethane	104		70-130	



			Serial_N	o:08121919:22
Project Name:	CONVENTUS		Lab Number:	L1933935
Project Number:	K11.002.001		Report Date:	08/12/19
		SAMPLE RESULTS		
Lab ID:	L1933935-09		Date Collected:	07/30/19 13:00
Client ID:	BCP-MW06073019		Date Received:	07/31/19
Sample Location:	1001 MAIN ST.		Field Prep:	Not Specified
Sample Depth:				
Matrix:	Water			
Analytical Method:	1,8260C			
Analytical Date:	08/10/19 00:23			
Analyst:	PD			
-				

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westb	orough Lab					
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1



					;	Serial_No	:08121919:22	
Project Name:	CONVENTUS				Lab Nu	mber:	L1933935	
Project Number:	K11.002.001				Report	Date:	08/12/19	
•		SAMP		6				
Lab ID: Client ID: Sample Location:	L1933935-09 BCP-MW06073019 1001 MAIN ST.				Date Col Date Red Field Pre	ceived:	07/30/19 13:00 07/31/19 Not Specified	
Sample Depth:								
Parameter		Result	Qualifier	Units	RL	MDL	Dilution Factor	
Volatile Organics b	y GC/MS - Westborough	Lab						
1,3-Dichlorobenzene		ND		ug/l	2.5	0.70	1	
1,4-Dichlorobenzene		ND		ug/l	2.5	0.70	1	
Methyl tert butyl ether		ND		ug/l	2.5	0.70	1	
p/m-Xylene		ND		ug/l	2.5	0.70	1	
o-Xylene		ND		ug/l	2.5	0.70	1	
cis-1,2-Dichloroethene		ND		ug/l	2.5	0.70	1	
Styrene		ND		ug/l	2.5	0.70	1	
Dichlorodifluoromethane		ND		ug/l	5.0	1.0	1	
Acetone		ND		ug/l	5.0	1.5	1	
Carbon disulfide		ND		ug/l	5.0	1.0	1	
2-Butanone		ND		ug/l	5.0	1.9	1	
4-Methyl-2-pentanone		ND		ug/l	5.0	1.0	1	
2-Hexanone		ND		ug/l	5.0	1.0	1	
Bromochloromethane		ND		ug/l	2.5	0.70	1	
1,2-Dibromoethane		ND		ug/l	2.0	0.65	1	
1,2-Dibromo-3-chloroprop	ane	ND		ug/l	2.5	0.70	1	
Isopropylbenzene		ND		ug/l	2.5	0.70	1	
1,2,3-Trichlorobenzene		ND		ug/l	2.5	0.70	1	
1,2,4-Trichlorobenzene		ND		ug/l	2.5	0.70	1	
Methyl Acetate		ND		ug/l	2.0	0.23	1	
Cyclohexane		0.60	J	ug/l	10	0.27	1	
1,4-Dioxane		ND		ug/l	250	61.	1	
Freon-113		ND		ug/l	2.5	0.70	1	
Methyl cyclohexane		ND		ug/l	10	0.40	1	

Surrogate	% Recovery	Acceptance Qualifier Criteria	
1,2-Dichloroethane-d4	127	70-130	
Toluene-d8	97	70-130	
4-Bromofluorobenzene	101	70-130	
Dibromofluoromethane	105	70-130	



			Serial_N	o:08121919:22
Project Name:	CONVENTUS		Lab Number:	L1933935
Project Number:	K11.002.001		Report Date:	08/12/19
		SAMPLE RESULTS		
Lab ID:	L1933935-10		Date Collected:	07/30/19 14:00
Client ID:	BCP-MW05073019		Date Received:	07/31/19
Sample Location:	1001 MAIN ST.		Field Prep:	Not Specified
Sample Depth:				
Matrix:	Water			
Analytical Method:	1,8260C			
Analytical Date:	08/10/19 00:45			
Analyst:	PD			

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Wes	tborough Lab					
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	3.3		ug/l	0.50	0.16	1
Toluene	38		ug/l	2.5	0.70	1
Ethylbenzene	520	Е	ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
Trichloroethene	0.22	J	ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1



						Serial_No	:08121919:22	
Project Name:	CONVENTUS				Lab Nu	mber:	L1933935	
Project Number:	K11.002.001				Report	Date:	08/12/19	
•		SAMP		5				
Lab ID: Client ID: Sample Location:	L1933935-10 BCP-MW05073019 1001 MAIN ST.				Date Col Date Ree Field Pre	ceived:	07/30/19 14:00 07/31/19 Not Specified	
Sample Depth:								
Parameter		Result	Qualifier	Units	RL	MDL	Dilution Factor	
Volatile Organics b	y GC/MS - Westborough	Lab						
1,3-Dichlorobenzene		ND		ug/l	2.5	0.70	1	
1,4-Dichlorobenzene		ND		ug/l	2.5	0.70	1	
Methyl tert butyl ether		ND		ug/l	2.5	0.70	1	
p/m-Xylene		1800	E	ug/l	2.5	0.70	1	
o-Xylene		79		ug/l	2.5	0.70	1	
cis-1,2-Dichloroethene		ND		ug/l	2.5	0.70	1	
Styrene		ND		ug/l	2.5	0.70	1	
Dichlorodifluoromethane		ND		ug/l	5.0	1.0	1	
Acetone		44		ug/l	5.0	1.5	1	
Carbon disulfide		1.2	J	ug/l	5.0	1.0	1	
2-Butanone		ND		ug/l	5.0	1.9	1	
4-Methyl-2-pentanone		3.0	J	ug/l	5.0	1.0	1	
2-Hexanone		2.7	J	ug/l	5.0	1.0	1	
Bromochloromethane		ND		ug/l	2.5	0.70	1	
1,2-Dibromoethane		ND		ug/l	2.0	0.65	1	
1,2-Dibromo-3-chloroprop	bane	ND		ug/l	2.5	0.70	1	
Isopropylbenzene		23		ug/l	2.5	0.70	1	
1,2,3-Trichlorobenzene		ND		ug/l	2.5	0.70	1	
1,2,4-Trichlorobenzene		ND		ug/l	2.5	0.70	1	
Methyl Acetate		ND		ug/l	2.0	0.23	1	
Cyclohexane		140		ug/l	10	0.27	1	
1,4-Dioxane		ND		ug/l	250	61.	1	
Freon-113		ND		ug/l	2.5	0.70	1	
Methyl cyclohexane		65		ug/l	10	0.40	1	

Surrogate	% Recovery	Acceptance Qualifier Criteria	
1,2-Dichloroethane-d4	96	70-130	
Toluene-d8	99	70-130	
4-Bromofluorobenzene	92	70-130	
Dibromofluoromethane	70	70-130	



			Serial_No	p:08121919:22
Project Name:	CONVENTUS		Lab Number:	L1933935
Project Number:	K11.002.001		Report Date:	08/12/19
		SAMPLE RESULTS		
Lab ID: Client ID: Sample Location:	L1933935-10 D2 BCP-MW05073019 1001 MAIN ST.		Date Collected: Date Received: Field Prep:	07/30/19 14:00 07/31/19 Not Specified
Sample Depth: Matrix: Analytical Method: Analytical Date: Analyst:	Water 1,8260C 08/12/19 17:33 AD			

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - We	stborough Lab					
p/m-Xylene	4000		ug/l	100	28.	40
Surrogate			% Recovery	Qualifier		eptance riteria
1,2-Dichloroethane-d4			99			70-130
Toluene-d8			97			70-130
4-Bromofluorobenzene			99			70-130
Dibromofluoromethane			98			70-130



			Serial_No	p:08121919:22
Project Name:	CONVENTUS		Lab Number:	L1933935
Project Number:	K11.002.001		Report Date:	08/12/19
		SAMPLE RESULTS		
Lab ID: Client ID: Sample Location:	L1933935-10 D BCP-MW05073019 1001 MAIN ST.		Date Collected: Date Received: Field Prep:	07/30/19 14:00 07/31/19 Not Specified
Sample Depth: Matrix: Analytical Method: Analytical Date: Analyst:	Water 1,8260C 08/12/19 15:39 AD			

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough	Lab					
Ethylbenzene	1200		ug/l	25	7.0	10
p/m-Xylene	4500	E	ug/l	25	7.0	10
Surrogate			% Recovery	Qualifier		eptance iteria
1,2-Dichloroethane-d4			103		7	70-130
Toluene-d8			97		7	70-130
4-Bromofluorobenzene			95		7	70-130
Dibromofluoromethane			93		7	70-130



			Serial_N	o:08121919:22	
Project Name:	CONVENTUS		Lab Number:	L1933935	
Project Number:	K11.002.001		Report Date:	08/12/19	
		SAMPLE RESULTS			
Lab ID:	L1933935-11		Date Collected:	07/30/19 15:00	
Client ID:	TRIP BLANKS		Date Received:	07/31/19	
Sample Location:	1001 MAIN ST.		Field Prep:	Not Specified	
Sample Depth:					
Matrix:	Water				
Analytical Method:	1,8260C				
Analytical Date:	08/12/19 14:43				
Analyst:	AD				
Client ID: Sample Location: Sample Depth: Matrix: Analytical Method: Analytical Date:	TRIP BLANKS 1001 MAIN ST. Water 1,8260C 08/12/19 14:43	SAMPLE RESULTS	Date Received:	07/31/19	

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - We	stborough Lab					
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1



					Serial_No:08121919:22			
Project Name:	CONVENTUS				Lab Nu	ımber:	L1933935	
Project Number:	K11.002.001				Report	Date:	08/12/19	
		SAMP		5				
Lab ID:	L1933935-11				Date Co	llected:	07/30/19 15:00	
Client ID:	TRIP BLANKS				Date Re	ceived:	07/31/19	
Sample Location:	1001 MAIN ST.				Field Pre	ep:	Not Specified	
Sample Depth:								
Parameter		Result	Qualifier	Units	RL	MDL	Dilution Factor	
Volatile Organics by GC/MS - Westborough Lab								
1,3-Dichlorobenzene		ND		ug/l	2.5	0.70	1	

1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	
Methyl tert butyl ether	ND		ug/l	2.5	0.70	
p/m-Xylene	ND		ug/l	2.5	0.70	
o-Xylene	ND		ug/l	2.5	0.70	
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70	
Styrene	ND		ug/l	2.5	0.70	
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	
Acetone	4.1	J	ug/l	5.0	1.5	
Carbon disulfide	ND		ug/l	5.0	1.0	
2-Butanone	ND		ug/l	5.0	1.9	
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	
2-Hexanone	ND		ug/l	5.0	1.0	
Bromochloromethane	ND		ug/l	2.5	0.70	
1,2-Dibromoethane	ND		ug/l	2.0	0.65	
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	
Isopropylbenzene	ND		ug/l	2.5	0.70	
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	
Methyl Acetate	ND		ug/l	2.0	0.23	
Cyclohexane	ND		ug/l	10	0.27	
1,4-Dioxane	ND		ug/l	250	61.	
Freon-113	ND		ug/l	2.5	0.70	

ND

Surrogate	% Recovery	Acceptance Qualifier Criteria	
1,2-Dichloroethane-d4	103	70-130	
Toluene-d8	97	70-130	
4-Bromofluorobenzene	96	70-130	
Dibromofluoromethane	101	70-130	

ug/l

0.40



Methyl cyclohexane

08/12/19

Lab Number:

Report Date:

CONVENTUS

Project Number: K11.002.001

Project Name:

Method Blank Analysis Batch Quality Control

Analytical Method:1,8260CAnalytical Date:08/09/19 10:54Analyst:PD

arameter	Result	Qualifier Units	RL	MDL
olatile Organics by GC/MS -	Westborough La	b for sample(s): 01-02	Batch:	WG1271358-5
Methylene chloride	ND	ug/l	2.5	0.70
1,1-Dichloroethane	ND	ug/l	2.5	0.70
Chloroform	ND	ug/l	2.5	0.70
Carbon tetrachloride	ND	ug/l	0.50	0.13
1,2-Dichloropropane	ND	ug/l	1.0	0.14
Dibromochloromethane	ND	ug/l	0.50	0.15
1,1,2-Trichloroethane	ND	ug/l	1.5	0.50
Tetrachloroethene	ND	ug/l	0.50	0.18
Chlorobenzene	ND	ug/l	2.5	0.70
Trichlorofluoromethane	ND	ug/l	2.5	0.70
1,2-Dichloroethane	ND	ug/l	0.50	0.13
1,1,1-Trichloroethane	ND	ug/l	2.5	0.70
Bromodichloromethane	ND	ug/l	0.50	0.19
trans-1,3-Dichloropropene	ND	ug/l	0.50	0.16
cis-1,3-Dichloropropene	ND	ug/l	0.50	0.14
Bromoform	ND	ug/l	2.0	0.65
1,1,2,2-Tetrachloroethane	ND	ug/l	0.50	0.17
Benzene	ND	ug/l	0.50	0.16
Toluene	ND	ug/l	2.5	0.70
Ethylbenzene	ND	ug/l	2.5	0.70
Chloromethane	ND	ug/l	2.5	0.70
Bromomethane	ND	ug/l	2.5	0.70
Vinyl chloride	ND	ug/l	1.0	0.07
Chloroethane	ND	ug/l	2.5	0.70
1,1-Dichloroethene	ND	ug/l	0.50	0.17
trans-1,2-Dichloroethene	ND	ug/l	2.5	0.70
Trichloroethene	ND	ug/l	0.50	0.18
1,2-Dichlorobenzene	ND	ug/l	2.5	0.70
1,3-Dichlorobenzene	ND	ug/l	2.5	0.70



08/12/19

Lab Number:

Report Date:

Project Name: CONVENTUS

Project Number: K11.002.001

Method Blank Analysis Batch Quality Control

Analytical Method:1,8260CAnalytical Date:08/09/19 10:54Analyst:PD

arameter	Result	Qualifier Units	RL	MDL
olatile Organics by GC/MS -	Westborough Lab	for sample(s): 01-02	Batch:	WG1271358-5
1,4-Dichlorobenzene	ND	ug/l	2.5	0.70
Methyl tert butyl ether	ND	ug/l	2.5	0.70
p/m-Xylene	ND	ug/l	2.5	0.70
o-Xylene	ND	ug/l	2.5	0.70
cis-1,2-Dichloroethene	ND	ug/l	2.5	0.70
Styrene	ND	ug/l	2.5	0.70
Dichlorodifluoromethane	ND	ug/l	5.0	1.0
Acetone	ND	ug/l	5.0	1.5
Carbon disulfide	ND	ug/l	5.0	1.0
2-Butanone	ND	ug/l	5.0	1.9
4-Methyl-2-pentanone	ND	ug/l	5.0	1.0
2-Hexanone	ND	ug/l	5.0	1.0
Bromochloromethane	ND	ug/l	2.5	0.70
1,2-Dibromoethane	ND	ug/l	2.0	0.65
1,2-Dibromo-3-chloropropane	ND	ug/l	2.5	0.70
Isopropylbenzene	ND	ug/l	2.5	0.70
1,2,3-Trichlorobenzene	ND	ug/l	2.5	0.70
1,2,4-Trichlorobenzene	ND	ug/l	2.5	0.70
Methyl Acetate	ND	ug/l	2.0	0.23
Cyclohexane	ND	ug/l	10	0.27
1,4-Dioxane	ND	ug/l	250	61.
Freon-113	ND	ug/l	2.5	0.70
Methyl cyclohexane	ND	ug/l	10	0.40



Project Name:	CONVENTUS	Lab Number:	L1933935
Project Number:	K11.002.001	Report Date:	08/12/19

Method Blank Analysis Batch Quality Control

Analytical Method:1,8260CAnalytical Date:08/09/19 10:54Analyst:PD

Parameter	Result	Qualifier	Units	RL	MDL	
Volatile Organics by GC/MS - Wes	tborough La	b for sample	e(s): 01-02	Batch:	WG1271358-5	

		Acceptance		
Surrogate	%Recovery Q	ualifier	Criteria	
1,2-Dichloroethane-d4	126		70-130	
Toluene-d8	98		70-130	
4-Bromofluorobenzene	101		70-130	
Dibromofluoromethane	104		70-130	



Lab Number: **Report Date:**

L1933935 08/12/19

Project Name: CONVENTUS

Project Number: K11.002.001

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C Analytical Date: 08/09/19 22:11 Analyst: ΡK

arameter	Result	Qualifier Units	RL	MDL
olatile Organics by GC/MS - V	Westborough La	b for sample(s): 04	-10 Batch:	WG1271370-5
Methylene chloride	ND	ug/l	2.5	0.70
1,1-Dichloroethane	ND	ug/l	2.5	0.70
Chloroform	ND	ug/l	2.5	0.70
Carbon tetrachloride	ND	ug/l	0.50	0.13
1,2-Dichloropropane	ND	ug/l	1.0	0.14
Dibromochloromethane	ND	ug/l	0.50	0.15
1,1,2-Trichloroethane	ND	ug/l	1.5	0.50
Tetrachloroethene	ND	ug/l	0.50	0.18
Chlorobenzene	ND	ug/l	2.5	0.70
Trichlorofluoromethane	ND	ug/l	2.5	0.70
1,2-Dichloroethane	ND	ug/l	0.50	0.13
1,1,1-Trichloroethane	ND	ug/l	2.5	0.70
Bromodichloromethane	ND	ug/l	0.50	0.19
trans-1,3-Dichloropropene	ND	ug/l	0.50	0.16
cis-1,3-Dichloropropene	ND	ug/l	0.50	0.14
Bromoform	ND	ug/l	2.0	0.65
1,1,2,2-Tetrachloroethane	ND	ug/l	0.50	0.17
Benzene	ND	ug/l	0.50	0.16
Toluene	ND	ug/l	2.5	0.70
Ethylbenzene	ND	ug/l	2.5	0.70
Chloromethane	ND	ug/l	2.5	0.70
Bromomethane	ND	ug/l	2.5	0.70
Vinyl chloride	ND	ug/l	1.0	0.07
Chloroethane	ND	ug/l	2.5	0.70
1,1-Dichloroethene	ND	ug/l	0.50	0.17
trans-1,2-Dichloroethene	ND	ug/l	2.5	0.70
Trichloroethene	ND	ug/l	0.50	0.18
1,2-Dichlorobenzene	ND	ug/l	2.5	0.70
1,3-Dichlorobenzene	ND	ug/l	2.5	0.70



 Lab Number:
 L1933935

 Report Date:
 08/12/19

Project Name:CONVENTUSProject Number:K11.002.001

Method Blank Analysis Batch Quality Control

Analytical Method:1,8260CAnalytical Date:08/09/19 22:11Analyst:PK

arameter	Result	Qualifier Units	RL	MDL
olatile Organics by GC/MS - \	Nestborough Lab	for sample(s): 04-10	Batch:	WG1271370-5
1,4-Dichlorobenzene	ND	ug/l	2.5	0.70
Methyl tert butyl ether	ND	ug/l	2.5	0.70
p/m-Xylene	ND	ug/l	2.5	0.70
o-Xylene	ND	ug/l	2.5	0.70
cis-1,2-Dichloroethene	ND	ug/l	2.5	0.70
Styrene	ND	ug/l	2.5	0.70
Dichlorodifluoromethane	ND	ug/l	5.0	1.0
Acetone	ND	ug/l	5.0	1.5
Carbon disulfide	ND	ug/l	5.0	1.0
2-Butanone	ND	ug/l	5.0	1.9
4-Methyl-2-pentanone	ND	ug/l	5.0	1.0
2-Hexanone	ND	ug/l	5.0	1.0
Bromochloromethane	ND	ug/l	2.5	0.70
1,2-Dibromoethane	ND	ug/l	2.0	0.65
1,2-Dibromo-3-chloropropane	ND	ug/l	2.5	0.70
Isopropylbenzene	ND	ug/l	2.5	0.70
1,2,3-Trichlorobenzene	ND	ug/l	2.5	0.70
1,2,4-Trichlorobenzene	ND	ug/l	2.5	0.70
Methyl Acetate	ND	ug/l	2.0	0.23
Cyclohexane	ND	ug/l	10	0.27
1,4-Dioxane	ND	ug/l	250	61.
Freon-113	ND	ug/l	2.5	0.70
Methyl cyclohexane	ND	ug/l	10	0.40



Project Name:	CONVENTUS	Lab Number:	L1933935
Project Number:	K11.002.001	Report Date:	08/12/19

Method Blank Analysis Batch Quality Control

Analytical Method:1,8260CAnalytical Date:08/09/19 22:11Analyst:PK

Parameter	Result	Qualifier	Units	RL	MDL	
Volatile Organics by GC/MS - Wes	tborough La	b for sample	e(s): 04-10	Batch:	WG1271370-5	

		Acceptance	
Surrogate	%Recovery Qua	lifier Criteria	
1,2-Dichloroethane-d4	122	70-130	
Toluene-d8	99	70-130	
4-Bromofluorobenzene	99	70-130	
Dibromofluoromethane	103	70-130	



CONVENTUS

Project Number: K11.002.001

Project Name:

 Lab Number:
 L1933935

 Report Date:
 08/12/19

Method Blank Analysis Batch Quality Control

Analytical Method:1,8260CAnalytical Date:08/12/19 10:27Analyst:PD

arameter	Result	Qualifier Unit	s RL	-	MDL
olatile Organics by GC/MS - V	Vestborough La	b for sample(s):	03,10-11	Batch:	WG1271456-5
Methylene chloride	ND	ug	/I 2.5	5	0.70
1,1-Dichloroethane	ND	ug	/I 2.5	5	0.70
Chloroform	ND	ug	/I 2.5	5	0.70
Carbon tetrachloride	ND	ug	/I 0.5	0	0.13
1,2-Dichloropropane	ND	ug	/I 1.0)	0.14
Dibromochloromethane	ND	ug	/I 0.5	0	0.15
1,1,2-Trichloroethane	ND	ug	/I 1.5	5	0.50
Tetrachloroethene	ND	ug	/I 0.5	0	0.18
Chlorobenzene	ND	ug	/I 2.5	5	0.70
Trichlorofluoromethane	ND	ug	/I 2.5	5	0.70
1,2-Dichloroethane	ND	ug	/I 0.5	0	0.13
1,1,1-Trichloroethane	ND	ug	/I 2.5	5	0.70
Bromodichloromethane	ND	ug	/I 0.5	0	0.19
trans-1,3-Dichloropropene	ND	ug	/I 0.5	0	0.16
cis-1,3-Dichloropropene	ND	ug	/I 0.5	0	0.14
Bromoform	ND	ug	/I 2.0)	0.65
1,1,2,2-Tetrachloroethane	ND	ug	/I 0.5	0	0.17
Benzene	ND	ug	/I 0.5	0	0.16
Toluene	ND	ug	/I 2.5	5	0.70
Ethylbenzene	ND	ug	/I 2.5	5	0.70
Chloromethane	ND	ug	/I 2.5	5	0.70
Bromomethane	ND	ug	/I 2.5	5	0.70
Vinyl chloride	ND	ug	/I 1.0)	0.07
Chloroethane	ND	ug	/I 2.5	5	0.70
1,1-Dichloroethene	ND	ug	/I 0.5	0	0.17
trans-1,2-Dichloroethene	ND	ug	/I 2.5	5	0.70
Trichloroethene	ND	ug	/I 0.5	0	0.18
1,2-Dichlorobenzene	ND	ug	/I 2.5	5	0.70
1,3-Dichlorobenzene	ND	ug	/I 2.5	5	0.70



08/12/19

Lab Number:

Report Date:

Project Name: CONVENTUS

Project Number: K11.002.001

Method Blank Analysis Batch Quality Control

Analytical Method:1,8260CAnalytical Date:08/12/19 10:27Analyst:PD

arameter	Result	Qualifier Units	s RL	-	MDL
olatile Organics by GC/MS -	Westborough La	b for sample(s):	03,10-11	Batch:	WG1271456-5
1,4-Dichlorobenzene	ND	ug/	1 2.5	5	0.70
Methyl tert butyl ether	ND	ug/	2.5	5	0.70
p/m-Xylene	ND	ug/	2.5	;	0.70
o-Xylene	ND	ug/	2.5	;	0.70
cis-1,2-Dichloroethene	ND	ug/	2.5	;	0.70
Styrene	ND	ug/	2.5	;	0.70
Dichlorodifluoromethane	ND	ug/	I 5.0)	1.0
Acetone	ND	ug/	I 5.0)	1.5
Carbon disulfide	ND	ug/	I 5.0)	1.0
2-Butanone	ND	ug/	I 5.0)	1.9
4-Methyl-2-pentanone	ND	ug/	I 5.0)	1.0
2-Hexanone	ND	ug/	I 5.0)	1.0
Bromochloromethane	ND	ug/	2.5	;	0.70
1,2-Dibromoethane	ND	ug/	1 2.0)	0.65
1,2-Dibromo-3-chloropropane	ND	ug/	2.5	;	0.70
Isopropylbenzene	ND	ug/	2.5	;	0.70
1,2,3-Trichlorobenzene	ND	ug/	2.5	;	0.70
1,2,4-Trichlorobenzene	ND	ug/	2.5	;	0.70
Methyl Acetate	ND	ug/	I 2.0)	0.23
Cyclohexane	ND	ug/	l 10		0.27
1,4-Dioxane	ND	ug/	250)	61.
Freon-113	ND	ug/	2.5	;	0.70
Methyl cyclohexane	ND	ug/	I 10		0.40



Project Name:	CONVENTUS	Lab Number:	L1933935
Project Number:	K11.002.001	Report Date:	08/12/19

Method Blank Analysis Batch Quality Control

Analytical Method:1,8260CAnalytical Date:08/12/19 10:27Analyst:PD

Parameter	Result	Qualifier	Units	R	L	MDL	
Volatile Organics by GC/MS - West	borough La	b for sample	e(s):	03,10-11	Batch:	WG1271456-5	

		Acceptan	се
Surrogate	%Recovery 0	Qualifier Criteria	
1,2-Dichloroethane-d4	102	70-130	
Toluene-d8	98	70-130	
4-Bromofluorobenzene	99	70-130	
Dibromofluoromethane	100	70-130	



arameter	LCS %Recovery Qual	LCSD %Recovery	%Recovery Qual Limits	RPD	RPD Qual Limits
olatile Organics by GC/MS - Westbord	ough Lab Associated sample(s): 01-02 Batch:	WG1271358-3 WG1271358-4		
Methylene chloride	91	92	70-130	1	20
1,1-Dichloroethane	100	100	70-130	0	20
Chloroform	110	100	70-130	10	20
Carbon tetrachloride	120	110	63-132	9	20
1,2-Dichloropropane	93	92	70-130	1	20
Dibromochloromethane	100	110	63-130	10	20
1,1,2-Trichloroethane	93	97	70-130	4	20
Tetrachloroethene	90	95	70-130	5	20
Chlorobenzene	95	99	75-130	4	20
Trichlorofluoromethane	110	100	62-150	10	20
1,2-Dichloroethane	110	110	70-130	0	20
1,1,1-Trichloroethane	110	110	67-130	0	20
Bromodichloromethane	100	100	67-130	0	20
trans-1,3-Dichloropropene	98	100	70-130	2	20
cis-1,3-Dichloropropene	98	97	70-130	1	20
Bromoform	100	100	54-136	0	20
1,1,2,2-Tetrachloroethane	97	94	67-130	3	20
Benzene	96	97	70-130	1	20
Toluene	93	95	70-130	2	20
Ethylbenzene	99	100	70-130	1	20
Chloromethane	88	87	64-130	1	20
Bromomethane	87	83	39-139	5	20
Vinyl chloride	88	82	55-140	7	20



Lab Control Sample Analysis

Batch Quality Control

Lab Number: L1933935 Report Date: 08/12/19

LCSD LCS RPD %Recovery %Recovery RPD %Recovery Limits Limits Parameter Qual Qual Qual Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG1271358-3 WG1271358-4 Chloroethane 100 100 55-138 0 20 1.1-Dichloroethene 88 90 61-145 2 20 trans-1.2-Dichloroethene 99 93 70-130 20 6 Trichloroethene 100 100 70-130 20 0 1,2-Dichlorobenzene 100 70-130 20 100 0 1.3-Dichlorobenzene 100 100 70-130 0 20 99 98 70-130 20 1.4-Dichlorobenzene 1 Methyl tert butyl ether 100 100 63-130 0 20 p/m-Xylene 100 100 70-130 0 20 o-Xylene 100 100 70-130 0 20 cis-1,2-Dichloroethene 99 94 70-130 5 20 Styrene 100 105 70-130 5 20 Dichlorodifluoromethane 88 87 36-147 1 20 58-148 20 110 100 10 Acetone Carbon disulfide 91 84 51-130 8 20 2-Butanone 91 78 63-138 15 20 4-Methyl-2-pentanone 92 88 59-130 20 4 57-130 20 2-Hexanone 93 89 4 Bromochloromethane 70-130 20 100 99 1 1,2-Dibromoethane 98 100 70-130 2 20 1,2-Dibromo-3-chloropropane 85 96 41-144 12 20 20 Isopropylbenzene 99 100 70-130 1 20 1,2,3-Trichlorobenzene 98 100 70-130 2



Project Name: CONVENTUS Project Number: K11.002.001

Parameter	LCS %Recovery	Qual	LCSD %Recove		%Recovery Limits	RPD	Qual	RPD Limits	
Volatile Organics by GC/MS - Westborough L	•			,			<u>_</u>		
		sumple(s).	0102 Dato	1. WO1271000 0					
1,2,4-Trichlorobenzene	98		100		70-130	2		20	
Methyl Acetate Cyclohexane	92 91		87		70-130	6		20	
1,4-Dioxane	96		94		56-162	2		20	
Freon-113	100		94		70-130	6		20	
Methyl cyclohexane	88		86		70-130	2		20	

Surrogate	LCS %Recovery Qual	LCSD %Recovery Qual	Acceptance Criteria
1,2-Dichloroethane-d4	112	113	70-130
Toluene-d8	98	100	70-130
4-Bromofluorobenzene	99	100	70-130
Dibromofluoromethane	102	104	70-130



Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	RPD Limits
Volatile Organics by GC/MS - Westborough I	ab Associated	sample(s):	04-10 Batch:	WG1271370-3	WG1271370-4		
Methylene chloride	95		89		70-130	7	 20
1,1-Dichloroethane	92		86		70-130	7	20
Chloroform	100		99		70-130	1	20
Carbon tetrachloride	120		100		63-132	18	20
1,2-Dichloropropane	93		89		70-130	4	20
Dibromochloromethane	100		100		63-130	0	20
1,1,2-Trichloroethane	99		95		70-130	4	20
Tetrachloroethene	96		93		70-130	3	20
Chlorobenzene	100		98		75-130	2	20
Trichlorofluoromethane	100		94		62-150	6	20
1,2-Dichloroethane	110		110		70-130	0	20
1,1,1-Trichloroethane	110		100		67-130	10	20
Bromodichloromethane	110		100		67-130	10	20
trans-1,3-Dichloropropene	100		99		70-130	1	20
cis-1,3-Dichloropropene	100		98		70-130	2	20
Bromoform	110		100		54-136	10	20
1,1,2,2-Tetrachloroethane	98		93		67-130	5	20
Benzene	98		96		70-130	2	20
Toluene	98		92		70-130	6	20
Ethylbenzene	100		97		70-130	3	20
Chloromethane	91		84		64-130	8	20
Bromomethane	81		80		39-139	1	20
Vinyl chloride	83		83		55-140	0	20



Project Name: CONVENTUS Project Number: K11.002.001

Lab Number: L1933935 08/12/19

Report Date:

	LCS	LC V Page		%Recovery			PD
arameter	%Recovery	Qual %Rec	overy Qual	Limits	RPD	Qual Li	mits
olatile Organics by GC/MS - Westborough	Lab Associated san	nple(s): 04-10 B	atch: WG1271370-	3 WG1271370-4			
Chloroethane	100	1	00	55-138	0		20
1,1-Dichloroethene	88	8	33	61-145	6		20
trans-1,2-Dichloroethene	92	8	35	70-130	8		20
Trichloroethene	96	8	38	70-130	9		20
1,2-Dichlorobenzene	100	1	00	70-130	0		20
1,3-Dichlorobenzene	99	1	00	70-130	1		20
1,4-Dichlorobenzene	100	(97	70-130	3		20
Methyl tert butyl ether	97	Ş)4	63-130	3		20
p/m-Xylene	100	(95	70-130	5		20
o-Xylene	100	1	00	70-130	0		20
cis-1,2-Dichloroethene	93	8	38	70-130	6		20
Styrene	105	1	00	70-130	5		20
Dichlorodifluoromethane	88	8	36	36-147	2		20
Acetone	89	8	37	58-148	2		20
Carbon disulfide	90	8	32	51-130	9		20
2-Butanone	100	1	00	63-138	0		20
4-Methyl-2-pentanone	94	ę	94	59-130	0		20
2-Hexanone	90	8	38	57-130	2		20
Bromochloromethane	100	Ś	97	70-130	3		20
1,2-Dibromoethane	100	1	00	70-130	0		20
1,2-Dibromo-3-chloropropane	93	Ś	93	41-144	0		20
Isopropylbenzene	100	(98	70-130	2		20
1,2,3-Trichlorobenzene	100	1	00	70-130	0		20



Project Name: CONVENTUS Project Number: K11.002.001

	LCS		LCSD		%Recovery			RPD
Parameter	%Recovery	Qual	%Recovery	Qual	Limits	RPD	Qual	Limits
Volatile Organics by GC/MS - Westborough L	ab Associated	sample(s):	04-10 Batch:	WG1271370-3	WG1271370-4			
1,2,4-Trichlorobenzene	100		100		70-130	0		20
Methyl Acetate	87		85		70-130	2		20
Cyclohexane	90		80		70-130	12		20
1,4-Dioxane	104		94		56-162	10		20
Freon-113	93		84		70-130	10		20
Methyl cyclohexane	88		87		70-130	1		20

Surrogate	LCS %Recovery Qual	LCSD %Recovery Qual	Acceptance Criteria
1,2-Dichloroethane-d4	114	109	70-130
Toluene-d8	99	99	70-130
4-Bromofluorobenzene	99	99	70-130
Dibromofluoromethane	102	104	70-130



Project Name: CONVENTUS Project Number: K11.002.001

Lab Number: L1933935

Report Date: 08/12/19

Parameter	LCS %Recovery	Qual	LCSD %Recove		Qual	%Recovery Limits	RPD	Qual	RPD Limits
/olatile Organics by GC/MS - Westborough I	Lab Associated	sample(s):	03,10-11 B	atch:	WG12714	56-3 WG127145	6-4		
Methylene chloride	100		100			70-130	0		20
1,1-Dichloroethane	110		100			70-130	10		20
Chloroform	100		100			70-130	0		20
Carbon tetrachloride	110		110			63-132	0		20
1,2-Dichloropropane	100		100			70-130	0		20
Dibromochloromethane	100		100			63-130	0		20
1,1,2-Trichloroethane	100		100			70-130	0		20
Tetrachloroethene	100		100			70-130	0		20
Chlorobenzene	100		100			75-130	0		20
Trichlorofluoromethane	110		110			62-150	0		20
1,2-Dichloroethane	100		100			70-130	0		20
1,1,1-Trichloroethane	110		110			67-130	0		20
Bromodichloromethane	100		100			67-130	0		20
trans-1,3-Dichloropropene	100		100			70-130	0		20
cis-1,3-Dichloropropene	100		100			70-130	0		20
Bromoform	94		97			54-136	3		20
1,1,2,2-Tetrachloroethane	100		100			67-130	0		20
Benzene	100		100			70-130	0		20
Toluene	100		100			70-130	0		20
Ethylbenzene	100		100			70-130	0		20
Chloromethane	97		95			64-130	2		20
Bromomethane	92		84			39-139	9		20
Vinyl chloride	100		100			55-140	0		20



Project Name: CONVENTUS Project Number: K11.002.001

Lab Number: L1933935

Report Date: 08/12/19

arameter	LCS %Recovery	Qual	LCS %Reco		Qual	%Recovery Limits	RPD	Qual	RPD Limits
olatile Organics by GC/MS - Westborough I	Lab Associated	sample(s):	03,10-11	Batch:	WG12714	56-3 WG127145	6-4		
Chloroethane	110		100)		55-138	10		20
1,1-Dichloroethene	110		100)		61-145	10		20
trans-1,2-Dichloroethene	100		100)		70-130	0		20
Trichloroethene	100		100)		70-130	0		20
1,2-Dichlorobenzene	100		100)		70-130	0		20
1,3-Dichlorobenzene	100		100)		70-130	0		20
1,4-Dichlorobenzene	100		100)		70-130	0		20
Methyl tert butyl ether	110		110)		63-130	0		20
p/m-Xylene	105		100)		70-130	5		20
o-Xylene	105		105	;		70-130	0		20
cis-1,2-Dichloroethene	100		100)		70-130	0		20
Styrene	105		105	;		70-130	0		20
Dichlorodifluoromethane	90		85			36-147	6		20
Acetone	110		110)		58-148	0		20
Carbon disulfide	100		100)		51-130	0		20
2-Butanone	110		110)		63-138	0		20
4-Methyl-2-pentanone	96		100)		59-130	4		20
2-Hexanone	100		110)		57-130	10		20
Bromochloromethane	110		110)		70-130	0		20
1,2-Dibromoethane	100		100)		70-130	0		20
1,2-Dibromo-3-chloropropane	96		110)		41-144	14		20
Isopropylbenzene	100		100)		70-130	0		20
1,2,3-Trichlorobenzene	100		110)		70-130	10		20



Lab Control Sample Analysis Batch Quality Control

Project Name: CONVENTUS Project Number: K11.002.001

Lab Number: L1933935 Report Date: 08/12/19

	LCS		LCSD		%Recovery			RPD
Parameter	%Recovery	Qual	%Recovery	Qual	Limits	RPD	Qual	Limits
Volatile Organics by GC/MS - Westborough L	ab Associated	sample(s):	03,10-11 Batch:	WG12714	156-3 WG1271456	6-4		
1,2,4-Trichlorobenzene	100		110		70-130	10		20
Methyl Acetate	110		120		70-130	9		20
Cyclohexane	100		100		70-130	0		20
1,4-Dioxane	174	Q	164	Q	56-162	6		20
Freon-113	110		100		70-130	10		20
Methyl cyclohexane	100		99		70-130	1		20

Surrogate	LCS %Recovery Qua	LCSD al %Recovery Qual	Acceptance Criteria
1,2-Dichloroethane-d4	97	100	70-130
Toluene-d8	99	98	70-130
4-Bromofluorobenzene	97	99	70-130
Dibromofluoromethane	101	101	70-130



Project Name:CONVENTUSProject Number:K11.002.001

Serial_No:08121919:22 *Lab Number:* L1933935 *Report Date:* 08/12/19

Sample Receipt and Container Information

Were project specific reporting limits specified?

YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Info	ormation		Initial	Final	Temp			Frozen	
Container ID	Container Type	Cooler	pН	рН	deg C	Pres	Seal	Date/Time	Analysis(*)
L1933935-01A	Vial HCI preserved	А	NA		4.0	Y	Absent		NYTCL-8260-R2(14)
L1933935-01B	Vial HCI preserved	А	NA		4.0	Y	Absent		NYTCL-8260-R2(14)
L1933935-01C	Vial HCI preserved	А	NA		4.0	Y	Absent		NYTCL-8260-R2(14)
L1933935-02A	Vial HCI preserved	А	NA		4.0	Y	Absent		NYTCL-8260-R2(14)
L1933935-02B	Vial HCI preserved	А	NA		4.0	Y	Absent		NYTCL-8260-R2(14)
L1933935-02C	Vial HCI preserved	А	NA		4.0	Y	Absent		NYTCL-8260-R2(14)
L1933935-03A	Vial HCI preserved	А	NA		4.0	Y	Absent		NYTCL-8260-R2(14)
L1933935-03B	Vial HCI preserved	А	NA		4.0	Y	Absent		NYTCL-8260-R2(14)
L1933935-03C	Vial HCI preserved	А	NA		4.0	Y	Absent		NYTCL-8260-R2(14)
L1933935-04A	Vial HCI preserved	А	NA		4.0	Y	Absent		NYTCL-8260-R2(14)
L1933935-04B	Vial HCI preserved	А	NA		4.0	Y	Absent		NYTCL-8260-R2(14)
L1933935-04C	Vial HCI preserved	А	NA		4.0	Y	Absent		NYTCL-8260-R2(14)
L1933935-05A	Vial HCI preserved	А	NA		4.0	Y	Absent		NYTCL-8260-R2(14)
L1933935-05B	Vial HCI preserved	А	NA		4.0	Y	Absent		NYTCL-8260-R2(14)
L1933935-05C	Vial HCI preserved	А	NA		4.0	Y	Absent		NYTCL-8260-R2(14)
L1933935-06A	Vial HCI preserved	А	NA		4.0	Y	Absent		NYTCL-8260-R2(14)
L1933935-06B	Vial HCI preserved	А	NA		4.0	Y	Absent		NYTCL-8260-R2(14)
L1933935-06C	Vial HCI preserved	А	NA		4.0	Y	Absent		NYTCL-8260-R2(14)
L1933935-07A	Vial HCI preserved	А	NA		4.0	Y	Absent		NYTCL-8260-R2(14)
L1933935-07B	Vial HCI preserved	А	NA		4.0	Y	Absent		NYTCL-8260-R2(14)
L1933935-07C	Vial HCI preserved	А	NA		4.0	Y	Absent		NYTCL-8260-R2(14)
L1933935-08A	Vial HCI preserved	А	NA		4.0	Y	Absent		NYTCL-8260-R2(14)
L1933935-08B	Vial HCI preserved	А	NA		4.0	Y	Absent		NYTCL-8260-R2(14)



Project Name:CONVENTUSProject Number:K11.002.001

Serial_No:08121919:22 *Lab Number:* L1933935 *Report Date:* 08/12/19

Container Info	rmation		Initial	Final	Temp			Frozen	
Container ID	Container Type	Cooler	рН	pН	deg C	Pres	Seal	Date/Time	Analysis(*)
L1933935-08C	Vial HCI preserved	А	NA		4.0	Y	Absent		NYTCL-8260-R2(14)
L1933935-09A	Vial HCI preserved	А	NA		4.0	Y	Absent		NYTCL-8260-R2(14)
L1933935-09B	Vial HCI preserved	A	NA		4.0	Y	Absent		NYTCL-8260-R2(14)
L1933935-09C	Vial HCI preserved	А	NA		4.0	Y	Absent		NYTCL-8260-R2(14)
L1933935-10A	Vial HCI preserved	А	NA		4.0	Y	Absent		NYTCL-8260-R2(14)
L1933935-10B	Vial HCI preserved	А	NA		4.0	Y	Absent		NYTCL-8260-R2(14)
L1933935-10C	Vial HCI preserved	А	NA		4.0	Y	Absent		NYTCL-8260-R2(14)
L1933935-11A	Vial HCI preserved	A	NA		4.0	Y	Absent		NYTCL-8260-R2(14)
L1933935-11B	Vial HCI preserved	А	NA		4.0	Y	Absent		NYTCL-8260-R2(14)



Serial_No:08121919:22

Project Name: CONVENTUS

Project Number: K11.002.001

Lab Number: L1933935

Report Date: 08/12/19

GLOSSARY

Acronyms

Acronyms	
DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
	Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC NDPA/DPA	 Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit. N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL
	includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.
Footnotes	

Footnotes

Report Format: DU Report with 'J' Qualifiers



Project Name: CONVENTUS

Project Number: K11.002.001

Lab Number: L1933935 Report Date: 08/12/19

1

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

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum. Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Waterpreserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'. Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. If a 'Total' result is requested, the results of its individual components will also be reported.

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

Data Qualifiers

- A Spectra identified as "Aldol Condensation Product".
- B The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentrations of the analyte at less than ten times (10x) the concentrations of the analyte at less than ten times (10x) the concentrations of the analyte at less than ten times (10x) the concentrations of the analyte at less than ten times (10x) the concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, (flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- **D** Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.
- H The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I The lower value for the two columns has been reported due to obvious interference.
- J Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- M Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- ND Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.
- NJ Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P The RPD between the results for the two columns exceeds the method-specified criteria.
- Q The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- **R** Analytical results are from sample re-analysis.
- **RE** Analytical results are from sample re-extraction.
- **S** Analytical results are from modified screening analysis.



Project Name:CONVENTUSProject Number:K11.002.001

 Lab Number:
 L1933935

 Report Date:
 08/12/19

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.

LIMITATION OF LIABILITIES

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

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



Certification Information

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

Westborough Facility

EPA 624/624.1: m/p-xylene, o-xylene

EPA 8260C: <u>NPW</u>: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; <u>SCM</u>: lodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

EPA 8270D: <u>NPW:</u> Dimethylnaphthalene,1,4-Diphenylhydrazine; <u>SCM</u>: Dimethylnaphthalene,1,4-Diphenylhydrazine. **SM4500**: <u>NPW</u>: Amenable Cyanide; <u>SCM</u>: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility

SM 2540D: TSS

EPA 8082A: <u>NPW:</u> PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.

EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene. Biological Tissue Matrix: EPA 3050B

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

Westborough Facility:

Drinking Water

EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; EPA 353.2: Nitrate-N, Nitrite-N; SM4500NO3-F: Nitrate-N, Nitrite-N; SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B EPA 332: Perchlorate; EPA 524.2: THMs and VOCs; EPA 504.1: EDB, DBCP. Microbiology: SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D.

Non-Potable Water

SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, EPA 350.1: Ammonia-N, LACHAT 10-107-06-1-B: Ammonia-N, EPA 351.1, SM4500NO3-F, EPA 353.2: Nitrate-N, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate. EPA 624.1: Volatile Halocarbons & Aromatics,

EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625.1: SVOC (Acid/Base/Neutral Extractables), EPA 600/4-81-045: PCB-Oil.

Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.

Mansfield Facility:

Drinking Water

EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. EPA 200.8: Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. EPA 245.1 Hg. EPA 522.

Non-Potable Water

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

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

	NEW YORK CHAIN OF CUSTODY	Service Centers Mahwah, NJ 07430: 35 Whitney Albany, NY 12205: 14 Walker W Tonawanda, NY 14150: 275 Cor	lay	05	Page / of		1 00003355	Rec'd Lab	01/1	9	ALPHA JOD # LI93393	5
Westborough, MA 01581 8 Walkup Dr.	Mansfield, MA 02048 320 Forbes Blvd	Project Information					Deliverable	es			Billing Information	
TEL: 508-898-9220	TEL: 508-822-9300	Project Name: CONV	ENTUS				ASP	-A	PASP	р-В	Same as Client Info	
FAX: 508-898-9193	FAX: 508-822-3288	Project Location: /00/	MAIN S	7.			DO EQU	IS (1 File)	EQu	ulS (4 File)	PO #	
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-03	MS-10030-	2919	7/29/19	12:30	60	K?	14					3
-04	MS-MWO40	72919	7/29/19	1:45	600	RB	×					3
-05	BUP-MWOIDT	3019	7/20/19	10:00	Gu	RB	×					3
-06	BC10-1707070	73019	7130/19	10:45	600	кib	x					3
	BCP-MW040		7/2/19	11:20	Gw	123	x					3
	BCP- MW030		7/30/19	12:05	GW	23	2					3
-09	Bep- nuolec		7/30/19	1:00	400	RB	20					3
- 10	Ber-10050		734,9	2:00	60	RB	4					2
Preservative Code: A = None B = HCl C = HNO ₃ D = H ₂ SO ₄	Container Code P = Plastic A = Amber Glass V = Vial G = Glass	Westboro: Certification N Mansfield: Certification N	lo: MA935		Con	tainer Type reservative	V B				Please print clearly, leg and completely. Samp not be logged in and turnaround time clock	iles can will not
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F = MeOH $G = NaHSO_4$ $H = Na_2S_2O_3$	C = Cube O = Other E = Encore D = BOD Bottle	And Brit	87) 8 - AAL	Date 7(31/19 731/19	/Time 7 /020 9 //02		Received				6140	resolved. BY EXECUT THIS COC, THE CLIEI HAS READ AND AGR TO BE BOUND BY AL TERMS & CONDITION (See reverse side.)	ING NT EES PHA'S

APPENDIX B GROUNDWATER MONITORING CONSTRUCTION & SAMPLING LOGS

-	C&S Engineers, Inc. 90 Broadway							Boring No.		MW-01	
			Ph	one: 716	ew York 14203 -847-1630	B	ORING LOG		Sł	neet 1 of:	1
C	JIVIP	AN		x: 716-84 w.cscos.co					Pro	ject No.:	K11.002.001
Projec	ct Nam	e:	Main St RO	W Inve	stigation				Surfa	ce Elev.:	
L			MOB - Buffa							Datum:	6. Surface
			Kaleida Hea	lth					St	art Date:	8/15/13
Drilli	ng Firi	m:	SJB			Driller:	Tony	1	Fini	ish Date:	8/15/13
	Grou			Depth	Date & Time	Drill Rig:	CME 45C		In	spector:	N. Wohlabaugh
			ile Drilling:			Casing:		Rock Core:		Undist:	
			g Removal:			Sampler:		Other:			
Af	ter Cas	sin	g Removal:			Hammer:	Auto		_		
			(N	No. of	blows to drive sam	pler 12" w/140 lb. ham	mer falling 30" ASTM	D-1586, Standard	Penetrat		000000000
Depth (ft)	e	ō	Blows on	c - coars	30			a - and - 3			COMMENTS
oth	E 9 E Sampler <u>m-medium</u> <u>MATERIAL DESCRIPTION</u> s-some - 20-33%										N-value, recovery, e moisture, core run,
Del	Sa	b b c c c c c c c c c c									D, % recovered)
			5							S	tart: 12:15 PM
1		1	4	1	Crushed Stone (d	lry)					12" rec
		1	9								0.2 ppm
2		1	10								
		1	6								
3		1	6		Crushed Stone (d						15" rec
		1	8		Silt (red/brown - o	dry)					0.2 ppm
4		1	8								
_		1	11		014 (22.17)						40"
5			12		Silt (red/brown - r	<u>noist)</u>					13" rec
6			15 18								2.5 ppm
0			16								
7			22		Silt (red/brown - s	saturated)					24" rec
<u> </u>			22			dium grey - saturated					0 ppm
8			24		<u> </u>		<u> </u>				- 11
			13								
9			19		Gravel (medium f	ine - medium grey - s	aturated)				18" rec
			19		Silt (saturated)						15.3 ppm
10			22								
			7		0		- (4
11			18 18		<u>Silt (saturated)</u>	<u>ine - medium grey - s</u>	aturated)				17" rec
12			28		Sill (Saturated)						229 ppm
12			20								
13			50/4		Gravel (medium f	ine - medium grey - s	aturated)				5" rec
		1		1			*				163 ppm
14		1									
		1	16								
15		1	24		Gravel (medium f	<u>ine - medium grey - s</u>	aturated)				17" rec
10		1	14								140 ppm
16		1	16								
17		1									
- 17		1									
18		1									
		1									
19		1									
		1									
20		1									
_		1									
21		1									
22		1									
		1									
23		1									
		1									
24		1		1							

Γይ	-	C&S Engineers, Inc. 499 Col. Eileen Collins Blvd.						Well No.	MW-01
		Syracuse, New York 13212 Phone: 315-455-2000		ERVAT	-		Р	roject No.:	K11.002.001
COMPAN	IIES	Fax: 315-455-9667 www.cscos.com	CON	STRUC	TION I	LOG	Sur	face Elev .:	
Project Name:	Main St	t ROW Investigation						Datum:	26' bgs
-		Buffalo, NY						Start Date:	8/15/13
Client:	Kaleida	a Health					F	inish Date:	8/15/13
Drilling Firm:	SJB			Driller:				Inspector:	
		2'-9" Top Protective Cas	sing	Drill Rig:	CME 45C			Casing:	0
1 6		2'-6" Top of Riser		Notes:	developme	nt method an	d any other ir	nformation)	nethod of construction,
		0'-0" 26' bgs. Surface Backfill Materia X Sand X Bentonite Slurry X Cement/Bentonite C Concrete 6" Bore Hole Diameter 2" Well Diameter Well Material X PVC Stainless Steel Backfill Material	Grout	soil boring Augers (HS augers. Fil the inside o taken to as between th fine materia	to depth of SA) were us lter pack ma of the auge ure that nei e well and als.	25 feet belo ed as the ca aterial and s rs while the filte HSA. The wo	ement Data	arface (bgs). well was co were poured retracted. M al materials loped by pur	on completing the Hollow Stem onstructed inside the d separately down Measurements were were bridging mping to remove
		X Soil Cuttings				Depth to	Water	Tide	
		Bentonite Slurry		Date	Time	Water	Elevation	Status	
		Cement/Bentonite C	Grout						
\sim		Concrete							
		Depth To:							
\times	\times	29' Top of Seal							
		Seal Material							
		X Bentonite Chips/Pel	lets						
		Bentonite Slurry							
		Cement/Bentonite C	Grout						
		39' Top of Filter Pa	ick						
				L					
		29' Top of Screen		L					
		Screen Slot Size							
		010 in							
		015 in				-			
		x 020 in							
		025 in							
		Filter Material							
		00 Sand Pack							
		0 Sand Pack							
		1 Sand Pack							
		2 Sand Pack							
		3 Sand Pack							
		4 Sand Pack							
		39' Bottom of Scre	en						
		42' Bottom of Bore	Hole						

-	C&S Engineers, Inc. 90 Broadway					Boring No.		MW-02			
		ľ	Ph Ph	one: 716	ew York 14203 -847-1630	B	ORING LOG		Sł	neet 1 of:	1
C	DMP/	AN		x: 716-84 w.cscos.co					Pro	ject No.:	K11.002.001
Projec	t Nam	e:	Main St RO						Surfa	ce Elev.:	
L	ocatio	n:	MOB - Buffa	alo, NY						Datum:	6. Surface
	Clier	nt:	Kaleida Hea	alth					St	art Date:	8/16/13
Drilli	ng Firr	m:	SJB			Driller:	Tony	1	Fini	ish Date:	8/16/13
	Grou	ndv	water	Depth	Date & Time	Drill Rig:	CME 45C		In	spector:	N. Wohlabaugh
		Wh	ile Drilling:			Casing:		Rock Core:		Undist:	
Befo	ore Cas	sin	g Removal:			Sampler:		Other:			
Af	ter Cas	sin	g Removal:			Hammer:	Auto				
		-	(N	No. of	blows to drive sam	pler 12" w/140 lb. ham	mer falling 30" ASTM	D-1586, Standard	Penetrat		
(£	е	lo	Blows on	c - coars	20			a - and - 3			COMMENTS
Depth (ft)	a. and - 35-50% b. a. a. and - 35-50% b. a. a. and - 35-50% b. a.										N-value, recovery, e moisture, core run,
Dep	b per 6" f- fine S - Sand, \$ - Silt, G - Gravel, C - Clay, cly - clayey t - trace - 0-10%										D, % recovered)
			7								Start: 9:20 AM
1			7		Crushed Stone (g	rey - dry)					6" rec
			15	1							0.2 ppm
2		1	17								
		1	10								
3		1	10		Flowable Fill (bla	ck - dry/damp)					6" rec
1		1	23								0.2 ppm
4		1	26								
F			3			ale du (dama)					24" rec
5			12		Flowable Fill (bla	<u>ск - dry/damp)</u>					3.1 ppm
6			12								0.1 ppm
			13								
7			15		Flowable Fill (bla	ck - dry/damp)					24" rec
			22								5.6 ppm
8			23								
0			4								0.41
9			4 5		Flowable Fill (bla	<u>ck - damp/moist)</u>					24" rec 4.3 ppm
10			8								4.5 ppm
			5								
11			9		Flowable Fill (bla						20" rec
			14		Medium Sand (Ca	orse - gray - moist)					1.5 ppm
12			48								
13			3-May	-	2" of Slough						N/A
			C May		<u></u>						N/A
14											
15					Bottom of @ 13'+	3' – 16' ba					
15					<u></u>	<u> </u>					
16											
17											
- 17											
18											
40											
19											
20											
21			ļ								
1											
22											
23											
24											
	0	_								-	

Γይ	~	C&S Engineers, Inc. 499 Col. Eileen Collins Blvd.	-					Well No.	MW-02			
		Syracuse, New York 13212 Phone: 315-455-2000		ERVAT	-		Р	roject No.:	K11.002.001			
COMPAN	IIES	Fax: 315-455-9667 www.cscos.com	CON	STRUC	TION I	LOG	Sur	face Elev .:				
Project Name:	Main St	t ROW Investigation						Datum:	26' bgs			
Location:	MOB -	Buffalo, NY						Start Date:	8/16/13			
Client:	Kaleida	Health					F	inish Date:	8/16/13			
Drilling Firm:	SJB			Driller:				Inspector:				
		2'-9" Top Protective Cas	sing	Drill Rig:	CME 45C			Casing:	0			
		2'-6" Top of Riser 26' bgs			developme ation well	nt method an was construe	d any other ir cted in Bore	nformation) Hole B-3 up	on completing the Hollow Stem			
		Surface Backfill Materia X Sand X Bentonite Slurry X Cement/Bentonite C Concrete 10" Bore Hole Diameter 8" Well Diameter Well Material X PVC	Grout	augers. Fil the inside of taken to as	ter pack m of the auge ure that ne e well and	aterial and s rs while the ither the filte	eal material augers were r pack or sea	were poured retracted. I al materials	onstructed inside the d separately down Measurements were were bridging mping to remove			
	\sim	Backfill Material		Groundwater Measurement Data								
		x Soil Cuttings		<u> </u>		Depth to	Water	Tide				
		Bentonite Slurry		Date	Time	Water	Elevation	Status				
		Cement/Bentonite C	Grout									
l - Č	Ŏ	Douth Tox										
	\sim	Depth To: 29' Top of Seal										
	~~	Seal Material										
		x Bentonite Chips/Pel	llets									
		Bentonite Slurry	lieto									
		Cement/Bentonite C	Frout									
		39' Top of Filter Pa	ick									
		29' Top of Screen										
		Screen Slot Size										
		010 in										
		015 in										
		x 020 in										
		025 in										
		Filter Material										
		00 Sand Pack										
		0 Sand Pack										
		1 Sand Pack										
		2 Sand Pack										
		3 Sand Pack										
		4 Sand Pack										
		39' Bottom of Scre										
		42' Bottom of Bore	Hole									

1		h.	۹0 ا	Broadwa		_	Вс	oring No.	MW-03		
			Ph		ew York 14203 -847-1630 17-1454	B		neet 1 of:	1		
			WW	w.cscos.co	om					ject No.:	K11.002.001
-			Main St RO		stigation				Surfa	ce Elev.:	
L			MOB - Buffa							Datum:	26' - Surface
			Kaleida Hea	lth						art Date:	9/12/13
Drilli	ng Firi					Driller:	Tony	1		ish Date:	9/12/13
	Grou			Depth	Date & Time	Drill Rig:	CME 45C			spector:	N. Wohlabaugh
			ile Drilling:			Casing:		Rock Core:		Undist:	
			g Removal:			Sampler:		Other:			
Af	ter Cas	sin	g Removal:			Hammer:	Auto		<u> </u>	· - 0	
		<u> </u>	(N	NO. OT	blows to drive sam	pler 12" w/140 lb. ham	mer falling 30" ASTM	D-1586, Standard	Penetrat		00000000
Depth (ft)	e .	ō	Blows on	c - coars	se			a - and - 3			<u>COMMENTS</u> N-value, recovery,
pth	Sample No.	Symbol	Sampler	m - med f - fine	lium	MATERIAL D	ESCRIPTION	s - some - 2 I - little - 1	0-20%		moisture, core run,
De	ŝ	Ś.	per 6"		S - Sar	nd, \$ - Silt, G - Gravel, C	- Clay, cly - clayey	t - trace - (0-10%		D, % recovered)
			4							S	Start: 8:30 AM
1		1	7		Sand (med brown	- fine sand - moist)					12" rec
		1	10		some Silt						0.2 ppm
2		1	12								
		1	17								
3		1	17		Silt (med brown -						15" rec
4		1	18		some Fine Sand a	and Clay					0.4 ppm
4		1	17								
5			6		Sand (black - mor	d arained - cheen - ca	turated)				14" rec
5			7		Sand (black - med	d grained - sheen - sa	<u>iturateu)</u>				415 ppm
6			7								
Ű			9								
7			10		Sand (black - med	d grained - sheen - sa	turated)				16"
			10		· · · · ·						0 ppm
8			11								
			2								
9			4		Sand (med grey -						20" rec
			5		4" of Clay at the b	oottom (red/brown)					175 ppm
10			15								
			16		Court (00"
11			35 50/3			black - wet to moist coarse - with agular		+)			20" rec 305 ppm
12			50/5		Sand (lower 10 -	coarse - with aguiar	graver - west to mois				505 ppm
12			27								
13			50/4		Sand (med grey -	coarse - with angula	r gravel - moist)				8" rec
							· · ·				19.4 ppm
14		1									
		1	13								
15		1	19		Sand (med grey -	coarse - with angula	<u>r gravel - moist)</u>				15" rec
		1	37								12 ppm
16		1	30								
17		1									
- ''		1									
18		1									
<u> </u>		1									
19		1									
		1									
20		1									
		1									
21		1									
22		1									
22		1									
23		1									
20		1									
24		1									
		1	l	L						1	

ר ଜୁ ଟ	C&S Engineers, Inc. 499 Col. Eileen Collins Blvd.						Well No.	MW-03
	Syracuse, New York 13212 Phone: 315-455-2000		ERVAT	-		Р	roject No.:	K11.002.001
COMPANIES	Fax: 315-455-9667 www.cscos.com	CON	STRUC	TION I	LOG	Sur	face Elev.:	
Project Name: Main	St ROW Investigation						Datum:	26' bgs
Location: MOE	3 - Buffalo, NY						Start Date:	9/12/13
Client: Kale	ida Health					F	inish Date:	9/12/13
Drilling Firm: SJB			Driller:				Inspector:	
	2'-9" Top Protective Cas	sing	Drill Rig:	CME 45C			Casing:	0
	2'-6" Top of Riser		Notes:	developme	nt method an	d any other ir	formation)	nethod of construction,
	0'-0" 26' bgs. Surface Backfill Materia X Sand Bentonite Slurry X Cement/Bentonite C Concrete 10" Bore Hole Diameter Well Material X PVC Stainless Steel Backfill Material X Soil Cuttings Bentonite Slurry X Cement/Bentonite C Concrete Cement/Bentonite C Depth To: 30 30 Top of Seal Seal Material X X Bentonite Chips/Pel Bentonite Slurry X Cement/Bentonite C Concrete 0 Top of Seal Seal Material X X Bentonite Chips/Pel Bentonite Slurry X Cement/Bentonite C C 40 Top of Screen 30' Top of Screen 30' Top of Screen 010 in N	Grout Grout llets Grout	soil boring Augers (HS augers. Fil the inside o taken to as between th fine materia	ation well v to depth of A) were us ter pack ma of the auger ure that nei e well and l als.	was construct 25 feet belo ed as the cas aterial and so rs while the a ither the filte HSA. The wo	cted in Bore w ground su sing and the eal material augers were r pack or sea	Hole B-3 up Irface (bgs). well was cc vere pourec retracted. M al materials oped by pu	on completing the Hollow Stem onstructed inside the d separately down Measurements were were bridging mping to remove
	015 in x 020 in 025 in							
	Filter Material 00 Sand Pack 0 Sand Pack 1 Sand Pack 2 Sand Pack 3 Sand Pack 4 Sand Pack 40' Bottom of Screet 42'							

	10			SENCE Broadward	gineers, Inc.		Вс	oring No.	MW-04		
	3	1	But	ffalo, Ne	w York 14203	B	DRING LOG				
co	DMP/	AN	NIES Fax	x: 716-84					eet 1 of: ject No.:	1 K11.002.001	
Projoc	t Nam										K11.002.001
-			MOB - Buffa		Sugation				Sulla	ce Elev.: Datum:	6. Surface
			Kaleida Hea						St	art Date:	8/15/13
Drillir						Driller:	Tony	1		sh Date:	8/15/13
	Grou			Depth	Date & Time	In	spector:	N. Wohlabaugh			
		Wh	ile Drilling:			Drill Rig: Casing:		Rock Core:		Undist:	
Befo	re Cas	sin	g Removal:			Sampler:		Other:			
Aft	er Cas	sin	g Removal:			Hammer:	Auto				
		_	(N	No. of	blows to drive sam	pler 12" w/140 lb. ham	mer falling 30" ASTM	D-1586, Standard	Penetrati		
(£	e	ō	Blows on	c - coars	50			a - and - 3			COMMENTS
Depth (ft)	Sample No.	Symbol	Sampler	m - med f - fine		MATERIAL D	ESCRIPTION	s - some - 2 I - little - 1			N-value, recovery, e moisture, core run,
Dep	Sa	Ś	per 6"	r - nne	S - Sar	nd, \$ - Silt, G - Gravel, C	- Clay, cly - clayey	t - trace -	0-10%		D, % recovered)
		T	9								Start: 7:20 AM
1			12		Crushed Stone (d	lry)					12" rec
			13								0.2 ppm
2			10								
_		1	15		Cruch Official (lan e)					15" roc
3		1	21 23		Crushed Stone (d	<u>iry)</u>					15" rec 0.2 ppm
4		1	25							1	o ppm
		1	20								
5			19		Crushed Stone (d	lry)					16" rec
			19		Bottom 2" Flowal	ole Fill					0.5 ppm
6			20								
_			13								0.4
7			16 19		Flowable Fill (bla	<u>ck - moist)</u>					24" rec
8			40								0 ppm
			12								
9			13		Flowable Fill (bla	<u>ck - moist)</u>					24" rec
			15								0 ppm
10			19								
11			7		Flowable Fill (bla	ck - moist)					24" rec
			9		Sand (medium br						517 ppm
12			9			<u> </u>					FF
			5								
13			9		Sand (medium br						16" rec
		1	6		Clay (red/brown -	moist)					59 ppm
14		1	14 6								
15		1	o 4		Clay (red/brown -	moist)					23" rec
			7								1.2 ppm
16			15								
		1									
17		1									
18		1									
10		1									
19		1									
		1									
20		1									
		1									
21											
22											
										1	
23		1		1							
		1									
24											

P ¢	499 Col. Eileen Collins Blvd.								Well No.	MW-04
	D	Р	hone: 315-455-2000		ERVAT	-		Р	roject No.:	K11.002.001
СОМРА	NIES		ax: 315-455-9667 ww.cscos.com	CON	STRUC	TION I	LOG	Sur	face Elev.:	
Project Name	e: Mair		OW Investigation					1	Datum:	26' bgs
Location			ffalo, NY						Start Date:	8/15/13
Clien	t: Kale	eida He	ealth					F	inish Date:	8/15/13
Drilling Firm	n: SJB				Driller:	0			Inspector:	
		2	'-9" Top Protective Cas	sing	Drill Rig:	CME 45C			Casing:	0
		2'-6" Top of Riser			Notes:	developme	nt method ar	d any other ir	nformation)	nethod of construction,
			 '-0" 26' bgs. Surface Backfill Materia X Sand X Bentonite Slurry X Cement/Bentonite C Concrete 6" Bore Hole Diameter 2" Well Diameter Well Material X PVC Stainless Steel 	Grout	soil boring Augers (HS augers. Fil the inside of taken to as between th fine materia	to depth of (A) were us ter pack ma of the auger ure that nei e well and als.	25 feet belo ed as the ca aterial and s rs while the ither the filte HSA. The w	ement Data	Irface (bgs). well was co were poured retracted. I al materials oped by put	on completing the Hollow Stem Instructed inside the d separately down Measurements were were bridging mping to remove
	X] [X	X Soil Cuttings				Depth to	Water	Tide	
		X	Bentonite Slurry		Date	Time	Water	Elevation	Status	
I Ď	X I	\mathbf{X}	Cement/Bentonite C	Grout						
		X	Concrete							
I Ď		X								
	X] [× De	epth To:							
		X	29' Top of Seal							
			Seal Material							
			x Bentonite Chips/Pel	llets						
			Bentonite Slurry							
			Cement/Bentonite C	Grout						
1 I					l –					
			39' Top of Filter Pa	ick						
			29' Top of Screen							
			Screen Slot Size							
			010 in				1			
			015 in		<u> </u>		1			
			x 020 in							
			025 in					11		
			020 11							
			Filter Material							
			00 Sand Pack							
			0 Sand Pack							
			1 Sand Pack							
			2 Sand Pack							
			3 Sand Pack							
			4 Sand Pack							
			39' Bottom of Scre	en						
			42' Bottom of Bore	Hole						

6	_ @	Ъ.	90	Boring No. MW-05							
			Ph		w York 14203 -847-1630	B	ORING LOG		Sł	eet 1 of:	1
c		AI		x: 716-84 w.cscos.co					Pro	ject No.:	K11.002.001
Projec	ct Nam	ne:	Main St RO	W Inve	stigation				Surfa	ce Elev.:	
L			MOB - Buffa							Datum:	26' - Surface
	Clier	nt:	Kaleida Hea	llth					St	art Date:	9/12/13
Drilli	ng Firı	m:	SJB			Driller: Drill Rig:	Tony	1	Fini	sh Date:	9/12/12
	Grou	nd	water	Depth	Date & Time	In	spector:	N. Wohlabaugh			
		Wh	ile Drilling:			Casing:		Rock Core:		Undist:	
Befo	ore Cas	sin	g Removal:			Sampler:		Other:			
Af	ter Cas	sin	g Removal:			Hammer:	Auto				
			(N	No. of I	blows to drive sam	pler 12" w/140 lb. ham	mer falling 30" ASTM	D-1586, Standard	Penetrat	ion Test)	
(ft)	e	5	Blows on	c - coars				a - and - 3	5-50%		COMMENTS
th (Idml No.	Symbol	Sampler	m - med		MATERIAL D	ESCRIPTION	s - some - 20 I - little - 10			N-value, recovery,
Depth (ft)	Sample No.	Ś	per 6"	f - fine	S - Sar	nd, \$ - Silt, G - Gravel, C	- Clay, cly - clayey	t - trace - (e moisture, core run, D, % recovered)
<u> </u>		\vdash	2			, , , , ,					tart: 12:35 PM
1		1	3		Sand (med - red/h	prown - fine - moist)				3	19" rec
		1	5								0.6 ppm
2		1	11								- F F ***
		1	12	1							
3		1	16	1	Sand (med - red/b	prown - fine - moist)					16" rec
		1	16		some clay	_					0.9 ppm
4		1	20								
		1	6								
5			8		Sand (top 8" - me	ed - brown - coarse -	saturated)				16" rec
			10		Sand (bottom 8"	- grey/black - coarse	gravely - product sh	eet)			382 ppm
6			9								
			6								
7			7								21" rec
			6								1628 ppm
8			8	4							
0			5		0						00"
9			8 12			- grey/black - wet)	4				20" rec
10			12 50/4		Sand (lower 8 -	red/brown - clay - we	<u>u</u>				17.2 ppm
10			10								
11			16		Sand (grey - roun	d and angular gravel	- saturated)				11" rec
			47		oand (grey - roun		- Saturated)				12 pmm
12			50/2								.= p
			00/2								
13			50/3		Sand (coarse - gr	ey - angular gravel -	saturated)				3" rec
											4.2 ppm
14		1									
		1	15								
15		1	23			ravel - grey - moist to	saturated)				14" rec
		1	50/4		some Sand						10.5 ppm
16		1									
		1									
17		1									
40		1								-	
18		1									
19		1									
13		1									
20		1									
		1									
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22		1									
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23		1									
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24		L	l								

	Syracuse, New York 13212 Phone: 315-455-2000 Fax: 315-455-9667 www.cscos.com	CON	ERVAT		ELL	Р	roject No.:	
Project Name: Main S Location: MOB -	www.cscos.com	CON						K11.002.001
Location: MOB -	oject Name: Main St ROW Investigation				LOG	Sur	face Elev.:	
	St ROW Investigation						Datum:	26' bgs
Client: Kaleida	Buffalo, NY						Start Date:	9/12/13
	a Health		-				nish Date:	9/12/13
Drilling Firm: SJB						<u> </u>	-	
		sing	Drill Rig:		a animetican af a	h	•	0
Drilling Firm: SJB		al Grout Grout Ilets Grout	Notes: The observ soil boring Augers (HS augers. Fil the inside o taken to as between th fine materia	CME 45C (provide de developmen ation well v to depth of (A) were use ter pack ma of the auger ure that nei e well and h als.	nt method an vas construc 25 feet belo ed as the cas aterial and so rs while the a ther the filte HSA. The we	Fi bservation we d any other in cted in Bore w ground su sing and the eal material v augers were or pack or sea	nish Date: Inspector: Casing: Il location, m formation) Hole B-3 up Irface (bgs). well was co were poured retracted. M al materials oped by pur	
	Filter Material 00 Sand Pack 0 Sand Pack 1 Sand Pack 2 Sand Pack 3 Sand Pack 4 Sand Pack							

Borning Borning Loc Project No.: Project No.: Projec			h		C&S Engineers, Inc. 0 Broadway							MW-06
Project Name			IJ.	Ph Ph	one: 716-	-847-1630	B	ORING LOG		Sł	neet 1 of:	1
Location: MOB Butward 5. Surface Citest: (kaise Shealth) Tony Finish Date: 8/14/13 Groundward Depting intraction: (kaise Shealth) Defting intraction: Note: 8/14/13 Groundward: Depting intraction: (kaise Shealth) Defting intraction: Note: 8/14/13 Groundward: Depting intraction: Sampler: (kaise Shealth) Note:	C	DIMP/	Ar	VIES Fai						Pro	ject No.:	K11.002.001
Client: Kalock Hoult Start Date: Start Jac: N: Wohldough White Filting: Date & Time Outer: Image: Start Jac: N: Wohldough	Projec	ct Nam	ne:	Main St RO	W Inve	stigation				Surfa	ce Elev.:	
Drilling Drilling Tony Finish Date 8/14/13 Groundwalk Depth / Date & Time Deft Rig: Clot 4/3C Reck Core: Undig: N/Vehilabagin Mile Drilling: Image: Clot 3/16 (0.4 / C	L										Datum:	6. Surface
Groundwater Depth Date & Time On Hitg: Reck 4GC Inspector: N. Wohlsbaugh While Dulling: Casing Rock Core: Understand		Clier	nt:	Kaleida Hea	lth					St	art Date:	8/14/13
While Drilling: Casing: Reck Core: Undist: After Casing Removal: Sampler: Other: Marker Casing Removal: Marker Casing Removal: Ado (N-Na: of biows to drive sampler 12' wild B: harmer: Ado (N-Na: of biows to drive sampler 12' wild B: harmer failing 30' ASTM D-1586; Standart Penetration Test) COMMENTS (N-Na: of biows to drive sampler 12' wild B: harmer failing 30' ASTM D-1586; Standart Penetration Test) COMMENTS (N-Na: of biows to drive sampler 12' wild B: harmer failing 30' ASTM D-1586; Standart Penetration Test) COMMENTS (N-Na: of biows to drive sampler 12' wild B: harmer failing 30' ASTM D-1586; Standart Penetration Test) COMMENTS (N-Na: of biows to drive sampler 12' wild B: harmer failing 30' ASTM D-1586; Standart Penetration Test) COMMENTS (N-Na: of biows to drive sampler 12' wild B: harmer failing 30' ASTM D-1586; Standart Penetration Test) Standart B15 MAI (N-Na: of biows to drive sampler 12' wild B: harmer failing 30' ASTM D-1586; Standart Penetration Test) Standart B15 MAI (N-Na: of biows to drive sampler 12' wild B: harmer failing 30' ASTM D-1586; Standart Penetration Test) Standart B15 MAI (N-Na: of bioms to drive sampler 12' wild B: harmer failing 30' ASTM D-1586; Standart Penetration Test) Standart B15 MAI (N-Na: of bioms to drive samp	Drilli	ng Firı	m:	SJB			Driller:	Tony	1	Fini	ish Date:	8/14/13
Defcron Casing Removal: Image: Autor Removal:		Grou	nd١	water	Depth	Date & Time	Drill Rig:	CME 45C		In	spector:	N. Wohlabaugh
Atter Casing Removal: Imamme: Auto VI No. of bows to drive sampler 12 wir40 ib. harmer falling 30° ASTM D-1586, Standard Penetration Test) COMMENTS in end to bows to drive sampler 12 wir40 ib. harmer falling 30° ASTM D-1586, Standard Penetration Test) COMMENTS in end to bows to drive sampler 12 wir40 ib. harmer falling 30° ASTM D-1586, Standard Penetration Test) COMMENTS in end to bows to drive sampler 12 wir40 ib. harmer falling 30° ASTM D-1586, Standard Penetration Test) COMMENTS in end to bows to drive sampler 12 wir40 ib. harmer falling 30° ASTM D-1586, Standard Penetration Test) COMMENTS in end to bows to drive sampler 12 wir40 ib. harmer falling 30° ASTM D-1586, Standard Penetration Test) COMMENTS in end to bows to drive sampler 12 wir40 ib. harmer falling 30° ASTM D-1586, Standard Penetration Test) in end to bows to drive sampler 12 wir40 ib. harmer falling 30° ASTM D-1586, Standard Penetration Test) Standard Penetration Test in end to bows to drive sampler 12 wir40 ib. harmer falling 30° ASTM D-1586, Standard Penetration Test in end to bows to drive sampler 12 wir40 ib. harmer falling 30° ASTM D-1586, Standard Penetration Test in end to bows to drive sampler 12 wir40 ib. harmer falling 30° ASTM D-1586, Standard Penetration Test in end to bows to drive sampler 12 wir40 ib. harmer falling 30° ASTM D-1586, Standard Penetration Test in end to bows to drive and to bows to drive and the sampler 12 wir40 ib. harmer falling 30° ASTM D-1586, Standard Penetration Test in end to bows to brive and the sampler 30° ASTM D-1586, Standard Penetration 10° free in the sampler sampler is the sampler is t			Wh	ile Drilling:			Casing:		Rock Core:		Undist:	
No. of blows to drive sampler 12* w/140 lb. hammer falling 30* ASTM D-1586. Standard Penetration Test) COMMENTS (e.g., hvalue, neover), the main standard standar	Befo	ore Cas	sin	g Removal:			Sampler:		Other:			
Note Note Second Socie Comments Comments <thcomments< th=""> Comments <thc< td=""><td>Af</td><td>ter Cas</td><td>sin</td><td>g Removal:</td><td></td><td></td><td>Hammer:</td><td>Auto</td><td></td><td></td><td></td><td></td></thc<></thcomments<>	Af	ter Cas	sin	g Removal:			Hammer:	Auto				
End End <thend< th=""> <thend< th=""> <thend< th=""></thend<></thend<></thend<>			-	(N	No. of I	blows to drive sam	pler 12" w/140 lb. ham	mer falling 30" ASTM	D-1586, Standard	Penetrat		
8 Gruphed Stone (dr.) Start: 8.15 AM 1 7 Cruphed Stone (dr.) 12 ° rec 2 9 0.6 ppm 0.6 ppm 3 10 Cruphed Stone (dr.) 15 ° rec 10 Cruphed Stone (dr.) 15 ° rec 0.0 ppm 4 17 0.0 ppm 0.0 ppm 5 6 Sand(medium/dark grey/brown - moist) 10 ° rec 6 Sand(medium/dark grey/brown - moist) 10 ° rec 33.4 6 8 11 Sand(brown - fine - moist) 18 ° rec 7 9 5 Clayer StLT (red/brown - wet/saturated) 53.0 ppm 10 38 39 11 ° rec 53.0 ppm 11 Sand(brown - fine - wet/saturated) 11 ° rec 53.0 ppm 10 38 Some Sitt/Grave (saturated) 11 ° rec 11 Medium Sand (medium grey - saturated) 11 ° rec 12 7 2 Medium Sand (medium grey - saturated) 24 ° rec 14 11 11 ° rec 24	ft)	ъ	0	Blows on					a - and - 3	5-50%		
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6 0 <th0< th=""> <th0< th=""> <th0< th=""> <th0< th=""></th0<></th0<></th0<></th0<>	1					Crushad Stopa (d	(m.r.)				2	
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11 11 9 Silty CLAY (red/brown - moist) 18" rec 11 San(brown - fine - moist) 43.0 ppm 4 10" rec 5 5 Clayey SILT (red/brown - wet/saturated) 53.0 ppm 13 San(brown - fine - wet/saturated) 53.0 ppm 14 10" rec 53.0 ppm 13 San(brown - fine - wet/saturated) 11" rec 14 1 11" rec 15 1 11" rec 16 5 11" rec 17 8 Medium Sand (medium grey - saturated) 24" rec 16 8 Medium Sand (black - degraded oil smell - saturated) 24" rec 16 1 2 Medium Sand (black - degraded oil smell - saturated) 24" rec 16 5				6								33.4
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Strates New York 3217 Project Name: Name: Project No. K11 002 001 Strates Base ROW Investigation Datum: 26 bps Locator: NOR - Munka, NY Base Note: 947413 Drilling Firm: S.B Drilling Firm: Sarto Ether: Inner: Drilling Firm: S.B Drilling Firm: Sarto Ether: Casing: Drilling Firm: S.B Drilling Firm: Sarto Ether: Casing: Drilling Firm: S.B Drilling Firm: Sarto Ether: Casing: Sarto Ether: Drilling firm: Sarto Ether: Casing: Note: Casing: Sarto Ether:	499 Col. Eileen Collins Blvd.								Well No.	MW-06
Project Name: Main St ROW Investigation Location: MOR - Buffalo, NY Date: 814/13 Diffing Ferm: SJB Finish Date: 814/13 Diffing Ferm: SJB Project Name: Main St ROW Investigation Center: Main Material Center: Main St ROW Investigation Center: Main Material Center: Main St ROW Investigation Center: Main St ROW Investigation Center: Main St ROW Investigation Center: Main St ROW Investigation Center: Main St Row Pack Center: Main St Row Pack C		Ph	one: 315-455-2000			-		Р	roject No.:	K11.002.001
Project Name: Man St. ROW Investigation Data Data <thdata< th=""> <thdata< th=""> Data</thdata<></thdata<>	COMPANIE			CON	STRUC	TION I	LOG	Sur	face Elev .:	
Clear: Calend: Finish Date: 874/13 Drilling Firm: 5.18 Driller: 0 Inspector: Casing: 2'6" Top of Riser Drill Rig: CMC description of observation well location, method of construction dard any duer information Casing: 10" Surface Backfill Material Image: Surface Backfill Material Image: Surface Backfill Material Image: Surface Backfill Material Image: Surface Backfill Material 2 Surface Backfill Material Image: Surface Backfill Material Image: Surface Backfill Material Image: Surface Backfill Material 3 Surface Backfill Material Image: Surface Backfill Material Image: Surface Backfill Material Image: Surface Backfill Material 10" Bore Hole Diameter 9" Well Material Image: Surface Backfill Material Image: Surface Backfill Material Image: Surface Backfill Material Image: Surface Backfill Material Image: Surface Backfill Material Image: Surface Backfill Material Image: Surface Backfill Material Image: Surface Backfill Material Image: Surface Backfill Material Image: Surface Backfill Material Image: Surface Backfill Material Image: Surface Backfill Material Image: Surface Backfill Material Image: Surface Backfill Material Image: Surface Backfill Material Image: Surface Backfill Material	Project Name: Ma							1	Datum:	26' bgs
Drilling Firm. B/B Driller: Dril	Location: MC	OB - Buff	alo, NY						Start Date:	8/14/13
2:9° Top Protective Casing (CMI 432) Drill Rig: (CMI 432) Casing: (crowide description of descreation well location, method of construction (crowide description of descreation (crowide description of descreation well was constructed inside of (crowide description of descreation (crowide descreation of descreation (crowide descreation of descreation (crowide descreation of descreation (crowide descreat			alth					F	inish Date:	8/14/13
2'-6' Top of Riser 0'-0' 26' bps. 0'-0' Execution control 0'-0' Execution control 0'-0' Execution control 0'-0' Execution control 10'' Execution control 10'' Execution control 0'' Stainless Steel 0'' Execution control 0'' Execution contecontrol	Drilling Firm: SJI								Inspector:	
Vol 26' bgs. Surface Backfill Material The observation well was constructed in Bore Hole 30. Surface Backfill Material Surface Backfill Material X Sand Surface Backfill Material Similar Surray X Cement/Bentonite Grout Onorate Onorate 10" Bore Hole Diameter Well Material Similess Steel Bentonite Slurry Cement/Bentonite Grout Concrate Similess Steel Bestinite Slurry Cement/Bentonite Grout Concrate Similess Steel Bestinite Slurry Cement/Bentonite Grout Soil Cuttings Bestinite Slurry Cement/Bentonite Grout Similess Steel Set Material Set Material Soil Cuttings Bestinite Grout Soil Cuttings Set Material Set Material Set Material Ot Sand Pack				sing	Drill Rig:				U U	0
soil boring to depth of 25 feet below ground surface (bgs). Hollow Stem Soil Boring to depth of 25 feet below ground surface (bgs). Hollow Stem Augers (H3) were used as the casing and the well was constructed inside th augers. Filter pack material and seal material were pourced separately down the inside of the augers while the augers were retracted. Measurements were taken to asure that notifier the filter pack or seal materials were bridging between the well and HSA. The well was developed by pumping to remove fine materials.		2'	-6" Top of Riser			developme	nt method an	d any other ir	nformation)	
Detentionite Slurry Date Time Water Elevation Status Cement/Bentonite Grout			Surface Backfill Materia X Sand X Bentonite Slurry Cement/Bentonite C Concrete 0" Bore Hole Diameter Well Diameter Well Material X PVC Stainless Steel Backfill Material	Grout	soil boring Augers (HS augers. Fil the inside o taken to as between th fine materia	to depth of (A) were us ter pack ma of the auger ure that nei e well and als.	25 feet belo ed as the ca aterial and s rs while the filte HSA. The wo	ement Data	arface (bgs). well was co were poured retracted. M al materials loped by put	Hollow Stem onstructed inside the d separately down Measurements were were bridging
Cement/Bentonite Grout Concrete Depth To: 29' Top of Seal Seal Material X Bentonite Slury Cement/Bentonite Grout 39' Top of Filter Pack 29' Top of Screen Screen Slot Size 010 in 015 in X 020 in 025 in Filter Material 00 Sand Pack 1 00 Sand Pack 3 Sand Pack		Ô			Data	T :	-			
Concrete Depth To: 29' Top of Seal Seal Material X Bentonite Chips/Pellets Bentonite Slurry Cement/Bentonite Grout 39' Top of Filter Pack 29' Top of Screen Screen Slot Size 010 in 015 in X 020 in 025 in Filter Material 00 Sand Pack 1 Sand Pack 2 Sand Pack 3 Sand Pack	Ň	Ŏ		No. 14	Date	Time	water	Elevation	Status	
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	Clier	nt:	Kaleida Hea	ılth					St	art Date:	8/16/13
Drilli	ng Firi	m:	SJB			Driller:	Tony	1	Fini	sh Date:	8/16/13
	Grou	nd١	water	Depth	Date & Time	Drill Rig:	CME 45C		In	spector:	N. Wohlabaugh
		Wh	ile Drilling:			Casing:		Rock Core:		Undist:	
Befo			g Removal:			Sampler:		Other:			
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			-	No. of	blows to drive sam	pler 12" w/140 lb. ham		D-1586. Standard	Penetrat	ion Test)	
		L					<u> </u>				COMMENTS
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spt!	N am	М	Sampler per 6"	m - med f - fine			DESCRIPTION	I - little - 1 t - trace -	0-20%	relative	moisture, core run,
ð	Ö	S	per o		S - Sar	nd, \$ - Silt, G - Gravel, C	- Clay, cly - clayey	t - trace -	0-10%	RQ	D, % recovered)
			3							S	Start: 2:45 PM
1		1	5		Crushed Stone (g	rey - dry)					12" rec
		1	5								0.4 ppm
2		1	9								
		1	19								
3		1	16			rown - dry to moist)					15" rec
		1	18		Silt (red/brown - c	dry to moist)					1.0 ppm
4		1	18								
		1	12								
5		1	17		Sand (fine - red/b						16" rec
			18		Silt (red/brown - r	noist)					0.2 ppm
6			20								
			24								
7			24			rown - wet to saturate	<u>ed)</u>				23" rec
			28	Silt (red/brown - wet to saturated)							0.5 ppm
8			37								
			14								
9			16		Sand (fine - red/b						21" rec
10			22		Silt (red/brown - s	saturated)					0.8 ppm
10			39								
4.4			16								10" ***
11			28 32		Silt (red/brown - v						18" rec
12			32		Clay (red/brown -	wei)					0.1 ppm
12			25								
13			17		Silt (red/brown - s	saturated)					24" rec
10			26		Clay (red/brown -						0.0 ppm
14		1	33		<u></u>	<u>caturatou/</u>					5.0 Ppm
- · ·		1	20								
15		1	19		Silt (red/brown - r	noist to wet)					19" rec
		1	19		Gravel (red/brown						0.0 ppm
16		1	21	1							
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Project Name: Main 51: ROW Investigation Datum: 22: bg: Location: View Start Date: 8/inf13 Drilling Time: SJB Driller: 0 Imagector: 22: 6° Top Of Riser Driller: 0 Imagector: 22: 6° Top of Riser Driller: 0 Imagector: 26: bgs Driller: 0 Imagector: Cassing: 26: bgs Driller: Driller: 0 Imagector: 26: bgs Driller: Driller: 0 Imagector: 26: bgs Driller: Driller: Note: Centrolle description of Desardam Any other Information) 26: bgs Start Desardam Any other Information) The observation well was constructed in Bote Hole B-3 upon completing the case of the information on the inside of the augers. Well was developed by pumping to remove the indice in their the filter filter pack or seal material were bridging taken to auxer that heirt the filter britter pack and the indice in the indit in the indice in t	COMPANIES		CON	STRUC	TION I	LOG	Sur	face Elev.:	
Leation: MOR: Buffitio. NY Stan Date: Sn (613) Client: Kalida Health Finish Dete: 816/13 Drilling Firm: SJB Top Protective Casing Driller: Image: Display 2'6' Top of Riser Drill Rig: Casing: Casing: Casing: 2'6' bgs Drill Rig: Casing: Casing: Casing: 2'6' bgs Surface Backfill Material Mate: Iprovide description of observation well location, method of construction, development method and any other information? Y Bentonite Sturry Cemeru/Bentonite Grout The observation well was constructed in Bote Health well was developed by pumping to remove fine materials. 6'' Bore Hole Diameter Y Well Material X Soil Cuttings Stainless Steel Backfill Material X Soil Cuttings Bentonite Slurry Cemeru/Bentonite Grout Cemeru/Bentonite Grout 2'' Top of Seal Salianiois Chips/Pellets Bentonite Slurg Cemeru/Bentonite Grout Date 2'' Top of Screen Date 2'' Top of Screen Date Screen Slot Size Date Date 0'' O'' Sin O'' Date 0'' D''' O'' Sin O''	Project Name: Main S							Datum:	26' bgs
Drilling Firm: SJB Driller: Inspector: 2'-9" Top Protective Casing Casing: (2'-9" Top of Riser () Notes: [) 2'6' Top of Riser () Notes: [] () 2'6' Backfill Material () () Notes: [] () 2'6' Backfill Material () () () Notes: [] () 2'7 Well Diameter () () () () () () 2'' Well Diameter () () () () () () 2'' Well Diameter () () () () () () 2'' Well Material () () () () () () 2'' Well Material () () () () () () 2'' Well Castron () () () () () </td <td></td> <td>-</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Start Date:</td> <td></td>		-						Start Date:	
2:-9" Top Protective Casing	Client: Kaleida	a Health				F	inish Date:	8/16/13	
26' bgs Image: Second Sec	Drilling Firm: SJB			Driller:	0			Inspector:	
26' bgs 26' bgs Surface Backlil Material X Sand X Sand X Sand Sand Sentonite Stury Cement/Bentonite Grout G Bore Hole Diameter 2' Vel Stainless Steel Backfill Material X X PVC Stainless Steel Bentonite Stury Concrete Vel Stainless Steel Backfill Material X Sad Sadi Material X PVC Stainless Steel See Mole Diameter 20' Top of Seal Sead Material Sead Material X Pof Screen Screen Slot Size Differ Pack 20' Top of Screen Screen Slot Size Differ Material Differ Material Screen Slot Size Differ Material Differ Material <tr< td=""><td></td><td>2'-9" Top Protective Cas</td><td>sing</td><td>Drill Rig:</td><td>CME 45C</td><td></td><td>•</td><td>Casing:</td><td>0</td></tr<>		2'-9" Top Protective Cas	sing	Drill Rig:	CME 45C		•	Casing:	0
Augers (HSA) were used as the casing and the well was constructed inside the augers. While the augers were retracted. Measurements were taken to assure than either the filter pack or stand materials were bridging between the well and HSA. The well was developed by pumping to remove the materials.		2'-6" Top of Riser	-	The observ	developme ation well v	nt method an was construe	d any other ir cted in Bore	formation) Hole B-3 up	on completing the
Backfill Material X Bentonite Slurry Cement/Bentonite Grout Concrete Depth To: 29' Top of Seal Seal Material X Bentonite Chips/Pellets Bentonite Slurry Cement/Bentonite Chips/Pellets Bentonite Slurry Cement/Bentonite Chips/Pellets Bentonite Slurry Cement/Bentonite Grout 39' Top of Filter Pack 29' Top of Screen Screen Slot Size 010 in 015 in X 020 in 25 in Filter Material 00 Sand Pack		Surface Backfill Materia X Sand X Bentonite Slurry X Cement/Bentonite C Concrete 6" Bore Hole Diameter 2" Well Diameter Well Material X PVC	Grout	Augers (HS augers. Fil the inside of taken to as between th	A) were us ter pack ma of the auger ure that nei e well and l	ed as the cas aterial and se rs while the s ither the filte	sing and the eal material augers were r pack or sea	well was co were poured retracted. M al materials	nstructed inside the I separately down Aeasurements were were bridging
Bentonite Slurry Date Time Water Elevation Status Cement/Bentonite Grout		Backfill Material			Groundwa	iter Measur	ement Data	1	
29' Top of Seal Seal Material x Bentonite Chips/Pellets Bentonite Slurry Cement/Bentonite Grout 39' Top of Filter Pack 29' Top of Screen 29' Top of Screen Screen Slot Size 010 in 015 in x 025 in Filter Material 00 Sand Pack		Bentonite Slurry Cement/Bentonite C	Grout	Date	Time	-			
2 Sand Pack 3 Sand Pack		Depth To: 29' Top of Seal Seal Material x Bentonite Chips/Pel Bentonite Slurry Cement/Bentonite C 39' Top of Filter Pa 29' Top of Screen Screen Slot Size 010 in 015 in x 020 in 025 in Filter Material 00 Sand Pack 0 Sand Pack 1 Sand Pack 2 Sand Pack	Grout						



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Well Casing Unit Volume							
	(gal/l.f.)						
1¼" = 0.08	2" = 0.17	3" = 0.38					
4" = 0.66	6" = 1.5	8" = 2.6					

Well Sampling Field Data Sheet

Client Name: CACETOA HEACT	4
Site Name: where Courses	
Project No.: NHU	
Field Staff: Richt BACKERE	

WELL DATA

Date		7/29/19	7/29/1	7/28/19	Theys	7/30/19	7/20/19	7/30/19	7/30/19
Well Number .	and offen of the	MK-NUOI	MS-NWOZ	MS.HWO	NS-MWOH	BCPHWUR	BEPRIVER	Bernver	BUPMWOJ
Diameter (inches)		2"	24	211	211	201	25	211	811
Total Sounded Depth (feet)	Malanda Malang Malan Provi	36Pt.	36FT.	YOFt.	40 Ft.	15 Pt.	15 FA 1	ISPA	15Ft
Static Water Level (feet)		10.9FT.	28.5P4	19284.	79.6841	6.487.	9.5 Ft.	6.8F.4.	7.2P4;
H ₂ O Column (feet)				6	for the second		-		·
Pump Intake (feet)									2
Well Volume (gallons)				~			4		_
Amount to Evacuate (gallons)		200	2 cela	Lel	Zal	259al	2. cul	2cal	Ical.
Amount Evacuated (galions)		2cd	Eral	Feil	2sel,	2 Aul.	Zenl	2 gal	Kul
		0	0	Comment of the second			0	0	0

FIELD READINGS

Date	Stabilization	7/29/1	s Fleuk	7/14/19	7/22/19	FRolig	7/30/19	7/30/19	7/20/19
Time	Criteria	10:30	11:30	12:30	1:45	10:00	10:48	11:20	12:05
pH (Std. Units)	+/-0.1	7.17	10.50	11.50	10.80	8.09	Filez	7.103	8/03
Conductivity (mS/cm)	3%	5.63	17:5	36.3	14.8	8.02	4.30	7.02	10.9
Turbidity (NTU)	10%	and the second sec	~	33660			and the second se	14000	
D.O. (mg/L)	10%	9.10	27.52	24.61	50.00	1.85	2.23	2.14	835
Temperature (°C) (°F)	3%	14.07%	14.49°0	20.3100	15.820	12.8000	13.8200	14.29%	14.012
ORP ³ (mV)	+/-10 mv	Bo	81	48	169	-104	96	-1/8	74
Appearance	a share with	CLEAR	57	\$7	afan	1		CLEMPR	CLEAR
Free Product (Yes/No)		YE	YES	YES	VES	YES	465	YES	Jes
Odor .		NONES	NINE	NONE	NONE	NONE	NONE,	NOR	NUNE
Comments	* BATTE	ory whi			urbidi:	ty was	NOT C	OLIECT	

10.00

C = Clear T = Turbid ST = Semi Turbid VT = Very Turbid



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Well	Well Casing Unit Volume									
(gal/l.f.)										
1¼" = 0.08	2" = 0.17	3" = 0.38								
4" = 0.66	6" = 1.5	8" = 2.6								

all and

Well Sampling Field Data Sheet

Client Name:	KALKEDP HEALTH	
Site Name:	CONVENTUS'	
Project No.:	NHL	
Field Staff:	RICH BACKENT	

WELL DATA

Date	and the second second	7/20/9	7/30/19			
Well Number		BUPMWOL	BERMWOS			
Diameter (inches)		811	211			
Total Sounded Depth (feet)	1005-005	ISFT	ISPT.			
Static Water, Level (feet)		losFt.	7.8FT.			
H ₂ O Column (feet)	and the second					
Pump Intake (feet)				 		
Well Volume (galions)						
Amount to Evacuate (gallons)		2 cal	3 pl			
Amount Evacuated (gallons)	Price Services	2 cul	2 rul			

FIELD READINGS

Date	Stabilization	7/20/19	7/30/12						
Time	Criteria	1:00	2:00						
pH (Std. Units)	+/-0.1	18.52	9.86						
Conductivity (mS/cm)	3%	149	28.2						
Turbidity (NTU)	10%	40	-						
D.O. (mg/L)	10%	5.53	2.60		,				
Temperature (°C) (°F)	3%	14.00"0	15.5800				· ·		
ORP ³ (mV)	+/-10 mv	68	46						
Appearance		CLEAR	CLEAR						
Free Product (Yes/No)	A the second of	YES	LEAS COM	encourg	سی ن				
Odor		NOWE.	Sollin Ohora	PMisor					
Comments	# Honiba	i baitte	PFK.	re Low	Vnabi	c to a	loziteci	+ TUSP	bdity.

C = Clear T = Turbid ST = Semi Turbid VT = Very Turbid

APPENDIX C IN SITU PRODUCT INFORMATION



CHEMICAL OXIDATION REDEFINED...

RegenOx[™] is an advanced in situ chemical oxidation technology^{*} designed to treat organic contaminants including high concentration source areas in the saturated and vadose zones

PRODUCT FEATURES:

- Rapid and sustained oxidation of target compounds
- Easily applied with readily available equipment
- Destroys a broad range of contaminants
- More efficient than other solid oxidants
- Enhances subsequent bioremediation
- Avoids detrimental impacts to groundwater aquifers



RegenOx product application

HOW IT WORKS:

RegenOx maximizes in situ performance using a solid alkaline oxidant that employs a sodium percarbonate complex with a multi-part catalytic formula. The product is delivered as two parts that are combined and injected into the subsurface using common drilling or direct-push equipment. Once in the subsurface, the combined product produces an effective oxidation reaction comparable to that of Fenton's Reagent without a violent exothermic reaction. RegenOx safely, effectively and rapidly destroys a wide range of contaminants in both soil and groundwater (Table 1).

ACHIEVES RAPID OXIDATION VIA A NUMBER OF MECHANISMS

RegenOx directly oxidizes contaminants while its unique catalytic complex generates a suite of highly charged, oxidative free radicals that are responsible for the rapid destruction of contaminants. The mechanisms by which RegenOx operates are:

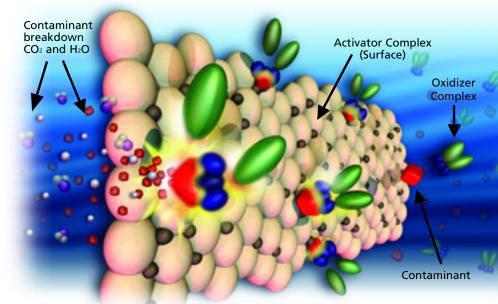
- Surface- Mediated Oxidation: (see Figure 1 and description below)
- Direct Oxidation: C₂Cl₄ + 2 Na₂CO₃ 3 H₂O₂ + 2 H₂O ↔ 2CO₂ + 4 NaCl + 4 H₂O + 2 H₂CO₃

Free Radical Oxidation:

- Perhydroxyl Radical (HO₂•)
- Hydroxyl Radical (OH•)
- Superoxide Radical (O₂•)

Figure 1. Surface-Mediated Oxidation is responsible for the majority of RegenOx contaminant destruction. This process takes place in two stages. First, the RegenOx activator complex coats the subsurface. Second, the oxidizer complex and contaminant react with the activator complex surface destroying the contaminant.

Figure 1. RegenOx[™] Surface-Mediated Oxidation





From Mass Reduction to Bioremediation:

RegenOx[™] is an effective and rapid contaminant mass reduction technology. A single injection will remove significant amounts of target contaminants from the subsurface. Strategies employing multiple Regenox injections coupled with follow-on accelerated bioremediation can be used to treat highly contaminated sites to regulatory closure. In fact, RegenOx was designed specifically to allow for a seamless transition to low-cost accelerated bioremediation using any of Regenesis controlled release compounds.

Significant Longevity:

RegenOx has been shown to destroy contaminants for periods of up to one month.

Product Application Made Safe and Easy:

RegenOx produces minimal heat and as with all oxidants proper health and safety procedures must be followed. The necessary safety guidance accompanies all shipments of RegenOx and additional resources are available on request. Through the use of readily available, highly mobile, direct-push equipment and an array of pumps, RegenOx has been designed to be as easy to install as other Regenesis products like ORC[®] and HRC[®].

Effective on a Wide Range of Contaminants:

RegenOx has been rigorously tested in both the laboratory and the field on petroleum hydrocarbons (aliphatics and aromatics), gasoline oxygenates (e.g., MTBE and TAME), polyaromatic hydrocarbons (e.g., naphthalene and phenanthrene) and chlorinated hydrocarbons (e.g., PCE, TCE, TCA).

Oxidant Effectiveness vs. Contaminant Type:

Table 1								
Contaminant	RegenOx™	Fenton's Reagent	Permanganate	Persulfate	Activated Persulfate	Ozone		
Petroleum Hydrocarbons	А	Α	В	В	В	Α		
Benzene	Α	Α	D	В	В	Α		
МТВЕ	Α	В	В	С	В	В		
Phenols	Α	Α	В	С	В	Α		
Chlorinated Ethenes (PCE, TCE, DCE, VC)	Α	Α	A	В	A	Α		
Chlorinated Ethanes (TCA, DCA)	Α	В	С	D	С	В		
Polycyclic Aromatic Hydrocarbons (PAHs)	Α	Α	В	В	А	Α		
Polychlorinated Biphenyls (PCBs)	В	С	D	D	D	В		
Explosives (RDX, HMX)	Α	Α	Α	Α	Α	Α		

Based on laboratory kinetic data, thermodynamic calculations, and literature reports.

Oxidant Effectiveness Key:

A = Short half life, low free energy (most energetically favored), most complete

B = Intermediate half life, low free energy, intermediate degree of completion

C = Intermediate half life, intermediate free energy, low degree of completion

D = Long half life, high free energy (least favored), very low degree of completion



Advanced Technologies for Groundwater Resources

1011 Calle Sombra / San Clemente / California 92673-6244 Tel: 949/366-8000 / Fax: 949/366-8090 / www.regenesis.com



The original Oxygen Release Compound (ORC[®]) is a fine, powdery material comprised of a patented formulation of phosphate-intercalated magnesium peroxide. The intercalation or embedding of phosphates within the magnesium peroxide is Regenesis' patented, controlled-release mechanism. Upon hydration, ORC is designed to produce a controlled-release of oxygen (10% by weight) into the subsurface in accordance with the following reaction:

$\mathrm{MgO}_{2} + \mathrm{H_{2}O} \rightarrow 1/2 \mathrm{O}_{2} + \mathrm{Mg(OH)}_{2}$

This process can proceed for periods of up to one year depending on site conditions. In the presence of this long-lasting oxygen source, aerobic microbes flourish - accelerating the naturally slow rates of aerobic biodegradation.

Product Benefits

By enhancing bioremediation using ORC, in-situ treatment of contaminants can result in an efficient, simple and costeffective alternative to traditional technologies. With low capital costs, no operations and maintenance, minimal site disturbance and proven effectiveness, ORC can restore water quality and property values at a reasonable cost.

Subsurface Emplacement

• Direct - Push Injection

• Trenches

• Hollow Stem Augers

- Ex Situ biophiles
- Replaceable Filter Socks (existing wells)
- Excavations

Treatable Contaminants

ORC can treat a wide range of contaminants and most any aerobically degradable compound including: gasoline and fuel additives (BTEX and MTBE), diesel, kerosene, jet fuel, gas condensates, fuel oils, lubricants, bunker oil, PAHs, certain pesticides/herbicides and certain industrial solvents (alcohols and ketones).

Material Application

Most contaminated sites are treated using ORC slurry which is a prescribed and easily injectable water and ORC mixture (Figure 2). The direct-push injection of ORC slurry maximizes ORC and oxygen distribution in the subsurface increasing the range of enhanced biodegradation. ORC is dosed in pounds per vertical foot of material treated. The amount of ORC recommended depends greatly on various factors such as contaminant concentrations, oxygen sinks, groundwater flow rates and subsurface geology. It is recommended that a Regenesis Technical Services Representative be contacted for detailed design information. ORC treatment approaches or designs may consist of one, or combinations of the following: Source Area Grids, Plume Area Grids or Barriers, Excavations and Biopiles.

