NOVEMBER 2018

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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DECEMBER 2018

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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 Xylene
LNAPL	LIGHT NON AQUEOUS PHASE LIQUID
VOCs	VOLATILE ORGANIC COMPOUNDS
SCOs	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. The site management is being conducted at the site in accordance with the approved Site Management Plan, dated 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.)(GES-2008) and the <u>Geotechnical Engineering</u> <u>Report, 1001 Main Street Medical Office Building, Buffalo New York</u>; (November 2010; McMahon and Mann Consulting Engineers) (M&M-2010).

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 May 24-25, 2017 and September 13-15, 2017.

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 May 31 – June 1, 2018.

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

For this reporting period, the groundwater sampling was completed on November 30, 2018.

3.2. Groundwater Sampling Methods

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

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

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.

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	31.6	631.865
BCP-MW-3	663.465	31.9	631.565
BCP-MW-4	663.465	31.8	631.665
BCP-MW-5	663.465	32.5	630.965
BCP-MW-6	663.465	31.8	631.665
BCP-MW-7	663.465	34.6	628.865

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 November 2018. **Figure 4** presents total BTEX concentrations from each monitoring well. Lab analytical reports are provided in **Appendix A**.

BCP-MW-1

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>

Observing the results of the sampling event that took place on August 16th, the outcome showed 24.0 ug/L VOCs but the concentration of BTEX remained non-detect. BTEX concentration has stayed consistent at non-detect since the last sampling event in August of 2018

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

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

In the latest sampling event that was carried out on November 29, 2018 the BTEX concentration was 304.6 ug/L. This indicates a decrease of BTEX concentrations from the peak analytical of 4,162 ug/L from the August, 2015 sampling event.

The 304.6 ug/L BTEX concentration from the November 2018 sampling event has risen from the previous concentration of 45 ug/l in August 2018.

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

The initial BTEX concentration of MW-5 was 17,670 ug/L in September of 2013. The analytical that was recorded after the most recent sampling event on November 29, 2018 was 4,941 ug/L. That indicates a 72.03% decrease in BTEX concentration since the initial sampling event that occurred in 2013.

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

Total BTEX concentrations increased slightly in MW06 from the previous sampling event. After analyzing the results of the November 2018 sampling event, BTEX concentrations were observed at 4.52ug/L. That is a 99.9% decrease in BTEX concentrations from the sampling event in November of 2017 that recorded a BTEX concentration of 5,398 ug/L.

The total concentration of VOCs decreased from the previous sampling event from 35 ug/l to 17.32 ug/l.

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

MW-7 continued to show gradual decrease in BTEX concentration. The recorded BTEX concentration after the November 2018 sampling event was 0.18 ug/L. That is a 90% decrease in BTEX concentration, when compared to the results of the previous sampling event that was carried out in August of 2018, which had a concentration of 1.8 ug/L.

4. CONCLUSION AND RECOMMENDATIONS

The May 2018 injection event appeared to be successful in decreasing contaminant concentrations. After the chemical oxidant treatment, petroleum contamination still exists in monitoring well, BCP-MW-5. C&S recommends the following:

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

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FIGURES



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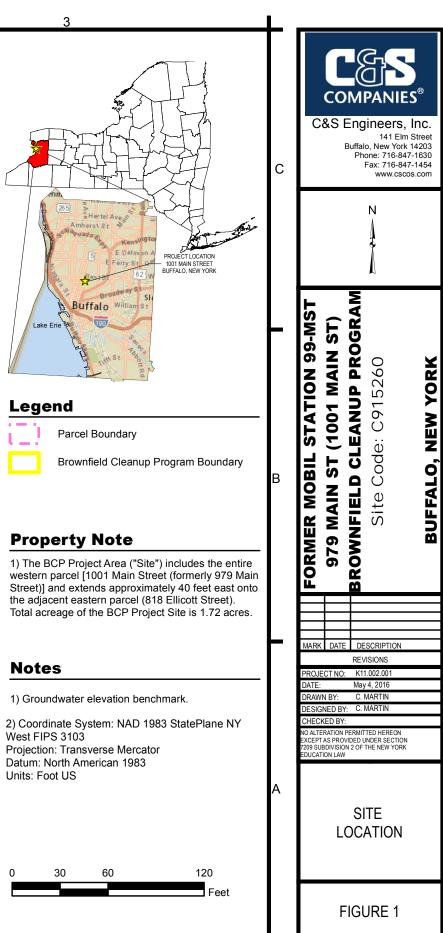
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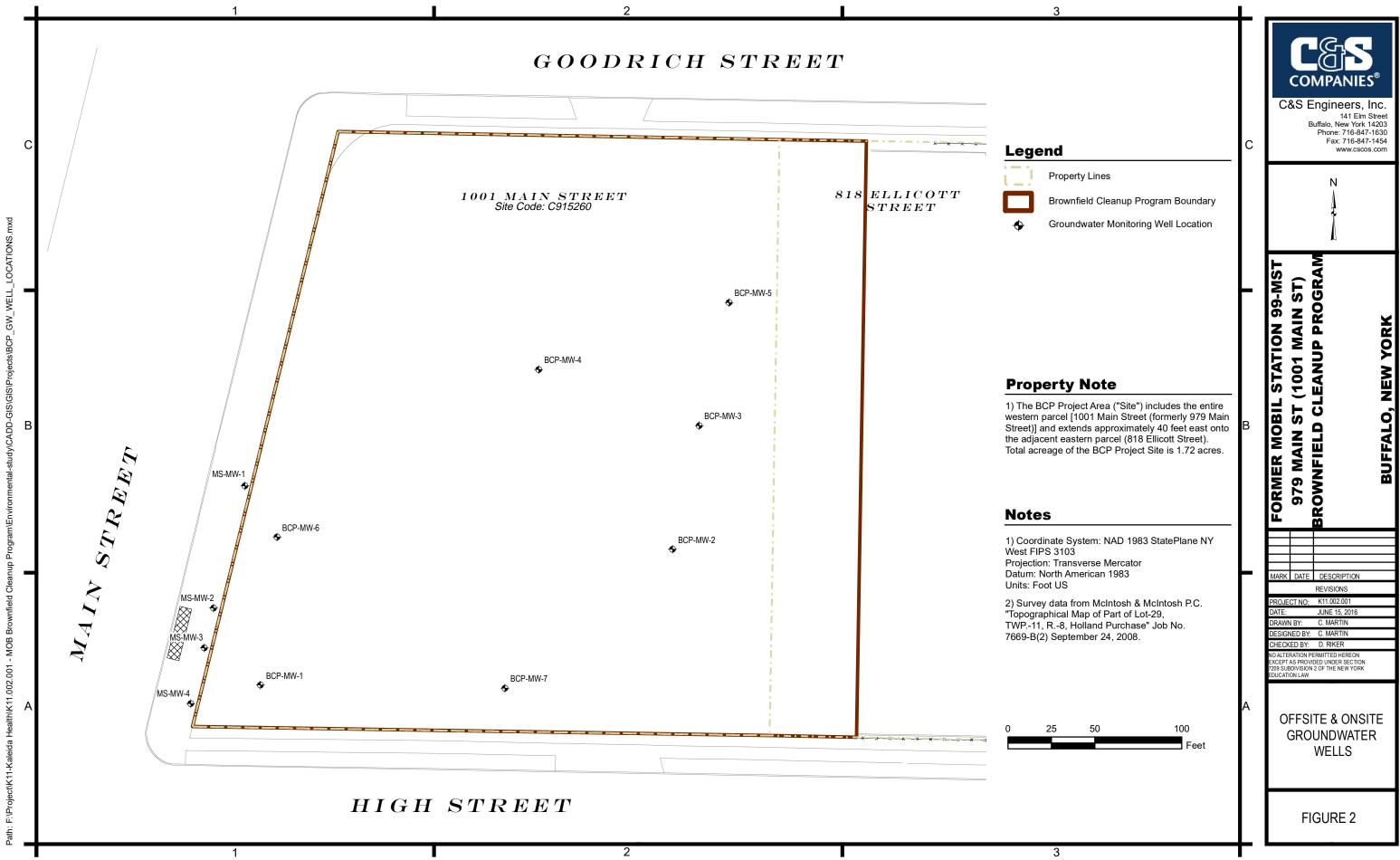
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Notes

West FIPS 3103 Units: Foot US





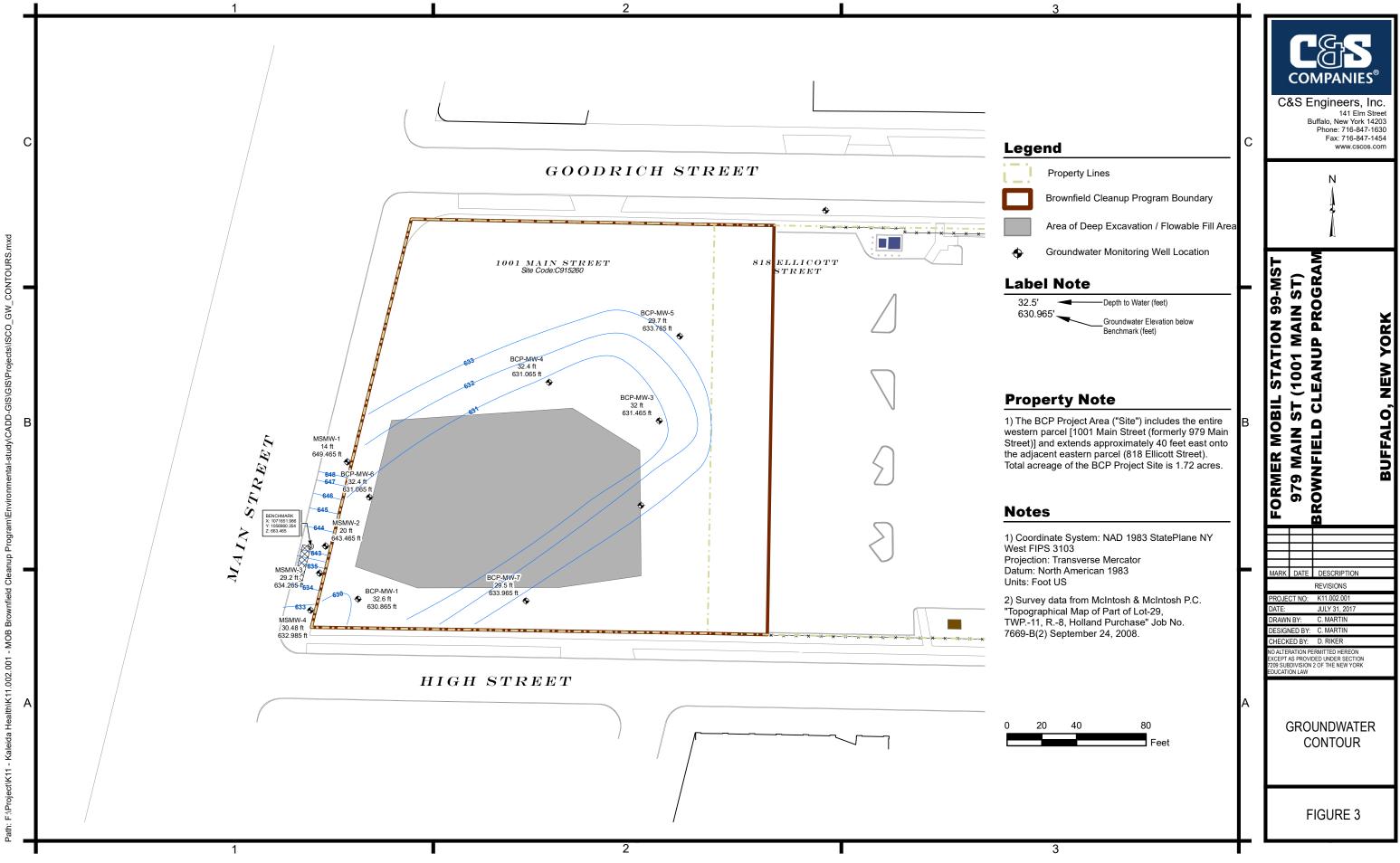
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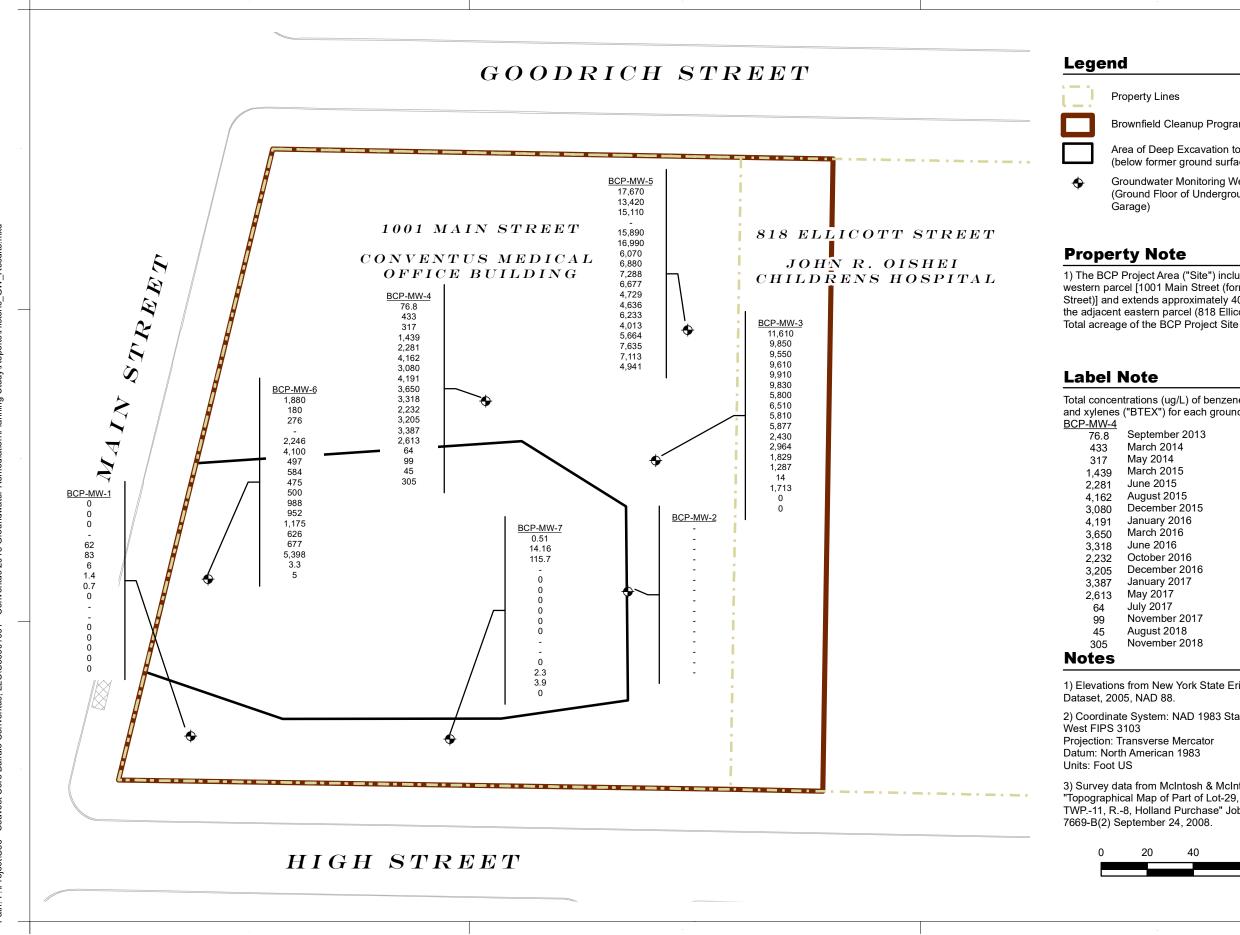
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002.

K1



Brownfield Cleanup Program Boundary

Area of Deep Excavation to -40 ft (below former ground surface)

Groundwater Monitoring Well Location (Ground Floor of Underground Parking

1) The BCP Project Area ("Site") includes the entire western parcel [1001 Main Street (formerly 979 Main Street)] and extends approximately 40 feet east onto the adjacent eastern parcel (818 Ellicott Street). Total acreage of the BCP Project Site is 1.72 acres.

Total concentrations (ug/L) of benzene, toluene, ethlybenzene and xylenes ("BTEX") for each groundwater monitoring event.

> September 2013 March 2014 August 2015 December 2015 January 2016 March 2016 October 2016 December 2016 January 2017 November 2017 August 2018

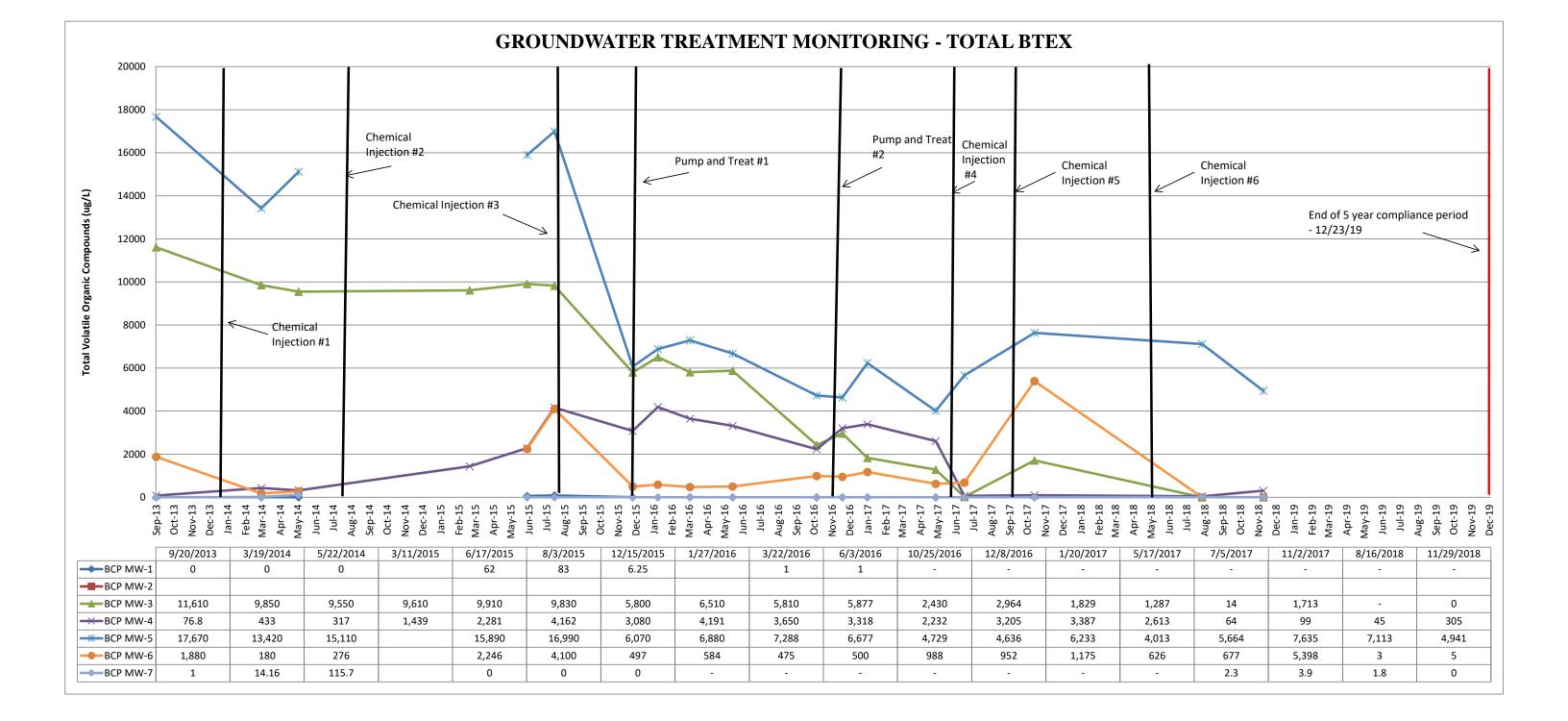
1) Elevations from New York State Erie County LiDAR

2) Coordinate System: NAD 1983 StatePlane NY

3) Survey data from McIntosh & McIntosh P.C. TWP.-11, R.-8, Holland Purchase" Job No.

> 40 80 Feet





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
		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	10/30/2018
		Matrix	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
NYSDEC Ambient Water Quality	Standards & G	uidance Values																	
Volatile Organic Compound	Surface Water	Groundwater																	
2-HEXANONE	50	50	ND	ND	ND		ND	ND	3.5	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
BENZENE	1	1	ND	ND	ND		35	39	5.7	1.4	0.72	ND			ND	ND	0.33	ND	ND
ETHYLBENZENE	5	5	ND	ND	ND		2	1.5	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
METHYL ETHYL KETONE (2-BUTANONE)	50	50	ND	ND	ND		ND	45	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
TOLUENE	5	5	ND	ND	ND		19	38	0.55	ND	ND	ND			ND	ND	1.1	ND	ND
1,1,2-TRICHLOROETHANE	1	1	ND	ND	ND		ND	ND	ND	0.33 J	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
NAPHTHALENE	10	10	ND	ND	ND		ND	ND	ND	0.33 J	ND	ND			ND	ND	ND	ND	4.3
No Standard																			
CARBON DISULFIDE			ND	ND	0.94		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
METHYL ISOBUTYL KETONE			ND	ND	ND		ND	13	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
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
Total BTEX			0	0	0	-	62	83	6	1.4	0.7	0			0.0	0	0	0	0
Non-Standard VOC List													_		_				
1,3,5-TRIMETHYLBENZENE	5	5														ND	ND		ND
1,2,4,5-TETRAMETHYLBENZENE	5	5														ND	ND		ND
1,2,4-TRIMETHYLBENZENE	5	5														ND	ND		ND
SEC-BUTYLBENZENE	5	5														ND	ND		ND
N-PROPYLBENZENE	5	5														ND	ND		ND
N-BUTYLBENZENE	5	5														ND	ND		ND
P-ISOPROPYLTOLUENE																ND	ND		ND
1,4-DIETHYLBENZENE																ND	ND		ND

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-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
		Matrix	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG
		Unit	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
NYSDEC Ambient Water Quality	Standards & Gu	iidance Values																		
Volatile Organic Compound	Surface Water	Groundwater																		
2-HEXANONE	50	50	ND	ND	ND	3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	8	ND	ND	ND
ACETONE	50	50	ND	98	ND	17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	166	ND	2.3	24.0
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
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
ISOPROPYLBENZENE (CUMENE)	5	5	ND	37	ND	32	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	8.7	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
METHYLENE CHLORIDE	5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	35	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
1,1,2-TRICHLOROETHANE	1	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
XYLENES, TOTAL	5	5	3,700	3,600	3,200	4200	4000	3900	2200	2600	2200	2100	806.3	1430	949	639	7.1	930.0	ND	ND
NAPHTHALENE	10	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	14	357	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
CYCLOHEXANE			120	320	270	390	330	210	100	93	110	170	ND	ND	ND	ND	ND	60.5	ND	ND
METHYL ISOBUTYL KETONE			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
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
Total BTEX			11,610	9,850	9,550	9,610	9,910	9,830	5,800	6,510	5,810	5,877	2,430	3,038	1,867	1,310	14	1,713	-	-
Non-Standard VOC List			1					-												
1,3,5-TRIMETHYLBENZENE	5	5															ND	133	133	ND
1,2,4,5-TETRAMETHYLBENZENE	5	5															ND	ND	ND	ND
1,2,4-TRIMETHYLBENZENE	5	5															4.9	737	737	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

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
		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
		Matrix	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG
		Unit	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
NYSDEC Ambient Water Quality	v Standards & Gu	uidance Values																		
Volatile Organic Compound	Surface Water	Groundwater																		
2-HEXANONE	50	50	ND	ND	ND	1.7	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
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
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
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
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
METHYLENE CHLORIDE	5	5	ND	ND	1 J	ND	ND	ND	ND	52	ND	42	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
1,1,2-TRICHLOROETHANE	1	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
XYLENES, TOTAL	5	5	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
NAPHTHALENE	10	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.9	ND	ND	36
No Standard																				
CARBON DISULFIDE			ND	ND	1.9 J	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
METHYL ISOBUTYL KETONE			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
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
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
Non-Standard VOC List			1	1																
1,3,5-TRIMETHYLBENZENE	5	5															2	ND	ND	1.4 J
1,2,4,5-TETRAMETHYLBENZENE	5	5															1.1	ND	ND	ND
1,2,4-TRIMETHYLBENZENE	5	5															1.1	ND	ND	150
SEC-BUTYLBENZENE	5	5															ND	ND	ND	1.5 J
N-PROPYLBENZENE	5	5															2.3	ND	ND	37
N-BUTYLBENZENE	5	5															1.7	ND	ND	2.2 J
P-ISOPROPYLTOLUENE																	ND	ND	ND	ND
1,4-DIETHYLBENZENE																	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-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5
		Date Collected	9/20/2013	3/19/2014	5/22/2014	3/11/2015	6/17/2015	8/3/2015	12/15/2015	1/27/2016	3/22/2016	6/3/2016	10/25/2016	12/8/2016	1/20/2017	5/17/2017	7/5/2017	11/2/2017	8/16/2018	11/29/2018
		Matrix	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG
		Unit	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
NYSDEC Ambient Water Quality	v Standards & Gu	idance Values																		
Volatile Organic Compound	Surface Water	Groundwater																		
2-HEXANONE	50	50	11	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
ACETONE	50	50	ND	520	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	15.3	ND	41	69 J
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
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
ISOPROPYLBENZENE (CUMENE)	5	5	28	29	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	13.6	ND	20	16 J
METHYL ETHYL KETONE (2-BUTANONE)	50	50	10	350	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.1	ND	ND	
METHYLENE CHLORIDE	5	5	ND	ND	ND		ND	ND	ND	ND	77	96	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
1,1,2-TRICHLOROETHANE	1	1	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
NAPHTHALENE	10	10	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	730	1,030	620	1,100
No Standard																				
CARBON DISULFIDE			ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.1	ND	ND	
CYCLOHEXANE			230	340	240		430	260	230	250	280	430	198	148	257	ND	257	238	150	130 J
METHYL ISOBUTYL KETONE			23	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	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
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	6,33
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	4,94
Non-Standard VOC List			-																	
1,3,5-TRIMETHYLBENZENE	5	5															823	ND	ND	630
1,2,4,5-TETRAMETHYLBENZENE	5	5															135	ND	ND	
1,2,4-TRIMETHYLBENZENE	5	5															2,280	2,490	2,400	2,300
SEC-BUTYLBENZENE	5	5															3.2	ND	ND	
N-PROPYLBENZENE	5	5															34.8	ND	110	69
N-BUTYLBENZENE	5	5															43.3	ND	ND	
P-ISOPROPYLTOLUENE																	5.7	ND	ND	
1,4-DIETHYLBENZENE																	347	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
		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
		Matrix	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG
		Unit	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
NYSDEC Ambient Water Quality	Standards & Gu	uidance Values																		
Volatile Organic Compound	Surface Water	Groundwater																		
2-HEXANONE	50	50	ND	ND	ND		190	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
BENZENE	1	1	190	33	16		470	890	250	230	200	120	302	168	200	113	131	774	ND	0.82
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
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
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
METHYLENE CHLORIDE	5	5	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
1,1,2-TRICHLOROETHANE	1	1	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
XYLENES, TOTAL	5	5	750	85	150		740	1,100	140	190	130	210	393	360	451	190.7	438	1,500	ND	2 J
NAPHTHALENE	10	10	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	86.6	ND	1	.8 J
No Standard																				
CARBON DISULFIDE			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
METHYL ISOBUTYL KETONE			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
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
Total BTEX			1,880	180	276	-	2,246	4,100	497	584	475	500	988	952	1,175	626	677	5,398	3	4.52
Non-Standard VOC List																				
1,3,5-TRIMETHYLBENZENE	5	5															74.3	ND	ND	5.1
1,2,4,5-TETRAMETHYLBENZENE	5	5															14.3	ND	ND	ND
1,2,4-TRIMETHYLBENZENE	5	5															134	ND	ND	ND
SEC-BUTYLBENZENE	5	5																		ND
N-PROPYLBENZENE	5	5															11.3	ND	4.7	1.7 J
N-BUTYLBENZENE	5	5															4.6	ND	0.72	ND
P-ISOPROPYLTOLUENE																	1.6	1.6	1.6	ND
1,4-DIETHYLBENZENE																	32.9	32.9	32.9	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.

		G 1 N	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
		Sample Name 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
		Matrix	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
			-8-	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8
NYSDEC Ambient Water Quality S	standards & G	uidance values															
Volatile Organic Compound	Surface Water	Groundwater															
2-HEXANONE	50	50	ND	ND	4.8		ND	ND	ND	ND	ND	ND			ND	ND	ND
ACETONE	50	50	ND	3	ND		ND	ND	ND	ND	ND	ND			ND	ND	ND
BENZENE	1	1	0.51	8.8	14		ND	ND	ND	ND	ND	ND			ND	2.3	2.81
ETHYLBENZENE	5	5	ND	ND	3		ND	ND	ND	ND	ND	ND			ND	ND	0
ISOPROPYLBENZENE (CUMENE)	5	5	ND	ND	ND		ND	ND	ND	ND	ND	ND			ND	ND	0.45
METHYL ETHYL KETONE (2-BUTANONE)	50	50	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
TOLUENE	5	5	ND	0.56	4.7		ND	ND	ND	ND	ND	ND			ND	ND	1.1
1,1,2-TRICHLOROETHANE	1	1															
XYLENES, TOTAL	5	5	0.96	4.8	94		ND	ND	ND	0.99 J	ND	ND			ND	ND	ND
NAPHTHALENE	10	10															
No Standard																	
CARBON DISULFIDE			ND	ND	0.97		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
METHYL ISOBUTYL KETONE			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
Total VOCs			1.47	23.16	136.17	-	0.18	-	0.71	-	-	-	-	-	-	2.30	5.35
Total BTEX			0.51	14.16	115.7	-	-	-	-	-	-	-	-	-	-	2.3	3.9
Non-Standard VOC List				-													
1,3,5-TRIMETHYLBENZENE	5	5														ND	ND
1,2,4,5-TETRAMETHYLBENZENE	5	5														ND	ND
1,2,4-TRIMETHYLBENZENE	5	5														ND	ND
SEC-BUTYLBENZENE	5	5															
N-PROPYLBENZENE	5	5															
N-BUTYLBENZENE	5	5															
P-ISOPROPYLTOLUENE																	
1,4-DIETHYLBENZENE																	



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

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NVENTUS
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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:12071813:43

Project Name:	CONVENTUS
Project Number:	K11.002.001

Lab Number:	L1849015
Report Date:	12/07/18

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1849015-01	BCP-MW01 112918	WATER	1001 MAIN ST.	11/29/18 09:50	11/30/18
L1849015-02	BCP-MW07 112918	WATER	1001 MAIN ST.	11/29/18 10:45	11/30/18
L1849015-03	BCP-MW04 112918	WATER	1001 MAIN ST.	11/29/18 11:30	11/30/18
L1849015-04	BCP-MW03 112918	WATER	1001 MAIN ST.	11/29/18 12:05	11/30/18
L1849015-05	BCP-MW06 112918	WATER	1001 MAIN ST.	11/29/18 13:30	11/30/18
L1849015-06	BCP-MW05 112918	WATER	1001 MAIN ST.	11/29/18 14:05	11/30/18
L1849015-07	MS-MW01 113018	WATER	1001 MAIN ST.	11/30/18 10:00	11/30/18
L1849015-08	MS-MW02 113018	WATER	1001 MAIN ST.	11/30/18 10:50	11/30/18
L1849015-09	MS-MW03 113018	WATER	1001 MAIN ST.	11/30/18 11:10	11/30/18
L1849015-10	MS-MW04 113018	WATER	1001 MAIN ST.	11/30/18 11:50	11/30/18
L1849015-11	TRIP BLANK	WATER	1001 MAIN ST.	11/30/18 12:00	11/30/18



Project Name:CONVENTUSProject Number:K11.002.001

 Lab Number:
 L1849015

 Report Date:
 12/07/18

Case Narrative

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

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

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

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

HOLD POLICY

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

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



Project Name:CONVENTUSProject Number:K11.002.001

 Lab Number:
 L1849015

 Report Date:
 12/07/18

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.

Sample Receipt

L1849015-08: The collection date and time on the chain of custody was 30-NOV-18 10:50; however, the collection date/time on the container label was 30-NOV-18 10:40. At the client's request, the collection date/time is reported as 30-NOV-18 10:50.

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.

Auchelle M. Monig Michelle M. Morris

Authorized Signature:

Title: Technical Director/Representative

Date: 12/07/18



ORGANICS



VOLATILES



			Serial_No	p:12071813:43
Project Name:	CONVENTUS		Lab Number:	L1849015
Project Number:	K11.002.001		Report Date:	12/07/18
		SAMPLE RESULTS		
Lab ID:	L1849015-01		Date Collected:	11/29/18 09:50
Client ID:	BCP-MW01 112918		Date Received:	11/30/18
Sample Location:	1001 MAIN ST.		Field Prep:	Not Specified
Sample Depth:				
Matrix:	Water			
Analytical Method:	1,8260C			
Analytical Date:	12/06/18 15:09			
Analyst:	MKS			

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



Project Number: K11.002.01 SAMPLE RESULTS Report Dats 1/20/18 09:50 Lab ID: L1849015-01 Date Roceived N1/29/18 09:50 Date Roceived N1/29/18 09:50 Sample Location: 1001 MAIN ST. Sample Roceived Not Specified Not Specified Parametric Res ugi Rt MP Duton Pactor 1.4-Dichorobenzane ND ugi 2.5 0.70 1 Dichorodifiluoromethane		Serial_No:12071813:43						:12071813:43
Lab. IC: L1849015-11 Client ID: BCP-MW01112918 Sample Location: IOUMAIN ST. Sample Location: IOUMAIN ST. Sample Location: Not Name St. Sample Location: Result Outlife Not Not Name St. Sample Location: Not Name St. Not Name St. Not Name St. Sample Location: Not Name St. Not Name St. Not Name St. Sample Location: Not Name St. Not Name St. Not Name St. Sample Location: ND ugl 2.5 0.70 1 1.4-Dichlordenzene ND ugl 2.5 0.70 1 Investioned St. ND ugl 2.5 0	Project Name:	CONVENTUS				Lab Nu	mber:	L1849015
Lab. IC: L1849015-11 Client ID: BCP-MW01112918 Sample Location: IOUMAIN ST. Sample Location: IOUMAIN ST. Sample Location: Not Name St. Sample Location: Result Outlife Not Not Name St. Sample Location: Not Name St. Not Name St. Not Name St. Sample Location: Not Name St. Not Name St. Not Name St. Sample Location: Not Name St. Not Name St. Not Name St. Sample Location: ND ugl 2.5 0.70 1 1.4-Dichlordenzene ND ugl 2.5 0.70 1 Investioned St. ND ugl 2.5 0	Project Number:	K11.002.001				Report	Date:	12/07/18
Client ID: BCP-MW01 112918 1001 MAIN ST. Date Receiver Field Preprint 11/30/18 Field Preprint 11/30/18 Field Preprint Parameter Result Qualifier Units RL MDL Dilution Factor Volatile Organics by GC/MS - Westborough Lat- Volatile Orga	· · · , · · · · · · · · · · · · · · · · · · ·	11110021001	SAMP	LE RESULTS	5			12/01/10
ParameterResultOutifierNIRLMDLDilution FactorVolatile Organics by GC/MS - Westboroug Lab1.4-DichlorobenzoneNDug12.50.7011.4-DichlorobenzoneNDug12.50.7011.4-DichlorobenzoneNDug12.50.701Methy terb utyl etherNDug12.50.701or.XyleneNDug12.50.701other terb utyl etherNDug12.50.701other terb utyl etherNDug10.501.01other terb utyl etherNDug15.01.01Other terb utyl etherNDug15.01.01Other terb utyl etherNDug15.01.01Action disulfideNDug12.00.0112-ButanoneNDug12.00.0111.4betnoreterneNDug12.50.70112-ButanoneNDug12.50.70111.2-DioromethaneNDug12.50.70111.2-Dioromethane <td>Client ID:</td> <td>BCP-MW01 112918</td> <td></td> <td></td> <td></td> <td>Date Ree</td> <td>ceived:</td> <td>11/30/18</td>	Client ID:	BCP-MW01 112918				Date Ree	ceived:	11/30/18
Volatile Organics by GC/MS - Westborough Lab 1,3-Dichlorobenzene ND ug1 2.5 0.70 1 1,4-Dichlorobenzene ND ug1 2.5 0.70 1 p/m-Xylene ND ug1 2.5 0.70 1 p/m-Xylene ND ug1 2.5 0.70 1 or-Xylene ND ug1 5.0 1.0 1 otherodfluoromethane ND ug1 5.0 1.0 1 Acetone 1.8 J ug1 5.0 1.0 1 2-Butanone ND ug1 5.0 1.0 1 1.2-Dicromothane ND ug1 2.5 0.70 1 1.2-Dicromothane ND ug1 2.5 0.7	Sample Depth:							
1.3-Dichlorobenzene ND ug1 2.5 0.70 1 1.4-Dichlorobenzene ND ug1 2.5 0.70 1 Methyl terl bulj ether ND ug1 2.5 0.70 1 p/m-Xylene ND ug1 2.5 0.70 1 o-Xylene ND ug1 2.5 0.70 1 ois 1,2-Dichloroethene ND ug1 2.5 0.70 1 Styrene ND ug1 5.0 1.0 1 Acetone 1.8 J ug1 5.0 1.0 1 Carbon disulfide ND ug1 5.0 1.0 1 2-Butanone ND ug1 5.0 1.0 1 1.2-Dicromethane ND ug1 5.0 1.0 1 1.2-Dicromethane ND ug1 5.0 1.0 1 1.2-Dicromethane ND ug1 2.5 0.70 1 1.2-Dicromethane ND ug1 2.5 0.70 1 1.2-Dic	Parameter		Result	Qualifier	Units	RL	MDL	Dilution Factor
J.4-Dichlorobenzene ND ug/l 2.5 0.70 1 Methyl tert buyl 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 o-Xylene ND ug/l 2.5 0.70 1 dis-1,2Dichloroethene ND ug/l 2.5 0.70 1 Styrene ND ug/l 5.0 1.0 1 Acetone 1.8 J ug/l 5.0 1.0 1 Carbon disulfide ND ug/l 5.0 1.0 1 2-Butanone ND ug/l 5.0 1.0 1 1/2-Dibromethane ND ug/l 2.0 0.65 1 1/2-Dibromoethane ND ug/l 2.5 0.70 1 1/2-Dibromoethane ND ug/l 2.5 0.70 1	Volatile Organics b	oy GC/MS - Westborough	Lab					
J.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 o-Xylene ND ug/l 2.5 0.70 1 dis-1,2.Dichloroethene ND ug/l 2.5 0.70 1 Styrene ND ug/l 5.0 1.0 1 Acetone ND ug/l 5.0 1.0 1 Carbon disulfide ND ug/l 5.0 1.0 1 2-Butanone ND ug/l 5.0 1.0 1 1.2-Dibromoethane ND ug/l 5.0 1.0 1 1.2-Dibromoethane ND ug/l 2.5 0.70 1 1.2-Dibromoethane ND ug/l 2.5 0.70 1 1.2-Dibromoeth	1 3-Dichlorobenzene		ND		ug/l	25	0.70	1
Methyl tert buyl 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 o-Xylene ND ug/l 2.5 0.70 1 dis-1,2-Dichloroethene ND ug/l 2.5 0.70 1 Styrene ND ug/l 5.0 1.0 1 Acetone 1.8 J ug/l 5.0 1.0 1 Carbon disulfde ND ug/l 5.0 1.0 1 2-Butanone ND ug/l 5.0 1.0 1 1,2-Dibromethane ND ug/l 5.0 1.0 1 1,2-Dibromethane ND ug/l 2.5 0.70 1 1,2-Dibromethane ND ug/l 2.5 0.70 1 1,2-Dibromethane ND ug/l 2.5 0.70 1 1,					-			
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ND ug/l 5.0 1.0 1 Acetone 1.8 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 1.0 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 5.0 1.0 1 1.2-Dibromoethane ND ug/l 2.5 0.70 1 sec-Butylbenzene ND ug/l 2.5 0.70 1 1.2-Dibromo-3-chloropropane ND ug/l 2.5 0.70 1 <					-			
Acetone 1.8 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 5.0 1.0 1 1,2-Dibromoethane ND ug/l 2.5 0.70 1 sec-Butylbenzene ND ug/l 2.5 0.70 1 sec-Butylbenzene ND ug/l 2.5 0.70 1 1,2-Dibromo-3-chloropropane ND ug/l 2.5 <td< td=""><td></td><td></td><td></td><td></td><td>-</td><td></td><td></td><td></td></td<>					-			
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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 tert-Butylbenzene ND ug/l 2.5 0.70 1 1,2-Dibromo-3-chloropropane ND ug/l 2.5 0.70 1 1,2-Dibromo-3-chloropropane ND ug/l 2.5 0.70 1 1,2-Dibromo-3-chloropropane ND ug/l 2.5 0.70 1 sopropylbenzene 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<	4-Methyl-2-pentanone		ND			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 tert-Butylbenzene ND ug/l 2.5 0.70 1 1,2-Dibromo-3-chloropropane ND ug/l 2.5 0.70 1 Naphthalene 4.3 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-Hexanone		ND		-	5.0	1.0	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 Isopropylbenzene ND ug/l 2.5 0.70 1 P-Isopropylbonzene ND ug/l 2.5 0.70 1 Naphthalene 4.3 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 1,2,4-Trimethylbenzene ND ug/l 2.5 0.70 1 Methyl Acetate ND ug/l 2.5 0.70	1,2-Dibromoethane		ND			2.0	0.65	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-Isopropylbenzene ND ug/l 2.5 0.70 1 Naphthalene 4.3 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 1,2,4-Trimethylbenzene ND ug/l 2.0	n-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-Isopropylbenzene ND ug/l 2.5 0.70 1 Naphthalene 4.3 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-Trichlorobenzene ND ug/l 2.5 0.70 1 1,2,4-Trimethylbenzene ND ug/l 2.5 0.70 1 1,2,4-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 Methyl Acetate ND ug/l 10 0.27 1	sec-Butylbenzene		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 4.3 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-Trichlorobenzene ND ug/l 2.5 0.70 1 1,2,4-Trimethylbenzene ND ug/l 2.5 0.70 1 1,2,4-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	tert-Butylbenzene		ND		ug/l	2.5	0.70	1
p-lsopropyltoluene ND ug/l 2.5 0.70 1 Naphthalene 4.3 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 2.0 0.23 1 Methyl Acetate ND ug/l 10 0.27 1	1,2-Dibromo-3-chloroprop	oane	ND		ug/l	2.5	0.70	1
Naphthalene 4.3 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	Isopropylbenzene		ND		ug/l	2.5	0.70	1
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 1,2,4-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	p-lsopropyltoluene		ND		ug/l	2.5	0.70	1
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ND ug/l 2.5 0.70 1 1,2,4-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	n-Propylbenzene		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	1,2,4-Trichlorobenzene		ND		ug/l	2.5	0.70	1
Methyl AcetateNDug/l2.00.231CyclohexaneNDug/l100.271	1,3,5-Trimethylbenzene		ND		ug/l	2.5	0.70	1
Cyclohexane ND ug/l 10 0.27 1	1,2,4-Trimethylbenzene		ND		ug/l	2.5	0.70	1
	Methyl Acetate		ND		ug/l	2.0	0.23	1
Freon-113 ND ug/I 2.5 0.70 1	Cyclohexane		ND		ug/l	10	0.27	1
	Freon-113		ND		ug/l	2.5	0.70	1
Methyl cyclohexane 0.88 J ug/l 10 0.40 1	Methyl cyclohexane		0.88	J	ug/l	10	0.40	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
1,2-Dichloroethane-d4	94		70-130	
Toluene-d8	98		70-130	
4-Bromofluorobenzene	97		70-130	
Dibromofluoromethane	97		70-130	

			Serial_N	o:12071813:43
Project Name:	CONVENTUS		Lab Number:	L1849015
Project Number:	K11.002.001		Report Date:	12/07/18
		SAMPLE RESULTS		
Lab ID:	L1849015-02		Date Collected:	11/29/18 10:45
Client ID:	BCP-MW07 112918		Date Received:	11/30/18
Sample Location:	1001 MAIN ST.		Field Prep:	Not Specified
Sample Depth:				
Matrix:	Water			
Analytical Method:	1,8260C			
Analytical Date:	12/06/18 15:34			
Analyst:	MKS			

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - West	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	0.18	J	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	:12071813:43	
Project Name:	CONVENTUS				Lab Nu	imber:	L1849015	
Project Number:	K11.002.001				Report	Date:	12/07/18	
•		SAMP	LE RESULT	S	•		,,	
Lab ID: Client ID: Sample Location:	L1849015-02 BCP-MW07 112918 1001 MAIN ST.				Date Co Date Re Field Pre	ceived:	11/29/18 10:45 11/30/18 Not Specified	
Sample Depth:								
Parameter		Result	Qualifier	Units	RL	MDL	Dilution Factor	
Volatile Organics b	oy GC/MS - Westborough	Lab						
	,							
1,3-Dichlorobenzene		ND		ug/l	2.5	0.70	1	
1,4-Dichlorobenzene		ND		ug/l	2.5	0.70	1	
Methyl tert butyl ether		ND		ug/l	2.5	0.70	1	
p/m-Xylene		ND		ug/l	2.5	0.70	1	
o-Xylene		ND		ug/l	2.5	0.70	1	
cis-1,2-Dichloroethene		ND		ug/l	2.5	0.70	1	
Styrene		ND		ug/l	2.5	0.70	1	
Dichlorodifluoromethane		ND		ug/l	5.0	1.0	1	
Acetone		ND		ug/l	5.0	1.5	1	
Carbon disulfide		ND		ug/l	5.0	1.0	1	
2-Butanone		ND		ug/l	5.0	1.9	1	
4-Methyl-2-pentanone		ND		ug/l	5.0	1.0	1	
2-Hexanone		ND		ug/l	5.0	1.0	1	
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-Isopropyltoluene		ND		ug/l	2.5	0.70	1	
Naphthalene		0.86	J	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	91	70-130	
Toluene-d8	99	70-130	
4-Bromofluorobenzene	94	70-130	
Dibromofluoromethane	97	70-130	



		Serial_	No:12071813:43
Project Name:	CONVENTUS	Lab Number:	L1849015
Project Number:	K11.002.001	Report Date:	12/07/18
		SAMPLE RESULTS	
Lab ID:	L1849015-03	Date Collected	11/29/18 11:30
Client ID:	BCP-MW04 112918	Date Received	11/30/18
Sample Location:	1001 MAIN ST.	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Water		
Analytical Method:	1,8260C		
Analytical Date:	12/06/18 13:53		
Analyst:	MKS		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - V	Vestborough 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	36		ug/l	0.50	0.16	1
Toluene	15		ug/l	2.5	0.70	1
Ethylbenzene	170		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	0:12071813:43	
Project Name:	CONVENTUS				Lab Nu	imber:	L1849015	
Project Number:	K11.002.001				Report	Date:	12/07/18	
•		SAMP		S	•		, .,	
Lab ID: Client ID: Sample Location:	L1849015-03 BCP-MW04 112918 1001 MAIN ST.				Date Co Date Re Field Pre	ceived:	11/29/18 11:30 11/30/18 Not Specified	
Sample Depth:								
Parameter		Result	Qualifier	Units	RL	MDL	Dilution Factor	
Volatile Organics b	by GC/MS - Westborough	Lab						
· · · · · · · · · · · · · · · · ·	<i>y e e,eeg</i>							
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		80		ug/l	2.5	0.70	1	
o-Xylene		3.6		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		2.2	J	ug/l	2.5	0.70	1	
sec-Butylbenzene		1.5	J	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		8.3		ug/l	2.5	0.70	1	
p-Isopropyltoluene		ND		ug/l	2.5	0.70	1	
Naphthalene		36		ug/l	2.5	0.70	1	
n-Propylbenzene		37		ug/l	2.5	0.70	1	
1,2,4-Trichlorobenzene		ND		ug/l	2.5	0.70	1	
1,3,5-Trimethylbenzene		1.4	J	ug/l	2.5	0.70	1	
1,2,4-Trimethylbenzene		150		ug/l	2.5	0.70	1	
Methyl Acetate		ND		ug/l	2.0	0.23	1	
Cyclohexane		24		ug/l	10	0.27	1	
Freon-113		ND		ug/l	2.5	0.70	1	
Methyl cyclohexane		8.9	J	ug/l	10	0.40	1	

Surrogate	% Recovery	Acceptance Qualifier Criteria	
1,2-Dichloroethane-d4	100	70-130	
Toluene-d8	97	70-130	
4-Bromofluorobenzene	95	70-130	
Dibromofluoromethane	90	70-130	



			Serial_N	o:12071813:43
Project Name:	CONVENTUS		Lab Number:	L1849015
Project Number:	K11.002.001		Report Date:	12/07/18
		SAMPLE RESULTS		
Lab ID:	L1849015-04		Date Collected:	11/29/18 12:05
Client ID:	BCP-MW03 112918		Date Received:	11/30/18
Sample Location:	1001 MAIN ST.		Field Prep:	Not Specified
Sample Depth:				
Matrix:	Water			
Analytical Method:	1,8260C			
Analytical Date:	12/06/18 16:00			
Analyst:	MKS			
-				

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



					ļ	Serial_No	:12071813:43
Project Name:	CONVENTUS				Lab Nu	mber:	L1849015
Project Number:	K11.002.001				Report	Date:	12/07/18
•		SAMP		5		-	12/01/10
Lab ID:	L1849015-04				Date Col	llected.	11/29/18 12:05
Client ID:	BCP-MW03 112918				Date Re		11/30/18
Sample Location:	1001 MAIN ST.				Field Pre		Not Specified
-						•	
Sample Depth:							
Parameter		Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics b	y GC/MS - Westborough	Lab					
1,3-Dichlorobenzene		ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene		ND		ug/l	2.5	0.70	1
Methyl tert butyl ether		ND		ug/l	2.5	0.70	1
p/m-Xylene		ND		ug/l	2.5	0.70	1
o-Xylene		ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene		ND		ug/l	2.5	0.70	1
Styrene		ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane		ND		ug/l	5.0	1.0	1
Acetone		24		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-chloroprop	ane	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	96	70-130	
Toluene-d8	99	70-130	
4-Bromofluorobenzene	93	70-130	
Dibromofluoromethane	98	70-130	



			Serial_No	o:12071813:43
Project Name:	CONVENTUS	Lab N	Number:	L1849015
Project Number:	K11.002.001	Repo	ort Date:	12/07/18
		SAMPLE RESULTS		
Lab ID:	L1849015-05	Date C	collected:	11/29/18 13:30
Client ID:	BCP-MW06 112918	Date R	leceived:	11/30/18
Sample Location:	1001 MAIN ST.	Field P	'rep:	Not Specified
Sample Depth:				
Matrix:	Water			
Analytical Method:	1,8260C			
Analytical Date:	12/06/18 17:40			
Analyst:	MKS			

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - West	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	0.82		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	1.7	J	ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1



					:	Serial_No	:12071813:43	
Project Name:	CONVENTUS				Lab Nu	imber:	L1849015	
Project Number:	K11.002.001				Report	Date:	12/07/18	
•		SAMP		5	•		,,	
Lab ID: Client ID:	L1849015-05 BCP-MW06 112918 1001 MAIN ST.				Date Co Date Re	ceived:	11/29/18 13:30 11/30/18	
Sample Location:	TUUT MAIN ST.				Field Pre	۶þ.	Not Specified	
Sample Depth:								
Parameter		Result	Qualifier	Units	RL	MDL	Dilution Factor	
Volatile Organics by	GC/MS - Westborough	Lab						
		ND		0	0.5	0.70		
1,3-Dichlorobenzene		ND 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	
o-Xylene		2.0	J	ug/l ug/l	2.5	0.70	1	
cis-1,2-Dichloroethene		ND	5	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		4.5	J	ug/l	5.0	1.5	1	
Carbon disulfide		ND	0	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-chloropropa	ane	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		0.80	J	ug/l	2.5	0.70	1	
n-Propylbenzene		1.7	J	ug/l	2.5	0.70	1	
1,2,4-Trichlorobenzene		ND		ug/l	2.5	0.70	1	
1,3,5-Trimethylbenzene		5.1		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		3.7	J	ug/l	10	0.27	1	
E 110								
Freon-113		ND		ug/l	2.5	0.70	1	

Surrogate	% Recovery	Acceptanc Qualifier Criteria	e
1,2-Dichloroethane-d4	95	70-130	I
Toluene-d8	98	70-130)
4-Bromofluorobenzene	95	70-130)
Dibromofluoromethane	95	70-130)

			Serial_No	p:12071813:43
Project Name:	CONVENTUS		Lab Number:	L1849015
Project Number:	K11.002.001		Report Date:	12/07/18
		SAMPLE RESULTS		
Lab ID:	L1849015-06 D		Date Collected:	11/29/18 14:05
Client ID:	BCP-MW05 112918		Date Received:	11/30/18
Sample Location:	1001 MAIN ST.		Field Prep:	Not Specified
Sample Depth:				
Matrix:	Water			
Analytical Method:	1,8260C			
Analytical Date:	12/06/18 14:19			
Analyst:	MKS			

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor			
Volatile Organics by GC/MS - Westborough Lab									
Methylene chloride	ND		ug/l	50	14.	20			
1,1-Dichloroethane	ND		ug/l	50	14.	20			
Chloroform	ND		ug/l	50	14.	20			
Carbon tetrachloride	ND		ug/l	10	2.7	20			
1,2-Dichloropropane	ND		ug/l	20	2.7	20			
Dibromochloromethane	ND		ug/l	10	3.0	20			
1,1,2-Trichloroethane	ND		ug/l	30	10.	20			
Tetrachloroethene	ND		ug/l	10	3.6	20			
Chlorobenzene	ND		ug/l	50	14.	20			
Trichlorofluoromethane	ND		ug/l	50	14.	20			
1,2-Dichloroethane	ND		ug/l	10	2.6	20			
1,1,1-Trichloroethane	ND		ug/l	50	14.	20			
Bromodichloromethane	ND		ug/l	10	3.8	20			
trans-1,3-Dichloropropene	ND		ug/l	10	3.3	20			
cis-1,3-Dichloropropene	ND		ug/l	10	2.9	20			
Bromoform	ND		ug/l	40	13.	20			
1,1,2,2-Tetrachloroethane	ND		ug/l	10	3.3	20			
Benzene	26		ug/l	10	3.2	20			
Toluene	39	J	ug/l	50	14.	20			
Ethylbenzene	810		ug/l	50	14.	20			
Chloromethane	ND		ug/l	50	14.	20			
Bromomethane	ND		ug/l	50	14.	20			
Vinyl chloride	ND		ug/l	20	1.4	20			
Chloroethane	ND		ug/l	50	14.	20			
1,1-Dichloroethene	ND		ug/l	10	3.4	20			
trans-1,2-Dichloroethene	ND		ug/l	50	14.	20			
Trichloroethene	ND		ug/l	10	3.5	20			
1,2-Dichlorobenzene	ND		ug/l	50	14.	20			



		Serial_No:12071813:43					p:12071813:43
Project Name:	CONVENTUS				Lab Nu	mber:	L1849015
Project Number:	K11.002.001				Report	Date:	12/07/18
		SAMP	LE RESULTS	5	•		12,01,10
Lab ID: Client ID: Sample Location:	L1849015-06 BCP-MW05 112918 1001 MAIN ST.	D			Date Col Date Rec Field Pre	ceived:	11/29/18 14:05 11/30/18 Not Specified
						γ Ρ ·	
Sample Depth:							
Parameter		Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics b	y GC/MS - Westborough	l Lab					
1,3-Dichlorobenzene		ND			50	14	20
		ND		ug/l	50	14.	20
1,4-Dichlorobenzene Methyl tert butyl ether		ND		ug/l ug/l	50 50	14. 14.	20 20
p/m-Xylene		4000		ug/l	50	14.	20
o-Xylene		66		ug/l	50	14.	20
cis-1,2-Dichloroethene		ND		ug/l	50	14.	20
Styrene		ND		ug/l	50	14.	20
Dichlorodifluoromethane		ND		ug/l	100	20.	20
Acetone		69	J	ug/l	100	29.	20
Carbon disulfide		ND		ug/l	100	20.	20
2-Butanone		ND		ug/l	100	39.	20
4-Methyl-2-pentanone		ND		ug/l	100	20.	20
2-Hexanone		ND		ug/l	100	20.	20
1,2-Dibromoethane		ND		ug/l	40	13.	20
n-Butylbenzene		ND		ug/l	50	14.	20
sec-Butylbenzene		ND		ug/l	50	14.	20
tert-Butylbenzene		ND		ug/l	50	14.	20
1,2-Dibromo-3-chloroprop	ane	ND		ug/l	50	14.	20
Isopropylbenzene		16	J	ug/l	50	14.	20
p-Isopropyltoluene		ND		ug/l	50	14.	20
Naphthalene		1100		ug/l	50	14.	20
n-Propylbenzene		69		ug/l	50	14.	20
1,2,4-Trichlorobenzene		ND		ug/l	50	14.	20
1,3,5-Trimethylbenzene		630		ug/l	50	14.	20
1,2,4-Trimethylbenzene		2300		ug/l	50	14.	20
Methyl Acetate		ND		ug/l	40	4.7	20
Cyclohexane		130	J	ug/l	200	5.4	20
Freon-113		ND		ug/l	50	14.	20
Methyl cyclohexane		82	J	ug/l	200	7.9	20

Surrogate	% Recovery	Acceptance Qualifier Criteria	
1,2-Dichloroethane-d4	96	70-130	
Toluene-d8	97	70-130	
4-Bromofluorobenzene	91	70-130	
Dibromofluoromethane	95	70-130	



		Serial_No:12071813:43
Project Name:	CONVENTUS	Lab Number: L1849015
Project Number:	K11.002.001	Report Date: 12/07/18
	:	E RESULTS
Lab ID:	L1849015-07	Date Collected: 11/30/18 10:00
Client ID:	MS-MW01 113018	Date Received: 11/30/18
Sample Location:	1001 MAIN ST.	Field Prep: Not Specified
Sample Depth:		
Matrix:	Water	
Analytical Method:	1,8260C	
Analytical Date:	12/06/18 16:25	
Analyst:	MKS	

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	:12071813:43
Project Name:	CONVENTUS				Lab Nu	mber:	L1849015
Project Number:	K11.002.001				Report	Date:	12/07/18
•		SAMP		S	-	-	12/01/10
Lab ID:	L1849015-07				Date Col	llected.	11/30/18 10:00
Client ID:	MS-MW01 113018				Date Re		11/30/18
Sample Location:	1001 MAIN ST.				Field Pre		Not Specified
Sample Depth:							
Parameter		Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics b	y GC/MS - Westborough	n 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-chloroprop	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
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	95	70-130	
Toluene-d8	99	70-130	
4-Bromofluorobenzene	92	70-130	
Dibromofluoromethane	100	70-130	

				Serial_No:	12071813:43
Project Name:	CONVENTUS		L	ab Number:	L1849015
Project Number:	K11.002.001		R	Report Date:	12/07/18
			SAMPLE RESULTS		
Lab ID:	L1849015-08	D	Da	ate Collected:	11/30/18 10:50
Client ID:	MS-MW02 113018		Da	ate Received:	11/30/18
Sample Location:	1001 MAIN ST.		Fie	eld Prep:	Not Specified
Sample Depth:					
Matrix:	Water				
Analytical Method:	1,8260C				
Analytical Date:	12/06/18 14:44				
Analyst:	MKS				

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	180		ug/l	5.0	1.6	10
Toluene	490		ug/l	25	7.0	10
Ethylbenzene	700		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	p:12071813:43	
Project Name:	CONVENTUS				Lab Nu	mber:	L1849015	
Project Number:	K11.002.001				Report	Date:	12/07/18	
•		SAMP		5	•		,	
Lab ID: Client ID: Sample Location:	L1849015-08 MS-MW02 113018 1001 MAIN ST.	D			Date Col Date Ree Field Pre	ceived:	11/30/18 10:50 11/30/18 Not Specified	
Sample Depth:								
Parameter		Result	Qualifier	Units	RL	MDL	Dilution Factor	
Volatile Organics b	y GC/MS - Westboroug	ıh 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		2400		ug/l	25	7.0	10	
o-Xylene		2300		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		77		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		28	J	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		8.1	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-chloropropa	ane	ND		ug/l	25	7.0	10	
Isopropylbenzene		20	J	ug/l	25	7.0	10	
p-lsopropyltoluene		ND		ug/l	25	7.0	10	
Naphthalene		490		ug/l	25	7.0	10	
n-Propylbenzene		70		ug/l	25	7.0	10	
1,2,4-Trichlorobenzene		ND		ug/l	25	7.0	10	
1,3,5-Trimethylbenzene		700		ug/l	25	7.0	10	
1,2,4-Trimethylbenzene		960		ug/l	25	7.0	10	
Methyl Acetate		ND		ug/l	20	2.3	10	
Cyclohexane		140		ug/l	100	2.7	10	
		140		«.g/.				
Freon-113		ND		ug/l	25	7.0	10	

Surrogate	% Recovery	Acceptance Qualifier Criteria	
1,2-Dichloroethane-d4	91	70-130	
Toluene-d8	99	70-130	
4-Bromofluorobenzene	94	70-130	
Dibromofluoromethane	92	70-130	



			Serial_N	o:12071813:43
Project Name:	CONVENTUS		Lab Number:	L1849015
Project Number:	K11.002.001		Report Date:	12/07/18
		SAMPLE RESULTS		
Lab ID:	L1849015-09		Date Collected:	11/30/18 11:10
Client ID:	MS-MW03 113018		Date Received:	11/30/18
Sample Location:	1001 MAIN ST.		Field Prep:	Not Specified
Sample Depth:				
Matrix:	Water			
Analytical Method:	1,8260C			
Analytical Date:	12/06/18 16:50			
Analyst:	MKS			

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - West	orough Lab					
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	0.93	J	ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	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	2.0		ug/l	0.50	0.16	1
Toluene	1.6	J	ug/l	2.5	0.70	1
Ethylbenzene	7.7		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	o:12071813:43
Project Name:	CONVENTUS				Lab Nu	mber:	L1849015
Project Number:	K11.002.001				Report	Date:	12/07/18
-		SAMP	LE RESULT	S	•		
Lab ID: Client ID: Sample Location:	L1849015-09 MS-MW03 113018 1001 MAIN ST.				Date Co Date Re Field Pre	ceived:	11/30/18 11:10 11/30/18 Not Specified
Sample Depth:							
Parameter		Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics b	y GC/MS - Westborough	n Lab					
1,3-Dichlorobenzene		ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene		ND		-	2.5	0.70	1
Methyl tert butyl ether		ND		ug/l ug/l	2.5	0.70	1
p/m-Xylene		1.9	J	ug/l	2.5	0.70	1
o-Xylene		8.3	0	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		62		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-chloroprop	bane	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		0.82	J	ug/l	2.5	0.70	1
n-Propylbenzene		0.90	J	ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene		ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene		14		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		9.2	J	ug/l	10	0.27	1
Freon-113		ND		ug/l	2.5	0.70	1
Methyl cyclohexane		2.3	J	ug/l	10	0.40	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
1,2-Dichloroethane-d4	93		70-130	
Toluene-d8	97		70-130	
4-Bromofluorobenzene	95		70-130	
Dibromofluoromethane	95		70-130	

		Serial_No:12071	313:43
Project Name:	CONVENTUS	Lab Number: L18	849015
Project Number:	K11.002.001	Report Date: 12/	07/18
		SAMPLE RESULTS	
Lab ID:	L1849015-10	Date Collected: 11/30	/18 11:50
Client ID:	MS-MW04 113018	Date Received: 11/30	/18
Sample Location:	1001 MAIN ST.	Field Prep: Not S	pecified
Sample Depth:			
Matrix:	Water		
Analytical Method:	1,8260C		
Analytical Date:	12/06/18 17:15		
Analyst:	MKS		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - We	stborough Lab					
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	1.3		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	3.7		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	:12071813:43
Project Name:	CONVENTUS				Lab Nu	imber:	L1849015
Project Number:	K11.002.001				Report	Date:	12/07/18
-		SAMP		5	-		
Lab ID:	L1849015-10				Date Co	llected:	11/30/18 11:50
Client ID:	MS-MW04 113018				Date Re	ceived:	11/30/18
Sample Location:	1001 MAIN ST.				Field Pre	ep:	Not Specified
Comple Donth							
Sample Depth:		Desalt	Qualifian	11		MDI	
Parameter		Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics b	by GC/MS - Westborough	i Lab					
1,3-Dichlorobenzene		ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene		ND		ug/l	2.5	0.70	1
Methyl tert butyl ether		ND		ug/l	2.5	0.70	1
p/m-Xylene		1.5	J	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		6.7		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-Isopropyltoluene		ND		ug/l	2.5	0.70	1
Naphthalene		ND		ug/l	2.5	0.70	1
n-Propylbenzene		0.72	J	ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene		ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene		0.74	J	ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene		1.4	J	ug/l	2.5	0.70	1
Methyl Acetate		ND		ug/l	2.0	0.23	1
Cyclohexane		4.6	J	ug/l	10	0.27	1
Freon-113		ND		ug/l	2.5	0.70	1
Methyl cyclohexane		1.0	J	ug/l	10	0.40	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
1,2-Dichloroethane-d4	91		70-130	
Toluene-d8	98		70-130	
4-Bromofluorobenzene	95		70-130	
Dibromofluoromethane	95		70-130	

			Serial_No	0:12071813:43
Project Name:	CONVENTUS		Lab Number:	L1849015
Project Number:	K11.002.001		Report Date:	12/07/18
		SAMPLE RESULTS		
Lab ID:	L1849015-11		Date Collected:	11/30/18 12:00
Client ID:	TRIP BLANK		Date Received:	11/30/18
Sample Location:	1001 MAIN ST.		Field Prep:	Not Specified
Sample Depth:				
Matrix:	Water			
Analytical Method:	1,8260C			
Analytical Date:	12/06/18 13:28			
Analyst:	NLK			

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
rans-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
rans-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:12071813:43 Project Name: Lab Number: CONVENTUS L1849015 **Project Number:** Report Date: K11.002.001 12/07/18 SAMPLE RESULTS Lab ID: L1849015-11 Date Collected: 11/30/18 12:00 Client ID: TRIP BLANK Date Received: 11/30/18 Sample Location: Field Prep: Not Specified 1001 MAIN ST.

Sample Depth:

Application ND ug/l 5.0 1.0 1 2-Butanone ND ug/l 5.0 1.9 1 2-Butanone ND ug/l 5.0 1.0 1 2-Hexanone ND ug/l 5.0 1.0 1 2-Hexanone ND ug/l 5.0 1.0 1 1.2-Dibromoethane ND ug/l 2.5 0.70 1 1.2-Dibromoethane ND ug/l 2.5 0.70 1 sec-Butylbenzene ND ug/l 2.5 0.70 1 1.2-Dibromo-3-chloropropane ND ug/l 2.5 0.70 <	Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
A-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 c-Xylene ND ug/l 2.5 0.70 1 c-Sylene ND ug/l 2.5 0.70 1 Silvene ND ug/l 2.5 0.70 1 Silvene ND ug/l 5.0 1.0 1 Dichlorodifluoromethane ND ug/l 5.0 1.0 1 Acetone ND ug/l 5.0 1.0 1 2-butanone ND ug/l 5.0 1.0 1 2-butanone ND ug/l 2.0 1.0 1 1-2-butanone ND ug/l 2.0 1.0 1 1-2-butanone ND ug/l 2.0 0.70 1 1-2-butanone ND	Volatile Organics by GC/MS - Wes	tborough Lab					
A-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 o-Xylene ND ug/l 2.5 0.70 1 o-Xylene ND ug/l 2.5 0.70 1 olsh12-Dichlorotethene ND ug/l 5.0 1.0 1 Styrene ND ug/l 5.0 1.5 1 Octoor disulfide ND ug/l 5.0 1.0 1 2-Butanone ND ug/l 5.0 1.0 1 2-Hexanone ND ug/l 2.0 0.65 1 N-2-Dibromeshane ND ug/l 2.5 0.70 1 ND ug/l 2.5 0.70 1 1 1.2-Dibromeshane ND </td <td>1.2 Dichlorohonzono</td> <td></td> <td></td> <td></td> <td>2.5</td> <td>0.70</td> <td>1</td>	1.2 Dichlorohonzono				2.5	0.70	1
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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 Styrene ND ug/l 5.0 1.0 1 Styrene ND ug/l 5.0 1.0 1 Acetone ND ug/l 5.0 1.0 1 Carbon disulfide ND ug/l 5.0 1.0 1 2-Butanone ND ug/l 5.0 1.0 1 12-Dibromethane ND ug/l 5.0 1.0 1 12-Dibromethane ND ug/l 2.5 0.70 1 12-Dibromethane ND ug/l 2.5 0.70 1 12-Dibromethane ND ug/l 2.5 0.70 1 12-Dibromethane ND ug/l				-			
- 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 1.0 1 Carbon disulfide ND ug/l 5.0 1.0 1 2-Butanone ND ug/l 5.0 1.0 1 2-Butanone ND ug/l 5.0 1.0 1 2-Butanone ND ug/l 5.0 1.0 1 1.2-Dibromoethane ND ug/l 2.5 0.70 1 1.2-Dibromo-3-chloropropane ND ug/l 2.5 0.70 1 1.2-Dibromo-3-chloropropane ND ug/l 2.5 0.70 1 1.2-Dibromo-3-chloropropane ND ug/l 2.5 0.70 1 <t< td=""><td></td><td></td><td></td><td>-</td><td></td><td></td><td></td></t<>				-			
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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 1.0 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-Dibromosthane ND ug/l 2.5 0.70 1 n-Butylbenzene ND ug/l 2.5 0.70 1 sec-Butylbenzene ND ug/l 2.5 0.70 1 1:2-Dibromo-3-chloropropane ND ug/l 2.5 0.70 1 sporpolybenzene ND ug/l 2.5 0.70 1 1:2-Dibromo-3-chloropropane ND ug/l 2.5 0.70 1 1:2-Dibromo-				-			
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 Carbon disulfide ND ug/l 5.0 1.0 1 2-Butanone ND ug/l 5.0 1.0 1 4-Methyl-2-pentanone ND ug/l 5.0 1.0 1 2-Hexanone ND ug/l 5.0 1.0 1 1,2-Dibromoethane ND ug/l 2.5 0.70 1 n-Butylbenzene ND ug/l 2.5 0.70 1 sec-Butylbenzene ND ug/l 2.5 0.70 1 1,2-Dibromo-3-chloropropane ND ug/l 2.5 0.70 1 1,2-Dibrome-3-chloropropane ND ug/l 2.5 0.70 1 1,2-Dibrome-3-chloropropane ND ug/l 2.5 0.70 1 1,2-Dibr				•			
Acteone ND ugr 5.0 1.5 1 Carbon disulfide ND ugr 5.0 1.0 1 2-Butanone ND ugr 5.0 1.9 1 4-Methyl-2-pentanone ND ugr 5.0 1.0 1 2-Hexanone ND ugr 5.0 1.0 1 2-Hexanone ND ugr 5.0 1.0 1 1.2-Dibromethane ND ugr 2.5 0.70 1 1.2-Dibromosthane ND ugr 2.5 0.70 1 sec-Butylbenzene ND ugr 2.5 0.70 1 1.2-Dibromos-3-chloropropane ND ugr 2.5 0.70 1 1.2-Dibromos-3-chloropropane ND ugr 2.5 0.70 1 1.2-Dibromos-3-chloropropane ND ugr 2.5 0.70 1 1.2-L-Tirchorophene ND ugr 2.5 0.70 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 2-Hexanone ND ug/l 5.0 1.0 1 1.2-Dibromoethane ND ug/l 2.5 0.70 1 n-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 </td <td></td> <td></td> <td></td> <td>-</td> <td></td> <td></td> <td></td>				-			
Participation 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 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 1.2-Dibromo-3-chloropropane ND ug/l 2.5 0.70 1 1.2-Dibromo-3-chloropropane ND ug/l 2.5 0.70 1 1.2-Dipropylblenzene ND ug/l 2.5 0.70 1 Isopropylbenzene ND ug/l 2.5 0.70 1 1.2-Dipropylbenzene ND ug/l 2.5 0.70 1 1.2-A-Trichlorobenzene ND ug/l 2.5 0.70	Acetone			ug/l	5.0	1.5	1
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 sec-Butylbenzene ND ug/l 2.5 0.70 1 1,2-Dibromo-3-chloropropane ND ug/l 2.5 0.70 1 lsopropylbenzene ND ug/l 2.5 0.70 1 lsopropylbonzene ND ug/l 2.5 0.70 1 lsopropylbonzene ND ug/l 2.5 0.70 1 Naphthalene ND ug/l 2.5 0.70 1 1,2-Dirromothanzene ND ug/l 2.5 0.70 1 1,2-Dibromothane ND ug/l 2.5 0.70 1 1,2-Dibromothane	Carbon disulfide	ND		ug/l	5.0	1.0	1
ND ug/l 5.0 1.0 1 2-lexanone ND ug/l 5.0 1.0 1 1,2-Dibromoethane ND ug/l 2.5 0.70 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 Isopropylbenzene ND ug/l 2.5 0.70 1 Isopropylbenzene ND ug/l 2.5 0.70 1 Naphthalene ND ug/l 2.5 0.70 1 1,2,4-Trichlorobenzene ND ug/l 2.5 0.70 1 1,2,4-Trimethylbenzene ND ug/l 2.5 0.70 1 1,2,4-	2-Butanone	ND		ug/l	5.0	1.9	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 Isopropylbenzene ND ug/l 2.5 0.70 1 Isopropylbenzene 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 1,2,4-Triimethylbenzene ND ug/l 2.5 0.70 1 1,2,4-Triimethylbenzene ND ug/l 2.5 0.70 1 1,2,4-Triimethylbenzene ND ug/l 2.5 0.70	4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	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 1,2-Dibromo-3-chloropropane ND ug/l 2.5 0.70 1 Isopropylbenzene ND ug/l 2.5 0.70 1 Isopropylbenzene ND ug/l 2.5 0.70 1 n-Propylbenzene 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-Trichlorobenzene ND ug/l 2.5 0.70 1 1,2,4-Trimethylbenzene ND ug/l 2.5 <td< td=""><td>2-Hexanone</td><td>ND</td><td></td><td>ug/l</td><td>5.0</td><td>1.0</td><td>1</td></td<>	2-Hexanone	ND		ug/l	5.0	1.0	1
ND ug/l 2.5 0.70 1 sec-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 Isopropylbenzene ND ug/l 2.5 0.70 1 p-Isopropylbenzene ND ug/l 2.5 0.70 1 Naphthalene ND ug/l 2.5 0.70 1 Naphthalene 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 1,2,4-Trimethylbenzene ND ug/l 2.5 0.70 1 1,2,4-Trimethylbenzene ND ug/l 2.0 0.23 1	1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
Instruct 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-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 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 </td <td>n-Butylbenzene</td> <td>ND</td> <td></td> <td>ug/l</td> <td>2.5</td> <td>0.70</td> <td>1</td>	n-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-Isopropylbenzene ND ug/l 2.5 0.70 1 p-Isopropylbenzene 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-Trichlorobenzene ND ug/l 2.5 0.70 1 1,2,4-Trimethylbenzene ND ug/l 2.5 0.70 1 1,2,4-Trimethylbenzene ND ug/l 2.0 0.23 1 Methyl Acetate ND ug/l 10 0.27 1 Cyclohexane ND ug/l 2.5 0.70	sec-Butylbenzene	ND		ug/l	2.5	0.70	1
Isopropylbenzene ND ug/l 2.5 0.70 1 pi-lsopropylboluene 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-Trichlorobenzene ND ug/l 2.5 0.70 1 1,2,4-Trimethylbenzene ND ug/l 2.5 0.70 1 1,2,4-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 1.0 0.27 1 Cyclohexane ND ug/l 10 0.27 1	tert-Butylbenzene	ND		ug/l	2.5	0.70	1
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-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 1,2,4-Trimethylbenzene ND ug/l 2.5 0.70 1 1,2,4-Trimethylbenzene ND ug/l 2.0 0.23 1 Methyl Acetate ND ug/l 10 0.27 1 Cyclohexane ND ug/l 2.5 0.70 1	1,2-Dibromo-3-chloropropane	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	Isopropylbenzene	ND		ug/l	2.5	0.70	1
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	p-lsopropyltoluene	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 1,2,4-Trimethylbenzene ND ug/l 2.5 0.70 1 1,2,4-Trimethylbenzene ND ug/l 2.0 0.23 1 Methyl Acetate ND ug/l 10 0.27 1 Cyclohexane ND ug/l 2.5 0.70 1	Naphthalene	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	n-Propylbenzene	ND		ug/l	2.5	0.70	1
ND ug/l 2.5 0.70 1 1,2,4-Trimethylbenzene ND ug/l 2.0 0.23 1 Methyl Acetate ND ug/l 10 0.27 1 Cyclohexane ND ug/l 2.5 0.70 1	1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl Acetate ND ug/l 2.0 0.23 1 Cyclohexane ND ug/l 10 0.27 1 Freon-113 ND ug/l 2.5 0.70 1	1,3,5-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	1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
ND ug/l 10 0.27 1 Freon-113 ND ug/l 2.5 0.70 1	Methyl Acetate	ND		-	2.0	0.23	1
Freon-113 ND ug/l 2.5 0.70 1	Cyclohexane	ND		-	10	0.27	1
	Freon-113	ND		-	2.5	0.70	1
	Methyl cyclohexane	ND		ug/l			1

Surrogate	% Recovery	Acceptance Qualifier Criteria	
1,2-Dichloroethane-d4	109	70-130	
Toluene-d8	99	70-130	
4-Bromofluorobenzene	95	70-130	
Dibromofluoromethane	105	70-130	

L1849015

12/07/18

 Project Name:
 CONVENTUS
 Lab Number:

 Project Number:
 K11.002.001
 Report Date:

Method Blank Analysis Batch Quality Control

Analytical Method:1,8260CAnalytical Date:12/06/18 10:07Analyst:PD

Parameter	Result	Qualifier Units	RL	MDL
olatile Organics by GC/MS -	Westborough La	b for sample(s): 01-1	1 Batch:	WG1186678-5
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 Name:
 CONVENTUS
 Lab Number:
 L1849015

 Project Number:
 K11.002.001
 Report Date:
 12/07/18

Method Blank Analysis Batch Quality Control

Analytical Method:	1,8260C
Analytical Date:	12/06/18 10:07
Analyst:	PD

arameter	Result	Qualifier Units	RL	MDL
olatile Organics by GC/MS - \	Nestborough La	b for sample(s): 01-11	Batch:	WG1186678-5
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-lsopropyltoluene	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:	CONVENTUS	Lab Number:	L1849015
Project Number:	K11.002.001	Report Date:	12/07/18

Method Blank Analysis Batch Quality Control

Analytical Method:	1,8260C
Analytical Date:	12/06/18 10:07
Analyst:	PD

Parameter	Result	Qualifier	Units	RL	MDL	
Volatile Organics by GC/MS - Wes	tborough La	ab for sample	e(s): 01-1	1 Batch:	WG1186678-5	

		cceptance	
Surrogate	%Recovery	Qualifier	Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	100		70-130



Lab Control Sample Analysis Batch Quality Control

Lab Number: L1849015 Report Date: 12/07/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough	Lab Associated	sample(s): ()1-11 Batch: \	VG1186678-3	WG1186678-4			
Methylene chloride	96		94		70-130	2		20
1,1-Dichloroethane	89		87		70-130	2		20
Chloroform	91		90		70-130	1		20
Carbon tetrachloride	82		80		63-132	2		20
1,2-Dichloropropane	92		91		70-130	1		20
Dibromochloromethane	100		98		63-130	2		20
1,1,2-Trichloroethane	100		100		70-130	0		20
Tetrachloroethene	97		95		70-130	2		20
Chlorobenzene	99		97		75-130	2		20
Trichlorofluoromethane	82		79		62-150	4		20
1,2-Dichloroethane	91		88		70-130	3		20
1,1,1-Trichloroethane	89		86		67-130	3		20
Bromodichloromethane	94		91		67-130	3		20
trans-1,3-Dichloropropene	97		94		70-130	3		20
cis-1,3-Dichloropropene	95		93		70-130	2		20
Bromoform	100		100		54-136	0		20
1,1,2,2-Tetrachloroethane	99		99		67-130	0		20
Benzene	89		86		70-130	3		20
Toluene	97		95		70-130	2		20
Ethylbenzene	94		92		70-130	2		20
Chloromethane	72		72		64-130	0		20
Bromomethane	79		72		39-139	9		20
Vinyl chloride	77		74		55-140	4		20



Lab Control Sample Analysis Batch Quality Control

Lab Number: L1849015 Report Date: 12/07/18

Volatile Organics by GC/MS - Westborough I Chloroethane 1.1-Dichloroethene	Lab Associated	sample(s):	01-11 Batch			RPD	Qual Lim	its
	89		of the Daton.	WG1186678-3	WG1186678-4			
1.1 Dichlaraathana			87		55-138	2	20)
1, 1-Dichloroethene	93		88		61-145	6	20)
trans-1,2-Dichloroethene	94		92		70-130	2	20)
Trichloroethene	98		95		70-130	3	20)
1,2-Dichlorobenzene	98		98		70-130	0	20)
1,3-Dichlorobenzene	99		96		70-130	3	20)
1,4-Dichlorobenzene	100		97		70-130	3	20)
Methyl tert butyl ether	98		96		63-130	2	20)
p/m-Xylene	100		100		70-130	0	20)
o-Xylene	100		100		70-130	0	20)
cis-1,2-Dichloroethene	97		96		70-130	1	20)
Styrene	100		100		70-130	0	20)
Dichlorodifluoromethane	69		67		36-147	3	20)
Acetone	110		110		58-148	0	20)
Carbon disulfide	90		88		51-130	2	20)
2-Butanone	100		120		63-138	18	20)
4-Methyl-2-pentanone	100		100		59-130	0	20)
2-Hexanone	100		98		57-130	2	20)
1,2-Dibromoethane	100		100		70-130	0	20)
n-Butylbenzene	90		86		53-136	5	20)
sec-Butylbenzene	90		88		70-130	2	20)
tert-Butylbenzene	80		78		70-130	3	20)
1,2-Dibromo-3-chloropropane	110		110		41-144	0	20)

Lab Control Sample Analysis Batch Quality Control

Project Name: CONVENTUS Project Number: K11.002.001

Lab Number: L1849015 Report Date: 12/07/18

Parameter	LCS %Recovery	Qual		CSD covery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough L	ab Associated s	sample(s):	01-11 E	Batch:	WG1186678-3	WG1186678-4			
Isopropylbenzene	94			91		70-130	3		20
p-Isopropyltoluene	92			90		70-130	2		20
Naphthalene	100			99		70-130	1		20
n-Propylbenzene	93			91		69-130	2		20
1,2,4-Trichlorobenzene	98			94		70-130	4		20
1,3,5-Trimethylbenzene	92			91		64-130	1		20
1,2,4-Trimethylbenzene	94			93		70-130	1		20
Methyl Acetate	90			89		70-130	1		20
Cyclohexane	82			80		70-130	2		20
Freon-113	87			84		70-130	4		20
Methyl cyclohexane	84			82		70-130	2		20

Surrogate	LCS	LCSD	Acceptance
	%Recovery Qual	%Recovery Qual	Criteria
1,2-Dichloroethane-d4	99	99	70-130
Toluene-d8	100	100	70-130
4-Bromofluorobenzene	94	94	70-130
Dibromofluoromethane	101	100	70-130



Project Name:CONVENTUSProject Number:K11.002.001

Serial_No:12071813:43 *Lab Number:* L1849015 *Report Date:* 12/07/18

Sample Receipt and Container Information

Were project specific reporting limits specified?

YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Info		Initial	Final	Temp	0		Frozen		
Container ID	Container Type	Cooler	pН	рН	deg C	Pres	Seal	Date/Time	Analysis(*)
L1849015-01A	Vial HCI preserved	A	NA		4.3	Y	Absent		NYTCL-8260-R2(14)
L1849015-01B	Vial HCI preserved	А	NA		4.3	Y	Absent		NYTCL-8260-R2(14)
L1849015-01C	Vial HCI preserved	А	NA		4.3	Y	Absent		NYTCL-8260-R2(14)
L1849015-02A	Vial HCI preserved	А	NA		4.3	Y	Absent		NYTCL-8260-R2(14)
L1849015-02B	Vial HCI preserved	А	NA		4.3	Y	Absent		NYTCL-8260-R2(14)
L1849015-02C	Vial HCI preserved	А	NA		4.3	Y	Absent		NYTCL-8260-R2(14)
L1849015-03A	Vial HCI preserved	А	NA		4.3	Y	Absent		NYTCL-8260-R2(14)
L1849015-03B	Vial HCl preserved	А	NA		4.3	Y	Absent		NYTCL-8260-R2(14)
L1849015-03C	Vial HCI preserved	А	NA		4.3	Y	Absent		NYTCL-8260-R2(14)
L1849015-04A	Vial HCI preserved	А	NA		4.3	Y	Absent		NYTCL-8260-R2(14)
L1849015-04B	Vial HCI preserved	А	NA		4.3	Y	Absent		NYTCL-8260-R2(14)
L1849015-04C	Vial HCI preserved	А	NA		4.3	Y	Absent		NYTCL-8260-R2(14)
L1849015-05A	Vial HCI preserved	А	NA		4.3	Y	Absent		NYTCL-8260-R2(14)
L1849015-05B	Vial HCI preserved	А	NA		4.3	Y	Absent		NYTCL-8260-R2(14)
L1849015-05C	Vial HCI preserved	А	NA		4.3	Y	Absent		NYTCL-8260-R2(14)
L1849015-06A	Vial HCI preserved	А	NA		4.3	Y	Absent		NYTCL-8260-R2(14)
L1849015-06B	Vial HCI preserved	А	NA		4.3	Y	Absent		NYTCL-8260-R2(14)
L1849015-06C	Vial HCI preserved	А	NA		4.3	Y	Absent		NYTCL-8260-R2(14)
L1849015-07A	Vial HCI preserved	А	NA		4.3	Y	Absent		NYTCL-8260-R2(14)
L1849015-07B	Vial HCI preserved	А	NA		4.3	Y	Absent		NYTCL-8260-R2(14)
L1849015-07C	Vial HCI preserved	А	NA		4.3	Y	Absent		NYTCL-8260-R2(14)
L1849015-08A	Vial HCI preserved	А	NA		4.3	Y	Absent		NYTCL-8260-R2(14)
L1849015-08B	Vial HCI preserved	A	NA		4.3	Y	Absent		NYTCL-8260-R2(14)



Project Name:CONVENTUSProject Number:K11.002.001

Serial_No:12071813:43 *Lab Number:* L1849015 *Report Date:* 12/07/18

Container Information			Initial	Final	Temp			Frozen	
Container ID	Container Type	Cooler	r рН рН		deg C	Pres	Seal	Date/Time	Analysis(*)
L1849015-08C	Vial HCI preserved	А	NA		4.3	Y	Absent		NYTCL-8260-R2(14)
L1849015-09A	Vial HCI preserved	А	NA		4.3	Y	Absent		NYTCL-8260-R2(14)
L1849015-09B	Vial HCI preserved	А	NA		4.3	Y	Absent		NYTCL-8260-R2(14)
L1849015-09C	Vial HCI preserved	А	NA		4.3	Y	Absent		NYTCL-8260-R2(14)
L1849015-10A	Vial HCI preserved	А	NA		4.3	Y	Absent		NYTCL-8260-R2(14)
L1849015-10B	Vial HCI preserved	А	NA		4.3	Y	Absent		NYTCL-8260-R2(14)
L1849015-10C	Vial HCI preserved	А	NA		4.3	Y	Absent		NYTCL-8260-R2(14)
L1849015-11A	Vial HCI preserved	А	NA		4.3	Y	Absent		NYTCL-8260-R2(14)



Serial_No:12071813:43

Project Name: CONVENTUS

Project Number: K11.002.001

Lab Number: L1849015

Report Date: 12/07/18

GLOSSARY

Acronyms

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

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

Terms

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

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.

Report Format: DU Report with 'J' Qualifiers



Project Name: CONVENTUS

Project Number: K11.002.001

 Lab Number:
 L1849015

 Report Date:
 12/07/18

Data Qualifiers

- A Spectra identified as "Aldol Condensation Product".
- B The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentrations of the analyte at less than ten times (10x) the concentrations of the analyte at less than ten times (10x) the concentrations of the analyte at less than ten times (10x) the concentrations of the analyte at less than ten times (10x) the concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects (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.
- M Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P The RPD between the results for the two columns exceeds the method-specified criteria.
- Q The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- **R** Analytical results are from sample re-analysis.
- **RE** Analytical results are from sample re-extraction.
- **S** Analytical results are from modified screening analysis.
- J Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.



Project Name:CONVENTUSProject Number:K11.002.001

 Lab Number:
 L1849015

 Report Date:
 12/07/18

REFERENCES

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

LIMITATION OF LIABILITIES

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

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



Certification Information

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

Westborough Facility

EPA 624/624.1: m/p-xylene, o-xylene **EPA 8260C:** <u>NPW</u>: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; <u>SCM</u>: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene. **EPA 8270D:** <u>NPW</u>: Dimethylnaphthalene,1,4-Diphenylhydrazine; <u>SCM</u>: Dimethylnaphthalene,1,4-Diphenylhydrazine.

EPA 6860: SCM: Perchlorate

SM4500: <u>NPW</u>: Amenable Cyanide; <u>SCM</u>: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility

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

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

Westborough Facility:

Drinking Water

EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; EPA 353.2: Nitrate-N, Nitrite-N; SM4500NO3-F: Nitrate-N, Nitrite-N; SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B 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.

Serial_No:12071813:43

	NEW YORK	Service Centers Mahwah, NJ 07430: 35 Whitne	Rd Suite 5		Page		Date R	ec'd	Since:	and the second		
ALPHA	CHAIN OF CUSTODY	Albany, NY 12205: 14 Walker V Tonawanda, NY 14150: 275 Co	Vay		of	2	in La		1.110		LI849015	
Westborough, MA 01581	Mansfield, MA 02048	and the second second second	2010 1010				Deliverables	EMERICA		WALKSTON .	Billing Information	SALESSE!
8 Walkup Dr.	320 Forbes Blvd	Project Information					ASP-A		X AS	P-B	Same as Client Ir	nfo
TEL: 508-898-9220 FAX: 506-898-9193	TEL: 508-822-9300 FAX: 508-822-3288		VENTUS					(1 File)		ulS (4 File)	PO#	
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	CISIOS. COM	Rush (only if pre approve	d)	# of Days:			NYC Se	wer Dischar	ge		Other:	
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A = None B = HCI	P = Plastic A = Amber Glass	Mansfield: Certification	No: MA015			inallier Type	V				and completely. Sa	
C = HNO ₃	V = Vial						0				not be logged in an turnaround time clo	
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G = NaHSO4	O = Other	1 2 2	J py.	1/30/18		0.1		ANC	11/30	118 14:73	THIS COC, THE C	
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K/E = Zn Ac/NaOH O = Other		audrey The	lly APL	11/30/18	15.00	+	0		1.014	10 0100	TERMS & CONDI	
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	NEW YORK CHAIN OF CUSTODY	Service Centers Mahwah, NJ 07430: 35 Whitney Albany, NY 12205: 14 Walker W Tonawanda, NY 14150: 275 Cod	lay	05	Page 2 of		1	Date Rec'd in Lab	121.11	8		ALPHA JOB # L1849015	255
Westborough, MA 01581 8 Walkup Dr. TEL: 508-898-9220 FAX: 508-898-9193	Mansfield, MA 02048 320 Forbes Blvd TEL: 508-822-9300 FAX: 508-822-3288	Project Location:	WVENTUS	N ST.				erables ASP-A EQuIS (1 File		ASP-B EQuIS (4	File)	Billing Information	
Client Information	TEST SUBJECT DE	Project # KII	. 002.00	1				Other	-				
Client: CESE	Uliveers	(Use Project name as Pr	oject #)	-	_		COLUMN TWO IS NOT	atory Require	e segoces -	and and		Disposal Site Information	
Address: 141 EL	M ST.	Project Manager: C	Oby MA	retin				NY TOGS	X	W Pros	TMI.	Please identify below location of	if.
RUFFALO N	y 14203	ALPHAQuote #:	1		A NUMBER OF			AWQ Standards	ı [] ا	VY CP-51		applicable disposal facilities.	
Phone:		Turn-Around Time			行法最大的			NY Restricted U	lse 🗌 (Other		Disposal Facility:	
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49015-11	TEIP BLANK	6	11/20/18	12:00	Gw	RB	x						1
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Preservative Code: A = None B = HCI $C = HNO_3$ $D = H_2SO_4$ E = NaOH	Container Code P = Plastic A = Amber Glass V = Vial G = Glass B = Bacteria Cup	P = Plastic Westboro: Certification I A = Amber Glass Mansfield: Certification I V = Vial G = Glass				Container Type Preservative						Please print clearly, legibly and completely. Samples ca not be logged in and turnaround time clock will no	
F = MeOH	C = Cube	Relinquisted	Bv:	Date	/Time	1	Receiv	red By:		Date/Tim	e	start until any ambiguitie resolved. BY EXECUTIN	
G = NaHSO4	O = Other E = Encore	A Part	-/-	u/30/18		Audie		lui sac			.13	THIS COC, THE CLIEN	
H = Na ₂ S ₂ O ₃ K/E = Zn Ac/NaOH O = Other	D = BOD Bottle	andrey file	y ANC	11/30/18	15:00	C	2	cuy and	12/1	118 01		HAS READ AND AGRE TO BE BOUND BY ALP TERMS & CONDITIONS	HA'S
Form No: 01-25 HC (rev. 3	30-Sept-2013)											(See reverse side.)	

APPENDIX B GROUNDWATER MONITORING CONSTRUCTION & SAMPLING LOGS

901				Broadwa		_	Во	oring No.	MW-01			
			Ph	one: 716	ew York 14203 -847-1630	B	ORING LOG		Sł	neet 1 of:	1	
C	JIVIP	Ar		x: 716-84 w.cscos.co					Pro	oject No.:	K11.002.001	
Projec	t Nam	ne:	Main St RC	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	/	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					
		T	(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	se			a - and - 3				
oth	Sample No.	Symbol	Sampler	m - med f - fine		MATERIAL D	ESCRIPTION	s - some - 2 I - little - 1			N-value, recovery, moisture, core run,	
Del	Sa	ŝ	per 6"	r - Ime	S - Sar	nd, \$ - Silt, G - Gravel, C	- Clay, cly - clayey	t - trace -	0-10%		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	
			8		Silt (red/brown - o	dry)					0.2 ppm	
4		1	8									
_			11		011/ 1/1						4.0.1	
5			12		Silt (red/brown - r	<u>moist)</u>					13" rec	
6			15 18								2.5 ppm	
0			16									
7			22		Silt (red/brown - s	saturated)					24" rec	
<u> </u>			22			dium grey - saturated)				0 ppm	
8			24									
			13									
9			19		Gravel (medium f	ine - medium grey - s	aturated)			18" rec		
			19		Silt (saturated)						15.3 ppm	
10			22									
			7		0		- (4 - 7 "	
11			18 18			<u>ine - medium grey - s</u>	aturated)				17" rec	
12			28		Silt (saturated)						229 ppm	
12			20									
13			50/4		Gravel (medium f	ine - medium grey - s	aturated)				5" rec	
		1		1							163 ppm	
14		1										
		1	16									
15		1	24		Gravel (medium f	<u>ine - medium grey - s</u>	aturated)				17" rec	
10		1	14								140 ppm	
16		1	16									
17		1										
- 17		1										
18		1										
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<u> </u>	0	-	<u> </u>									

୮ ଜଟ	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
COMPANIES	Fax: 315-455-9667 www.cscos.com	CON	STRUC	TION I	LOG	Sur	face Elev .:	
Project Name: Main	n St ROW Investigation						Datum:	26' bgs
	B - Buffalo, NY						Start Date:	8/15/13
Client: Kale	eida Health					F	inish Date:	8/15/13
Drilling Firm: SJB	5		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	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	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 rs while the s ither the filte HSA. The we	w ground su sing and the eal material v augers were r pack or sea ell was devel	Irface (bgs). well was co were poured retracted. M al materials loped by pur	on completing the Hollow Stem Instructed inside the Aseparately down Measurements were were bridging mping to remove
	Backfill Material			Groundwa	iter Measur	ement Data	1	
	Soil Cuttings				Depth to	Water	Tide	
	Bentonite Slurry		Date	Time	Water	Elevation	Status	
	Cement/Bentonite C	Grout						
	8							
l Ö	Depth To:							
	29' Top of Seal							
	Seal Material							
	X Bentonite Chips/Pel	liets						
	Bentonite Slurry				-			
	Cement/Bentonite C	JUOUT			<u> </u>			
	39' Top of Filter Pa	ick						
	29' Top of Screen							
	Screen Slot Size							
	010 in				ļ			
	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						

90				SS Eng Broadwa	gineers, Inc. ay		oring No.	MW-02				
Buffalo, New York 14203 Phone: 716-847-1630 Fax: 716-847-1454						B	ORING LOG		Sheet 1 of:		1	
C	DMb	AN		x: 716-84 w.cscos.co					Pro	ject No.:	K11.002.001	
Proje	ct Nam	ne:	Main St RO						Surfa	ce Elev.:		
L	ocatio	Datum:	6. Surface									
	Clier	nt:	Kaleida Hea	lth					St	art Date:	8/16/13	
Drilli	ng Firi	m:	SJB			Driller:	Tony	/	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: Hammer:		Other:				
Af	ter Cas											
	1	-	(N	No. of	blows to drive sam	pler 12" w/140 lb. ham	mer falling 30" ASTM	D-1586, Standard	Penetrat			
(ft)	e	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,	
De	Sa	sy	per 6"	f - fine	S - Sar	nd, \$ - Silt, G - Gravel, C	- Clay, cly - clayey	t - trace -			D, % recovered)	
			7								Start: 9:20 AM	
1			7		Crushed Stone (g	rey - dry)					6" rec	
	1		15								0.2 ppm	
2			17									
			10									
3			10		Flowable Fill (bla	<u>ck - dry/damp)</u>					6" rec	
			23								0.2 ppm	
4			26									
5			3		Flowable Fill /bla	ok - dru/domn)					24" rec	
5			12		Flowable Fill (bla	<u>ck - ury/damp)</u>					3.1 ppm	
6			10								o pp	
	1		13									
7			15		Flowable Fill (bla	ck - dry/damp)					24" rec	
			22								5.6 ppm	
8			23									
9			4		Flowable Fill (bla	ck - damn/moist)					24" rec	
- 5			5							4.3 ppm		
10			8									
			5									
11			9		Flowable Fill (bla						20" rec	
12			14 48		Medium Sand (Ca	aorse - gray - moist)					1.5 ppm	
12			40									
13			3-May		2" of Slough						N/A	
]										N/A	
14												
15					Bottom of @ 13'+	<u>3' = 16' bg</u>						
]											
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24												

P G-S	499	Col. Eileen Collins Blvd.	-					Well No.	MW-02
	Pho	acuse, New York 13212 one: 315-455-2000		ERVAT	-		Р	roject No.:	K11.002.001
COMPANIE		c: 315-455-9667 v.cscos.com	CON	STRUC	TION I	LOG	Sur	face Elev .:	
Project Name: Ma								Datum:	26' bgs
Location: MC	OB - Buffa	alo, NY						Start Date:	8/16/13
Client: Ka	aleida Hea	alth					F	inish Date:	8/16/13
Drilling Firm: SJ	JB			Driller:				Inspector:	
		9" Top Protective Cas	sing	Drill Rig:	CME 45C			Casing:	0
		6 Top of Riser 5' bgs			developme ation well v	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 Bore Hole Diamete	Grout	Augers (HS augers. Fil the inside of taken to as	A) were us ter pack m of the auge ure that ne e well and	ed as the ca aterial and s rs while the ither the filte	sing and the eal material augers were r pack or sea	well was co were poured retracted. I al materials	onstructed inside the d separately down Measurements were were bridging mping to remove
		Stainless Steel		· · · · ·	Groundwa	iter Measur	ement Data		
		x Soil Cuttings		<u> </u>		Depth to	Water	Tide	
	\geq	Bentonite Slurry		Date	Time	Water	Elevation	Status	
		Cement/Bentonite G	Grout						
l Õ	Č.	ath Ta							
	E 3	pth To: <mark>29'</mark> Top of Seal							
		Seal Material							
		X Bentonite Chips/Pel	lets						
		Bentonite Slurry	1010						
		Cement/Bentonite G	Grout						
		39' Top of Filter Pa	ck						
		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	&S Eng Broadwa	Вс	oring 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	r gravel - moist)				15" rec
		1	37								12 ppm
16		1	30								
17		1									
- ''		1									
18		1									
<u> </u>		1									
19		1									
		1									
20		1									
		1									
21		1									
22		1									
22		1									
23		1									
20		1									
24		1									
		1	l	L						1	

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

	10			C&S Engineers, Inc. 90 Broadway Boring No.									
	3	1	But	ffalo, Ne	w York 14203	B	DRING LOG				MW-04		
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	sin	g Removal:			Hammer:	Auto						
		_	(N	No. of	blows to drive sam	pler 12" w/140 lb. ham	mer falling 30" ASTM	D-1586, Standard	Penetrati				
(£	e	ō	Blows on	c - coars	50			a - and - 3			COMMENTS		
Depth (ft)	Sample No.	Symbol	Sampler	m - med f - fine		MATERIAL D	ESCRIPTION	s - some - 2 I - little - 1			N-value, recovery, e moisture, core run,		
Dep	Sa	Ś	per 6"	r - nne	S - Sar	nd, \$ - Silt, G - Gravel, C	- Clay, cly - clayey	t - trace -	0-10%		D, % recovered)		
		T	9								Start: 7:20 AM		
1			12		Crushed Stone (d	lry)					12" rec		
			13								0.2 ppm		
2			10										
_		1	15		Cruch Official (lan e)					15" roc		
3		1	21 23		Crushed Stone (d	<u>iry)</u>					15" rec 0.2 ppm		
4		1	25							1	o ppm		
		1	20										
5			19		Crushed Stone (d	lry)					16" rec		
			19		Bottom 2" Flowal	ole Fill					0.5 ppm		
6			20										
_			13								0.4		
7			16 19	Flowable Fill (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											
		1											
21													
22													
										1			
23		1		1									
		1											
24													

P ¢	<u>,</u>	49	Section: Section 2017 Section						Well No.	MW-04
	D	Р	yracuse, New York 13212 hone: 315-455-2000		ERVAT	-		Р	roject No.:	K11.002.001
СОМРА	NIES		ax: 315-455-9667 ww.cscos.com	CON	STRUC	TION I	LOG	Sur	face Elev.:	
Project Name	e: Mair		OW Investigation					1	Datum:	26' bgs
Location			ffalo, NY						Start Date:	8/15/13
Clien	t: Kale	eida He	ealth					F	inish Date:	8/15/13
Drilling Firm	n: SJB				Driller:	0			Inspector:	
		2	'-9" Top Protective Cas	sing	Drill Rig:	CME 45C			Casing:	0
		2	'-6" Top of Riser		Notes:	developme	nt method ar	d any other ir	nformation)	nethod of construction,
			 '-0" 26' bgs. Surface Backfill Materia X Sand X Bentonite Slurry X Cement/Bentonite C Concrete 6" Bore Hole Diameter 2" Well Diameter Well Material X PVC Stainless Steel 	Grout	soil boring Augers (HS augers. Fil the inside of taken to as between th fine materia	to depth of (A) were us ter pack ma of the auger ure that nei e well and als.	25 feet belo ed as the ca aterial and s rs while the ither the filte HSA. The w	ement Data	Irface (bgs). well was co were poured retracted. I al materials oped by put	on completing the Hollow Stem Instructed inside the d separately down Measurements were were bridging mping to remove
	X] [X	X Soil Cuttings				Depth to	Water	Tide	
		X	Bentonite Slurry		Date	Time	Water	Elevation	Status	
I Ď	X I	\mathbf{X}	Cement/Bentonite C	Grout						
		X	Concrete							
I Ď		X								
	X] [× De	epth To:							
		X	29' Top of Seal							
			Seal Material							
			x Bentonite Chips/Pel	llets						
			Bentonite Slurry							
			Cement/Bentonite C	Grout						
1 I					l –					
			39' Top of Filter Pa	ick						
			29' Top of Screen							
			Screen Slot Size							
			010 in				1			
			015 in		<u> </u>		1			
			x 020 in							
			025 in					11		
			020 11							
			Filter Material							
			00 Sand Pack							
			0 Sand Pack							
			1 Sand Pack							
			2 Sand Pack							
			3 Sand Pack							
			4 Sand Pack							
			39' Bottom of Scre	en						
			42' Bottom of Bore	Hole						

6	_ @	Ъ.	90	C&S Engineers, Inc. 90 Broadway Boring No. MW-05								
			Ph		w York 14203 -847-1630	B	ORING LOG		Sł	eet 1 of:	1	
c		AI		x: 716-84 w.cscos.co					Pro	ject No.:	K11.002.001	
Projec	ct Nam	ne:	Main St RO	W Inve	stigation				Surfa	ce Elev.:		
L			MOB - Buffa							Datum:	26' - Surface	
	Clier	nt:	Kaleida Hea	llth					St	art Date:	9/12/13	
Drilli	ng Firı	m:	SJB			Driller:	Tony	1	Fini	sh Date:	9/12/12	
	Grou	nd	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)		
(ft)	e	5	Blows on	c - coars				a - and - 3	5-50%		COMMENTS	
th (Idm No.	Symbol	Sampler	m - med		MATERIAL D	ESCRIPTION	s - some - 20 I - little - 10			N-value, recovery,	
Depth (ft)	Sample No.	Ś	per 6"	f - fine	S - Sar	nd, \$ - Silt, G - Gravel, C	- Clay, cly - clayey	t - trace - (e moisture, core run, D, % recovered)	
<u> </u>		\vdash	2			, , , , ,					tart: 12:35 PM	
1		1	3		Sand (med - red/h	prown - fine - moist)				3	19" rec	
		1	5								0.6 ppm	
2		1	11									
		1	12	1								
3		1	16	1	Sand (med - red/b	prown - fine - moist)					16" rec	
		1	16		some clay	_					0.9 ppm	
4		1	20									
		1	6									
5			8		Sand (top 8" - me	ed - brown - coarse -	saturated)				16" rec	
			10	10 Sand (bottom 8" - grey/black - coarse/gravely - product sheet)							382 ppm	
6			9	9								
			6									
7			7								21" rec	
			6	-							1628 ppm	
8			8	4								
0			5								00"	
9			8 12	Sand (upper 12" - grey/black - wet)							20" rec	
10			12 50/4	Sand (lower 8" - red/brown - clay - wet)							17.2 ppm	
10			10									
11			16		Sand (grey - roun	d and angular gravel	- saturated)				11" rec	
			47		oand (grey - roun		- Saturated)				12 pmm	
12			50/2								.= p	
			00/2									
13			50/3		Sand (coarse - gr	ey - angular gravel -	saturated)				3" rec	
											4.2 ppm	
14		1										
		1	15									
15		1	23			ravel - grey - moist to	saturated)				14" rec	
		1	50/4		some Sand						10.5 ppm	
16		1										
		1										
17		1										
40		1								-		
18		1										
19		1										
13		1										
20		1										
		1										
21		1										
		1		1								
22		1										
		1										
23		1										
		1										
24		L	l									

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

Borning Borning Loc Project No.: Project No.: Projec	6		h		&S Eng Broadwa	gineers, Inc.	Вс	oring No.	MW-06				
Project Name			IJ.	Ph Ph	one: 716-	-847-1630	B	ORING LOG		Sł	neet 1 of:	1	
Location: MOB Butward 5. Surface Citest: (kaise Shealth) Tony Finish Date: 8/14/13 Groundward Depting intraction: (kaise Shealth) Defting intraction: Note: 8/14/13 Groundward: Depting intraction: (kaise Shealth) Defting intraction: Note: 8/14/13 Groundward: Depting intraction: Sampler: (kaise Shealth) Note:	C	DIMP/	Ar	VIES Fai						Pro	ject No.:	K11.002.001	
Client: Kalock Hoult Start Date: Start Jac: N: Wohldough White Filting: Date & Time Outer: Image: Start Jac: N: Wohldough	Projec	ct Nam	ne:	Main St RO	W Inve	stigation				Surfa	ce Elev.:		
Drilling Drilling Tony Finish Date 8/14/13 Groundwalk Depth / Date & Time Deft Rig: Clot 4/3C Reck Core: Undig: N/Vehilabagin Mile Drilling: Image: Clot 3/16 (0.4 / C	L										Datum:	6. Surface	
Groundwater Depth Date & Time On Hitg: Reck 4GC Inspector: N. Wohlsbaugh While Dulling: Casing Rock Core: Understand		Clier	nt:	Kaleida Hea	lth					St	art Date:	8/14/13	
While Drilling: Casing: Reck Core: Undist: After Casing Removal: Sampler: Other: Marker Casing Removal: Marker Casing Removal: Ado (N-Na: of biows to drive sampler 12' wild B: harmer: Ado (N-Na: of biows to drive sampler 12' wild B: harmer failing 30' ASTM D-1586; Standart Penetration Test) COMMENTS (N-Na: of biows to drive sampler 12' wild B: harmer failing 30' ASTM D-1586; Standart Penetration Test) COMMENTS (N-Na: of biows to drive sampler 12' wild B: harmer failing 30' ASTM D-1586; Standart Penetration Test) COMMENTS (N-Na: of biows to drive sampler 12' wild B: harmer failing 30' ASTM D-1586; Standart Penetration Test) COMMENTS (N-Na: of biows to drive sampler 12' wild B: harmer failing 30' ASTM D-1586; Standart Penetration Test) COMMENTS (N-Na: of biows to drive sampler 12' wild B: harmer failing 30' ASTM D-1586; Standart Penetration Test) Standart B15 MAI (N-Na: of biows to drive sampler 12' wild B: harmer failing 30' ASTM D-1586; Standart Penetration Test) Standart B15 MAI (N-Na: of biows to drive sampler 12' wild B: harmer failing 30' ASTM D-1586; Standart Penetration Test) Standart B15 MAI (N-Na: of bioms to drive sampler 12' wild B: harmer failing 30' ASTM D-1586; Standart Penetration Test) Standart B15 MAI (N-Na: of bioms to drive samp	Drilli	ng Firı	m:	SJB			Driller:	Tony	1	Fini	ish Date:	8/14/13	
Defcron Casing Removal: Image: Autor Removal:		Grou	nd١	water	Depth	Date & Time	Drill Rig:	CME 45C		In	spector:	N. Wohlabaugh	
Atter Casing Removal: Imamme: Auto VI No. of bows to drive sampler 12 wir40 ib. harmer falling 30° ASTM D-1586, Standard Penetration Test) COMMENTS in end to bows to drive sampler 12 wir40 ib. harmer falling 30° ASTM D-1586, Standard Penetration Test) COMMENTS in end to bows to drive sampler 12 wir40 ib. harmer falling 30° ASTM D-1586, Standard Penetration Test) COMMENTS in end to bows to drive sampler 12 wir40 ib. harmer falling 30° ASTM D-1586, Standard Penetration Test) COMMENTS in end to bows to drive sampler 12 wir40 ib. harmer falling 30° ASTM D-1586, Standard Penetration Test) COMMENTS in end to bows to drive sampler 12 wir40 ib. harmer falling 30° ASTM D-1586, Standard Penetration Test) COMMENTS in end to bows to drive sampler 12 wir40 ib. harmer falling 30° ASTM D-1586, Standard Penetration Test) in end to bows to drive sampler 12 wir40 ib. harmer falling 30° ASTM D-1586, Standard Penetration Test) Standard Penetration Test in end to bows to drive sampler 12 wir40 ib. harmer falling 30° ASTM D-1586, Standard Penetration Test in end to bows to drive sampler 12 wir40 ib. harmer falling 30° ASTM D-1586, Standard Penetration Test in end to bows to drive sampler 12 wir40 ib. harmer falling 30° ASTM D-1586, Standard Penetration Test in end to bows to drive sampler 12 wir40 ib. harmer falling 30° ASTM D-1586, Standard Penetration Test in end to bows to drive and to bows to drive and the sampler 12 wir40 ib. harmer falling 30° ASTM D-1586, Standard Penetration Test in end to bows to brive and the sampler 30° ASTM D-1586, Standard Penetration 10° free in the sampler sampler is the sampler is t			Wh	ile Drilling:			Casing:		Rock Core:		Undist:		
No. of blows to drive sampler 12* w/140 lb. hammer falling 30* ASTM D-1586. Standard Penetration Test) COMMENTS (e.g., hvalue, neover), the main standard standar	Befo	ore Cas	sin	g Removal:			Sampler:		Other:				
Note Note Second Socie Comments Comments <thcomments< th=""> Comments <thc< td=""><td>Af</td><td>ter Cas</td><td>sin</td><td>g Removal:</td><td></td><td></td><td>Hammer:</td><td>Auto</td><td></td><td></td><td></td><td></td></thc<></thcomments<>	Af	ter Cas	sin	g Removal:			Hammer:	Auto					
End End <thend< th=""> <thend< th=""> <thend< th=""></thend<></thend<></thend<>			-	(N	No. of I	blows to drive sam	pler 12" w/140 lb. ham	mer falling 30" ASTM	D-1586, Standard	Penetrat			
8 Gruphed Stone (dr.) Start: 8.15 AM 1 7 Cruphed Stone (dr.) 12 ° rec 2 9 0.6 ppm 0.6 ppm 3 10 Cruphed Stone (dr.) 15 ° rec 10 Cruphed Stone (dr.) 15 ° rec 0.0 ppm 4 17 0.0 ppm 0.0 ppm 5 6 Sand(medium/dark grey/brown - moist) 10 ° rec 6 Sand(medium/dark grey/brown - moist) 10 ° rec 33.4 6 8 11 Sand(brown - fine - moist) 18 ° rec 7 9 5 Clayer StLT (red/brown - wet/saturated) 53.0 ppm 10 38 39 11 ° rec 53.0 ppm 11 Sand(brown - fine - wet/saturated) 11 ° rec 53.0 ppm 10 38 Some Sitt/Grave (saturated) 11 ° rec 11 Medium Sand (medium grey - saturated) 11 ° rec 12 7 2 Medium Sand (medium grey - saturated) 24 ° rec 14 11 11 ° rec 24	ft)	ъ	0	Blows on					a - and - 3	5-50%			
8 Gruphed Stone (dr.) Start: 8.15 AM 1 7 Cruphed Stone (dr.) 12 ° rec 2 9 0.6 ppm 0.6 ppm 3 10 Cruphed Stone (dr.) 15 ° rec 10 Cruphed Stone (dr.) 15 ° rec 0.0 ppm 4 17 0.0 ppm 0.0 ppm 5 6 Sand(medium/dark grey/brown - moist) 10 ° rec 6 Sand(medium/dark grey/brown - moist) 10 ° rec 33.4 6 8 11 Sand(brown - fine - moist) 18 ° rec 7 9 5 Clayer StLT (red/brown - wet/saturated) 53.0 ppm 10 38 39 11 ° rec 53.0 ppm 11 Sand(brown - fine - wet/saturated) 11 ° rec 53.0 ppm 10 38 Some Sitt/Grave (saturated) 11 ° rec 11 Medium Sand (medium grey - saturated) 11 ° rec 12 7 2 Medium Sand (medium grey - saturated) 24 ° rec 14 11 11 ° rec 24	th (jq o	ğ	Sampler			MATERIAL D	DESCRIPTION	s - some - 2	0-35%			
8 Gruphed Stone (dr.) Start: 8.15 AM 1 7 Cruphed Stone (dr.) 12 ° rec 2 9 0.6 ppm 0.6 ppm 3 10 Cruphed Stone (dr.) 15 ° rec 10 Cruphed Stone (dr.) 15 ° rec 0.0 ppm 4 17 0.0 ppm 0.0 ppm 5 6 Sand(medium/dark grey/brown - moist) 10 ° rec 6 Sand(medium/dark grey/brown - moist) 10 ° rec 33.4 6 8 11 Sand(brown - fine - moist) 18 ° rec 7 9 5 Clayer StLT (red/brown - wet/saturated) 53.0 ppm 10 38 39 11 ° rec 53.0 ppm 11 Sand(brown - fine - wet/saturated) 11 ° rec 53.0 ppm 10 38 Some Sitt/Grave (saturated) 11 ° rec 11 Medium Sand (medium grey - saturated) 11 ° rec 12 7 2 Medium Sand (medium grey - saturated) 24 ° rec 14 11 11 ° rec 24)ep	Sar	Syı	per 6"	f - fine	S - Sar							
1 7 Crushed Stone (dry) 012 rec. 6 0.06 ppm 0.06 ppm 16 0 0.00 ppm 10 Crushed Stone (dry) 15" rec. 10 Crushed Stone (dry) 15" rec. 10 Crushed Stone (dry) 15" rec. 10 Crushed Stone (dry) 10" rec. 5 6 Sand(medium/dark grey/brown - moist) 10" rec. 6 Sand(medium/dark grey/brown - moist) 10" rec. 33.4 6 Sand(trown - fine - moist) 10" rec. 33.4 11 Sand(trown - fine - moist) 43.0 ppm 43.0 ppm 13 Sand(trown - fine - wet/saturated) 10" rec. 53.0 ppm 14 Intervet/saturated) 11" rec 11" rec 15 Sand/torown - fine - wet/saturated) 11" rec 11" rec 16 Medium Sand (medium grey - saturated) 24" rec 24" rec 17 Sand file/orwn - rotten - saturated) 24" rec 24" rec 18 Medium Sand (black - degraded oil smell - saturated)						0 04		oldy, bly blayby				. ,	
6 0 <th0< th=""> <th0< th=""> <th0< th=""> <th0< th=""></th0<></th0<></th0<></th0<>	1					Crushad Stopa (d	(m.r.)				2		
2 16 10 Crushed Stone (dry) 16' rec 3 10 Crushed Stone (dry) 16' rec 10 Crushed Stone (dry) 0.0 ppm 5 6 Sand(medium/dark grey/brown - moist) 10' rec 6 6 Sand(medium/dark grey/brown - moist) 10' rec 6 8 33.4 7 9 Silty CLAY (red/brown - moist) 43.0 ppm 8 11 16' rec 9 Silty CLAY (red/brown - moist) 43.0 ppm 14 14 - 9 Silty CLAY (red/brown - moist) 53.0 ppm 10 Sand(frown - fine - wet/saturated) 53.0 ppm 11 Medium Sand (dark grey - saturated) 11' rec 10 Sand(frown - fine - wet/saturated) 11' rec 11 Medium Sand (dark grey - saturated) 24' rec 12 7 - - 13 8 Medium Sand (medium grey - saturated) 24' rec 14 1 16 bick - saturated) 24' rec 15 2 Medium Sand (black - degraded oil smell - saturated) <td>-</td> <td></td> <td></td> <td>-</td> <td></td> <td>clushed Stone (d</td> <td><u>ii y)</u></td> <td></td> <td></td> <td></td> <td></td> <td></td>	-			-		clushed Stone (d	<u>ii y)</u>						
9 Crushed Stone (dry) 15' rec 4 0.0 ppm 0.0 ppm 5 6 Sand(medium/dark grey/brown - moist) 10' rec 6 6 33.4 33.4 7 9 Silty CLAY (red/brown - moist) 18' rec 8 11	2			-								0.0 ppm	
3 10 Crushed Stone (dry) 15' rec 4 10 0.0 ppm 17	<u></u>												
10	3					Crushed Stone (d	lry)					15" rec	
4 17	<u> </u>					(u							
5 5 10° rec 6 33.4 33.4 6 33.4 33.4 7 9 Silty CLAY (redbrown - moist) 18° rec 7 9 Silty CLAY (redbrown - moist) 18° rec 8 14	4												
6 33.4 7 8 7 9 9 Silty CLAY (red/brown - moist) 11 Sand/brown - fine - moist) 14 43.0 ppm 4 10° rec 5 Clavey SiLT (red/brown - wet/saturated) 18 53.0 ppm 11 Sand/brown - fine - wet/saturated) 12 1 14 10° rec 13 Sand/brown - fine - wet/saturated) 38 11° 11 1 12 1 13 Sand/brown - fine - wet/saturated) 38 11° 14 11° rec 15 11° rec 16 Sand (forevel (saturated) 17 2 18 11° 19 11° 20 1 21 1 22 1 23 1 24° rec 1 24° rec 1 24° rec													
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Strates New York 3217 Project Name: Name: Project No. K11 002 001 Strates Base ROW Investigation Datum: 26 bps Locator: NOR - Munka, NY Base Note: 947413 Drilling Firm: S.B Drilling Firm: Sarto Ether: Inner: Drilling Firm: S.B Drilling Firm: Sarto Ether: Casing: Drilling Firm: S.B Drilling Firm: Sarto Ether: Casing: Drilling Firm: S.B Drilling Firm: Sarto Ether: Casing: Sarto Ether: Drilling firm: Sarto Ether: Casing: Note: Casing: Sarto Ether:	ГС	49	&S Engineers, Inc. 9 Col. Eileen Collins Blvd.						Well No.	MW-06
Project Name: Main St ROW Investigation Location: MOR - Buffalo, NY Date: 814/13 Diffing Ferm: SJB Finish Date: 814/13 Diffing Ferm: SJB Project Name: Main St ROW Investigation Center: Main Material Center: Main St ROW Investigation Center: Main Material Center: Main St ROW Investigation Center: Main St ROW Investigation Center: Main St ROW Investigation Center: Main St ROW Investigation Center: Main St Row Pack Center: Main St Row Pack C		Ph	one: 315-455-2000			-		Р	roject No.:	K11.002.001
Project Name: Man St. ROW Investigation Data Data <thdata< th=""> <thdata< th=""> Data</thdata<></thdata<>	COMPANIE			CON	STRUC	TION I	LOG	Sur	face Elev .:	
Clear: Calend: Finish Date: 874/13 Drilling Firm: 5.18 Driller: 0 Inspector: Casing: 2'6" Top of Riser Drill Rig: CMC description of observation well location, method of construction dard any duer information Casing: 10" Surface Backfill Material Image: Surface Backfill Material Image: Surface Backfill Material Image: Surface Backfill Material Image: Surface Backfill Material 2 Surface Backfill Material Image: Surface Backfill Material Image: Surface Backfill Material Image: Surface Backfill Material 3 Surface Backfill Material Image: Surface Backfill Material Image: Surface Backfill Material Image: Surface Backfill Material 10" Bore Hole Diameter 9" Well Material Image: Surface Backfill Material Image: Surface Backfill Material Image: Surface Backfill Material Image: Surface Backfill Material Image: Surface Backfill Material Image: Surface Backfill Material Image: Surface Backfill Material Image: Surface Backfill Material Image: Surface Backfill Material Image: Surface Backfill Material Image: Surface Backfill Material Image: Surface Backfill Material Image: Surface Backfill Material Image: Surface Backfill Material Image: Surface Backfill Material Image: Surface Backfill Material	Project Name: Ma							1	Datum:	26' bgs
Drilling Firm. B/B Driller: Dril	Location: MC	OB - Buff	alo, NY						Start Date:	8/14/13
2:9° Top Protective Casing (CMI 432) Drill Rig: (CMI 432) Casing: (crowide description of descreation well location, method of construction (crowide description of descreation (crowide description of descreation well was constructed inside of (crowide description of descreation (crowide descreation of descreation (crowide descreation of descreation (crowide descreation of descreation (crowide descreat			alth					F	inish Date:	8/14/13
2'-6' Top of Riser 0'-0' 26' bps. 0'-0' Execution control 0'-0' Execution control 0'-0' Execution control 0'-0' Execution control 10'' Execution control 10'' Execution control 0'' Stainless Steel 0'' Execution control 0'' Execution contecontrol	Drilling Firm: SJI								Inspector:	
Vol 26' bgs. Surface Backfill Material The observation well was constructed in Bore Hole 30. Surface Backfill Material Surface Backfill Material X Sand Surface Backfill Material Similar Surray X Cement/Bentonite Grout Onorate Onorate 10" Bore Hole Diameter Well Material Similess Steel Bentonite Slurry Cement/Bentonite Grout Concrate Similess Steel Bestinite Slurry Cement/Bentonite Grout Concrate Similess Steel Bestinite Slurry Cement/Bentonite Grout Soil Cuttings Bestinite Slurry Cement/Bentonite Grout Similess Steel Set Material Set Material Soil Cuttings Bestinite Grout Soil Cuttings Set Material Set Material Set Material Ot Sand Pack				sing	Drill Rig:				U U	0
soil boring to depth of 25 feet below ground surface (bgs). Hollow Stem Soil Boring to depth of 25 feet below ground surface (bgs). Hollow Stem Augers (H3) were used as the casing and the well was constructed inside th augers. Filter pack material and seal material were pourced separately down the inside of the augers while the augers were retracted. Measurements were taken to asure that notifier the filter pack or seal materials were bridging between the well and HSA. The well was developed by pumping to remove fine materials.		2'	-6" Top of Riser			developme	nt method an	d any other ir	nformation)	
Detentionite Slurry Date Time Water Elevation Status Cement/Bentonite Grout			Surface Backfill Materia X Sand X Bentonite Slurry Cement/Bentonite C Concrete 0" Bore Hole Diameter Well Diameter Well Material X PVC Stainless Steel Backfill Material	Grout	soil boring Augers (HS augers. Fil the inside o taken to as between th fine materia	to depth of (A) were us ter pack ma of the auger ure that nei e well and als.	25 feet belo ed as the ca aterial and s rs while the filte HSA. The wo	ement Data	arface (bgs). well was co were poured retracted. M al materials loped by pur	Hollow Stem onstructed inside the d separately down Measurements were were bridging
Cement/Bentonite Grout Concrete Depth To: 29' Top of Seal Seal Material X Bentonite Slury Cement/Bentonite Grout 39' Top of Filter Pack 29' Top of Screen Screen Slot Size 010 in 015 in X 020 in 025 in Filter Material 00 Sand Pack 1 00 Sand Pack 3 Sand Pack		Ô			Data	T :	-			
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Seal Material Image: Chips/Pellets Bentonite Chips/Pellets Bentonite Grout 39' Top of Filter Pack Image: Chips/Pellets 29' Top of Screen Image: Chips/Pellets Screen Slot Size Image: Chips/Pellets 010 in Image: Chips/Pellets Screen Slot Size Image: Chips/Pellets 010 in Image: Chips/Pellets Screen Slot Size Image: Chips/Pellets 010 in Image: Chips/Pellets Screen Slot Size Image: Chips/Pellets 015 in Image: Chips/Pellets V 020 in Image: Chips/Pellets 025 in Image: Chips/Pellets Filter Material Image: Chips/Pellets 00 Sand Pack Image: Chips/Pellets Image: Chips/Pellets Image:			-							
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02000500			ww	w.cscos.cc	om					ject No.:	K11.002.001
Projec	t Nam	ne:	Main St RO	W Inve	stigation				Surfa	ce Elev.:	
L	ocatio	n:	MOB - Buffa	alo, NY						Datum:	6. Surface
	Clier	nt:	Kaleida Hea	ılth					St	art Date:	8/16/13
Drilli	ng Firi	m:	SJB			Driller:	Tony	1	Fini	sh Date:	8/16/13
	Grou	nd١	water	Depth	Date & Time	Drill Rig:	CME 45C		In	spector:	N. Wohlabaugh
		Wh	ile Drilling:			Casing:		Rock Core:		Undist:	
Befo			g Removal:			Sampler:		Other:			
			g Removal:			Hammer:	Auto	0			
			-	No. of	blows to drive sam	pler 12" w/140 lb. ham		D-1586. Standard	Penetrat	ion Test)	
		L					<u> </u>				COMMENTS
Depth (ft)	Sample No.	Symbol	Blows on	c - coars			FRODUCTION	a - and - 3 s - some - 2			N-value, recovery,
spt!	No an	М	Sampler per 6"	m - med f - fine			DESCRIPTION	I - little - 1 t - trace -	0-20%	relative	moisture, core run,
ð	Ö	S	per o		S - Sar	nd, \$ - Silt, G - Gravel, C	- Clay, cly - clayey	t - trace -	0-10%	RQ	D, % recovered)
			3							S	Start: 2:45 PM
1		1	5		Crushed Stone (g	rey - dry)					12" rec
		1	5								0.4 ppm
2		1	9								
		1	19								
3		1	16			rown - dry to moist)					15" rec
		1	18		Silt (red/brown - c	dry to moist)					1.0 ppm
4		1	18								
		1	12								
5		1	17		Sand (fine - red/b						16" rec
			18		Silt (red/brown - r	noist)					0.2 ppm
6			20								
			24								
7			24			rown - wet to saturate	<u>ed)</u>				23" rec
				28 <u>Silt (red/brown - wet to saturated)</u>							0.5 ppm
8			37								
			14								
9			16		Sand (fine - red/b						21" rec
10			22		Silt (red/brown - s	saturated)					0.8 ppm
10			39								
4.4			16								10" ***
11			28 32		Silt (red/brown - v						18" rec
12			32		Clay (red/brown -	wei)					0.1 ppm
12			25								
13			17		Silt (red/brown - s	saturated)					24" rec
10			26		Clay (red/brown -						0.0 ppm
14		1	33		<u></u>	<u>caturatou/</u>					5.0 Ppm
- · ·		1	20								
15		1	19		Silt (red/brown - r	noist to wet)					19" rec
		1	19		Gravel (red/brown						0.0 ppm
16		1	21								
<u> </u>		1									
17		1		1							
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OWNERS Project Name: International Status K11.02.01 Project Name: International Status Surface Text 26 bps Construction LoG Surface Text 8167 3 Construction Log Construction Log Surface Text Construction Log Construction Log Construction Log State State Construction Log Construction Log State State Surface Text Construction Log State State Surface Text Surface Text State State Surface Text Surface Text State State Surface Text Surface Text State State Surface Text		C&S Engineers, Inc. 499 Col. Eileen Collins Blvd. Syracuse, New York 13212	-					Well No.	MW-07
Project Name: Main SI: ROW Investigation Datum: 26 bgs Location: MOB : Butfinko, NY Start Date: 8/16/13 Dilling Firm: SJB Impector: Impector: 1 Dilling Firm: SJB Driller: 0 Impector: 1 2'9' Top of Riser Drill Rig: (DKI 45C: Casing: 0 101110g Firm: SJB Drill Rig: (DKI 45C: Casing: 0 2'9' Top of Riser Drill Rig: (DKI 45C: Casing: 0 1011 Rig: (DKI 45C: Casing: 0 0 0 2'9' Top of Riser Drill Rig: (DKI 45C: Casing: 0 1011 Rig: (DKI 45C: Casing: 0 0 0 2'1 Rig: Start Start Date: dayother information) The observation well was constructed in Born well was constructed in Born bill Born on top well was constructed in Born bill Born on top well was constructed in Born bill Born on top well was constructed in Born bill Born on top well was constructed in Born bill Born on top well was constructed in Born bill Born on top well was constructed in Born bill Born on top well was constructed in Born bill Born on top well was developed by pumping to remove fine materials. 2'' Well Diameter 2'' Stainless Steel Backfill Material Seal Material Date Seal Materia		Phone: 315-455-2000			-		Р	roject No.:	K11.002.001
Project Name: Main 51: ROW Investigation Datum: 22: bg: Location: View Start Date: 8/inf13 Drilling Time: SJB Driller: 0 Imagector: 22: 6° Top Of Riser Driller: 0 Imagector: 22: 6° Top of Riser Driller: 0 Imagector: 26: bgs Driller: 0 Imagector: Cassing: 26: bgs Driller: Driller: 0 Imagector: 26: bgs Driller: Driller: 0 Imagector: 26: bgs Driller: Driller: Note: Centrolle description of Desardam Any other Information) 26: bgs Start Desardam Any other Information) The observation well was constructed in Bote Hole B-3 upon completing the case of the information on the inside of the augers. Well was developed by pumping to remove the indice in their the filter filter pack or seal material were bridging taken to auxer that heirt the filter britter pack and the indice in the indit in the indice in t	COMPANIES		CON	STRUC	TION I	LOG	Sur	face Elev.:	
Leation: MOR: Buffitio. NY Stan Date: Sn (613) Client: Kalida Health Finish Dete: 816/13 Drilling Firm: SJB Top Protective Casing Driller: Image: Display 2'6' Top of Riser Drill Rig: Casing: Casing: Casing: 2'6' bgs Drill Rig: Casing: Casing: Casing: 2'6' bgs Surface Backfill Material Mate: Iprovide description of observation well location, method of construction, development method and any other information? Y Bentonite Sturry Cemeru/Bentonite Grout The observation well was constructed in Bote Health well was developed by pumping to remove fine materials. 6'' Bore Hole Diameter Y Well Material X Soil Cuttings Stainless Steel Backfill Material X Soil Cuttings Bentonite Slurry Cemeru/Bentonite Grout Cemeru/Bentonite Grout 2'' Top of Seal Salianiois Chips/Pellets Bentonite Slurg Cemeru/Bentonite Grout Date 2'' Top of Screen Date 2'' Top of Screen Date Screen Slot Size Date Date 0'' O'' Sin O'' Date 0'' D''' O'' Sin O''	Project Name: Main S							Datum:	26' bgs
Drilling Firm: SJB Driller: Inspector: 2'-9" Top Protective Casing Casing: (2'-9" Top of Riser () Notes: [) 2'6' Top of Riser () Notes: [] () 2'6' Backfill Material () () Notes: [] () 2'6' Backfill Material () () () Notes: [] () 2'7 Well Diameter () () () () () () 2'' Well Diameter () () () () () () 2'' Well Diameter () () () () () () 2'' Well Material () () () () () () 2'' Well Material () () () () () () 2'' Well Castron () () () () () </td <td></td> <td>-</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Start Date:</td> <td></td>		-						Start Date:	
2:-9" Top Protective Casing	Client: Kaleida	a Health					F	inish Date:	8/16/13
26' bgs Image: Second Sec	Drilling Firm: SJB			Driller:	0			Inspector:	
26' bgs 26' bgs Surface Backlil Material X Sand X Sand X Sand Sand Sentonite Stury Cement/Bentonite Grout G Bore Hole Diameter 2' Vel Stainless Steel Backfill Material X X PVC Stainless Steel Bentonite Stury Concrete Vel Stainless Steel Backfill Material X Sad Sadi Material X PVC Stainless Steel See Mole Diameter 20' Top of Seal Sead Material Sead Material X Pof Screen Screen Slot Size Differ Pack 20' Top of Screen Screen Slot Size Differ Material Differ Material Screen Slot Size Differ Material Differ Material <tr< td=""><td></td><td>2'-9" Top Protective Cas</td><td>sing</td><td>Drill Rig:</td><td>CME 45C</td><td></td><td>•</td><td>Casing:</td><td>0</td></tr<>		2'-9" Top Protective Cas	sing	Drill Rig:	CME 45C		•	Casing:	0
Augers (HSA) were used as the casing and the well was constructed inside the augers. While the augers were retracted. Measurements were taken to assure than either the filter pack or stand materials were bridging between the well and HSA. The well was developed by pumping to remove the materials.		2'-6" Top of Riser	-	The observ	developme ation well v	nt method an was construe	d any other ir cted in Bore	formation) Hole B-3 up	on completing the
Backfill Material X Bentonite Slurry Cement/Bentonite Grout Concrete Depth To: 29' Top of Seal Seal Material X Bentonite Chips/Pellets Bentonite Slurry Cement/Bentonite Chips/Pellets Bentonite Slurry Cement/Bentonite Chips/Pellets Bentonite Slurry Cement/Bentonite Grout 39' Top of Filter Pack 29' Top of Screen Screen Slot Size 010 in 015 in X 020 in 25 in Filter Material 00 Sand Pack		Surface Backfill Materia X Sand X Bentonite Slurry X Cement/Bentonite C Concrete 6" Bore Hole Diameter 2" Well Diameter Well Material X PVC	Grout	Augers (HS augers. Fil the inside of taken to as between th	A) were us ter pack ma of the auger ure that nei e well and l	ed as the cas aterial and se rs while the s ither the filte	sing and the eal material augers were r pack or sea	well was co were poured retracted. M al materials	nstructed inside the I separately down Measurements were were bridging
Bentonite Slurry Date Time Water Elevation Status Cement/Bentonite Grout		Backfill Material			Groundwa	iter Measur	ement Data	1	
29' Top of Seal Seal Material x Bentonite Chips/Pellets Bentonite Slurry Cement/Bentonite Grout 39' Top of Filter Pack 29' Top of Screen 29' Top of Screen Screen Slot Size 010 in 015 in x 025 in Filter Material 00 Sand Pack		Bentonite Slurry Cement/Bentonite C	Grout	Date	Time	-			
2 Sand Pack 3 Sand Pack		Depth To: 29' Top of Seal Seal Material x Bentonite Chips/Pel Bentonite Slurry Cement/Bentonite C 39' Top of Filter Pa 29' Top of Screen Screen Slot Size 010 in 015 in x 020 in 025 in Filter Material 00 Sand Pack 0 Sand Pack 1 Sand Pack 2 Sand Pack	Grout						



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

Well Sampling Field Data Sheet

Client Name:	KALE, DA	HEALTH	
Site Name:	Cenn	RNTUS	
Project No.:	N4le		
Field Staff:	RCA	BACKENT	

WELL DATA

					-				
Date		11/29/18	11/29/18	1/29/18	1/20/18	1/20/18	11/24/19	11/30/1	11/30/18
Well Number		REPMWOI		DEAMWAY	BLAMISOJ	Servisol,	BUPYINOS	MS-MUSOI	MSnow
Diameter (inches)		2"	21	2"	P"	811	24	24	24
Total Sounded Depth (feet)		ISFt.	15Ft.	ISFt.	ISFt	15FH	15Ft.	36FF.	36Ft.
Static Water Level (feet)		P.4Ft.	5.4pt.	8.256.	8.16t.	V. 2Ft.	7.SFt.	14-262	20.5A
H ₂ O Column (feet)									
Pump Intake (feet)									
Well Volume (gallons)									
Amount to Evacuate (gallons)		2.55al	7.85al	1.5 Sal	2.5 Sal	2.5 sal	2.5Jul	2 2sul	2 Sal
Amount Evacuated (gallons)		2.spal	2.85 ul	2.5 jal	2.05ml	2.5 gal	7.550	25ul	250
	·								/

FIELD READINGS

Date	Stabilization	11/22/18	uproley	1/29/18	11/79/18	1/2/12	1/24/12	130/18	1/30/18
Time ·	Criteria	9:50	10:45	1630	12:05	1:30	2:05	10:00	10:40
pH (Std. Units)	+/-0.1	752	7.11	8.11	8.128	10,13	8.75	7.70	2.83
Conductivity (mS/cm)	3%	6.81	4.1Ce	Sul	9.70	22.5	11.8	4.79	15.5
Turbidity (NTU)	10%	1		-	-	-	-	Ś	<u></u>
D.O. (mg/L)	10%	Ø.Ø	U.Ø	3.¢	47.0	25.03	1.24	9.34	9,17
Temperature (°C) (°F)	3%	10.37	1738	17.72	18:23	17.56	18:57	17.10	17.11
ORP ³ (mV)	+/-10 mv	-52	51	-184	-35	lele	-7110	78	Le2
Appearance	Service and	C C	Ċ	C	C	C	SHEEN	C	C
Free Product (Yes/No)		YES	VES	YES	YES	YES	NO	YES	VES
Odor		NONA	Nove	NONK	NONE	NONE	NONE	NONE	NONE
Comments									
C =	Clear T = T	urbid ST	= Semi Turl	bid VT = V	Very Turbid				



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

Well Sampling Field Data Sheet

Client Name:	LALEZDA HEALTH	
Site Name:	CONSIGNOUS	
Project No.:	NULO	
Field Staff:	RICH BALLER	

WELL DATA

Date	11/30/18	11/30/18			
Weil Number	MSAW03	MARTHEY			
Diameter (inches)	2"	211			
Total Sounded Depth (feet)	40Ft.	40Fb.			
Static Water Level (feet)	LOFT.	40F6. 15,9Fr			
H ₂ O Column (feet)					
Pump Intake (feet)					
Well Volume (gallons)					
Amount to Evacuate (gallons)	Zsul	211l			
Amount Evacuated (gallons)	Zach	2gul			

FIELD READINGS

Date	Stabilization	4/30/18	1/30/18			
Time	Criteria	illo	11:50			
pH (Std. Units)	+/-0.1	10,23	2.30			
Conductivity (mS/cm)	3%	10,4	837			
Turbidity (NTU)	10%	1	-			
D.O. (mg/L)	10%	25.71	50.00			
Temperature (°C) (°F)	3%	16.02	17.74			
ORP ³ (mV)	+/-10 mv	36	50			
Appearance		C	C			
Free Product (Yes/No)		YES	427			
Odor		A DUNE.	NINE			
Comments						,

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

APPENDIX C IN SITU PRODUCT INFORMATION



CHEMICAL OXIDATION REDEFINED...

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

PRODUCT FEATURES:

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



RegenOx product application

HOW IT WORKS:

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

ACHIEVES RAPID OXIDATION VIA A NUMBER OF MECHANISMS

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

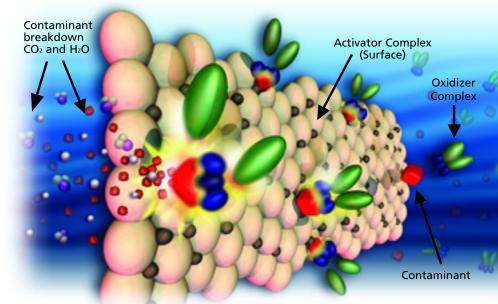
- Surface- Mediated Oxidation: (see Figure 1 and description below)
- Direct Oxidation: C₂Cl₄ + 2 Na₂CO₃ 3 H₂O₂ + 2 H₂O ↔ 2CO₂ + 4 NaCl + 4 H₂O + 2 H₂CO₃

Free Radical Oxidation:

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

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

Figure 1. RegenOx[™] Surface-Mediated Oxidation





From Mass Reduction to Bioremediation:

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

Significant Longevity:

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

Product Application Made Safe and Easy:

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

Effective on a Wide Range of Contaminants:

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

Oxidant Effectiveness vs. Contaminant Type:

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

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

Oxidant Effectiveness Key:

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

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

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

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



Advanced Technologies for Groundwater Resources

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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.

