APRIL 2020

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

Prepared by:



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APRIL 2020

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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 November 12^{td}, and 13th, 2019.

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 November 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
- December 4, 2019
- March 31, 2020

For this reporting period, the groundwater sampling was completed on March 31st, 2020.

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.

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.

Samples were collected for VOCs in three 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 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 LEVEL (FT.)	GROUNDWATER ELEVATION (FT.)
BCP-MW-1	663.465	33.3	630.165
BCP-MW-3	663.465	33.1	630.365
BCP-MW-4	663.465	33.2	630.265
BCP-MW-5	663.465	32.2	631.265
BCP-MW-6	663.465	33.0	630.465
BCP-MW-7	663.465	30.1	633.365

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 March 2020. **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>

MW-3 is down to a concentration of 0 ug/L from 2.6 ug/L that was recorded in the last sampling event on December 12^{th} , 2019.

<u>BCP-MW-4</u>

The March 31, 2020 sampling event for MW-4 showed an increase in total VOC levels as well as total BTEX concentrations. The total VOC concentration for MW-4 was 1,777.6 ug/L and total BTEX showed a concentration of 1,390 ug/L.

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

The initial BTEX concentration of MW-5 was 17,670 ug/L in September of 2013. The most recent sampling event on March 31, 2020, showed a BTEX concentration of 6,840.80 ug/L, which is an increase compared to the previous, December 2019 sampling event that had a concentration of 4,623.90 ug/L.

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

Total BTEX concentrations from the previous sampling event on December 2019 showed a slight increase in BTEX concentrations at a concentration of 21.10 ug/L.

The most recent sampling event showed a concentration for total BTEX of 0 ug/L and a total VOC concentration of 1.6 ug/L. This sampling event showed the lowest concentration recorded besides the sampling event in July of 2019 which was collected before the most recent well injection.

BCP-MW-7

In the most recent sampling event on March 31, 2020 the decreasing concentration trend continued with total VOC concentrations as well as total BTEX concentrations, which both had concentrations of 0 ug/l. This sampling event marks the first time that the well has had a concentration of 0 ug/L since the sampling event in May of 2017.

4. <u>CONCLUSION AND RECOMMENDATIONS</u>

The November 2019 injection event appeared to be successful in some wells but inefficient in other wells. This could have a correlation with the time period between when the wells were injected and when the samples were collected from the wells. After the chemical

oxidant treatment, petroleum contamination still exists in three monitoring wells. C&S recommends the following:

- Perform another quarterly in-situ treatments within two groundwater monitoring wells (BCP-MW-4 and BCP-MW-5)
- 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



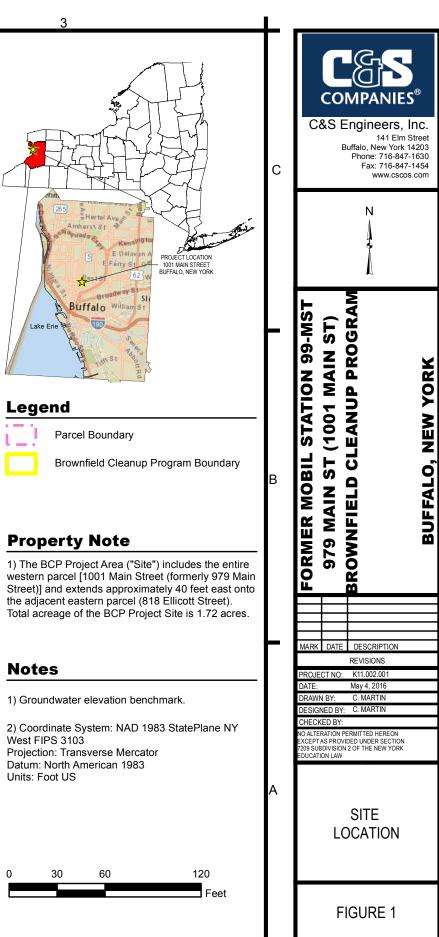
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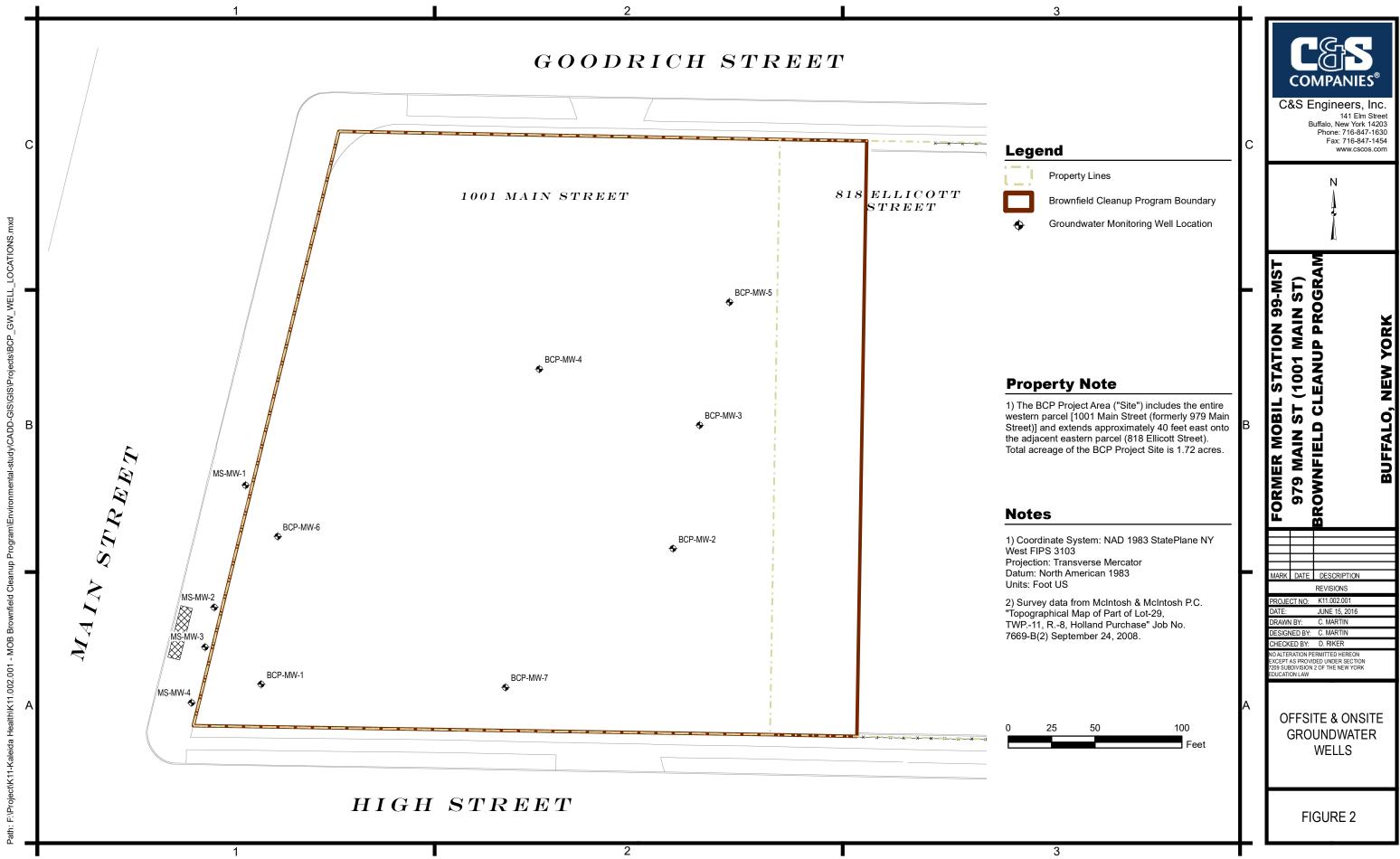
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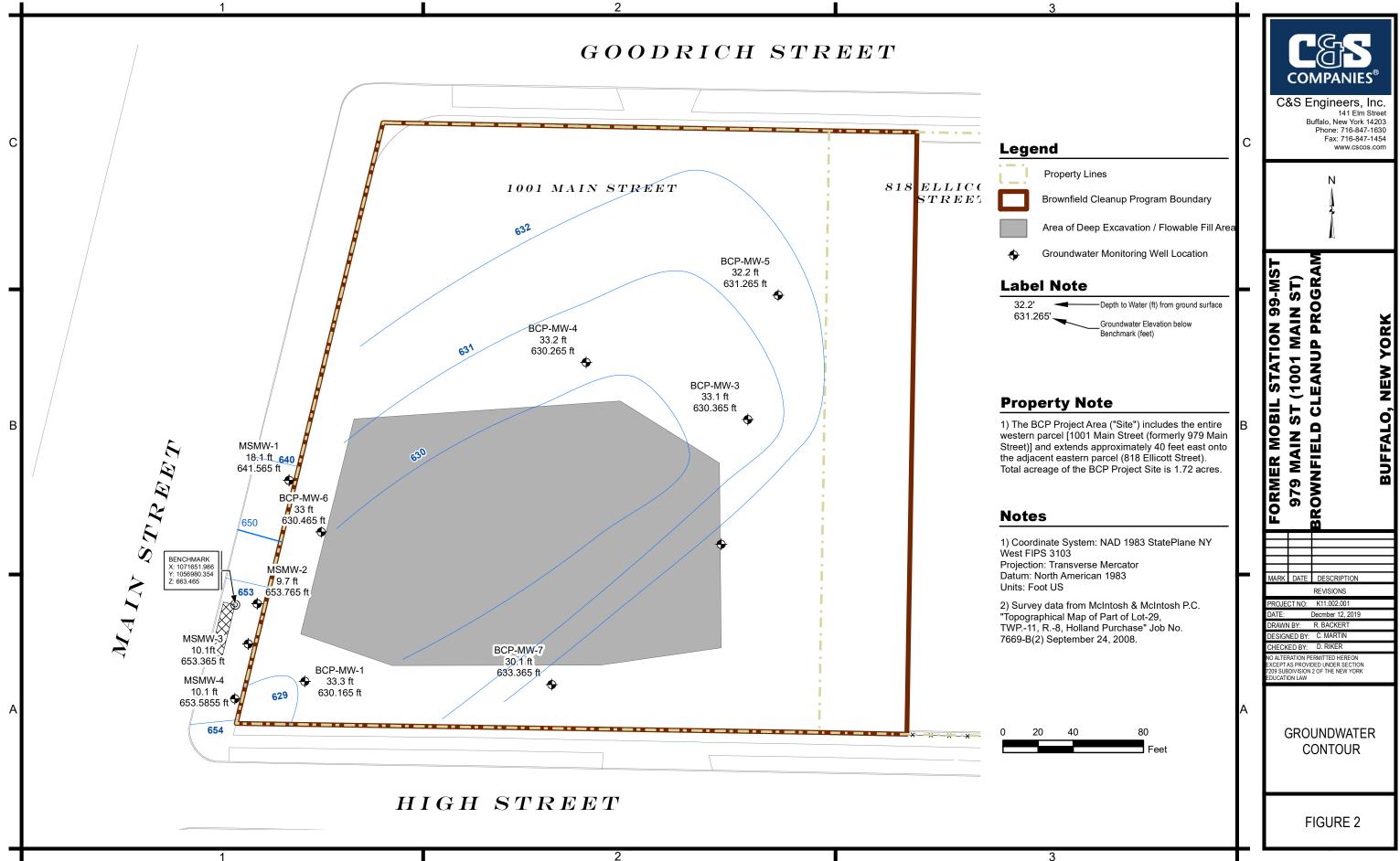
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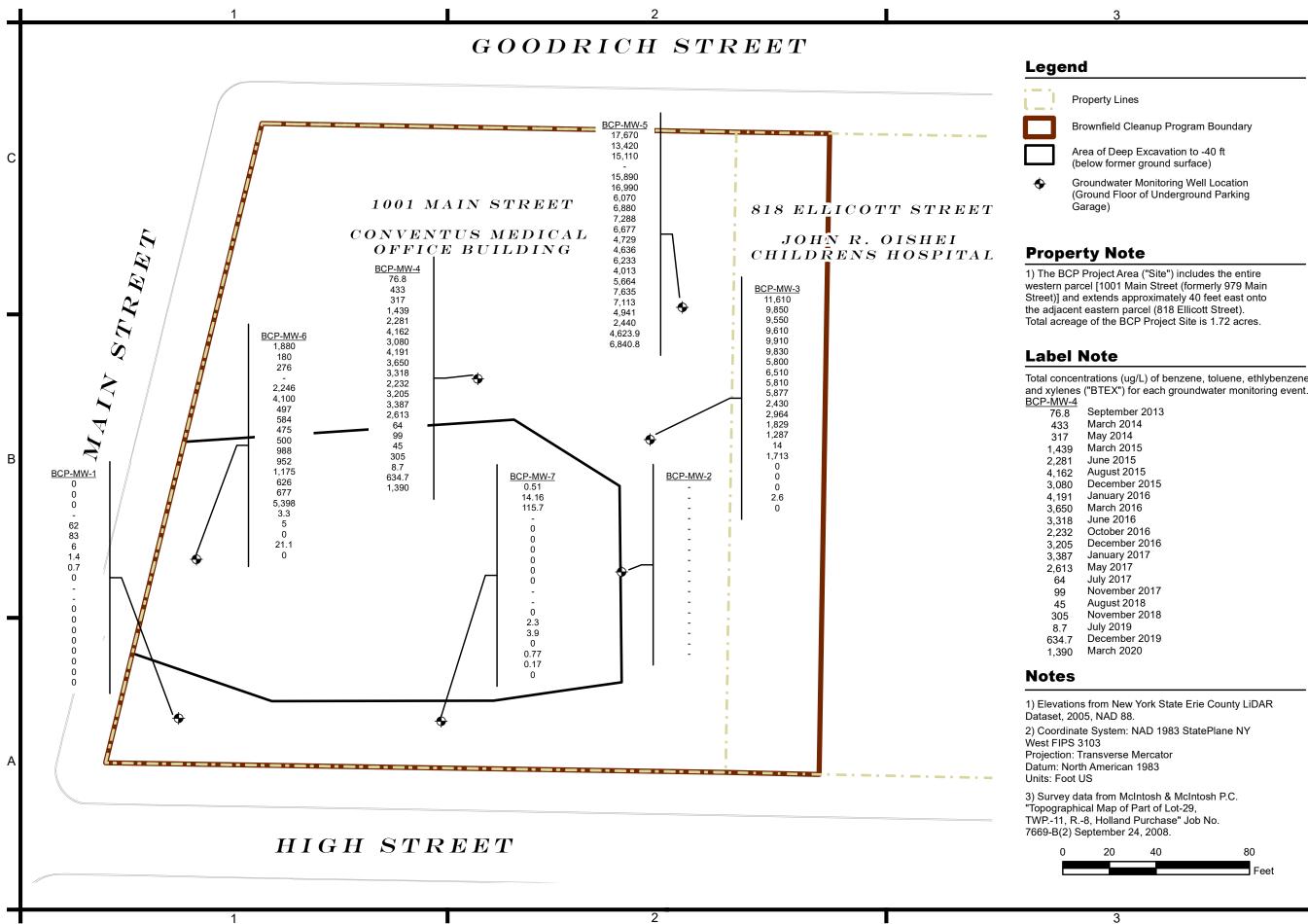
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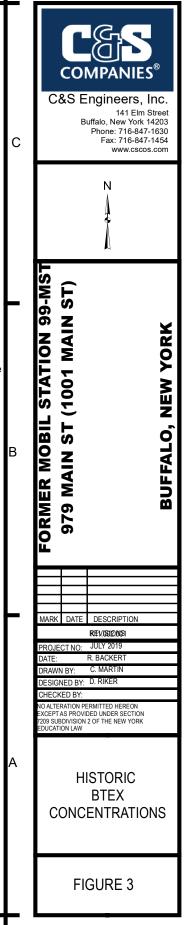


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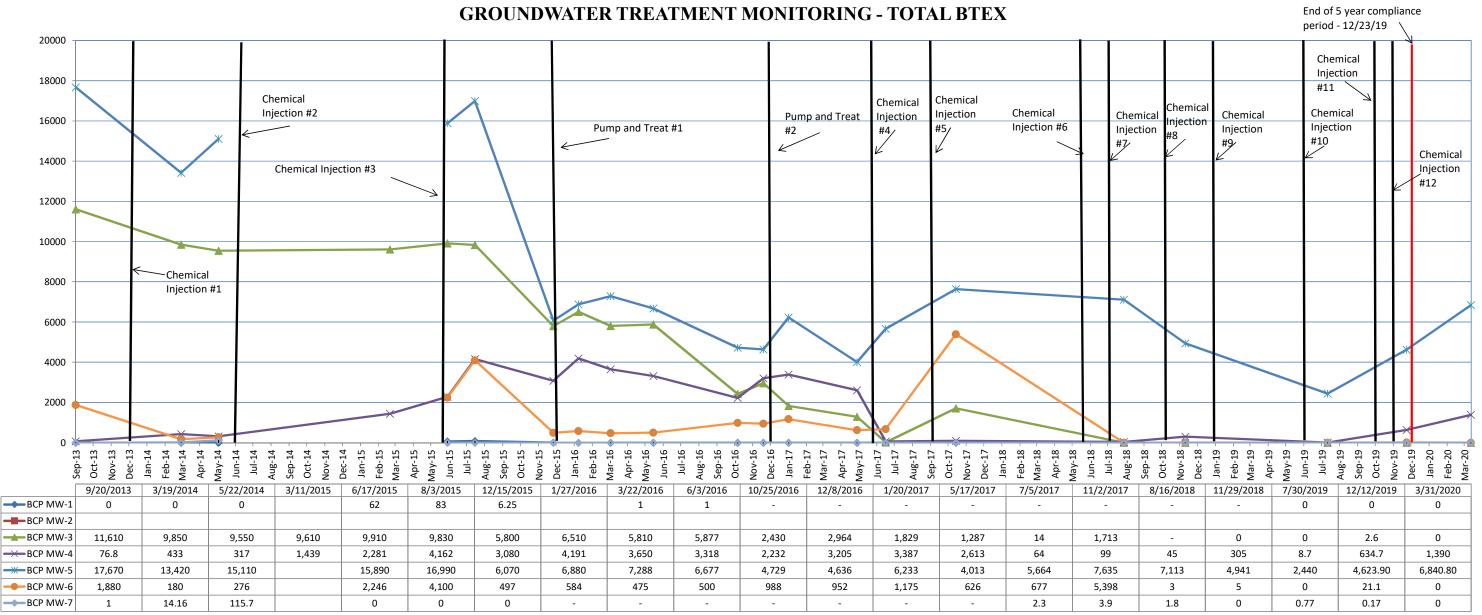


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TABLES

		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	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	12/12/2019	3/31/2020
		Matrix	WG	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	ug/L
NYSDEC Ambient Water Quality	Standards & C	Juidance Values																				
Volatile Organic Compound	Surface Water	Groundwater																				
1,2-DICHLOROBENZENE	3	3	ND	ND	ND			ND		ND										ND		ND
1,2-DICHLOROETHANE	0.6	0.6	ND	ND	ND			ND		ND										.15 J		ND
1,2-DICHLOROPROPANE	1	1	ND	ND	ND			ND		ND												ND
1,3-DICHLOROBENZENE	3	3	ND	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	ND	ND
ACETONE	50	50	ND	ND	ND		ND	ND	ND	ND	ND	ND			ND	5.1	ND	ND	1.8J	2.4 J	1.7	ND
BENZENE	1	1	ND	ND	ND		35	39	5.7	1.4	0.72	ND			ND	ND	0.33	ND	ND	ND	ND	ND
DIBROMOCHLOROMETHANE	50	50	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
ETHYLBENZENE	5	5	ND	ND	ND		2	1.5	ND	ND	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	ND	ND
METHYL ETHYL KETONE (2-BUTANONE)	50	50	ND	ND	ND		ND	45	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	ND	ND
TOLUENE	5	5	ND	ND	ND		19	38	0.55	ND	ND	ND			ND	ND	1.1	ND	ND	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	0.33 J	ND	ND			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	ND	ND
NAPHTHALENE	10	10	ND	ND	ND		ND	ND	ND	0.33 J	ND	ND			ND	ND	ND	ND	4.3	ND	ND	ND
No Standard																						
CARBON DISULFIDE			ND	ND	0.94		ND	ND	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	ND	ND
METHYL ISOBUTYL KETONE			ND	ND	ND		ND	13	ND	ND	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	ND	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	1.7	0
Total BTEX			0	0	0	-	62	83	6	1.4	0.7	0			0.0	0	0	0	0	0	0	0
Non-Standard VOC List																						
1,3,5-TRIMETHYLBENZENE	5	5														ND	ND		ND		ND	
1,2,4,5-TETRAMETHYLBENZENE	5	5														ND	ND		ND		ND	
1,2,4-TRIMETHYLBENZENE	5	5														ND	ND		ND		ND	
SEC-BUTYLBENZENE	5	5														ND	ND		ND		ND	
N-PROPYLBENZENE	5	5														ND	ND		ND		ND	
N-BUTYLBENZENE	5	5														ND	ND		ND		ND	
P-ISOPROPYLTOLUENE																ND	ND		ND		ND	
1,4-DIETHYLBENZENE																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.
 WG = groundwater

		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	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	8/16/2018	11/29/2018	7/30/2019	12/12/2019	
		Matrix	WG	WG	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	ug/L	ug/L
NYSDEC Ambient Water Quality	Standards & G	Guidance 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																		
1,2-DICHLOROPROPANE	1	1	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	ND	ND
ACETONE	50	50	ND	<u>98</u>	ND	17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	166	ND	2.3	24.0	2.1 J	ND	ND
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	0.2J	ND
DIBROMOCHLOROMETHANE	50	50	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
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	1.1 J	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	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	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	ND	ND
TOLUENE	5	5	110	150	150	110	110	130	100	110	110	67	39.4	74.5	38.4	22.6	1.6	34.8	ND	ND	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	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	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	1.3 J	ND
NAPHTHALENE	10	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	14	357	ND	ND	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	ND	ND
CYCLOHEXANE			120	320	270	390	330	210	100	93	110	170	ND	ND	ND	ND	ND	60.5	ND	ND	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	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	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	2.6	0
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	-	-	-	2.6	6 O
Non-Standard VOC List																							
1,3,5-TRIMETHYLBENZENE	5	5															ND	133	133	ND	ND	ND	ND
1,2,4,5-TETRAMETHYLBENZENE	5	5															ND	ND	ND	ND	ND	ND	ND
1,2,4-TRIMETHYLBENZENE	5	5															4.9	737	737	ND	ND	1.2 J	0.88J
SEC-BUTYLBENZENE	5	5															ND	ND	ND	ND	ND	ND	ND
N-PROPYLBENZENE	5	5															ND	ND	ND	ND	ND	ND	ND
N-BUTYLBENZENE	5	5															ND	ND	ND	ND	ND	ND	ND
P-ISOPROPYLTOLUENE																	ND	ND	ND	ND	ND	ND	ND
1,4-DIETHYLBENZENE																	ND	ND	ND	ND	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-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	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	12/12/2019	3/31/2020
		Matrix	WG	WG	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	ug/L	ug/L
NYSDEC Ambient Water Quality	Standards & G	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																		
1,2-DICHLOROPROPANE	1	1	ND	ND	ND																	1.0 J	
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	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	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	6.4	7.6
DIBROMOCHLOROMETHANE	50	50	ND	ND	ND																	ND	ND
DICHLORODIFLUOROMETHANE	5	5	ND	ND	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	460	810
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	19	28
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	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	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	11	46
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	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	157.3	534 J
NAPHTHALENE	10	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.9	ND	ND	36	ND	99	230
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	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	60	100
METHYL ISOBUTYL KETONE			ND	ND	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	8	22J
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	821.7	1,777
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	634.7	1,390
Non-Standard VOC List																							
1,3,5-TRIMETHYLBENZENE	5	5															2	ND	ND	1.4 J	ND	ND	7.0J
1,2,4,5-TETRAMETHYLBENZENE	5	5															1.1	ND	ND	ND	ND	ND	ND
1,2,4-TRIMETHYLBENZENE	5	5															1.1	ND	ND	150	ND	470	1100
SEC-BUTYLBENZENE	5	5															ND	ND	ND	1.5 J	ND	2.9 J	ND
N-PROPYLBENZENE	5	5															2.3	ND	ND	37	ND	86	150
N-BUTYLBENZENE	5	5															1.7	ND	ND	2.2 J	ND	4.1 J	10J
P-ISOPROPYLTOLUENE																	ND	ND	ND	ND	ND	ND	ND
1,4-DIETHYLBENZENE																	ND	ND	ND	ND	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.

	Sa	mple 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	MW-5	MW-5
		ate 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	7/30/2019	12/12/2019	3/31/2020
		atrix	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG
	Un		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	ug/L	ug/L
NVCDEC A			Ũ	e	Ũ	C	e	Ũ	U	e	Ũ	Ũ	Ũ	Ũ	e	U	U	U	U	Ũ	Ũ	e	U
NYSDEC Ambient Water Quality S	tandards & Guida	ance 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																		
1,2-DICHLOROPROPANE	1	1	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	ND	ND
ACETONE	50	50	ND	520	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	15.3	ND	41	69 J	44	97 J	ND
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	8.9 J	5.8J
DIBROMOCHLOROMETHANE	50	50	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
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 E	1200	1,700
ISOPROPYLBENZENE (CUMENE)	5	5	28	29	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	13.6	ND	20	16 J	23	24 J	30J
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	ND	ND
METHYLENE CHLORIDE	5	5	ND	ND	ND		ND	ND	ND	ND	77	96	ND	ND	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	42 J	49J
TRICHLOROETHYLENE (TCE)	5	5	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		.22 J	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	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 E	3373	5,086.0
NAPHTHALENE	10	10	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	730	1,030	620	1,100		1100	940
No Standard																							
CARBON DISULFIDE			ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.1	ND	ND		1.2 J	ND	ND
CYCLOHEXANE			230	340	240		430	260	230	250	280	430	198	148	257	ND	257	238	150	130 J	140	220	250
METHYL ISOBUTYL KETONE			23	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		3.0 J	ND	ND
METHYLCYCLOHEXANE			100	170	150		190	130	92	100	100	140	67.5	58.4	92.8	49	92.8	106	70	82 J	65	96	110J
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	2,718.72	6,160.9	8,170.80
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	2,440.30	4,623.90	6,840.80
Non-Standard VOC List																							
1,3,5-TRIMETHYLBENZENE	5	5															823	ND	ND	630	ND	480	520
1,2,4,5-TETRAMETHYLBENZENE	5	5															135	ND	ND		ND	ND	ND
1,2,4-TRIMETHYLBENZENE	5	5															2,280	2,490	2,400	2,300	ND	2200	2500
SEC-BUTYLBENZENE	5	5															3.2	ND	ND		ND	ND	ND
N-PROPYLBENZENE	5	5															34.8	ND	110	69	ND	110	140
N-BUTYLBENZENE	5	5															43.3	ND	ND		ND	4.1 J	ND
P-ISOPROPYLTOLUENE																	5.7	ND	ND		ND	ND	ND
1,4-DIETHYLBENZENE																	347	ND	ND		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	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	12/12/2019	3/31/202
		Matrix	WG	WG	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	ug/L	ug/L
NYSDEC Ambient Water Quality S	tandards & (Guidance 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	ND
1,2-DICHLOROPROPANE	1	1	ND	ND	ND																ND	.20 J	ND
1,3-DICHLOROBENZENE	3	3	ND	ND	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	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	6.4	1.6J
BENZENE	1	1	190	33	16		470	890	250	230	200	120	302	168	200	113	131	774	ND	0.82	ND	4	ND
DIBROMOCHLOROMETHANE	50	50	ND	ND	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	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	2.4 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	.90 J	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	ND	ND
METHYLENE CHLORIDE	5	5	ND	ND	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	6.7	ND
TRICHLOROETHYLENE (TCE)	5	5	ND	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	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	8	ND
NAPHTHALENE	10	10	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	86.6	ND	1	.8 J	ND	4.8	ND
No Standard																							
CARBON DISULFIDE			ND	ND	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	6.6 J	ND
METHYL ISOBUTYL KETONE			ND	ND	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	4.5 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	44.5	1.6
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	-	21.10	0
Non-Standard VOC List						_																	
1,3,5-TRIMETHYLBENZENE	5	5															74.3	ND	ND	5.1	ND	1.4 J	ND
1,2,4,5-TETRAMETHYLBENZENE	5	5															14.3	ND	ND	ND	ND	ND	ND
1,2,4-TRIMETHYLBENZENE	5	5															134	ND	ND	ND	ND	2.2 J	ND
SEC-BUTYLBENZENE	5	5																		ND	ND	0.88 J	ND
N-PROPYLBENZENE	5	5															11.3	ND	4.7	1.7 J	ND	1.3 J	NE
N-BUTYLBENZENE	5	5															4.6	ND	0.72	ND	ND	4.1 J	ND
P-ISOPROPYLTOLUENE																	1.6	1.6	1.6	ND	ND	ND	NI
1,4-DIETHYLBENZENE																	32.9	32.9	32.9	ND	ND	ND	NE

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-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	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	12/12/2019	3/31/2020
		Matrix	WG	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	ug/L
NYSDEC Ambient Water Quality S	Standards & Gu	idance 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	ND
1,2-DICHLOROPROPANE	1	1	ND	ND	ND															ND	ND	ND
1,3-DICHLOROBENZENE	3	3	ND	ND	ND															ND	ND	ND
2-HEXANONE	50	50	ND	ND	4.8		ND	ND	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	ND	ND
BENZENE	1	1	0.51	8.8	14		ND	ND	ND	ND	ND	ND			ND	2.3	2.81	1.8	.18 J	.77	.17 J	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	3		ND	ND	ND	ND	ND	ND			ND	ND	0	ND	ND	ND	ND	ND
ISOPROPYLBENZENE (CUMENE)	5	5	ND	ND	ND		ND	ND	ND	ND	ND	ND			ND	ND	0.45	ND	ND	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	ND	ND
METHYLENE CHLORIDE	5	5	ND	ND	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	ND	ND
TRICHLOROETHYLENE (TCE)	5	5	ND	ND	ND		ND		ND		ND				ND		ND			ND	ND	ND
1,1,2-TRICHLOROETHANE	1	1																		ND	ND	ND
XYLENES, TOTAL	5	5	0.96	4.8	94		ND	ND	ND	0.99 J	ND	ND			ND	ND	ND	ND	ND	ND	ND	ND
NAPHTHALENE	10	10																1.50	.86 J	ND	ND	ND
No Standard																						
CARBON DISULFIDE			ND	ND	0.97		ND	ND	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	ND	ND
METHYL ISOBUTYL KETONE			ND	ND	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	ND	ND
Total VOCs			1.47	23.16	136.17	-	0.18	-	0.71	-	-	-	-	-	-	2.30	5.35	3.66	1.04	4.97	0.17	0
Total BTEX			0.51	14.16	115.7	-	-	-	-	-	•	-	-	-	•	2.3	3.9	1.8	0.18	0.77	0.17	0
Non-Standard VOC List																						
1,3,5-TRIMETHYLBENZENE	5	5														ND	ND	3.2		3.2	ND	ND
1,2,4,5-TETRAMETHYLBENZENE	5	5														ND	ND	ND	ND	ND	ND	ND
1,2,4-TRIMETHYLBENZENE	5	5														ND	ND	ND	ND	ND	ND	ND
SEC-BUTYLBENZENE	5	5						_													ND	
N-PROPYLBENZENE	5	5																			ND	
N-BUTYLBENZENE	5	5																			ND	
P-ISOPROPYLTOLUENE																					ND	
1,4-DIETHYLBENZENE																					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.

APPENDICES

APPENDIX A LABORATORY ANALYTICAL RESULTS



ANALYTICAL REPORT

Lab Number:	L2013949
Client:	C&S Companies
	141 Elm Street
	Suite 100
	Buffalo, NY 14203
ATTN:	Richard Backert
Phone:	(716) 955-3024
Project Name:	CONVENTUS
Project Number:	K11
Report Date:	04/03/20

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Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

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



Serial_No:04032012:01

Project Name:CONVENTUSProject Number:K11

 Lab Number:
 L2013949

 Report Date:
 04/03/20

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2013949-01	BCPMW01033120	WATER	K11.002.001 1001 MAIN ST.	03/31/20 09:50	03/31/20
L2013949-02	BCPMW07033120	WATER	K11.002.001 1001 MAIN ST.	03/31/20 10:35	03/31/20
L2013949-03	BCPMW004033120	WATER	K11.002.001 1001 MAIN ST.	03/31/20 11:05	03/31/20
L2013949-04	BCPMW03033120	WATER	K11.002.001 1001 MAIN ST.	03/31/20 11:35	03/31/20
L2013949-05	BCPMW06033120	WATER	K11.002.001 1001 MAIN ST.	03/31/20 12:05	03/31/20
L2013949-06	BCPMW05033120	WATER	K11.002.001 1001 MAIN ST.	03/31/20 12:35	03/31/20
L2013949-07	TRIP BLANK	WATER	K11.002.001 1001 MAIN ST.	03/31/20 00:00	03/31/20



Project Name: CONVENTUS Project Number: K11

 Lab Number:
 L2013949

 Report Date:
 04/03/20

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

 Lab Number:
 L2013949

 Report Date:
 04/03/20

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.

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.

Michelle M. Monig Michelle M. Morris

Authorized Signature:

Title: Technical Director/Representative

Date: 04/03/20



ORGANICS



VOLATILES



		Serial_No	p:04032012:01
Project Name:	CONVENTUS	Lab Number:	L2013949
Project Number:	K11	Report Date:	04/03/20
	SAMPLE RESULTS		
Lab ID:	L2013949-01	Date Collected:	03/31/20 09:50
Client ID:	BCPMW01033120	Date Received:	03/31/20
Sample Location:	K11.002.001 1001 MAIN ST.	Field Prep:	Not Specified
Sample Depth: Matrix: Analytical Method: Analytical Date: Analyst:	Water 1,8260C 04/02/20 21:26 NLK		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - West	borough 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



Project Name:	CONVENTUS				Lab Nu	mber:	L2013949	
Project Number:	K11				Report	Date:	04/03/20	
		SAMP	LE RESULTS	5				
Lab ID: Client ID: Sample Location:	L2013949-01 BCPMW01033120 K11.002.001 1001 MAI	N ST.			Date Col Date Rec Field Pre	ceived:	03/31/20 09:50 03/31/20 Not Specified	
Sample Depth:								
Parameter		Result	Qualifier	Units	RL	MDL	Dilution Factor	

Volatile Organics by GC/MS - Westboro	ough 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	
1,2-Dibromoethane	ND	ug/l	2.0	0.65	1	
n-Butylbenzene	ND	ug/l	2.5	0.70	1	
sec-Butylbenzene	ND	ug/l	2.5	0.70	1	
tert-Butylbenzene	ND	ug/l	2.5	0.70	1	
1,2-Dibromo-3-chloropropane	ND	ug/l	2.5	0.70	1	
Isopropylbenzene	ND	ug/l	2.5	0.70	1	
p-Isopropyltoluene	ND	ug/l	2.5	0.70	1	
Naphthalene	ND	ug/l	2.5	0.70	1	
n-Propylbenzene	ND	ug/l	2.5	0.70	1	
1,2,4-Trichlorobenzene	ND	ug/l	2.5	0.70	1	
1,3,5-Trimethylbenzene	ND	ug/l	2.5	0.70	1	
1,2,4-Trimethylbenzene	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	
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	105	70-130	
Toluene-d8	102	70-130	
4-Bromofluorobenzene	107	70-130	
Dibromofluoromethane	97	70-130	



Serial_No:04032012:01

	Serial_N	0:04032012:01
CONVENTUS	Lab Number:	L2013949
K11	Report Date:	04/03/20
SAMPLE RESULTS		
L2013949-02	Date Collected:	03/31/20 10:35
BCPMW07033120	Date Received:	03/31/20
K11.002.001 1001 MAIN ST.	Field Prep:	Not Specified
1,8260C		
04/02/20 14:50		
AD		
	K11 SAMPLE RESULTS L2013949-02 BCPMW07033120 K11.002.001 1001 MAIN ST. Water 1,8260C 04/02/20 14:50	CONVENTUS Lab Number: K11 Report Date: SAMPLE RESULTS Date Collected: BCPMW07033120 Date Received: K11.002.001 1001 MAIN ST. Field Prep: Water 1,8260C 04/02/20 14:50

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



					S	Serial_No	0:04032012:01
Project Name:	CONVENTUS				Lab Nu	mber:	L2013949
Project Number:	K11				Report	Date:	04/03/20
		SAMP		3			
Lab ID:	L2013949-02				Date Col	lected:	03/31/20 10:35
Client ID:	BCPMW07033120				Date Rec	ceived:	03/31/20
Sample Location:	K11.002.001 1001 MAI	N ST.			Field Pre	p:	Not Specified
Sample Depth:							
Parameter		Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics b	ov GC/MS - Westborough L	ab					

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - West	borough 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
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-lsopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	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
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	99	70-130	
Toluene-d8	98	70-130	
4-Bromofluorobenzene	107	70-130	
Dibromofluoromethane	98	70-130	



		Serial_N	0:04032012:01
Project Name:	CONVENTUS	Lab Number:	L2013949
Project Number:	K11	Report Date:	04/03/20
	SAMPLE RESULTS		
Lab ID:	L2013949-03 D	Date Collected:	03/31/20 11:05
Client ID:	BCPMW004033120	Date Received:	03/31/20
Sample Location:	K11.002.001 1001 MAIN ST.	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Water		
Analytical Method:	1,8260C		
Analytical Date:	04/02/20 13:34		
Analyst:	AD		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Wes	stborough 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	7.6		ug/l	5.0	1.6	10
Toluene	46		ug/l	25	7.0	10
Ethylbenzene	810		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:04032012:01					
Project Name:	CONVENTUS				Lab Nu	mber:	L2013949		
Project Number:	K11				Report	Date:	04/03/20		
SAMPLE RESULTS									
Lab ID: Client ID: Sample Location:	L2013949-03 BCPMW00403312 K11.002.001 1001				Date Collected: Date Received: Field Prep:		03/31/20 11:05 03/31/20 Not Specified		
Sample Depth:									
Parameter		Result	Qualifier	Units	RL	MDL	Dilution Factor		
Volatile Organics b	by GC/MS - Westborou	ıgh 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		520		ug/l	25	7.0	10		
o-Xylene		14	J	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		ND		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		ND		ug/l	50	10.	10		
2-Hexanone		ND		ug/l	50	10.	10		
1,2-Dibromoethane		ND		ug/l	20	6.5	10		
n-Butylbenzene		10	J	ug/l	25	7.0	10		
sec-Butylbenzene		ND		ug/l	25	7.0	10		
tert-Butylbenzene		ND		ug/l	25	7.0	10		
1,2-Dibromo-3-chloroprop	pane	ND		ug/l	25	7.0	10		
Isopropylbenzene		28		ug/l	25	7.0	10		
p-Isopropyltoluene		ND		ug/l	25	7.0	10		
Naphthalene		230		ug/l	25	7.0	10		
n-Propylbenzene		150		ug/l	25	7.0	10		
1,2,4-Trichlorobenzene		ND		ug/l	25	7.0	10		
1,3,5-Trimethylbenzene		7.0	J	ug/l	25	7.0	10		
1,2,4-Trimethylbenzene		1100		ug/l	25	7.0	10		
Methyl Acetate		ND		ug/l	20	2.3	10		
Cyclohexane		100		ug/l	100	2.7	10		
Freon-113		ND		ug/l	25	7.0	10		
Methyl cyclohexane		22	J	ug/l	100	4.0	10		

Surrogate	% Recovery	Acceptance Qualifier Criteria	
1,2-Dichloroethane-d4	106	70-130	
Toluene-d8	96	70-130	
4-Bromofluorobenzene	100	70-130	
Dibromofluoromethane	96	70-130	



		Serial_No:04032012:01		
Project Name:	CONVENTUS	Lab Number:	L2013949	
Project Number:	K11	Report Date:	04/03/20	
	SAMPLE RESULTS			
Lab ID:	L2013949-04	Date Collected:	03/31/20 11:35	
Client ID:	BCPMW03033120	Date Received:	03/31/20	
Sample Location:	K11.002.001 1001 MAIN ST.	Field Prep:	Not Specified	
Sample Depth: Matrix: Analytical Method: Analytical Date: Analyst:	Water 1,8260C 04/02/20 15:16 AD			

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westh	oorough 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	0:04032012:01
Project Name:	CONVENTUS				Lab Nu	ımber:	L2013949
Project Number:	K11				Report	Date:	04/03/20
		SAMP	LE RESULTS	6			
Lab ID:	L2013949-04				Date Co	llected:	03/31/20 11:35
Client ID:	BCPMW03033120				Date Re	ceived:	03/31/20
Sample Location:	K11.002.001 1001 MAII	N ST.			Field Pre	ep:	Not Specified
Sample Depth:							
Parameter		Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics b	oy GC/MS - Westborough L	ab					

Parameter	Result	Qualifier	Units	RL	NIDL	Dilution Factor
Volatile Organics by GC/MS - West	tborough 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
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	0.88	J	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
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	104	70-130	
Toluene-d8	100	70-130	
4-Bromofluorobenzene	100	70-130	
Dibromofluoromethane	99	70-130	

		Serial_No	0:04032012:01
Project Name:	CONVENTUS	Lab Number:	L2013949
Project Number:	K11	Report Date:	04/03/20
	SAMPLE RESULTS		
Lab ID:	L2013949-05	Date Collected:	03/31/20 12:05
Client ID:	BCPMW06033120	Date Received:	03/31/20
Sample Location:	K11.002.001 1001 MAIN ST.	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Water		
Analytical Method:	1,8260C		
Analytical Date:	04/02/20 15:42		
Analyst:	PD		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westbo	ough 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	0:04032012:01
Project Name:	CONVENTUS				Lab No	umber:	L2013949
Project Number:	K11				Repor	t Date:	04/03/20
-		SAMP		5			
Lab ID:	L2013949-05				Date Co	llected:	03/31/20 12:05
Client ID:	BCPMW06033120				Date Re	ceived:	03/31/20
Sample Location:	K11.002.001 1001 MAIN	IST.			Field Pr	ep:	Not Specified
Sample Depth:							
Sample Depth:							
Parameter		Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics b	by GC/MS - Westborough La	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		ua/l	2.5	0.70	1

1,4-Dichlorobenzene	IND		ug/i	2.5	0.70	I	
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	1.6	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	
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1	
n-Butylbenzene	ND		ug/l	2.5	0.70	1	
sec-Butylbenzene	ND		ug/l	2.5	0.70	1	
tert-Butylbenzene	ND		ug/l	2.5	0.70	1	
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1	
Isopropylbenzene	ND		ug/l	2.5	0.70	1	
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1	
Naphthalene	ND		ug/l	2.5	0.70	1	
n-Propylbenzene	ND		ug/l	2.5	0.70	1	
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1	
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1	
1,2,4-Trimethylbenzene	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	
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	105	70-130	
Toluene-d8	97	70-130	
4-Bromofluorobenzene	104	70-130	
Dibromofluoromethane	101	70-130	

		Serial_No	0:04032012:01
Project Name:	CONVENTUS	Lab Number:	L2013949
Project Number:	K11	Report Date:	04/03/20
	SAMPLE RESULTS		
Lab ID: Client ID: Sample Location:	L2013949-06 D BCPMW05033120 K11.002.001 1001 MAIN ST.	Date Collected: Date Received: Field Prep:	03/31/20 12:35 03/31/20 Not Specified
Sample Depth: Matrix: Analytical Method: Analytical Date: Analyst:	Water 1,8260C 04/02/20 13:59 AD		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - We	stborough Lab					
Methylene chloride	ND		ug/l	62	18.	25
1,1-Dichloroethane	ND		ug/l	62	18.	25
Chloroform	ND		ug/l	62	18.	25
Carbon tetrachloride	ND		ug/l	12	3.4	25
1,2-Dichloropropane	ND		ug/l	25	3.4	25
Dibromochloromethane	ND		ug/l	12	3.7	25
1,1,2-Trichloroethane	ND		ug/l	38	12.	25
Tetrachloroethene	ND		ug/l	12	4.5	25
Chlorobenzene	ND		ug/l	62	18.	25
Trichlorofluoromethane	ND		ug/l	62	18.	25
1,2-Dichloroethane	ND		ug/l	12	3.3	25
1,1,1-Trichloroethane	ND		ug/l	62	18.	25
Bromodichloromethane	ND		ug/l	12	4.8	25
trans-1,3-Dichloropropene	ND		ug/l	12	4.1	25
cis-1,3-Dichloropropene	ND		ug/l	12	3.6	25
Bromoform	ND		ug/l	50	16.	25
1,1,2,2-Tetrachloroethane	ND		ug/l	12	4.2	25
Benzene	5.8	J	ug/l	12	4.0	25
Toluene	49	J	ug/l	62	18.	25
Ethylbenzene	1700		ug/l	62	18.	25
Chloromethane	ND		ug/l	62	18.	25
Bromomethane	ND		ug/l	62	18.	25
Vinyl chloride	ND		ug/l	25	1.8	25
Chloroethane	ND		ug/l	62	18.	25
1,1-Dichloroethene	ND		ug/l	12	4.2	25
trans-1,2-Dichloroethene	ND		ug/l	62	18.	25
Trichloroethene	ND		ug/l	12	4.4	25
1,2-Dichlorobenzene	ND		ug/l	62	18.	25



	Serial_No:04032012:01						0:04032012:01
Project Name:	CONVENTUS				Lab Nu	mber:	L2013949
Project Number:	K11				Report	Date:	04/03/20
		SAMP	LE RESULTS	5			01/00/20
Lab ID: Client ID: Sample Location:	L2013949-06 BCPMW05033120 K11.002.001 1001 N	D IAIN ST.			Date Collected: Date Received: Field Prep:		03/31/20 12:35 03/31/20 Not Specified
Sample Depth:							
Parameter		Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics b	y GC/MS - Westboroug	jh Lab					
1,3-Dichlorobenzene		ND		.ug/l	62	18.	25
1,4-Dichlorobenzene		ND		ug/l ug/l	62	18.	25
Methyl tert butyl ether		ND		ug/l	62	18.	25
p/m-Xylene		5000		ug/l	62	18.	25
o-Xylene		86		ug/l	62	18.	25
cis-1,2-Dichloroethene		ND		ug/l	62	18.	25
Styrene		ND		ug/l	62	18.	25
Dichlorodifluoromethane		ND		ug/l	120	25.	25
Acetone		ND		ug/l	120	36.	25
Carbon disulfide		ND		ug/l	120	25.	25
2-Butanone		ND		ug/l	120	48.	25
4-Methyl-2-pentanone		ND		ug/l	120	25.	25
2-Hexanone		ND		ug/l	120	25.	25
1,2-Dibromoethane		ND		ug/l	50	16.	25
n-Butylbenzene		ND		ug/l	62	18.	25
sec-Butylbenzene		ND		ug/l	62	18.	25
tert-Butylbenzene		ND		ug/l	62	18.	25
1,2-Dibromo-3-chloroprop	bane	ND		ug/l	62	18.	25
Isopropylbenzene		30	J	ug/l	62	18.	25
p-Isopropyltoluene		ND		ug/l	62	18.	25
Naphthalene		940		ug/l	62	18.	25
n-Propylbenzene		140		ug/l	62	18.	25
1,2,4-Trichlorobenzene		ND		ug/l	62	18.	25
1,3,5-Trimethylbenzene		520		ug/l	62	18.	25
1,2,4-Trimethylbenzene		2500		ug/l	62	18.	25
Methyl Acetate		ND		ug/l	50	5.8	25
Cyclohexane		250		ug/l	250	6.8	25
Freon-113		ND		ug/l	62	18.	25
Methyl cyclohexane		110	J	ug/l	250	9.9	25

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
1,2-Dichloroethane-d4	103		70-130	
Toluene-d8	99		70-130	
4-Bromofluorobenzene	103		70-130	
Dibromofluoromethane	97		70-130	



		Serial_N	o:04032012:01
Project Name:	CONVENTUS	Lab Number:	L2013949
Project Number:	K11	Report Date:	04/03/20
	SAMPLE RESULTS		
Lab ID:	L2013949-07	Date Collected:	03/31/20 00:00
Client ID:	TRIP BLANK	Date Received:	03/31/20
Sample Location:	K11.002.001 1001 MAIN ST.	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Water		
Analytical Method:	1,8260C		
Analytical Date:	04/02/20 13:08		
Analyst:	PD		
-			

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Wes	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:04032012:01						0:04032012:01
Project Name:	CONVENTUS				Lab Nu	ımber:	L2013949
Project Number:	K11				Report	Date:	04/03/20
··· , ····		SAMP		S			04/00/20
Lab ID: Client ID: Sample Location:	L2013949-07 TRIP BLANK K11.002.001 1001	MAIN ST.			Date Co Date Re Field Pre	ceived:	03/31/20 00:00 03/31/20 Not Specified
Sample Depth:							
Parameter		Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics b	by GC/MS - Westboro	ugh 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
1,2-Dibromoethane		ND		ug/l	2.0	0.65	1
n-Butylbenzene		ND		ug/l	2.5	0.70	1
sec-Butylbenzene		ND		ug/l	2.5	0.70	1
tert-Butylbenzene		ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropro	pane	ND		ug/l	2.5	0.70	1
Isopropylbenzene		ND		ug/l	2.5	0.70	1
p-lsopropyltoluene		ND		ug/l	2.5	0.70	1
Naphthalene		ND		ug/l	2.5	0.70	1
n-Propylbenzene		ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene		ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene		ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene		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
				uy/i	10	0.21	•

Surrogate	% Recovery	Acceptance Qualifier Criteria	
1,2-Dichloroethane-d4	106	70-130	
Toluene-d8	98	70-130	
4-Bromofluorobenzene	103	70-130	
Dibromofluoromethane	101	70-130	

2.5

10

ug/l

ug/l

0.70

0.40

ND

ND



1

1

Freon-113

Methyl cyclohexane

Project Number: K11

 Lab Number:
 L2013949

 Report Date:
 04/03/20

Method Blank Analysis Batch Quality Control

Analytical Method:1,8260CAnalytical Date:04/02/20 11:51Analyst:PD

arameter	Result	Qualifier Units	s RL	MDL
olatile Organics by GC/MS - V	Nestborough Lat	o for sample(s):	02-07 Batch:	WG1357767-5
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



Project Number: K

K11

 Lab Number:
 L2013949

 Report Date:
 04/03/20

Method Blank Analysis Batch Quality Control

Analytical Method:1,8260CAnalytical Date:04/02/20 11:51Analyst:PD

arameter	Result	Qualifier Units	s RL	MDL
olatile Organics by GC/MS - V	Vestborough Lab	for sample(s):	02-07 Batch:	WG1357767-5
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
1,2-Dibromoethane	ND	ug/l	2.0	0.65
n-Butylbenzene	ND	ug/l	2.5	0.70
sec-Butylbenzene	ND	ug/l	2.5	0.70
tert-Butylbenzene	ND	ug/l	2.5	0.70
1,2-Dibromo-3-chloropropane	ND	ug/l	2.5	0.70
Isopropylbenzene	ND	ug/l	2.5	0.70
p-Isopropyltoluene	ND	ug/l	2.5	0.70
Naphthalene	ND	ug/l	2.5	0.70
n-Propylbenzene	ND	ug/l	2.5	0.70
1,2,4-Trichlorobenzene	ND	ug/l	2.5	0.70
1,3,5-Trimethylbenzene	ND	ug/l	2.5	0.70
1,2,4-Trimethylbenzene	ND	ug/l	2.5	0.70
Methyl Acetate	ND	ug/l	2.0	0.23
Cyclohexane	ND	ug/l	10	0.27
Freon-113	ND	ug/l	2.5	0.70
Methyl cyclohexane	ND	ug/l	10	0.40



Project Name:CONVENTUSLab Number:Project Number:K11Report Date:

 Number:
 L2013949

 ort Date:
 04/03/20

Method Blank Analysis Batch Quality Control

Analytical Method:1,8260CAnalytical Date:04/02/20 11:51Analyst:PD

Parameter	Result	Qualifier	Units	RL	MDL	
Volatile Organics by GC/MS	- Westborough Lal	b for sample	e(s): 02-0	7 Batch:	WG1357767-5	

		Acceptance		
Surrogate	%Recovery	Qualifier	Criteria	
1.2-Dichloroethane-d4	105		70-130	
Toluene-d8	97		70-130	
4-Bromofluorobenzene	102		70-130	
Dibromofluoromethane	100		70-130	



Project Number: K11

 Lab Number:
 L2013949

 Report Date:
 04/03/20

Method Blank Analysis Batch Quality Control

Analytical Method:1,8260CAnalytical Date:04/02/20 19:58Analyst:AJK

arameter	Result	Qualifier Units	RL	MDL
olatile Organics by GC/MS - V	Vestborough Lab	for sample(s): 01	Batch:	WG1357940-5
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



Project Number: K11

 Lab Number:
 L2013949

 Report Date:
 04/03/20

Method Blank Analysis Batch Quality Control

Analytical Method:1,8260CAnalytical Date:04/02/20 19:58Analyst:AJK

arameter	Result	Qualifier L	Jnits	RL	MDL
olatile Organics by GC/MS - V	/estborough Lat	o for sample(s): 01	Batch:	WG1357940-5
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
1,2-Dibromoethane	ND		ug/l	2.0	0.65
n-Butylbenzene	ND		ug/l	2.5	0.70
sec-Butylbenzene	ND		ug/l	2.5	0.70
tert-Butylbenzene	ND		ug/l	2.5	0.70
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70
Isopropylbenzene	ND		ug/l	2.5	0.70
p-Isopropyltoluene	ND		ug/l	2.5	0.70
Naphthalene	ND		ug/l	2.5	0.70
n-Propylbenzene	ND		ug/l	2.5	0.70
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70
Methyl Acetate	ND		ug/l	2.0	0.23
Cyclohexane	ND		ug/l	10	0.27
Freon-113	ND		ug/l	2.5	0.70
Methyl cyclohexane	ND		ug/l	10	0.40



Project Number: K11

 Lab Number:
 L2013949

 Report Date:
 04/03/20

Method Blank Analysis Batch Quality Control

Analytical Method:1,8260CAnalytical Date:04/02/20 19:58Analyst:AJK

Parameter	Result	Qualifier	Units	RL	MDL	
Volatile Organics by GC/MS	- Westborough La	ab for sampl	e(s): 01	Batch:	WG1357940-5	

		Acceptance		
Surrogate	%Recovery Qu	alifier Criteria		
1.2-Dichloroethane-d4	109	70-130		
Toluene-d8	104	70-130		
4-Bromofluorobenzene	101	70-130		
Dibromofluoromethane	97	70-130		



Project Number: K11

Lab Number: L2013949

arameter	LCS %Recovery	Qual		LCSD Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
olatile Organics by GC/MS - Westborough I	Lab Associated	sample(s):	02-07	Batch:	WG1357767-3	WG1357767-4			
Methylene chloride	92			92		70-130	0		20
1,1-Dichloroethane	98			97		70-130	1		20
Chloroform	95			100		70-130	5		20
Carbon tetrachloride	100			100		63-132	0		20
1,2-Dichloropropane	98			96		70-130	2		20
Dibromochloromethane	92			96		63-130	4		20
1,1,2-Trichloroethane	96			93		70-130	3		20
Tetrachloroethene	97			97		70-130	0		20
Chlorobenzene	93			97		75-130	4		20
Trichlorofluoromethane	96			98		62-150	2		20
1,2-Dichloroethane	100			100		70-130	0		20
1,1,1-Trichloroethane	100			100		67-130	0		20
Bromodichloromethane	100			100		67-130	0		20
trans-1,3-Dichloropropene	99			100		70-130	1		20
cis-1,3-Dichloropropene	100			100		70-130	0		20
Bromoform	97			98		54-136	1		20
1,1,2,2-Tetrachloroethane	94			97		67-130	3		20
Benzene	100			100		70-130	0		20
Toluene	92			94		70-130	2		20
Ethylbenzene	91			96		70-130	5		20
Chloromethane	130			120		64-130	8		20
Bromomethane	170	Q		180	Q	39-139	6		20
Vinyl chloride	110			110		55-140	0		20



Project Number: K11

Lab Number: L2013949

arameter	LCS %Recovery	Qual		LCSD Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
olatile Organics by GC/MS - Westborough	Lab Associated	sample(s):	02-07	Batch:	WG1357767-3	WG1357767-4			
Chloroethane	100			100		55-138	0		20
1,1-Dichloroethene	91			91		61-145	0		20
trans-1,2-Dichloroethene	95			91		70-130	4		20
Trichloroethene	99			99		70-130	0		20
1,2-Dichlorobenzene	88			95		70-130	8		20
1,3-Dichlorobenzene	91			96		70-130	5		20
1,4-Dichlorobenzene	92			98		70-130	6		20
Methyl tert butyl ether	100			98		63-130	2		20
p/m-Xylene	90			95		70-130	5		20
o-Xylene	95			95		70-130	0		20
cis-1,2-Dichloroethene	96			97		70-130	1		20
Styrene	95			95		70-130	0		20
Dichlorodifluoromethane	120			120		36-147	0		20
Acetone	110			92		58-148	18		20
Carbon disulfide	92			90		51-130	2		20
2-Butanone	100			98		63-138	2		20
4-Methyl-2-pentanone	90			99		59-130	10		20
2-Hexanone	95			96		57-130	1		20
1,2-Dibromoethane	90			93		70-130	3		20
n-Butylbenzene	90			93		53-136	3		20
sec-Butylbenzene	88			94		70-130	7		20
tert-Butylbenzene	92			94		70-130	2		20
1,2-Dibromo-3-chloropropane	85			91		41-144	7		20



Project Number: K11

Lab Number: L2013949

Parameter	LCS %Recovery	Qual		LCSD ecovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough L	ab Associated	sample(s):	02-07	Batch:	WG1357767-3	WG1357767-4			
Isopropylbenzene	91			94		70-130	3		20
p-Isopropyltoluene	92			94		70-130	2		20
Naphthalene	83			93		70-130	11		20
n-Propylbenzene	92			94		69-130	2		20
1,2,4-Trichlorobenzene	88			96		70-130	9		20
1,3,5-Trimethylbenzene	92			96		64-130	4		20
1,2,4-Trimethylbenzene	92			96		70-130	4		20
Methyl Acetate	100			96		70-130	4		20
Cyclohexane	92			92		70-130	0		20
Freon-113	92			94		70-130	2		20
Methyl cyclohexane	93			94		70-130	1		20

	LCS	LCSD	Acceptance	
Surrogate	%Recovery Qua	l %Recovery Qual	Criteria	_
1,2-Dichloroethane-d4	112	111	70-130	
Toluene-d8	98	98	70-130	
4-Bromofluorobenzene	102	102	70-130	
Dibromofluoromethane	104	105	70-130	



Project Number: K11

Lab Number: L2013949

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	RPD Qual Limits
Volatile Organics by GC/MS - Westborough I	Lab Associated	sample(s): 07	I Batch: WG	1357940-3	WG1357940-4		
Methylene chloride	95		96		70-130	1	20
1,1-Dichloroethane	94		98		70-130	4	20
Chloroform	92		95		70-130	3	20
Carbon tetrachloride	90		94		63-132	4	20
1,2-Dichloropropane	97		100		70-130	3	20
Dibromochloromethane	90		96		63-130	6	20
1,1,2-Trichloroethane	94		100		70-130	6	20
Tetrachloroethene	91		94		70-130	3	20
Chlorobenzene	94		100		75-130	6	20
Trichlorofluoromethane	100		100		62-150	0	20
1,2-Dichloroethane	96		100		70-130	4	20
1,1,1-Trichloroethane	91		94		67-130	3	20
Bromodichloromethane	93		96		67-130	3	20
trans-1,3-Dichloropropene	88		95		70-130	8	20
cis-1,3-Dichloropropene	90		93		70-130	3	20
Bromoform	84		93		54-136	10	20
1,1,2,2-Tetrachloroethane	93		100		67-130	7	20
Benzene	94		95		70-130	1	20
Toluene	94		99		70-130	5	20
Ethylbenzene	96		100		70-130	4	20
Chloromethane	88		87		64-130	1	20
Bromomethane	89		95		39-139	7	20
Vinyl chloride	100		100		55-140	0	20



Project Number: K11

Lab Number: L2013949

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	RPD Qual Limits
Volatile Organics by GC/MS - Westborough	Lab Associated	sample(s): 07	I Batch: WG ²	1357940-3	WG1357940-4		
Chloroethane	100		110		55-138	10	20
1,1-Dichloroethene	92		91		61-145	1	20
trans-1,2-Dichloroethene	92		96		70-130	4	20
Trichloroethene	98		99		70-130	1	20
1,2-Dichlorobenzene	96		100		70-130	4	20
1,3-Dichlorobenzene	97		100		70-130	3	20
1,4-Dichlorobenzene	94		100		70-130	6	20
Methyl tert butyl ether	89		94		63-130	5	20
p/m-Xylene	95		100		70-130	5	20
o-Xylene	95		100		70-130	5	20
cis-1,2-Dichloroethene	92		92		70-130	0	20
Styrene	95		100		70-130	5	20
Dichlorodifluoromethane	94		93		36-147	1	20
Acetone	96		110		58-148	14	20
Carbon disulfide	93		95		51-130	2	20
2-Butanone	82		100		63-138	20	20
4-Methyl-2-pentanone	90		100		59-130	11	20
2-Hexanone	90		100		57-130	11	20
1,2-Dibromoethane	93		100		70-130	7	20
n-Butylbenzene	96		100		53-136	4	20
sec-Butylbenzene	98		100		70-130	2	20
tert-Butylbenzene	83		87		70-130	5	20
1,2-Dibromo-3-chloropropane	82		92		41-144	11	20



Project Number: K11

Lab Number: L2013949

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough L	ab Associated	sample(s): 01	Batch: WG	1357940-3	WG1357940-4			
Isopropylbenzene	95		100		70-130	5		20
p-lsopropyltoluene	96		100		70-130	4		20
Naphthalene	82		91		70-130	10		20
n-Propylbenzene	98		100		69-130	2		20
1,2,4-Trichlorobenzene	84		92		70-130	9		20
1,3,5-Trimethylbenzene	96		100		64-130	4		20
1,2,4-Trimethylbenzene	93		99		70-130	6		20
Methyl Acetate	91		96		70-130	5		20
Cyclohexane	97		100		70-130	3		20
Freon-113	96		99		70-130	3		20
Methyl cyclohexane	94		100		70-130	6		20

	LCS	LCSD	Acceptance
Surrogate	%Recovery Qu	ual %Recovery Qua	l Criteria
1,2-Dichloroethane-d4	101	104	70-130
Toluene-d8	99	104	70-130
4-Bromofluorobenzene	99	100	70-130
Dibromofluoromethane	98	99	70-130



Project Name: CONVENTUS Project Number: K11

Serial_No:04032012:01 *Lab Number:* L2013949 *Report Date:* 04/03/20

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		рН	deg C	Pres	Seal	Date/Time	Analysis(*)
L2013949-01A	Vial HCI preserved	А	NA		2.6	Y	Absent		NYTCL-8260-R2(14)
L2013949-01B	Vial HCI preserved	А	NA		2.6	Y	Absent		NYTCL-8260-R2(14)
L2013949-01C	Vial HCI preserved	А	NA		2.6	Y	Absent		NYTCL-8260-R2(14)
L2013949-02A	Vial HCI preserved	А	NA		2.6	Y	Absent		NYTCL-8260-R2(14)
L2013949-02B	Vial HCI preserved	А	NA		2.6	Y	Absent		NYTCL-8260-R2(14)
L2013949-02C	Vial HCI preserved	А	NA		2.6	Y	Absent		NYTCL-8260-R2(14)
L2013949-03A	Vial HCI preserved	A	NA		2.6	Y	Absent		NYTCL-8260-R2(14)
L2013949-03B	Vial HCI preserved	А	NA		2.6	Y	Absent		NYTCL-8260-R2(14)
L2013949-03C	Vial HCI preserved	А	NA		2.6	Y	Absent		NYTCL-8260-R2(14)
L2013949-04A	Vial HCI preserved	А	NA		2.6	Y	Absent		NYTCL-8260-R2(14)
L2013949-04B	Vial HCI preserved	A	NA		2.6	Y	Absent		NYTCL-8260-R2(14)
L2013949-04C	Vial HCI preserved	А	NA		2.6	Y	Absent		NYTCL-8260-R2(14)
L2013949-05A	Vial HCI preserved	А	NA		2.6	Y	Absent		NYTCL-8260-R2(14)
L2013949-05B	Vial HCI preserved	A	NA		2.6	Y	Absent		NYTCL-8260-R2(14)
L2013949-05C	Vial HCI preserved	A	NA		2.6	Y	Absent		NYTCL-8260-R2(14)
L2013949-06A	Vial HCI preserved	A	NA		2.6	Y	Absent		NYTCL-8260-R2(14)
L2013949-06B	Vial HCI preserved	A	NA		2.6	Y	Absent		NYTCL-8260-R2(14)
L2013949-06C	Vial HCI preserved	А	NA		2.6	Y	Absent		NYTCL-8260-R2(14)
L2013949-07A	Vial HCI preserved	А	NA		2.6	Y	Absent		NYTCL-8260-R2(14)
L2013949-07B	Vial HCI preserved	А	NA		2.6	Y	Absent		NYTCL-8260-R2(14)





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Project Name: CONVENTUS

Project Number: K11

Lab Number: L2013949

Report Date: 04/03/20

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	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
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	

Report Format: DU Report with 'J' Qualifiers



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- 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.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

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.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

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 Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- 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 concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For NJ-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte applies to associated field samples that have detectable concentrations of the analyte 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

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Project Number:	K11	Report Date:	04/03/20

Data Qualifiers

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.

Report Format: DU Report with 'J' Qualifiers



Project Name: CONVENTUS
Project Number: K11

 Lab Number:
 L2013949

 Report Date:
 04/03/20

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: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.
Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
EPA 3C Fixed gases

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, Sb, 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.

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Westborough, MA 01581 8 Walkup Dr.	NEW YORK CHAIN OF CUSTODY Mansfield, MA 02048 320 Forbes Blvd	Service Centers Mahwah, NJ 07430: 35 Whitney Albany, NY 12205: 14 Walker W Tonawanda, NY 14150: 275 Co Project Information	Page 1 o		Date Rec'd in Lab 4120 Deliverables				ALPHA Job # L 2013949 Billing Information			
TEL: 508-698-9220 FAX: 508-898-9193 Client Information	TEL: 508-822-9300 FAX: 508-822-3288	Project Name: CONVENTILS Project Location: K11. 002.001 1001 ARIN ST. Project # K11					ASP-A ASP-B EQuIS (1 File) EQUIS (4 File) Other				De Same as Client Info PO#	
Client: CES ENGIA Address: 141 ELA	ST. Suteloo	(Use Project name as Project Manager: Rick		no laby	ermetik	0	Citeron de la comp	tory Requirem IY TOGS	NUMBER OF STREET	Part 375 TCUTHL CP-51	Disposal Site Information Please identify below location of	ıt
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22	BUMW07033		3/3/20	10:35	GN	123	Y					3
73	Burnwoodos		3/31/20	11:05	GW	nB	¥					3
74	RUPTWO6033		3/31/20	11:35	GW	23	×					1
de	BUP TWOSO3		3/31/20	12:35	GW	23	x					3
07	TRIP BLANK	, ,	3/31/20	2:00	GW	RB	>					2
Preservative Code:	Container Code											
Preservative Code: A = None B = HCl C = HNO ₃ D = H ₂ SO ₄ E = NaOH F = MeOH G = NaHSO ₄ H = Na ₂ S ₂ O ₃ K/E = Zn Ac/NaOH O = Other	lo: MA935 lo: MA015	Date 3/7//20 3/3//20	/Time	Kin	V		3/3//20	ate/Time 2:00 00 00 15	TO BE BOUND BY ALPH TERMS & CONDITIONS	s can Il not s are NG T ES HA'S		
Form No: 01-25 HC (rev. 3	0-Sept-2013)					P		1			(See reverse side.)	

APPENDIX B GROUNDWATER MONITORING CONSTRUCTION & SAMPLING LOGS

6		h	۹0 ا	Broadwa					Во	oring 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	Sample No.	Symbol	Sampler	npler m-medium MATERIAL DESCRIPTION S-some-20-3							N-value, recovery, e moisture, core run,
Del	Sa	Ś	per 6"	S - Sand, \$ - Silt, G - Gravel, C - Clay, cly - clayey							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 (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					0 ppm			
8			24		Gravel (fine - medium grey - saturated) 0 ppm						
			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									
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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						

-		H		&S Eng Broadwa	gineers, Inc. ay				Вс	oring 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)	Sample No.	Symbol	Sampler	m - med		MATERIAL D	ESCRIPTION	s - some - 2 I - little - 1			N-value, recovery, e moisture, core run,
Dep	Sa	Sy	per 6"	f - fine S - Sand, \$ - Silt, G - Gravel, C - Clay, cly - clayey							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			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											
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40											
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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			Groundwa	iter Measur	ement 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					Boring No.		MW-03
			Ph		ew York 14203 -847-1630 17-1454	B	ORING LOG			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		000000000
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									
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22		1									
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		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: (provide description of observation well location, method of construction, development method and any other information) The observation well was constructed in Bore Hole B-3 upon completing the							
	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 D	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.	s, 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		Main St RO	w.cscos.co						ce Elev.:	K11.002.001
-			MOB - Buffa		Sugation				Sulla	Datum:	6. Surface
			Kaleida Hea						St	art Date:	8/15/13
Drillir						Driller:	Tony	1		sh Date:	8/15/13
	Grou			Depth	Date & Time	Drill Rig:			In	spector:	N. Wohlabaugh
		Wh	ile Drilling:			Casing:		Rock Core:		Undist:	
Befo	re Cas	sin	g Removal:			Sampler:		Other:			
Aft	er Cas	Casing 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.	g Sampler c - coarse a - and - 35-50 g Sampler m - medium f - fine f - fine S - Sand \$ - Silt G - Gravel C - Clay, cly - clayey t - trace - 0-10									N-value, recovery, e moisture, core run,
Dep	Sa	per 6" t- time S - Sand, \$ - 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 (black - moist) 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									
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21											
22											
										1	
23		1		1							
		1									
24											

	- @	h	90	Broadwa	iy	_			Вс	oring No.	MW-05
			Ph	one: 716-	-847-1630	B	ORING LOG		Sł	eet 1 of:	1
C	JIVIP	Buffalo, New York 14203 Phone: 716-847-1630 Fax: 716-847-1630 Fax: 716-847-1454 www.cscos.com BORING LOG Sheet 1 of: 1 Image: Main St ROW Investigation Fax: 716-847-1630 Fax: 716-847-1454 Sheet 1 of: 1 Image: Main St ROW Investigation Surface Elev.: Image: Client: K11.002.001 Image: Mob - Buffalo, NY Image: Client: MOB - Buffalo, NY Image: Client: Start Date: 9/12/13 Image: SJB Image: Client: SJB Image: Client: Image: Client: N. Wohlabaugh Image: SJB Image: Client: Image: Client: Start Date: 9/12/12 Groundwater Image: Client: Image: Client: N. Wohlabaugh While Drilling: Casing: Rock Core: Undist: re Casing Removal: Sampler: Other: Image: Client: (N No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test) COMMENTS									
Projec	ct Nam	Software Software Borning No. Borninin in its No. Borning No.									
L	Bornadaving Parties: New York: 14/202 Prior 2006 Borning No. MWV-U5 Boring No. Borning No. Boring No. Boring No. Boring No. Boring No. Strate: New York: 14/202 Prove Calco on the New Concounts: Borning No. Boring No. Boring No. Boring No. Jecolation: More York: 14/202 New Concounts: Strate Elsev: Location: More York: 14/202 Provide No. Strate Elsev: Location: More York: 14/202 No. Strate Elsev: Location: More York: 14/202 Provide No. Strate Elsev: Location: More York: 14/202 Provide No. Data & Time Driller: Tony Finish Date: 9/12/12 Boron Market Date & Time Driller: Tony Finish Date & Time Drill Nig: OME No. More No.										
	Clie	nt:	Kaleida Hea	lth			St	art Date:	9/12/13		
Drilli	ng Firi	m:	SJB				1	Fini	sh Date:	9/12/12	
	Borna Ro Borning Multiple Borning Multiple Borning Multiple MW-Us Detail::::::::::::::::::::::::::::::::::::										
	OMPANIES Phone: 71-944 / 1864 Sheet 10 Fax: 716-947 / 1864 Project N Surface Elevisions Surface Elevisions Dect Name: Main St ROW Investigation Surface Elevisions Cleantin: MOB - Buffalo, NY Datume Cleantin: MOB - Buffalo, NY Datume Cleantin: MOB - Buffalo, NY Datume Cleantin: Mole - Tony Finish Dat Groundwater Depth Date & Time Driller: Torong Removal: Sampler: Other: Inspector (fter Casing Removal: Sampler: Other: Inspector (N ~ No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Tes Inspector (fter Casing Removal: - coarse - and - 35-05% (e. (fter Casing Removal: - modum MATERIAL DESCRIPTION s- and - 35-05% (e. (fter Casing Removal: - modum S- Sand, S - Sit, G - Gravel, C - Clay, dy - clayey - trave - 010% relation (fter Casing Removal: Sand (med - red/brown - fine - moist) 5 -							Undist:			
Befo	Borning No. Borning No. MWV-05 (MWV-05) Borning No. Borning No. Borning No. Borning No. Street 1 of: 1 Project No.: 1 Borning No. Surface Surface Surface 1 Borning No. Surface Surface 1 1 Borning No. Surface Surface 1 1 Borning No. Surface Surface 1 1 1 Client: Kaloida Health Driller Tony Finish Date: 91/2/13 Ing Finis: Date & Time Driller Tony Finish Date: 91/2/13 For Crasing Removal: Sampler: Auto Other; Under: 0 (w - No. of blows to drive sampler 12* Wide No. MATERIAL DESCRIPTION Sanddrive: 9::::::::::::::::::::::::::::::::::::										
Af	ter Ca	sin									
	T		(N	No. of I	blows to drive sam	pler 12" w/140 lb. ham	mer falling 30" ASTM	D-1586, Standard	Penetrat	ion Test)	
(£	e	0	Blows on					a - and - 3	5-50%		
ţ	dr of	qu	Sampler	m - medi		MATERIAL D	ESCRIPTION				
Dep	Sar	Ś	Borne view Bornin view								
Bornson Bornson Bornson Bornson Bornson Project Name: Name 1 4023 Precession Project No: 1 Project Name: Name 1 4023 Precession Strate 1 01 Project Name: Name 1 5000 Project No: K11.002.001 Project Name: Name 1 5000 Project No: Strate Elex: Cocation: Kalet 1 02 Project No: Strate 2 Elex: Columna Same 1 02 Project No: Strate 2 Elex: Cocation: Kalet A Elakis Project No: Project No: Cocation: Number 2 Project No: Project No: Project No: Cocation: Mathe Briting: Date & Time Driller: Tony Prinish Date: 9/12/12 Cocation: Number 2 Project No: While Ortifing: Date & Time Driller: Cocation: Number 2 Project No: Number 2 Pro											
Bitschefer Bitschefer Borning No. MW-Us Project Name Mars 3: 105-877-1454 1 1 Project Name Mars 3: 105-877-1454 Surface 1 1 Project Name Mars 3: 105-877-1454 Surface Else:: - Details: Mars 3: 105-877-1454 Surface Buttin:: 26' - Surface Details: Mars 3: 105-977 Data Surface Battin:: 26' - Surface Diffield: Mars 3: 105-977 Data Torw Finish Date: 97/213 Before Obsing Removal: Image: Child Gate Child Hig:: Child:: Child:: Child											
⊢.́	1	1									
Biomedian Biomedian Bornism Bornin Bornism Bornism											
<u> </u>	1	1		1				LOG Sheet 1 of: 1 Project No.: K11.002.001 Surface Elev.: Datum: 26' - Surface Start Date: 9/12/13 Tony Finish Date: 9/12/13 Tony Finish Date: 9/12/12 Inspector: N. Wohlabaugh Rock Core: Undist: Other: o ' ASTM D-1586, Standard Penetration Test) ** a - and - 35-50% b - and - 35-50% b - and - and -			
Bioschein Bioschein Borning Locs Borning Locs Borning Locs Project Name: Note: 100 Strate File 1 Project Name: Note: 100 Strate File 1 Project Name: Note: 100 Strate File 1 Drilling Firm: S.B. Drilling Firm: Strate File 1 Drilling Firm: S.B. Drilling Firm: Strate File 1 Drilling Firm: S.B. Drilling Firm: Auto 10 10 Before Casing Removat: Ioa & Time Drilling Firm: Auto 1 1 1 Ref Casing Removat: Ioa angle right to dive angle right to dite dite dive angle right to dite dive angle right to dit						16" rec					
	1	1	16			 _					0.9 ppm
4	Bitscheiner BORING LOG Borng too WW-U3 Verlage Teer (166 / 168 /										
]	1	6								
Biomaday											
Box 1000 The string how to any string the string how the string the string the string before taken to the string the string the string before taken to the string the string before taken to the string the string the string before taken to the string the string the string the string the string before taken to the string the string the string the string the string the string the string before taken to the string the											
Bioschöft Bioschöft Bioschöft Bioschöft Bioschöft Bioschöft Projeck Name: Man 3: ROW Investigation Borning No. Bioschöft Projeck Name: Man 3: ROW Investigation Borning No.											
								-OG Sheet 1 of: 1 Project No.: K11.002.001 Surface Elev.: Datum: 26' - Surface Start Date: 9/12/13 Tony Finish Date: 9/12/13 Tony Finish Date: 9/12/12 Nspector: N. Wohlabaugh Rock Core: Undist: Other: ASTM D-1586, Standard Penetration Test) ASTM D-1586, Standard Penetration Test) ASTM D-1586, Standard Penetration Test) ASTM D-1586, Standard Penetration Test) S - some 20.35% S -			
7					Sand (med - blac	k - product sheen - s	aturated)				
			-				BORING LOG Sheet 1 of: 1 Project No: K11.002.001 Surface Elev.: Datum: 26' - Surface Datum: 26' - Surface Start Date: 9/12/13 Driller: Tony Finish Date: 9/12/12 Drill Rig: CME 45C Inspector: N. Wohlabaugh Casing: Other: Undist: Matter Sampler: Other: Hammer: (P.G.). Nvalue, recovery, relative moisture, core run, RQD, % recoverg, 1' time - 10.20% 1' time - 10.20% 1' time - 0.00% (P.G.). Nvalue, recovery, relative moisture, core run, RQD, % recovered) Start 12:35 PM 19' rec 0.6 ppm ine - moist) 16'' rec 0.9 ppm uct sheen - saturated) 21'' rec 1628 ppm uct sheen - saturated) 11'' rec 122 pmm uglar gravel - saturated) 3'' rec 12 pmm utar gravel - saturated) 3'' rec 4.2 ppm				
8											
~					0						00"
9							4				
10					Sand (lower 8 -	red/brown - clay - we	<u>u</u>				17.2 ppm
10											
11					Sand (grev - roun	d and angular gravel	- saturated)				11" rec
					ound (grey roun	a and angular graver	<u>Saturateuy</u>				
12											.= p
13			50/3		Sand (coarse - gr	ey - angular gravel -	saturated)				3" rec
	1	1					-				
14		1									
		1									
15	l	1				ravel - grey - moist to	saturated)				
		1	50/4		some Sand						10.5 ppm
16	ł	1									
4-7		1									
17		1									
1.9											
- 10	1										
19											
	1	1									
20		1		1							
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7 65	C&S Engineers, Inc. 499 Col. Eileen Collins Blvd.						Well No.	MW-04
	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 S							Datum:	26' bgs
	Buffalo, NY						Start Date:	8/15/13
Client: Kaleid	a Health					Fi	inish Date:	8/15/13
Drilling Firm: 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 an	d any other ir	formation)	nethod of construction,
	0'-0" 26' bgs. Surface Backfill Materia X Sand X Bentonite Slurry Cement/Bentonite C Concrete 6" Bore Hole Diameter Well Material X PVC Stainless Steel Backfill Material X Soil Cuttings Bentonite Slurry	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 l als.	25 feet belo ed as the ca aterial and s 's while the a ther the filte HSA. The wo	w ground su sing and the eal material v augers were r pack or sea	Inface (bgs). well was co were poured retracted. M al materials oped by pur	on completing the Hollow Stem Instructed inside the I separately down Measurements were were bridging mping to remove
	Cement/Bentonite C	Grout						
	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 2 Sand Pack 3 Sand Pack 4 Sand Pack 39' Bottom of Scree	Grout Ick en						

COMPANIES Project Name: Main S Location: MOB - Client: Kaleida	Syracuse, New York 13212 Phone: 315-455-2000 Fax: 315-455-9667 www.cscos.com		ERVAT		ELL	p	reject No.	
Project Name: Main S Location: MOB -	www.cscos.com	CON					roject No.:	K11.002.001
Location: MOB -			SIRUC	TION L	_OG	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							-	
		sing	Drill Rig:		a animetican a feat		•	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 se 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 r 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							

		h							Вс	oring No.	MW-06
		Ú	Ph Ph	one: 716	-847-1630	B	ORING LOG		Sł	neet 1 of:	1
C	DIMP.	Ar	VIES Fai						Pro	ject No.:	K11.002.001
Projec	ct Nam	ne:	Main St RO	W Inve	stigation				Surfa	ce Elev.:	
L	Buffalo, New York 14203 Phone: 716-847-1630 Exy: 716 847-1630 Exy: 716 847-164										
	Description Bit Mite 2004 BORING LOG BORING LOG Borney Tool With 2-00 Status Status Decention Mite 2-00 Decention Status Decention Mite 2-00 Decention Mite 2-00 Decention Description District 2-00 District 2-00 District 2-00 District 2-00 <tr< td=""></tr<>										
Drilli	Borng No. Description Borng No. MWY-Uo See 11 def 1. 1 Project Not: 1 1 Operations: MOB - Bufflio, N. 1403 See 11 def 1. 1 1 Operations: MOB - Bufflio, N. 1403 See 11 def 1. 1<										
	Grou	nd١	Bornau Bornau<								
	BORING LOG BORING LOG BORING HOG MW-Uo Image: 16.877.1643 BORING LOG Borning No WW-Uo Image: 16.877.1643 BORING LOG Breat 1 dt 1 Image: 16.877.1643 BORING LOG Breat 1 dt 1 Image: 16.877.1643 BORING LOG Breat 1 dt Hild Dozo Controls: MOS - Sufface New Diff Hig: Control Sufface New Borning Rice 8.847133 Graundbackter Date & Time Diff Hig: Controls of Rice New Finish Doze 8.44713 Graundbackter Date & Time Casing Control 1.000000000000000000000000000000000000										
Befo	ore Ca	sin	g Removal:			-		Other:			
Af	ter Ca	sin									
		_	(N	No. of I	blows to drive sam	pler 12" w/140 lb. ham	mer falling 30" ASTM	D-1586, Standard	Penetrat		
(Ŧ	e	ō	Blows on	0.0007	20						
th	du 9	gu	Sampler	m - med		MATERIAL D	ESCRIPTION				
Dep	Sa	ŝ	per 6"	t - tine	S - Sar	nd, \$ - Silt, G - Gravel, C	- Clay, cly - clayey				
			8			BORING LOG Sheet 1 of: 1 Project No: K11.002.001 Surface Elev.: Datum: 0 Burface Elev.: Surface Elev.: Start Date: 8/14/13 6 Sampler: Inspector: N. Wohlabaugh Sampler: Other: Hammer: Auto sampler 12* w/140 lb. hammer falling 30* ASTM D-1586. Standard Penetration Test) MATERIAL DESCRIPTION = - and: 35.50% = - and: 35.50% t - trace 0-10% - Sand, \$ - Sitt, G - Gravel, C - Clay, dy - clayey Start: 8:15 AM 12* rec 0.6 ppm - fine - moist) 10° rec nd dryp 15* rec - fine - moist) 10° rec 10° rec 33.4 - fine - moist) 10° rec - fine - moist) 11° rec - fine - moist) 1.8 ppm - fine - moist) 1.8 ppm - fine - moist) 1.8 ppm					
1		1			Crushed Stone (d	lry)	BORING LOG Sheet 1 of: 1 Project No.: K11.002.001 Surface Elev.: Datum: 6. Surface Start Date: 8/14/13 IRig: CME 45C Inspector: N. Wohlabaugh sing: Rock Core: Undist: pler: Other: mmer: Auto b. hammer falling 30" ASTM D-1586, Standard Penetration Test) RIAL DESCRIPTION a- and -35-50% a- and -35-50% b. anome falling 30" ASTM D-1586, Standard Penetration Test) RIAL DESCRIPTION a- and -35-50% b. anome falling 30" ASTM D-1586, Standard Penetration Test) a- and -35-50% b. anome falling 30" ASTM D-1586, Standard Penetration Test) a- and -35-50% b. anome falling 30" ASTM D-1586, Standard Penetration Test) a- and -35-50% b. anome falling 30" ASTM D-1586, Standard Penetration Test) a- and -35-50% b. anome falling 30" ASTM D-1586, Standard Penetration Test) a- and -35-50% b. anome falling 30" ASTM D-1586, Standard Penetration Test) a- and -35-50% b. anome falling 30" ASTM D-1586, Standard Penetration Test) a- and -35-50% b. anome falling 30" ASTM D-1586, Standard Penetration Test) a- and -35-50% b. anome falling 30" ASTM D-1586, Standard Penetration Test) a- and -35-50% b. anome falling 30" ASTM D-1586, Standard Penetration Test) a- and -35-50% b. anome falling 30" ASTM D-1586, Standard Penetration Test) a- and -35-50% b. anome falling 30" ASTM D-1586, Standard Penetration Test) a- and -35-50% b. anome falling 30" ASTM D-1586, Standard Penetration Test) a- and -35-50% b. anome falling 30" ASTM D-1586, Standard Penetration Test) a- anome falling 30" ASTM D-1586, Standard Penetration Test) a- anome falling 30" ASTM D-1586, Standard Penetration Test) a- anome falling 30" ASTM D-1586, Standard Penetration Test) a- anome falling 30" ASTM D-1586, Standard Penetration Test) a- anome fall b- anome falling 30" ASTM D-1586, Standard Penetration Test) a- anome fall b- anome falling 30" Astm D-1586, Standard Penetration Test, and the anome fall b- anome				
 		B Broadwig Withinko. New York 14203 Sax: 716 647-1626 BORING LOG Boring No. WW-VO Same: Main St. ROW Investigation Surface Elev.: Investigation Surface Elev.: Investigation Surface Elev.: Surface Elev.: Surface Elev.: Investigation Surface Elev.: Surface Elev.:<									
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		1									
3		1			Crushed Stone (d	lry)					
		1									0.0 ppm
4		1									
F							<u>, </u>				10" roo
5					<u>Sand(medium/dai</u>	rk grey/brown - moisi	<u>)</u>				
6											00.4
			11								
7			9		Silty CLAY (red/b	rown - moist)					18" rec
			11		Sand(brown - fine	e - moist)					43.0 ppm
8											
•					<u></u>		n				
9							<u>1)</u>				53.0 ppm
10					Sand(brown - nne	e - wei/saturateu)					
			1								
11			1								11" rec
			3		Some Silt/Gravel	(saturated)					1.8 ppm
12			7								
10				-			n				0.4
13							<u>a)</u>				
14					Sand (lower o bi	ack- Saturateu)					2.9 ppm
- · ·		1									
15		1	2		Medium Sand (bla	ack - degraded oil sm	ell - saturated)				24" rec
		1		1	Clay (red/brown -	rotten - saturated)			-		
16		1	5								
47		1									
17		1									
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20		1									
21											
22											
23											
24		1									
		L	<u> </u>	L							

ርፍና	C&S Engineers, Inc. 499 Col. Eileen Collins Blvd.						Well No.	MW-06
	Syracuse, New York 13212 Phone: 315-455-2000		ERVAT	-		Р	roject No.:	K11.002.001
COMPANIES	S Fax: 315-455-9667 www.cscos.com	CON	STRUC	TION I	LOG	Sur	face Elev .:	
Project Name: Mai	in St ROW Investigation					1	Datum:	26' bgs
Location: MO	0B - Buffalo, NY						Start Date:	8/14/13
Client: Kal						F	inish Date:	8/14/13
Drilling Firm: SJE			Driller:				Inspector:	
	2'-9" Top Protective Ca	sing	Drill Rig:	CME 45C			Casing:	0
	2'-6" Top of Riser		Notes:	developme	nt method an	d any other ir	nformation)	nethod of construction, on completing the
	0'-0" 26' bgs. Surface Backfill Materia X Sand X Bentonite Slurry Cement/Bentonite O Concrete 10" Bore Hole Diameter 8" Well Diameter Well Material X PVC Stainless Steel Backfill Material X Soil Cuttings	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 I als.	² 25 feet belo ed as the ca aterial and s rs while the s ther the filte HSA. The wo	w ground su sing and the eal material v augers were r pack or sea	Irface (bgs). well was co were poured retracted. M al materials loped by pur	Hollow Stem onstructed inside the I separately down Measurements were were bridging mping to remove
	Bentonite Slurry		Data	Timo	Water			
	Cement/Bentonite	Grout	Date	Time	water	Elevation	Status	
		Gloui						
	Depth To:							
	29' Top of Seal							
	Seal Material							
	X Bentonite Chips/Pe	llets						
	Bentonite Slurry							
	Cement/Bentonite	Grout						
	39' Top of Filter Pa	ack						
	29' Top of Screen							
	_		L					
	Screen Slot Size		L					
	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 Scree 42' Bottom of Bore							
	42' Bottom of Bore							

Order Description bit is developed CONSTRUCTION UCG Project Name: Name 3: HOW howsingation Burtace Exc:// Location: Moh 3: HOW howsingation Biert Date: Location: Moh 3: HOW howsingation Biert Date: Drilling Firm: SJR Driller: Image: SJR Driller:		C&S Engineers, Inc. 499 Col. Eileen Collins Blvd. Syracuse, New York 13212	-					Well No.	MW-07
Project Name: Main St. ROW Investigation Location: MOB :: Buffalo, NY Clenet: MoB :: Buffalo, NY Clenet: Keleida Health Drilling Firm: SJ8 2* figs Driller: 2* figs Drilling Firm: 2* figs Drilling Firm: 2* figs Drilling Firm: 2* figs Drilling Firm: 2* figs Drill Rig: 2* figs Under Surger: 2* figs Drill Rig: 2* figs Drill Rig: 2* figs Under Surger: 2* figs Drill Rig:		Phone: 315-455-2000			-		Р	roject No.:	K11.002.001
Project Name: Main St ROW Investigation Datum: 22° frag. Location: Start Date: 8/16/13 Drilling Tim: SJB Driller: 0 Imspector: 2'-9" Top Of Riser Driller: 0 Imspector: 2'-9" Start Date: Driller: 0 Imspector: 2'-9" Start Date: Driller: 0 Cassing and the Well As Constructed Inside the Baschill Material X Start Date: Start Date: Start Date: Date: Notes: 2" Vell Diameter Z' Vell Date: Date: Time 2" Vell Diameter Z' Date: Time Date: 2" Soli Cuttings Bentonite Stury CementPertonite Grout 2 Depth To: Sala	COMPANIES		CON	STRUC	TION I	LOG	Sur	face Elev .:	
Leation: WOR: Butfalo, NY Start Date: 9/16/13 Client: Kaleda Health Finish Date: 8/16/13 Drilling Firm: SJB Driller: 0 Inspector: 2':9'' Top Protective Casing Driller: 0 Inspector: Casing: 2':9'' Top of Riser Driller: 0 Inspector: Casing: 2':0'' Top of Riser Driller: Drill R:: Casing: Casing: 2':0'' Top of Riser Sufface Backfill Material Notes:: Crowide description of observation will vacation, method of construction development method and any other information? 2':0' top of Riser Sufface Backfill Material Notes:: Crowide description of observation will vacation and the will wase constructed in Bord Health were pource despinent information? 2':0' top of Riser Sufface Backfill Material Notes:: Concrete 2':0' top of Riser Sufface Backfill Material Notes:: Concrete 2':0' top of Seal Sametrial Sametrial Sametrial Sametrial 2':0' top of Seal Seantonite Stury Concrete Sametrial Sametrial 2':0' Top of Seal Seantonite Stury Sametrial Sametrial Sametrial 2':0' Top of Seal Seantonite Stury Sametrial Sametrial	Project Name: Main S							Datum:	26' bgs
Drilling Firm: SJB Drilling (C) Inspector: 2'9' Top Protective Casing 2'9' Top of Riser Drill Rig: Drill Rig: Drill Rig: 2'8' Top Protective Casing 2'9' Top of Riser Drill Rig: Drill Rig: Drill Rig: 2'8' Dgs Drill Rig: Drill Rig: Drill Rig: 2'9' Top of Riser Drill Rig: Drill Rig: Drill Rig: 2'9' Top of Seal Seal Top of Seal Drill Rig: Depth to 2'9' Top of Seal Seal Top of Screen Drill Rig: Depth Toi: 2'9' Top of Screen Drill Rig: Depth Toi: District Rig: 2'9' Top of Screen Screen Sloi Size Drill Rig: Deptict Rig: 2'0 Top of Screen Drill Rig: District Rig: District Rig: 2'9' Top of Screen Drill Rig: District Rig: District Rig: 2'9'								Start Date:	
2:-9" Top Protective Casing	Client: Kaleida	a Health					F	inish Date:	8/16/13
26' bgs Note:: (provide description of observation well location, method of construction and any other information) 26' bgs Surface Backfill Material Image: Sinther Sturry 8 Sand Sand 8 Bentonite Sturry Bentonite Grout 2" Bentonite Sturry Concrete 2" Well Diameter 2" Well Diameter 2" Well Diameter 2" Well Diameter 2" Top of Seal Soli Cuttings Soli Cuttings Bentonite Sitry Concrete Depth To: 2" 29' Top of Seal Seal Material Soli Cuttings Bentonite Chips/Pellets Bentonite Grout 39' Top of Seal Section Material Soli Cuttings 29' Top of Seal Screen Slot Size Soli Cuttings 10 in 10 in 10 jo 10 in 10 jo Soli Apack	Drilling Firm: SJB			Driller:	0			Inspector:	
26' bgs 26' bgs Surface Backfill Material X Sand X Sand X Sand X Commert/Bentonite Sturry Commerte 6' Bore Hole Diameter 2' Weil Diameter Yeil Stainless Steel Backfill Material X Soli Cuttings Bentonite Sturry 2' Weil Diameter Yeil Stainless Steel Backfill Material X Soli Cuttings Bentonite Sturry 2' Weil Diameter Yeil Yeil Stainless Steel Backfill Material X Soli Cuttings Bentonite Crips/Pellets Bentonite Crips/Pellets<		2'-9" Top Protective Cas	sing	Drill Rig:	CME 45C			Casing:	0
Surface Backfill Material Surface Backfill Material Surface Backfill Material Surface Backfill Material Surface Backfill Material Sand Surface Backfill Material Sentonite Slury Comment/Bentonite Grout Concrete Bentonite Slury Solid Cuttings Bentonite Slury Solid Cuttings Bentonite Slury Solid Cuttings Bentonite Slury Coment/Bentonite Grout Concrete Bentonite Slury Bentonite Slury Coment/Bentonite Grout Concrete Depth to Water Alaterial Soli Cuttings Bentonite Slury Coment/Bentonite Grout Concrete Depth to Depth to Status Screen Slot Size Disport Fliter Pack 29 Top of Streen Screen Slot Size Disport Fliter Pack 29 Top of Screen Screen Slot Size Disport Pack Ol Sand Pack Solid Pack		2'-6" Top of Riser		The observ	developme ation well v	nt method an vas construe	d any other ir cted in Bore	nformation) Hole B-3 up	on completing the
Backfill Material X Soil Cuttings Bentonite Slurry Cement/Bentonite Grout Cement/Bentonite Slurry Depth to: 29' Top of Seal Seal Material Seal Material X Bentonite Chips/Pellets Bentonite Slurry Cement/Bentonite Grout Cement/Bentonite Slurry Cement/Bentonite Grout 39' Top of Filter Pack 29' Top of Screen Screen Slot Size O10 in 015 in X 020 in 025 in Filter Material 00 Sand Pack O 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 s rs while the a 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 Slury Date Time Water Elevation Status Cement/Bentonite Grout		Backfill Material			Groundwa	ter 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	-			
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			Ph Ph	one: 716	-847-1630	B	ORING LOG		Sh	eet 1 of:	1
C	JIVIP	Ar							Pro	ject No.:	K11.002.001
Projec	ct Nam	ne:	Main St RO	W Inve	stigation				Surfa	ce Elev.:	
L	Buffalo, New York 14203 Phone: 716-847-1630 Eav: 716-847-1454 BORING LOG Sheet 1 of: 1										
	Discretion Discretion <thdiscretion< th=""> Discretion Discreti</thdiscretion<>										
Drilli	Display Display <t< td=""></t<>										
	Grou	nd١	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 I	blows to drive sam	pler 12" w/140 lb. ham	mer falling 30" ASTM	D-1586, Standard	Penetrat	ion Test)	
(£	ъ	-	Blows on					a - and - 3	5-50%		
th (lo ol	ğu	Sampler			MATERIAL D	ESCRIPTION	s - some - 2	0-35%		
)ep	Sar	Syl	per 6"	f - fine	S - Sar						
					0 00		oldy, oly oldyby				,
1					Crushed Stope (a	rov - drv)				2	
		1			Sidened Stone (g	ney - uryj					
2		1									יווקק ד.ס
<u> </u>		1									
3		1			Sand (fine - red/b	rown - drv to moist)					15" rec
Ĕ		1	-								
4		1									- 11
 		1	_	1							
5		1		1	Sand (fine - red/b	rown - moist)					16" rec
			18		Silt (red/brown - r	noist)					0.2 ppm
6			20								
			24								
7			24		Sand (fine - red/b	rown - wet to saturate	ed)				23" rec
			28		Silt (red/brown - v	wet to saturated)					0.5 ppm
8											
9											
					Silt (red/brown - s	saturated)					0.8 ppm
10											
					0:14 (40"
11											
12					Clay (red/brown -	weij					0.1 ppm
12											
13					Silt (red/brown - s	saturated)					24" rec
-10											
14		1								<u></u>	
<u> </u>		1									
15		1			Silt (red/brown - r	noist to wet)					19" rec
		1									0.0 ppm
16		1	21								
		1									
17		1									
		1									
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23		1		1							
	Location MOB - Buffalo, NY Datus 6. Surface Client: Salar Date: 87613 Salar Date: 87613 Client: Salar Date: Date: 76161 Date: 87613 Office: Client: Client: 1000000000000000000000000000000000000										
24											
	Sci-										



1¼" = 0.08

4" = 0.66

C&S Engineers, Inc. 141 Elm Street Suite 100 Buffalo, New York 14203 Phone: 716-847-1630 www.cscos.com

2" = 0.17 3" = 0.38

8" = 2.6

Well Casing Unit Volume (gal/l.f.)

6" = 1.5

Well Sampling Field Data Sheet

Client Name:		DA HEALTH	
Site Name:	CONV	turis	
Project No.:	NYL		
Field Staff:	Kich	BACKERT	2

WELL DATA

Date	3/3//20	3/31/20	3/31/20	3/31/20	3/31/20	3/31/20	1	
Well Number	BLONNOL	8cpnwo7	BLANDOY	Bepnwo3	BLANUDE	Repros		
Diameter (inches)	2"	20	211	8"	811	2"		
Total Sounded Depth (feet)	15FT.	ISPT.	ISFT.	15 000	ISPT.	ISFT		
Static Water Level (feet)	6.8FT.	9.9 FT.	6.8FT.	6.9FT.	7.04	7.8FT.		
H ₂ O Column (feet)	9.2	5.1	8.2	81	8.0	7.26.		
Pump Intake (feet)								
Well Volume (gallons)			100.00					
Amount to Evacuate (gallons)	2.5-	4	2	2	2	3		
Amount Evacuated (gallons)	2.5	4	2	2	2	3		

FIELD READINGS

Date	Stabilization	3/21/20	3/31/20	3/3//20	3/31/20	3/31/20	3/31/20	
Time	Criteria	9:50	10:35	11:05	11:35	12:05	12:35	
pH (Std. Units)	+/-0.1	5.69	3.92	3.22	4.41	5.9#	6.28	
Conductivity (mS/cm)	3%	8.07	5.38	3.96	10.8	11.0	7.04	
Turbidity (NTU)	10%	0.00	163	8.93	0.70	0.00	0.00	
D.O. (mg/L)	10%	1.85	2.30	1.36	9.48	5.95	2.21	
Temperature (%C) (°F)	3%	11.30°c	12.37°C	11.95°c	12.70°c	121402	12.3800	
ORP ³ (mV)	+/-10 mv	195	245	94	251	235	5	
Appearance		C	ST	C	C	C	C	
Free Product (Yes/No)	a la constante de	YES	YES	YES	YES	YES	YES	
Odor		NONE.	NONE	NONE.	rout	none	YES	

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:

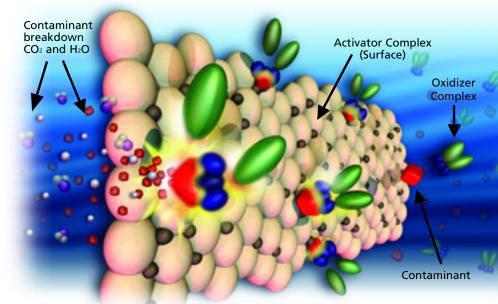
- Surface- Mediated Oxidation: (see Figure 1 and description below)
- Direct Oxidation: C₂Cl₄ + 2 Na₂CO₃ 3 H₂O₂ + 2 H₂O ↔ 2CO₂ + 4 NaCl + 4 H₂O + 2 H₂CO₃

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:

		Та	ble 1			
Contaminant	RegenOx™	Fenton's Reagent	Permanganate	Persulfate	Activated Persulfate	Ozone
Petroleum Hydrocarbons	А	А	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	А	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	A	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.

