SECOND 2016 SEMI-ANNUAL

GROUNDWATER MONITORING REPORT

FOR
FORMER DOWCRAFT FACILITY
NYSDEC SITE #907020
FALCONER, CHAUTAUQUA COUNTY, NEW YORK

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ACRONYM LIST

C&S	C&S ENGINEERS, INC.
JCC	JAMESTOWN CONTAINER COMPANIES
SITE	FORMER DOWCRAFT FACILITY
TCE	TRICHLOROETHENE
IRM	INTERIM REMEDIAL MEASURES
NYSDEC	NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
ROD	RECORD OF DECISION
CRA	CONESTOGA-ROVERS & ASSOCIATES
RI	REMEDIAL INVESTIGATION
SCO	SOIL CLEANUP OBJECTIVES
SVOC	SEMI-VOLATILE ORGANIC COMPOUNDS
VOC	VOLATILE ORGANIC COMPOUNDS
NYSDOH	NEW YORK STATE DEPARTMENT OF HEALTH

1 INTRODUCTION

C&S Engineers, Inc. (C&S) has prepared this Groundwater Monitoring Report on behalf of Jamestown Container Companies (JCC) for the former Dowcraft facility.

1.1 Background and Site Description

The Dowcraft Site is located at 65 South Dow Street in Falconer, New York and occupies approximately 2.2 acres of land situated immediately east of South Dow Street and approximately 100 feet south of the Chadakoin River (Site). The Jamestown Container manufacturing building is situated between the Site and the Chadakoin River.

The property was first developed in 1890 as a woolen mill until 1939 when it was converted into a factory which manufactured steel partitions used for offices. As part of this manufacturing process, a vapor degreaser was used which included the use of chemicals such as trichloroethene (TCE). This work continued until 1999 when the facility was closed, a portion of the Site was demolished, and the property was sold to JCC.

Figure 1 presents present and historic site features.

The Site was the subject of environmental investigations in the early 1990s, at which time contaminated groundwater was discovered on site. An interim remedial measure (IRM) was subsequently put in place in 1994 which consisted of groundwater extraction and treatment. In 2000, the use of additional groundwater remediation technologies was approved by the NYSDEC which involved in-situ chemical oxidation of TCE through the injection of potassium permanganate into the overburden groundwater. In 2003, a Record of Decision (ROD) was approved that selected the following remedy:

- In-situ groundwater treatment through chemical oxidation, by injection of potassium permanganate dissolved in water, through existing well points into the shallow overburden groundwater table;
- Overburden groundwater monitoring to verify the effectiveness of the treatment;
- Institutional controls to prevent the use of groundwater as a source of potable water; and
- Annual certification to NYSDEC to certify that institutional controls remain in place.

Conestoga-Rovers & Associates (CRA) conducted nine injection treatments between May 2000 and July 2006, totaling 21,500 pounds of potassium permanganate. Previous injection treatments were successful in oxidizing some TCE; however, the concentrations of TCE in the source area remain high.

1.2 Project Objectives

As stated in the 2003 ROD, the remedial goals selected for this Site are:

- Treat the source area of groundwater contamination by oxidative de-chlorination of the contaminants in place;
- Prevent exposure of human receptors to contaminated groundwater in the sand and gravel unit under Site;
- Prevent or mitigate, to the maximum extent practicable, COC migration via groundwater so that releases from the underlying sand and gravel unit to the Chadakoin River do not exceed applicable standards, criteria and guidance.

To help satisfy these project objectives, periodic groundwater sampling is required. Additionally, the New York State Department of Health (NYSDOH) requested the performance of soil vapor sampling to evaluate potential impacts to air quality by the contamination underlying the Site. This report describes the results from the recent groundwater sampling event that occurred on April 25 and 26, 2016.

2 SUBSURFACE CONDITIONS

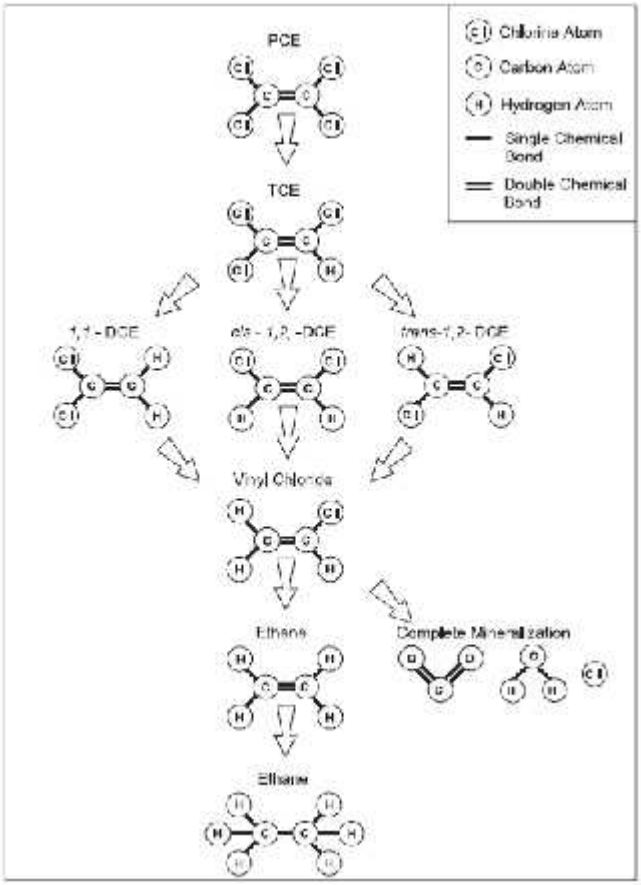
2.1 Contaminants of Concern

Chlorinated solvents, primarily, trichloroethene (TCE) and its daughter compounds, were identified as the contaminants of concern (COC) for this Site. TCE is a man-made volatile organic compound used for degreasing metal and electronic parts. Remedial considerations for TCE include its low solubility value and heavy molecular weight. TCE is in a class of chemicals called dense non-aqueous phase liquids (DNAPL) that sink through the water column until they encounter an impermeable barrier.

Groundwater contaminant plumes with TCE can undergo a process of reductive dechlorination, during which chlorine atoms are stripped from TCE and daughter compounds are produced. The rate of dechlorination can vary based on:

- Amount of TCE in the subsurface;
- Amount of organic material; and
- Type and concentration of electron acceptors available in the system.

The process of TCE reductive dechlorination is shown below:



2.2 Geology and Hydrogeology

Site geology consists of fill material overlying two sand/gravel layers separated by a silt/clay lens. Fill material consists of a mixed matrix of sand, cinders, silt, gavel, brick, concrete, coal, slag and metal. The fill unit ranges in thickness from 2 to over 14 feet with an average thickness of 8 feet.

The upper sand/gravel layer ranges from 10 to 20 feet in thickness. Underlying the upper sand/gravel layer is a silt/clay lens that ranges from 4 to 8 feet in thickness. The lower sand/gravel layer is 10 to 18 feet thick. Underlying the lower sand layer is a second silt/clay layer that starts approximately 43 feet below ground surface (BGS). This unit is estimated to be 60 feet in thickness according to regional geology.

The average depth to groundwater is 10 feet BGS within the upper sand/gravel layer. Groundwater flow within the upper sand/gravel layer is to the north-northeast at approximately 2.7 feet per year. Figure 2 shows the inferred groundwater flow direction in the upper sand/gravel layer. The silt/clay layer overlying the lower sand/gravel layer is acting as an aquitard for deeper groundwater and is creating a semi-confined aquifer.

2.3 Extent of Contamination

According to previous environmental reports, the area of former degreaser pit (area of groundwater monitoring wells PW-3 and PW-3R) is a likely source area for the COC plume. The plume originates from the degreaser area and has affected groundwater in the upper and lower sand/gravel layers. The plume extends from the degreaser area to the north, under the JCC building and up to the area of the Chadakoin River. This is an area of approximately one acre. The rate of movement is approximately 2 to 3 feet per year to the north.

3 OCTOBER 2016 GROUNDWATER MONITORING

3.1 Field Sampling Program

3.1.1 Monitoring Well Array

The Site contains a total of 23 monitoring wells installed in November 1990, November 1991, and April 1992. The monitoring wells below have been shown to be directly within the contaminant plume.

ESI - 1	ESI - 11
ESI - 2	ESI - 12
ESI - 3	ESI - 13R
ESI - 6	PW - 1
ESI - 7	PW - 3R
ESI - 10	

It should be noted that PW-2 is located within the contaminant plume and has been previously sampled by other consultants; however, during groundwater monitoring conducted by C&S on July 2, 2013, PW-2 could not be developed because piping was located in the well that could not be removed. Monitoring well ESI - 6 is located within six feet of PW-2 and was developed and sampled as a substitute for PW-2.

3.1.2 Groundwater Sampling

The following groundwater sampling events have been conducted by C&S.

July 2, 2013	Baseline Monitoring
October 21, 22 and 29, 2014	Pre-treatment
April 21 and 22, 2015	1st Post-treatment
November 2 and 3, 2015	2nd Post-treatment
April 25 and 26, 2016	3rd Post-treatment
October 20 and 21, 2016	4th Post-treatment

The groundwater monitoring activities included the collection of depth-to-water measurements at each monitoring well and the collection of groundwater samples for laboratory analysis.

Groundwater sampling was conducted in accordance with the U.S. Environmental Protection Agency (USEPA) low flow sample procedure. All equipment used for well purging and sampling was thoroughly washed with tap water and laboratory detergent, Alconox, prior to and after use.

3.1.3 Water Level Monitoring

Prior to purging and sampling each monitoring well was measured with an electronic water level indicator used to measure depth to water and total depth of each well. Measurements were referenced to the top of the well casing. All water levels and total depth measurements were taken to the nearest 0.01 foot.

3.1.4 Well Purging

Water quality parameters were tracked as groundwater was removed from monitoring wells. A QED bladder pump was used to purge monitoring wells until water quality parameters (temperature, specific conductivity, pH, oxygen reduction potential dissolved oxygen and turbidity) were stabilized. Purge water was transferred into five-gallon buckets. Collected purge water was treated through an activated carbon system prior to discharge on the ground surface.

Because the well casing for ESI-7 was broken underneath the bottom of the road box, a one-inch diameter polyethylene bailer was used to purge and sample ESI-7.

3.1.5 Groundwater Sample Collection and Analysis

Samples were collected from each well immediately after water quality parameters were stabilized. Samples were collected from polyethylene tubing into appropriate sample jars. The sample containers were chemically preserved by the laboratory prior to the field activities. Samples collected for volatile organics analysis were overfilled to form a convex meniscus and, after collection, the sample container was inverted to check for the presence of air bubbles in the sample. All samples were placed in coolers on ice to maintain samples at 4 degrees Celsius. A chain–of–custody manifest was completed on-site and accompanied the samples to the lab. Samples were analyzed for:

Parameter	*EPA Method*
Volatile Organic Compounds	8260C
Dissolved Oxygen	360.1
Specific Conductance	120.1
pH	9040C

3.2 Groundwater Results

3.2.1 Laboratory Analysis

Samples were received by Paradigm Laboratories on October 24, 2016. The following presents observations associated with the samples:

- The lab confirmed that samples were obtained intact
- On ice and cooler temperature was acceptable
- Chain-of-custody was filled out with all pertinent information
- No discrepancy with sample ID and chain-of-custody
- Samples were received within holding times
- VOA sample vials did not have headspace or bubble is < 6mm in diameter
- Sample bottles were completely filled

3.2.2 Groundwater Elevations

Groundwater elevations are provided in Table 1 and shown on Figure 2. These elevations show that groundwater is generally flowing to the north and east.

3.2.3 Groundwater Analytical Results

Eight out of the eleven wells that were sampled contained groundwater that exceeded water quality standard for trichloroethene (5 ug/L). Analytical results for trichloroethene in these wells ranged from 6.52 ug/L to 1,060 ug/L. Other chlorinated compounds, including TCE daughter compounds (cis-1,2-dichloroethene, trans-1,2-dichloroethane and vinyl chloride) were detected in six of the eleven wells. The highest concentration of cis-1,2-Dichloroethene was detected in ESI-2 (1,450 ug/L). Vinyl chloride was detected in one well, PW-3R, at 751 ug/L.

The analytical results are summarized in Table 2. The October 2016 analytical results are presented on Figure 3. The groundwater results were compared to NYSDEC T.O.G.S 1.1.1 Ambient Water Quality Standards.

4 TREATMENT EFFECTIVENESS

Potassium permanganate was used to treat TCE and other chlorinated volatile organic compounds within a plume that extends adjacent and partially underneath the JCC building. Two methods were implemented in treating the contaminated groundwater. The first method included the injection of a solution of potassium permanganate in ten borings. The second method included the placement of potassium permanganate cylinders as a treatment adjacent to PW-3R and installation of cylinders in monitoring wells inside the main JCC building. Treatment was applied on December 1 through 9, 2014. After sampling was completed on April 2016, potassium permanganate cylinders were placed in ESI-2 and ESI-6. Three cylinders were placed in each monitoring well.

Table 3 presents a comparison of total VOC concentrations from each monitoring well and the percent change from pre-treatment and post-treatment groundwater monitoring.

Out of eleven monitoring wells, seven wells show a decrease in TCE and other chlorinated compounds. Continued decreases of TCE and other chlorinated compounds were observed in wells on the outside of the contaminant plume (ESI-1, ESI-7 and ESI-13R) and inside the JCC building (ESI-10, ESI-11 and ESI-12). No TCE or other chlorinated compounds were detected in samples from within the JCC building.

Two wells show a rebound of chlorinated compounds from the December 2014 treatment event. Monitoring wells within the area treated with injection borings still contain elevated levels of TCE and daughter compounds (ESI-2 and ESI-6). The reason for this observation is not clear, although a possible explanation is the injections caused the migration of groundwater with higher concentrations towards certain monitoring wells, or the ISCO materials may have increased the mobilization of contaminants that may have adhered to soil particles. However, these monitoring wells have increased levels of daughter compounds of TCE, indicating that reductive de-chlorination of TCE is taking place as a result of the potassium permanganate treatment.

Recent groundwater analytical data indicates that that daughter compounds are in the process of reductive de-chlorination. Concentrations of cis-1,2-dichloroethene in ESI-2 have reduced from 5,290 ug/L (April 2016) to 592 ug/L. Concentrations of vinyl chloride in April 2016 were 289 ug/L in ESI-2 and 21.7 ug/L in ESI-6, vinyl chloride concentrations are now not detected in these wells.

Future monitoring events will provide additional information regarding this situation. Potassium permanganate cylinders were placed in these wells after sampling. Cylinders will provide a long-term treatment to the groundwater adjacent to the monitoring wells.

Chloride concentrations are unchanged with previous sampling events. Future monitoring rounds will include chloride in all sampled wells, so trends of chloride concentrations will be available during future monitoring events.

4.1 Groundwater Monitoring Recommendations

The fourth round of post-treatment sampling suggests that the potassium permanganate injections and cylinders appear to be effective in treating the groundwater contaminants in many wells and less effective in others. Additional data will be necessary to fully evaluate the efficacy of the treatment methods. Both the injected and placed materials will remain active for a period following the treatment event, so additional decreases in concentration are expected. The next scheduled groundwater sampling event is April 2017.

TABLES

TABLE 1: GROUNDWATER MONITORING
FORMER DOWCRAFT FACILITY
FALCONER, NEW YORK

October 2016

Monitoring Well	*Depth to Water*	*Boring Depth*	*Casing Elevation*	*Groundwater Elevation*
ESI-1	9.65	14.83	1264.17	1254.52
ESI-2	8.55	13.8	1264.6	1256.05
ESI-3	10.15	14.25	1264.89	1254.74
ESI-6	10.18	13.75	1264.66	1254.48
ESI-7	10.09	13.95	1264.93	1254.84
ESI-10	10.8	15.9	1265.08	1254.28
ESI-11	10.6	15.6	1265.09	1254.49
ESI-12	10.2	15.1	1264.95	1254.75
ESI-13R	9.05	15.15	1263.31	1254.26
PW-1	10.1	19.9	1264.6	1254.5
PW-3R	9.55	36.8	1265.04	1255.49

TABLE 2: GROUNDWATER ANALYTICAL RESULTS - VOLATILE ORGANIC COMPOUNDS
FORMER DOWCRAFT FACILITY
FALCONER, NEW YORK

Location ID		ESI-1		ESI-1		ESI-1		ESI-1		ESI-1		ESI-10		ESI-10		ESI-10		ESI-10		ESI-10		ESI-11		ESI-11		ESI-11		ESI-11	
Sample Matrix		WG		WG		WG		WG		WG		WG		WG		WG		WG		WG		WG		WG		WG		WG	
Date Sampled		12/02/2014		04/21/2015		11/03/2015		04/25/2016		10/20/2016		10/29/2014		04/21/2015		11/03/2015		04/26/2016		10/20/2016		10/29/2014		04/21/2015		11/03/2015		04/26/2016	
Units		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 Groundwater Standards & Guidance Values																													
1,1,1-Trichloroethane	5.0 ug/l	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U
1,1-Dichloroethane	5.0 ug/l	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U
1,1-Dichloroethene	5.0 ug/l	--	U	--	U,*	--	U	--	U	--	U	**0.61**	**J**	--	U	--	U	--	U	--	U	--	U	--	U,*	--	U	--	U
1,2-Dichlorobenzene	3.0 ug/l	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U
1,2-Dichloroethane	0.6 ug/l	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U
1,3-Dichlorobenzene	3.0 ug/l	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U
1,4-Dichlorobenzene	3.0 ug/l	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U
Acetone	50.0 ug/l	--	U	--	U	--	U	--	U	--	U	--	U	**8.5**	**J**	**5.9**	**J**	**7.16**	**J**	**7.11**	**J**	--	U	**3.9**	**J**	**7.0**	**J**	**32.4**	
Benzene	1.0 ug/l	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U
Carbon Tetrachloride	5.0 ug/l	--	U	--	U	--	U	--	U	--	U	--	U,*	--	U	--	U	--	U	--	U	--	U,*	--	U	--	U	--	U
Chlorobenzene	5.0 ug/l	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U
Chloroform	7.0 ug/l	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U
Cis-1,2-Dichloroethylene	5.0 ug/l	--	U	**4.4**		--	U	--	U	--	U	**240**	**E**	--	U	--	U	--	U	--	U	**76**		--	U	--	U	--	U
Ethylbenzene	5.0 ug/l	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U
Methylene Chloride	5.0 ug/l	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U
Tetrachloroethylene (PCE)	5.0 ug/l	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U
Toluene	5.0 ug/l	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U
Trans-1,2-Dichloroethene	5.0 ug/l	--	U	--	U	--	U	--	U	--	U	**2.5**		--	U	--	U	--	U	--	U	**2.0**		--	U	--	U	--	U
Trichloroethylene (TCE)	5.0 ug/l	**8.9**		**15**		**12**		**4.89**		**6.52**		**62**		--	U	--	U	--	U	--	U	**55**		--	U	--	U	--	U
Vinyl Chloride	2.0 ug/l	--	U	--	U	--	U	--	U	--	U	**37**		--	U,*	--	U	--	U	--	U	**24**		--	U	--	U	--	U
Xylenes	5.0 ug/l	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U
Tert-Butyl Methyl Ether		--	U	--	U	--	U	--	U			--	U	--	U	--	U	--	U			--	U	--	U	--	U	--	U
Dissolved Oxygen		6100.00	HF	7900.00	HF	4800.00	HF	--	U	4300.0		1800.00	HF	2900.00	HF	2800.00	HF	--	U	4700.0		1800.00	HF	3100.00	HF	2400.00	HF	--	U
Chloride		249000.0	B	337000.0	B	309000.0	B			263000.0		164000.0	B			79700.00	B			132000.0				165000.0	B	174000.0	B		
pH (S.U.)		6.58	HF	6.92	HF	7.07	HF	6.66				6.58	HF	6.69	HF	6.77	HF	6.37				6.93	HF	6.76	HF	7.02	HF	6.86	

TABLE 2: GROUNDWATER ANALYTICAL RESULTS - VOLATILE ORGANIC COMPOUNDS
FORMER DOWCRAFT FACILITY
FALCONER, NEW YORK

	Location ID	ESI-11		ESI-12		ESI-12		ESI-12		ESI-12		ESI-12		ESI-13R		ESI-13R		ESI-13R		ESI-13R		ESI-13R		ESI-2		ESI-2		ESI-2		ESI-2	
	Sample Matrix	WG		WG		WG		WG		WG		WG		WG		WG		WG		WG		WG		WG		WG		WG		WG	
	Date Sampled	10/20/2016		10/22/2014		04/21/2015		11/03/2015		04/26/2016		10/21/2016		10/21/2014		04/21/2015		11/02/2015		04/25/2016		10/20/2016		12/02/2014		04/22/2015		11/03/2015		04/25/20	
	Units	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 Groundwater Standards & Guidance Values																														
1,1,1-Trichloroethane	5.0 ug/l	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	
1,1-Dichloroethane	5.0 ug/l	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	
1,1-Dichloroethene	5.0 ug/l	--	U	--	U	--	U	--	U	--	UM	--	UM	--	U	--	U,*	--	U	--	U	--	U	**1.1**		--	U,*	**12**		--	
1,2-Dichlorobenzene	3.0 ug/l	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	
1,2-Dichloroethane	0.6 ug/l	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	
1,3-Dichlorobenzene	3.0 ug/l	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	
1,4-Dichlorobenzene	3.0 ug/l	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	
Acetone	50.0 ug/l	--	U	--	U	--	U	**5.6**	**J**	**5.85**	**J**	**6.19**	**J**	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	
Benzene	1.0 ug/l	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	
Carbon Tetrachloride	5.0 ug/l	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U,*	--	U	--	U	--	
Chlorobenzene	5.0 ug/l	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	
Chloroform	7.0 ug/l	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	
Cis-1,2-Dichloroethylene	5.0 ug/l	--	U	**71**		**1.2**		--	U	--	U	--	U	**18**		**18**		**8.3**		**7.51**		**9.41**		**540**	**E**	**740**		**4400**	**E**	**5290**	
Ethylbenzene	5.0 ug/l	--	U	--	U	--	U	--	U	--	UM	--	UM	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	
Methylene Chloride	5.0 ug/l	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	**7.9**	**J**	--	U	--	
Tetrachloroethylene (PCE)	5.0 ug/l	--	U	**0.48**	**J**	**0.54**	**J**	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	**0.48**	**J**	--	U	--	U	--	
Toluene	5.0 ug/l	--	U	--	U	--	U	--	U	--	UM	--	UM	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	
Trans-1,2-Dichloroethene	5.0 ug/l	--	U	--	U	--	U	--	U	--	UM	--	UM	--	U	--	U	--	U	--	U	--	U	**4.5**		--	U	**19**		--	
Trichloroethylene (TCE)	5.0 ug/l	--	U	**140**	**E**	**10**		--	U	--	UM	--	UM	**22**		**46**		**19**		**21.0**		**13.1**		**130**	**E**	**110**		**1100**	**E**	**1260**	
Vinyl Chloride	2.0 ug/l	--	U	--	U	--	U,*	--	U	--	UM	--	UM	--	U	--	U	--	U	--	U	--	U	**130**	**E**	**130**		**320**		**289**	
Xylenes	5.0 ug/l	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	
Tert-Butyl Methyl Ether		--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U			--	U	--	U	--	U	--	
Dissolved Oxygen		1500.0		5400.00	HF	7600.00	HF	4500.00	HF	--	U	6500.0		3700.00	HF	6700.00	HF	3800.00	HF	--	U	1000.0		2100.00	HF	4900.00	HF	2200.00	HF	--	
Chloride		138000.0				176000.0	B	167000.0	B			185000.0				357000.0	B	322000.0	B			########		215000.0	B	219000.0	B	212000.0	B		
pH (S.U.)				6.91	HF	7.04	HF	7.23	HF	7.05				6.54	HF	6.66	HF	7.05	HF	6.64				7.06	HF	7.09	HF	7.15	HF	7.03	

TABLE 2: GROUNDWATER ANALYTICAL RESULTS - VOLATILE ORGANIC COMPOUNDS
FORMER DOWCRAFT FACILITY
FALCONER, NEW YORK

Location ID		ESI-2			ESI-3		ESI-3		ESI-3		ESI-3		ESI-3		ESI-6		ESI-6		ESI-6		ESI-6		ESI-6		ESI-7		ESI-7		ESI-7		ESI-7	
Sample Matrix		WG			WG		WG		WG		WG		WG		WG		WG		WG		WG		WG		WG		WG		WG		WG	
Date Sampled 16		10/21/2016			10/21/2014		04/22/2015		11/02/2015		04/25/2016		10/20/2016		10/29/2014		04/22/2015		11/02/2015		04/25/2016		10/21/2016		10/21/2014		04/21/2015		11/02/2015		04/25/20	
Units		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 Groundwater Standards & Guidance Values																																
1,1,1-Trichloroethane	5.0 ug/l	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	
1,1-Dichloroethane	5.0 ug/l	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	
1,1-Dichloroethene	5.0 ug/l	U	--	U	--	U	--	U,*	--	U	--	U	--	U	**1.6**		--	U	**3.9**		--	U	--	U	--	U	--	U,*	--	U	--	
1,2-Dichlorobenzene	3.0 ug/l	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	
1,2-Dichloroethane	0.6 ug/l	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	
1,3-Dichlorobenzene	3.0 ug/l	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	
1,4-Dichlorobenzene	3.0 ug/l	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	
Acetone	50.0 ug/l	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	
Benzene	1.0 ug/l	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	
Carbon Tetrachloride	5.0 ug/l	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U,*	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	
Chlorobenzene	5.0 ug/l	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	
Chloroform	7.0 ug/l	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	
Cis-1,2-Dichloroethylene	5.0 ug/l		**592**		--	U	--	U	--	U	--	U	**1.40**	**J**	**210**	**E**	**1100**		**1000**	**E**	**322**		**626**		**78**		**25**		**12**		**8.30**	
Ethylbenzene	5.0 ug/l	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	
Methylene Chloride	5.0 ug/l	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	**10**	**J**	--	U	--	U	--	U	--	U	--	U	--	U	--	
Tetrachloroethylene (PCE)	5.0 ug/l	U	--	U	--	U	--	U	--	U	--	U	--	U	**1.1**		--	U	**5.8**		--	U	--	U	**0.39**	**J**	--	U	--	U	--	
Toluene	5.0 ug/l	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	
Trans-1,2-Dichloroethene	5.0 ug/l	U	--	U	--	U	--	U	--	U	--	U	--	U	**2.2**		--	U	**4.0**		--	U	**11.1**	**J**	--	U	--	U	--	U	--	
Trichloroethylene (TCE)	5.0 ug/l		**303**		**4.8**		**2.5**		**4.8**		**1.06**	**J**	**6.99**		**200**	**E**	**810**		**1500**	**E**	**924**		**1060**		**150**	**E**	**78**		**57**		**42.9**	
Vinyl Chloride	2.0 ug/l		--	U	--	U	--	U	--	U	--	U	--	U	**160**	**E**	**100**	***,^**	**68**		**21.7**		--	U	--	U	--	U	--	U	--	
Xylenes	5.0 ug/l	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	
Tert-Butyl Methyl Ether		U			--	U	--	U	--	U	--	U			--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	
Dissolved Oxygen		U	3700.0		7400.00	HF	10000.00	HF	6000.00	HF	--	U	4800.0		2700.00	HF	2700.00	HF	2000.00	HF	--	U	2500.0		7300.00	HF	8500.00	HF	6700.00	HF	--	
Chloride			141000.0				218000.0	B	234000.0	B			########				242000.0	B	240000.0	B			########				331000.0	B	203000.0	B		
pH (S.U.)					6.90	HF	7.12	HF	7.11	HF	--	U			7.05	HF	7.05	HF	7.23	HF	6.99		7.99		6.87	HF	6.88	HF	7.03	HF	6.89	

TABLE 2: GROUNDWATER ANALYTICAL RESULTS - VOLATILE ORGANIC COMPOUNDS
FORMER DOWCRAFT FACILITY
FALCONER, NEW YORK

Location ID		ESI-7			PW-1		PW-1		PW-1		PW-1		PW-1		PW-3R		PW-3R		PW-3R		PW-3R		PW-3R	
Sample Matrix		WG			WG		WG		WG		WG		WG		WG		WG		WG		WG		WG	
Date Sampled16		10/20/2016			10/21/2014		04/21/2015		11/02/2015		04/25/2016		10/20/2016		10/29/2014		04/22/2015		11/03/2015		04/26/2016		10/21/2016	
Units		ug/l			ug/l		ug/l		ug/l		ug/l		ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
NYSDEC Groundwater Standards & Guidance Values																								
1,1,1-Trichloroethane	5.0 ug/l	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U
1,1-Dichloroethane	5.0 ug/l	U	--	U	--	U	--	U	--	U	--	U	--	U	**5.1**		**4.0**		--	U	--	U	--	U
1,1-Dichloroethene	5.0 ug/l	U	--	U	--	U	--	U,*	--	U	--	U	--	U	--	U	--	U,*	--	U	--	U	--	U
1,2-Dichlorobenzene	3.0 ug/l	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U
1,2-Dichloroethane	0.6 ug/l	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U
1,3-Dichlorobenzene	3.0 ug/l	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U
1,4-Dichlorobenzene	3.0 ug/l	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U
Acetone	50.0 ug/l	U	**6.89**	**J**	--	U	--	U	--	U	--	U	--	U	**12**		**16**		--	U	**11.3**	**J**	**12.3**	**J**
Benzene	1.0 ug/l	U	--	U	--	U	--	U	--	U	--	U	--	U	**0.61**	**J**	**0.53**	**J**	--	U	--	U	--	U
Carbon Tetrachloride	5.0 ug/l	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U,*	--	U	--	U	--	U	--	U
Chlorobenzene	5.0 ug/l	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U
Chloroform	7.0 ug/l	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U
Cis-1,2-Dichloroethylene	5.0 ug/l		**24.5**		**1.9**		**8.8**		**2.4**		**5.03**		**7.14**		**21**		**1.6**		**140**		**242**		**1450**	
Ethylbenzene	5.0 ug/l	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U
Methylene Chloride	5.0 ug/l	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U
Tetrachloroethylene (PCE)	5.0 ug/l	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U
Toluene	5.0 ug/l	U	--	U	--	U	--	U	--	U	--	U	--	U	**8.1**		**6.9**		**8.0**	**J**	**4.90**		--	U
Trans-1,2-Dichloroethene	5.0 ug/l	U	--	U	--	U	--	U	--	U	--	U	--	U	**39**		--	U	--	U	--	U	--	U
Trichloroethylene (TCE)	5.0 ug/l		**106**		**15**		**3.3**		**11**		**6.96**		**22.1**		**0.79**	**J**	--	U	--	U	**17.2**		**84.4**	
Vinyl Chloride	2.0 ug/l	U	--	U	--	U	--	U	--	U	--	U	--	U	**1800**	**E**	**120**	**E**	**790**	**^,F1**	**134**		**751**	
Xylenes	5.0 ug/l	U	--	U	--	U	--	U	--	U	--	U	--	U	**2.3**		**1.1**	**J**	--	U				
Tert-Butyl Methyl Ether		U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U
Dissolved Oxygen		U	5100.0		6900.00	HF	9500.00	HF	5700.00	HF	--	U	4400.0		3300.00	HF	960.000	HF	760.000	HF	--	U	ND	
Chloride			70900.0				222000.0	B	243000.0	B			#######				281000.0	B	265000.0	B			317000	
pH (S.U.)					6.86	HF	6.92	HF	7.13	HF	6.99				6.40	HF	6.40	HF	6.41	HF	6.74		7.74	

TABLE NOTES

WG - Groundwater
ug/l - micrograms per liter
S.U. - Standard Unit

Qualifier Key
J - Result is less than the Reporting Limit but greater than or equal to the Method Detection Limit and the concentration is an approximate value.
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.
C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

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.)

I - The lower value for the two columns has been reported due to obvious interference.
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.
A - Spectra identified as "Aldol Condensation Product".
E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
H- The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
F - Denotes a parameter for which Paradigm does not carry cerification, the results for which should therefore only be used where ELAP certification is required, such as personal exposure assessment.
RE - Analytical results are from sample re-extraction.
R - Analytical results are from sample re-analysis.
D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
P - The RPD between the results for the two columns exceeds the method-specified criteria.
U - Not detected at the reported detection limit for the sample.
M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
S - Analytical results are from modified screening analysis.

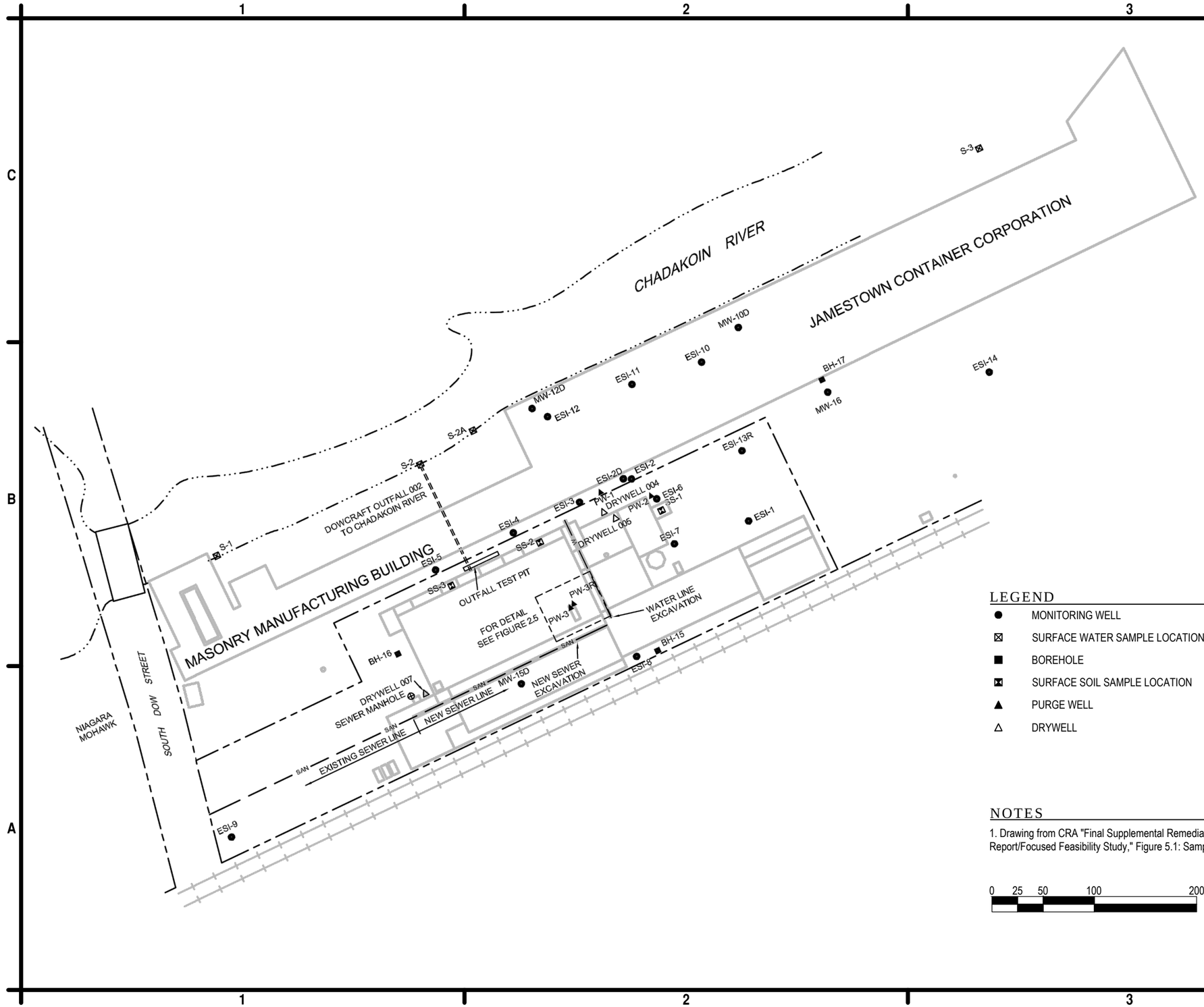
B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
* - Indicates any recoveries outside associated acceptance windows. Surrogate ouliers in samples are presumed matrix effects. LCS demonstrates method compliance unless otherwise noted.
< - Analyzed for but not detected at or above the quantitation limit
1 - Indicates data from primary column used for QC calculation.

TABLE 3: CHANGE IN TOTAL VOC CONCENTRATIONS
FORMER DOWCRAFT FACILITY
FALCONER, NEW YORK

Monitoring Well	*Total VOC Concentration (ug/L)*					*Percent Change Oct. 2014 to Oct. 2016*
	Oct-14	*Apr-15*	*Nov-15*	*Apr-16*	*Oct-16*	
PW-1	16.9	12.1	13.4	11.99	29.24	*73%*
PW-3R	2,609.30	147.71	938	409.4	2285.4	-12.40%
ESI-1	8.9	19.4	12	4.89	6.52	-27%
ESI-2	816.08	987.9	6,151	6,839	895	9.70%
ESI-3	4.8	2.5	4.8	1.06	8.39	74.80%
ESI-6	575.22	2,020	3,281.70	1,267.70	1,697.10	195%
ESI-7	208.39	103	69	51.2	137.36	-34%
ESI-10[1]	352.11	8.5	5.9	7.16	7.11	-98%
ESI-11[1]	157	3.9	7	32.4	0	-100%
ESI-12[1]	221.48	11.74	5.6	5.85	5.85	-97%
ESI-13R	40	64	27.3	28.51	28.28	-29.30%

[1] No chlorinated compounds were detected. Only acetone was detected in the sample and results were below NYSDEC standards.

FIGURES



LEGEND

- MONITORING WELL
- SURFACE WATER SAMPLE LOCATION
- BOREHOLE
- SURFACE SOIL SAMPLE LOCATION
- PURGE WELL
- DRYWELL

NOTES

1. Drawing from CRA "Final Supplemental Remedial Investigation Report/Focused Feasibility Study," Figure 5.1: Sample Locations, 2001.

0 25 50 100 200 FEET

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FORMER DOWCRAFT FACILITY
GROUNDWATER REMEDIATION
FALCONER, NEW YORK

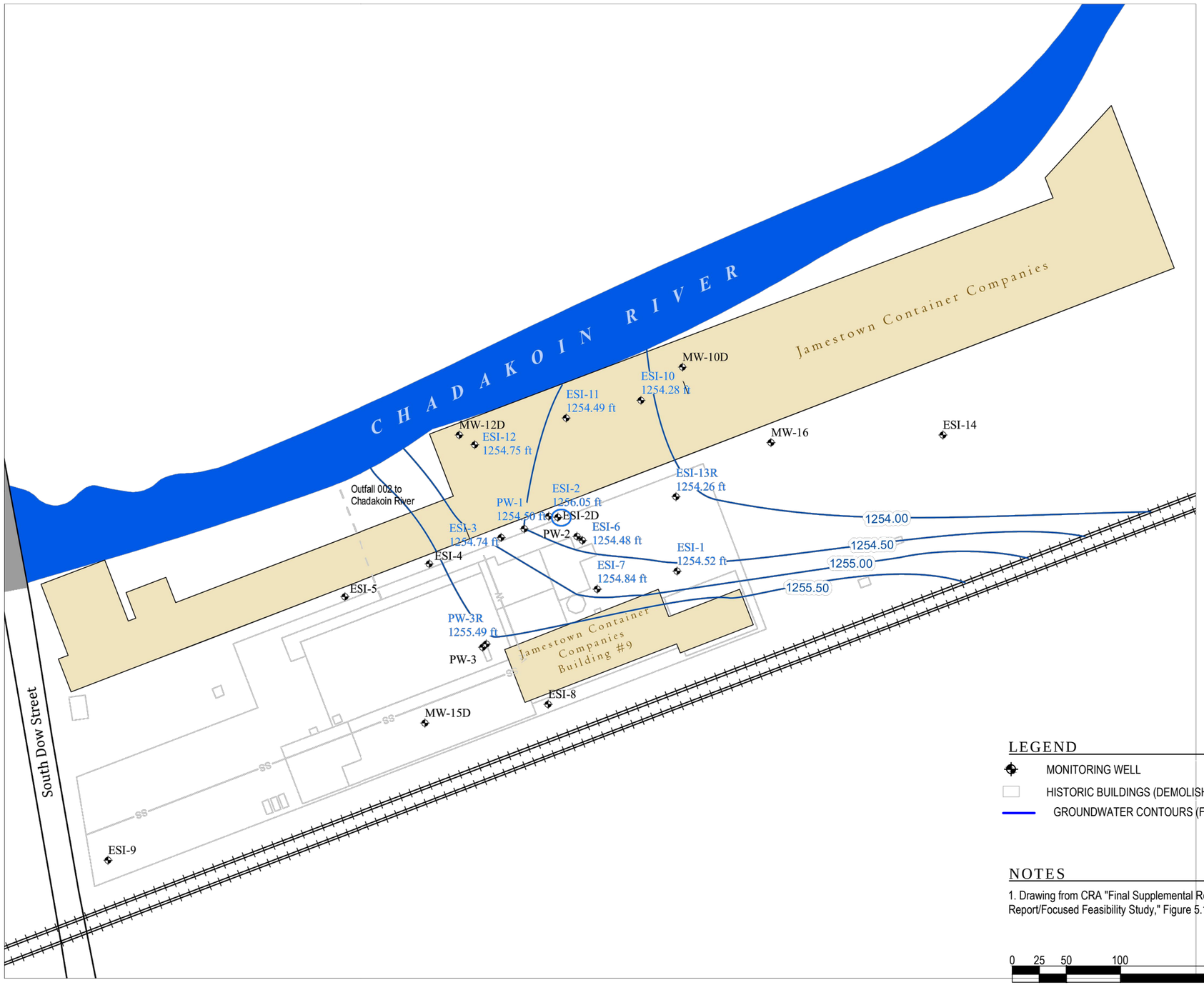
MARK	DATE	DESCRIPTION
REVISIONS		

PROJECT NO:	N30.001.001
DATE:	JUNE 6, 2016
DRAWN BY:	C. MARTIN
DESIGNED BY:	C. MARTIN
CHECKED BY:	D. RIKER

HISTORIC AND EXISTING SITE FEATURES

FIGURE 1

F:\Project\N30 - Jamestown Container\N30001001 - Jamestown Container\Environmental\CADD-GIS\Sheet Files\FIGURE 1 HISTORIC AND EXISTING SITE FEATURES.dwg



F:\Project\N30 - Jamestown Container\N30001001 - Jamestown Container\Environmental\CADD-GIS\Sheet Files\FIGURE X APRIL 2016 GROUNDWATER ELEVATIONS.dwg

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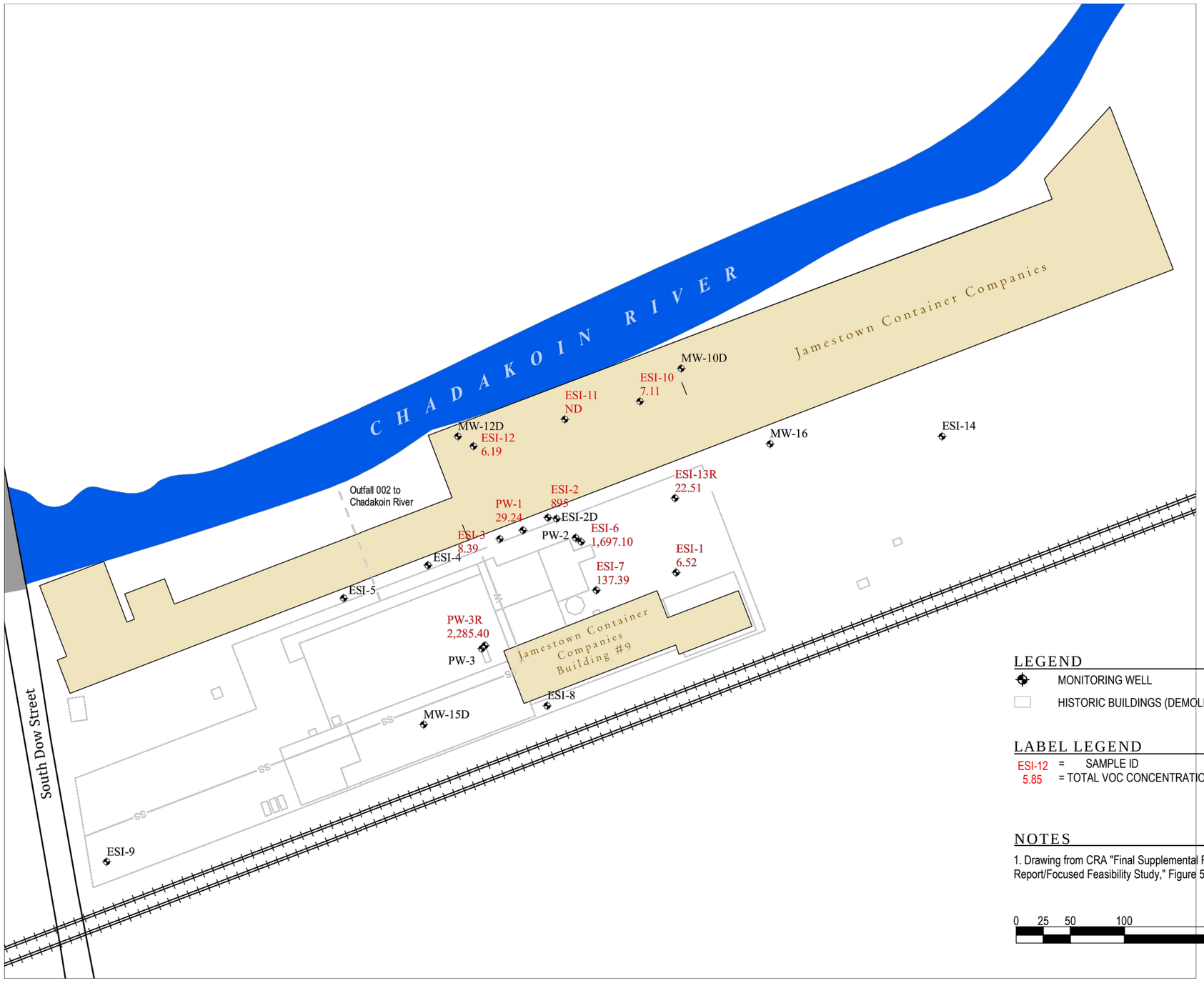
FORMER DOWCRAFT FACILITY
GROUNDWATER REMEDIATION
FALCONER, NEW YORK

MARK	DATE	DESCRIPTION
REVISIONS		

PROJECT NO:	N30.001.001
DATE:	NOVEMBER 18, 2016
DRAWN BY:	C. MARTIN
DESIGNED BY:	C. MARTIN
CHECKED BY:	D. RIKER

OCTOBER 2016 GROUNDWATER ELEVATIONS

FIGURE 2



LEGEND

- MONITORING WELL
- HISTORIC BUILDINGS (DEMOLISHED)

LABEL LEGEND

ESI-12 = SAMPLE ID
5.85 = TOTAL VOC CONCENTRATION (UG/L)

NOTES

1. Drawing from CRA "Final Supplemental Remedial Investigation Report/Focused Feasibility Study," Figure 5.1: Sample Locations, 2001.

0 25 50 100 200 FEET

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MARK	DATE	DESCRIPTION
		REVISIONS

PROJECT NO:	N30.001.001
DATE:	NOVEMBER 18, 2016
DRAWN BY:	C. MARTIN
DESIGNED BY:	C. MARTIN
CHECKED BY:	D. RIKER

OCTOBER 2016
GROUNDWATER
RESULTS

FIGURE 3

F:\Project\N30 - Jamestown Container\N30001001 - Jamestown Container\Environmental\CADD-GIS\Sheet Files\FIGURE X APRIL 2016 GROUNDWATER RESULTS.dwg

APPENDICES

APPENDIX A
GROUNDWATER ANALYTICAL RESULTS

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 164672

Client: **C&S Companies**

Project Reference: JCC

Sample Identifier:	ESI-12-102016		
Lab Sample ID:	164672-01	**Date Sampled:**	10/20/2016
Matrix:	Groundwater	**Date Received:**	10/24/2016

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 2.00	ug/L		10/26/2016 17:42
1,1,2,2-Tetrachloroethane	< 2.00	ug/L		10/26/2016 17:42
1,1,2-Trichloroethane	< 2.00	ug/L		10/26/2016 17:42
1,1-Dichloroethane	< 2.00	ug/L		10/26/2016 17:42
1,1-Dichloroethene	< 2.00	ug/L		10/26/2016 17:42
1,2,3-Trichlorobenzene	< 5.00	ug/L		10/26/2016 17:42
1,2,4-Trichlorobenzene	< 5.00	ug/L		10/26/2016 17:42
1,2-Dibromo-3-Chloropropane	< 10.0	ug/L		10/26/2016 17:42
1,2-Dibromoethane	< 2.00	ug/L		10/26/2016 17:42
1,2-Dichlorobenzene	< 2.00	ug/L		10/26/2016 17:42
1,2-Dichloroethane	< 2.00	ug/L		10/26/2016 17:42
1,2-Dichloropropane	< 2.00	ug/L		10/26/2016 17:42
1,3-Dichlorobenzene	< 2.00	ug/L		10/26/2016 17:42
1,4-Dichlorobenzene	< 2.00	ug/L		10/26/2016 17:42
1,4-dioxane	< 20.0	ug/L		10/26/2016 17:42
2-Butanone	< 10.0	ug/L		10/26/2016 17:42
2-Hexanone	< 5.00	ug/L		10/26/2016 17:42
4-Methyl-2-pentanone	< 5.00	ug/L		10/26/2016 17:42
Acetone	**6.19**	ug/L	J	10/26/2016 17:42
Benzene	< 1.00	ug/L		10/26/2016 17:42
Bromochloromethane	< 5.00	ug/L		10/26/2016 17:42
Bromodichloromethane	< 2.00	ug/L		10/26/2016 17:42
Bromoform	< 5.00	ug/L		10/26/2016 17:42
Bromomethane	< 2.00	ug/L		10/26/2016 17:42
Carbon disulfide	< 2.00	ug/L		10/26/2016 17:42
Carbon Tetrachloride	< 2.00	ug/L		10/26/2016 17:42
Chlorobenzene	< 2.00	ug/L		10/26/2016 17:42

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 164672

Client: **C&S Companies**

Project Reference: JCC

Sample Identifier: ESI-12-102016
Lab Sample ID: 164672-01 **Date Sampled:** 10/20/2016
Matrix: Groundwater **Date Received:** 10/24/2016

Chloroethane	< 2.00	ug/L	10/26/2016	17:42
Chloroform	< 2.00	ug/L	10/26/2016	17:42
Chloromethane	< 2.00	ug/L	10/26/2016	17:42
cis-1,2-Dichloroethene	< 2.00	ug/L	10/26/2016	17:42
cis-1,3-Dichloropropene	< 2.00	ug/L	10/26/2016	17:42
Cyclohexane	< 10.0	ug/L	10/26/2016	17:42
Dibromochloromethane	< 2.00	ug/L	10/26/2016	17:42
Dichlorodifluoromethane	< 2.00	ug/L	10/26/2016	17:42
Ethylbenzene	< 2.00	ug/L	10/26/2016	17:42
Freon 113	< 2.00	ug/L	10/26/2016	17:42
Isopropylbenzene	< 2.00	ug/L	10/26/2016	17:42
m,p-Xylene	< 2.00	ug/L	10/26/2016	17:42
Methyl acetate	< 2.00	ug/L	10/26/2016	17:42
Methyl tert-butyl Ether	< 2.00	ug/L	10/26/2016	17:42
Methylcyclohexane	< 2.00	ug/L	10/26/2016	17:42
Methylene chloride	< 5.00	ug/L	10/26/2016	17:42
o-Xylene	< 2.00	ug/L	10/26/2016	17:42
Styrene	< 5.00	ug/L	10/26/2016	17:42
Tetrachloroethene	< 2.00	ug/L	10/26/2016	17:42
Toluene	< 2.00	ug/L	10/26/2016	17:42
trans-1,2-Dichloroethene	< 2.00	ug/L	10/26/2016	17:42
trans-1,3-Dichloropropene	< 2.00	ug/L	10/26/2016	17:42
Trichloroethene	< 2.00	ug/L	10/26/2016	17:42
Trichlorofluoromethane	< 2.00	ug/L	10/26/2016	17:42
Vinyl chloride	< 2.00	ug/L	10/26/2016	17:42

Report Prepared Friday, October 28, 2016

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 164672

Client: **C&S Companies**

Project Reference: JCC

Sample Identifier: ESI-12-102016
Lab Sample ID: 164672-01 **Date Sampled:** 10/20/2016
Matrix: Groundwater **Date Received:** 10/24/2016

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
1,2-Dichloroethane-d4	**97.3**	85.8 - 116		10/26/2016 17:42
4-Bromofluorobenzene	**96.4**	80.6 - 114		10/26/2016 17:42
Pentafluorobenzene	**101**	89.6 - 112		10/26/2016 17:42
Toluene-D8	**76.2**	89.6 - 109	*	10/26/2016 17:42

Method Reference(s): EPA 8260C
EPA 5030C
Data File: x36396.D

Report Prepared Friday, October 28, 2016

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 164672

Client: **C&S Companies**

Project Reference: JCC

Sample Identifier: ESI-11-102016
Lab Sample ID: 164672-02 **Date Sampled:** 10/20/2016
Matrix: Groundwater **Date Received:** 10/24/2016

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 2.00	ug/L		10/26/2016 18:05
1,1,2,2-Tetrachloroethane	< 2.00	ug/L		10/26/2016 18:05
1,1,2-Trichloroethane	< 2.00	ug/L		10/26/2016 18:05
1,1-Dichloroethane	< 2.00	ug/L		10/26/2016 18:05
1,1-Dichloroethene	< 2.00	ug/L		10/26/2016 18:05
1,2,3-Trichlorobenzene	< 5.00	ug/L		10/26/2016 18:05
1,2,4-Trichlorobenzene	< 5.00	ug/L		10/26/2016 18:05
1,2-Dibromo-3-Chloropropane	< 10.0	ug/L		10/26/2016 18:05
1,2-Dibromoethane	< 2.00	ug/L		10/26/2016 18:05
1,2-Dichlorobenzene	< 2.00	ug/L		10/26/2016 18:05
1,2-Dichloroethane	< 2.00	ug/L		10/26/2016 18:05
1,2-Dichloropropane	< 2.00	ug/L		10/26/2016 18:05
1,3-Dichlorobenzene	< 2.00	ug/L		10/26/2016 18:05
1,4-Dichlorobenzene	< 2.00	ug/L		10/26/2016 18:05
1,4-dioxane	< 20.0	ug/L		10/26/2016 18:05
2-Butanone	< 10.0	ug/L		10/26/2016 18:05
2-Hexanone	< 5.00	ug/L		10/26/2016 18:05
4-Methyl-2-pentanone	< 5.00	ug/L		10/26/2016 18:05
Acetone	< 10.0	ug/L		10/26/2016 18:05
Benzene	< 1.00	ug/L		10/26/2016 18:05
Bromochloromethane	< 5.00	ug/L		10/26/2016 18:05
Bromodichloromethane	< 2.00	ug/L		10/26/2016 18:05
Bromoform	**2.50**	ug/L	J	10/26/2016 18:05
Bromomethane	< 2.00	ug/L		10/26/2016 18:05
Carbon disulfide	< 2.00	ug/L		10/26/2016 18:05
Carbon Tetrachloride	< 2.00	ug/L		10/26/2016 18:05
Chlorobenzene	< 2.00	ug/L		10/26/2016 18:05

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 164672

Client: **C&S Companies**

Project Reference: JCC

Sample Identifier: ESI-11-102016
Lab Sample ID: 164672-02 **Date Sampled:** 10/20/2016
Matrix: Groundwater **Date Received:** 10/24/2016

Chloroethane	< 2.00	ug/L	10/26/2016	18:05
Chloroform	< 2.00	ug/L	10/26/2016	18:05
Chloromethane	< 2.00	ug/L	10/26/2016	18:05
cis-1,2-Dichloroethene	< 2.00	ug/L	10/26/2016	18:05
cis-1,3-Dichloropropene	< 2.00	ug/L	10/26/2016	18:05
Cyclohexane	< 10.0	ug/L	10/26/2016	18:05
Dibromochloromethane	< 2.00	ug/L	10/26/2016	18:05
Dichlorodifluoromethane	< 2.00	ug/L	10/26/2016	18:05
Ethylbenzene	< 2.00	ug/L	10/26/2016	18:05
Freon 113	< 2.00	ug/L	10/26/2016	18:05
Isopropylbenzene	< 2.00	ug/L	10/26/2016	18:05
m,p-Xylene	< 2.00	ug/L	10/26/2016	18:05
Methyl acetate	< 2.00	ug/L	10/26/2016	18:05
Methyl tert-butyl Ether	< 2.00	ug/L	10/26/2016	18:05
Methylcyclohexane	< 2.00	ug/L	10/26/2016	18:05
Methylene chloride	< 5.00	ug/L	10/26/2016	18:05
o-Xylene	< 2.00	ug/L	10/26/2016	18:05
Styrene	< 5.00	ug/L	10/26/2016	18:05
Tetrachloroethene	< 2.00	ug/L	10/26/2016	18:05
Toluene	< 2.00	ug/L	10/26/2016	18:05
trans-1,2-Dichloroethene	< 2.00	ug/L	10/26/2016	18:05
trans-1,3-Dichloropropene	< 2.00	ug/L	10/26/2016	18:05
Trichloroethene	< 2.00	ug/L	10/26/2016	18:05
Trichlorofluoromethane	< 2.00	ug/L	10/26/2016	18:05
Vinyl chloride	< 2.00	ug/L	10/26/2016	18:05

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 164672

Client: **C&S Companies**

Project Reference: JCC

Sample Identifier: ESI-11-102016
Lab Sample ID: 164672-02 **Date Sampled:** 10/20/2016
Matrix: Groundwater **Date Received:** 10/24/2016

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
1,2-Dichloroethane-d4	**96.8**	85.8 - 116		10/26/2016 18:05
4-Bromofluorobenzene	**94.8**	80.6 - 114		10/26/2016 18:05
Pentafluorobenzene	**101**	89.6 - 112		10/26/2016 18:05
Toluene-D8	**86.9**	89.6 - 109	*	10/26/2016 18:05

Method Reference(s): EPA 8260C
EPA 5030C
Data File: x36397.D

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 164672

Client: **C&S Companies**

Project Reference: JCC

Sample Identifier: ESI-10-102016
Lab Sample ID: 164672-03 **Date Sampled:** 10/20/2016
Matrix: Groundwater **Date Received:** 10/24/2016

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 2.00	ug/L		10/26/2016 18:29
1,1,2,2-Tetrachloroethane	< 2.00	ug/L		10/26/2016 18:29
1,1,2-Trichloroethane	< 2.00	ug/L		10/26/2016 18:29
1,1-Dichloroethane	< 2.00	ug/L		10/26/2016 18:29
1,1-Dichloroethene	< 2.00	ug/L		10/26/2016 18:29
1,2,3-Trichlorobenzene	< 5.00	ug/L		10/26/2016 18:29
1,2,4-Trichlorobenzene	< 5.00	ug/L		10/26/2016 18:29
1,2-Dibromo-3-Chloropropane	< 10.0	ug/L		10/26/2016 18:29
1,2-Dibromoethane	< 2.00	ug/L		10/26/2016 18:29
1,2-Dichlorobenzene	< 2.00	ug/L		10/26/2016 18:29
1,2-Dichloroethane	< 2.00	ug/L		10/26/2016 18:29
1,2-Dichloropropane	< 2.00	ug/L		10/26/2016 18:29
1,3-Dichlorobenzene	< 2.00	ug/L		10/26/2016 18:29
1,4-Dichlorobenzene	< 2.00	ug/L		10/26/2016 18:29
1,4-dioxane	< 20.0	ug/L		10/26/2016 18:29
2-Butanone	< 10.0	ug/L		10/26/2016 18:29
2-Hexanone	< 5.00	ug/L		10/26/2016 18:29
4-Methyl-2-pentanone	< 5.00	ug/L		10/26/2016 18:29
Acetone	**7.11**	ug/L	J	10/26/2016 18:29
Benzene	< 1.00	ug/L		10/26/2016 18:29
Bromochloromethane	< 5.00	ug/L		10/26/2016 18:29
Bromodichloromethane	< 2.00	ug/L		10/26/2016 18:29
Bromoform	< 5.00	ug/L		10/26/2016 18:29
Bromomethane	< 2.00	ug/L		10/26/2016 18:29
Carbon disulfide	< 2.00	ug/L		10/26/2016 18:29
Carbon Tetrachloride	< 2.00	ug/L		10/26/2016 18:29
Chlorobenzene	< 2.00	ug/L		10/26/2016 18:29

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 164672

Client: **C&S Companies**

Project Reference: JCC

Sample Identifier: ESI-10-102016
Lab Sample ID: 164672-03 **Date Sampled:** 10/20/2016
Matrix: Groundwater **Date Received:** 10/24/2016

Chloroethane	< 2.00	ug/L	10/26/2016	18:29
Chloroform	< 2.00	ug/L	10/26/2016	18:29
Chloromethane	< 2.00	ug/L	10/26/2016	18:29
cis-1,2-Dichloroethene	< 2.00	ug/L	10/26/2016	18:29
cis-1,3-Dichloropropene	< 2.00	ug/L	10/26/2016	18:29
Cyclohexane	< 10.0	ug/L	10/26/2016	18:29
Dibromochloromethane	< 2.00	ug/L	10/26/2016	18:29
Dichlorodifluoromethane	< 2.00	ug/L	10/26/2016	18:29
Ethylbenzene	< 2.00	ug/L	10/26/2016	18:29
Freon 113	< 2.00	ug/L	10/26/2016	18:29
Isopropylbenzene	< 2.00	ug/L	10/26/2016	18:29
m,p-Xylene	< 2.00	ug/L	10/26/2016	18:29
Methyl acetate	< 2.00	ug/L	10/26/2016	18:29
Methyl tert-butyl Ether	< 2.00	ug/L	10/26/2016	18:29
Methylcyclohexane	< 2.00	ug/L	10/26/2016	18:29
Methylene chloride	< 5.00	ug/L	10/26/2016	18:29
o-Xylene	< 2.00	ug/L	10/26/2016	18:29
Styrene	< 5.00	ug/L	10/26/2016	18:29
Tetrachloroethene	< 2.00	ug/L	10/26/2016	18:29
Toluene	< 2.00	ug/L	10/26/2016	18:29
trans-1,2-Dichloroethene	< 2.00	ug/L	10/26/2016	18:29
trans-1,3-Dichloropropene	< 2.00	ug/L	10/26/2016	18:29
Trichloroethene	< 2.00	ug/L	10/26/2016	18:29
Trichlorofluoromethane	< 2.00	ug/L	10/26/2016	18:29
Vinyl chloride	< 2.00	ug/L	10/26/2016	18:29

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 164672

Client: **C&S Companies**

Project Reference: JCC

Sample Identifier: ESI-10-102016
Lab Sample ID: 164672-03 **Date Sampled:** 10/20/2016
Matrix: Groundwater **Date Received:** 10/24/2016

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
1,2-Dichloroethane-d4	**96.0**	85.8 - 116		10/26/2016 18:29
4-Bromofluorobenzene	**93.7**	80.6 - 114		10/26/2016 18:29
Pentafluorobenzene	**99.1**	89.6 - 112		10/26/2016 18:29
Toluene-D8	**91.4**	89.6 - 109		10/26/2016 18:29

Method Reference(s): EPA 8260C
EPA 5030C
Data File: x36398.D

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 164672

Client: **C&S Companies**

Project Reference: JCC

Sample Identifier:	ESI-3-102016		
Lab Sample ID:	164672-04	**Date Sampled:**	10/20/2016
Matrix:	Groundwater	**Date Received:**	10/24/2016

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 2.00	ug/L		10/26/2016 18:52
1,1,2,2-Tetrachloroethane	< 2.00	ug/L		10/26/2016 18:52
1,1,2-Trichloroethane	< 2.00	ug/L		10/26/2016 18:52
1,1-Dichloroethane	< 2.00	ug/L		10/26/2016 18:52
1,1-Dichloroethene	< 2.00	ug/L		10/26/2016 18:52
1,2,3-Trichlorobenzene	< 5.00	ug/L		10/26/2016 18:52
1,2,4-Trichlorobenzene	< 5.00	ug/L		10/26/2016 18:52
1,2-Dibromo-3-Chloropropane	< 10.0	ug/L		10/26/2016 18:52
1,2-Dibromoethane	< 2.00	ug/L		10/26/2016 18:52
1,2-Dichlorobenzene	< 2.00	ug/L		10/26/2016 18:52
1,2-Dichloroethane	< 2.00	ug/L		10/26/2016 18:52
1,2-Dichloropropane	< 2.00	ug/L		10/26/2016 18:52
1,3-Dichlorobenzene	< 2.00	ug/L		10/26/2016 18:52
1,4-Dichlorobenzene	< 2.00	ug/L		10/26/2016 18:52
1,4-dioxane	< 20.0	ug/L		10/26/2016 18:52
2-Butanone	< 10.0	ug/L		10/26/2016 18:52
2-Hexanone	< 5.00	ug/L		10/26/2016 18:52
4-Methyl-2-pentanone	< 5.00	ug/L		10/26/2016 18:52
Acetone	< 10.0	ug/L		10/26/2016 18:52
Benzene	< 1.00	ug/L		10/26/2016 18:52
Bromochloromethane	< 5.00	ug/L		10/26/2016 18:52
Bromodichloromethane	< 2.00	ug/L		10/26/2016 18:52
Bromoform	< 5.00	ug/L		10/26/2016 18:52
Bromomethane	< 2.00	ug/L		10/26/2016 18:52
Carbon disulfide	< 2.00	ug/L		10/26/2016 18:52
Carbon Tetrachloride	< 2.00	ug/L		10/26/2016 18:52
Chlorobenzene	< 2.00	ug/L		10/26/2016 18:52

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 164672

Client: **C&S Companies**

Project Reference: JCC

Sample Identifier: ESI-3-102016
Lab Sample ID: 164672-04 **Date Sampled:** 10/20/2016
Matrix: Groundwater **Date Received:** 10/24/2016

Chloroethane	< 2.00	ug/L		10/26/2016	18:52
Chloroform	< 2.00	ug/L		10/26/2016	18:52
Chloromethane	< 2.00	ug/L		10/26/2016	18:52
cis-1,2-Dichloroethene	**1.40**	ug/L	J	10/26/2016	18:52
cis-1,3-Dichloropropene	< 2.00	ug/L		10/26/2016	18:52
Cyclohexane	< 10.0	ug/L		10/26/2016	18:52
Dibromochloromethane	< 2.00	ug/L		10/26/2016	18:52
Dichlorodifluoromethane	< 2.00	ug/L		10/26/2016	18:52
Ethylbenzene	< 2.00	ug/L		10/26/2016	18:52
Freon 113	< 2.00	ug/L		10/26/2016	18:52
Isopropylbenzene	< 2.00	ug/L		10/26/2016	18:52
m,p-Xylene	< 2.00	ug/L		10/26/2016	18:52
Methyl acetate	< 2.00	ug/L		10/26/2016	18:52
Methyl tert-butyl Ether	< 2.00	ug/L		10/26/2016	18:52
Methylcyclohexane	< 2.00	ug/L		10/26/2016	18:52
Methylene chloride	< 5.00	ug/L		10/26/2016	18:52
o-Xylene	< 2.00	ug/L		10/26/2016	18:52
Styrene	< 5.00	ug/L		10/26/2016	18:52
Tetrachloroethene	< 2.00	ug/L		10/26/2016	18:52
Toluene	< 2.00	ug/L		10/26/2016	18:52
trans-1,2-Dichloroethene	< 2.00	ug/L		10/26/2016	18:52
trans-1,3-Dichloropropene	< 2.00	ug/L		10/26/2016	18:52
Trichloroethene	**6.99**	ug/L		10/26/2016	18:52
Trichlorofluoromethane	< 2.00	ug/L		10/26/2016	18:52
Vinyl chloride	< 2.00	ug/L		10/26/2016	18:52

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 164672

Client: **C&S Companies**

Project Reference: JCC

Sample Identifier: ESI-3-102016
Lab Sample ID: 164672-04 **Date Sampled:** 10/20/2016
Matrix: Groundwater **Date Received:** 10/24/2016

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
1,2-Dichloroethane-d4	**99.6**	85.8 - 116		10/26/2016 18:52
4-Bromofluorobenzene	**93.8**	80.6 - 114		10/26/2016 18:52
Pentafluorobenzene	**100**	89.6 - 112		10/26/2016 18:52
Toluene-D8	**97.4**	89.6 - 109		10/26/2016 18:52

Method Reference(s): EPA 8260C
EPA 5030C
Data File: x36399.D

Report Prepared Friday, October 28, 2016

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 164672

Client: **C&S Companies**

Project Reference: JCC

Sample Identifier:	PW-1-102016		
Lab Sample ID:	164672-05	**Date Sampled:**	10/20/2016
Matrix:	Groundwater	**Date Received:**	10/24/2016

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 2.00	ug/L		10/26/2016 19:15
1,1,2,2-Tetrachloroethane	< 2.00	ug/L		10/26/2016 19:15
1,1,2-Trichloroethane	< 2.00	ug/L		10/26/2016 19:15
1,1-Dichloroethane	< 2.00	ug/L		10/26/2016 19:15
1,1-Dichloroethene	< 2.00	ug/L		10/26/2016 19:15
1,2,3-Trichlorobenzene	< 5.00	ug/L		10/26/2016 19:15
1,2,4-Trichlorobenzene	< 5.00	ug/L		10/26/2016 19:15
1,2-Dibromo-3-Chloropropane	< 10.0	ug/L		10/26/2016 19:15
1,2-Dibromoethane	< 2.00	ug/L		10/26/2016 19:15
1,2-Dichlorobenzene	< 2.00	ug/L		10/26/2016 19:15
1,2-Dichloroethane	< 2.00	ug/L		10/26/2016 19:15
1,2-Dichloropropane	< 2.00	ug/L		10/26/2016 19:15
1,3-Dichlorobenzene	< 2.00	ug/L		10/26/2016 19:15
1,4-Dichlorobenzene	< 2.00	ug/L		10/26/2016 19:15
1,4-dioxane	< 20.0	ug/L		10/26/2016 19:15
2-Butanone	< 10.0	ug/L		10/26/2016 19:15
2-Hexanone	< 5.00	ug/L		10/26/2016 19:15
4-Methyl-2-pentanone	< 5.00	ug/L		10/26/2016 19:15
Acetone	< 10.0	ug/L		10/26/2016 19:15
Benzene	< 1.00	ug/L		10/26/2016 19:15
Bromochloromethane	< 5.00	ug/L		10/26/2016 19:15
Bromodichloromethane	< 2.00	ug/L		10/26/2016 19:15
Bromoform	< 5.00	ug/L		10/26/2016 19:15
Bromomethane	< 2.00	ug/L		10/26/2016 19:15
Carbon disulfide	< 2.00	ug/L		10/26/2016 19:15
Carbon Tetrachloride	< 2.00	ug/L		10/26/2016 19:15
Chlorobenzene	< 2.00	ug/L		10/26/2016 19:15

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 164672

Client: **C&S Companies**

Project Reference: JCC

Sample Identifier: PW-1-102016
Lab Sample ID: 164672-05 **Date Sampled:** 10/20/2016
Matrix: Groundwater **Date Received:** 10/24/2016

Chloroethane	< 2.00	ug/L	10/26/2016	19:15
Chloroform	< 2.00	ug/L	10/26/2016	19:15
Chloromethane	< 2.00	ug/L	10/26/2016	19:15
cis-1,2-Dichloroethene	**7.14**	ug/L	10/26/2016	19:15
cis-1,3-Dichloropropene	< 2.00	ug/L	10/26/2016	19:15
Cyclohexane	< 10.0	ug/L	10/26/2016	19:15
Dibromochloromethane	< 2.00	ug/L	10/26/2016	19:15
Dichlorodifluoromethane	< 2.00	ug/L	10/26/2016	19:15
Ethylbenzene	< 2.00	ug/L	10/26/2016	19:15
Freon 113	< 2.00	ug/L	10/26/2016	19:15
Isopropylbenzene	< 2.00	ug/L	10/26/2016	19:15
m,p-Xylene	< 2.00	ug/L	10/26/2016	19:15
Methyl acetate	< 2.00	ug/L	10/26/2016	19:15
Methyl tert-butyl Ether	< 2.00	ug/L	10/26/2016	19:15
Methylcyclohexane	< 2.00	ug/L	10/26/2016	19:15
Methylene chloride	< 5.00	ug/L	10/26/2016	19:15
o-Xylene	< 2.00	ug/L	10/26/2016	19:15
Styrene	< 5.00	ug/L	10/26/2016	19:15
Tetrachloroethene	< 2.00	ug/L	10/26/2016	19:15
Toluene	< 2.00	ug/L	10/26/2016	19:15
trans-1,2-Dichloroethene	< 2.00	ug/L	10/26/2016	19:15
trans-1,3-Dichloropropene	< 2.00	ug/L	10/26/2016	19:15
Trichloroethene	**22.1**	ug/L	10/26/2016	19:15
Trichlorofluoromethane	< 2.00	ug/L	10/26/2016	19:15
Vinyl chloride	< 2.00	ug/L	10/26/2016	19:15

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 164672

Client: **C&S Companies**

Project Reference: JCC

Sample Identifier: PW-1-102016
Lab Sample ID: 164672-05 **Date Sampled:** 10/20/2016
Matrix: Groundwater **Date Received:** 10/24/2016

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
1,2-Dichloroethane-d4	**101**	85.8 - 116		10/26/2016 19:15
4-Bromofluorobenzene	**94.6**	80.6 - 114		10/26/2016 19:15
Pentafluorobenzene	**98.4**	89.6 - 112		10/26/2016 19:15
Toluene-D8	**95.7**	89.6 - 109		10/26/2016 19:15

Method Reference(s): EPA 8260C
EPA 5030C
Data File: x36400.D

Report Prepared Friday, October 28, 2016

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 164672

Client: **C&S Companies**

Project Reference: JCC

Sample Identifier:	ESI-1-102016		
Lab Sample ID:	164672-06	**Date Sampled:**	10/20/2016
Matrix:	Groundwater	**Date Received:**	10/24/2016

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 2.00	ug/L		10/26/2016 19:38
1,1,2,2-Tetrachloroethane	< 2.00	ug/L		10/26/2016 19:38
1,1,2-Trichloroethane	< 2.00	ug/L		10/26/2016 19:38
1,1-Dichloroethane	< 2.00	ug/L		10/26/2016 19:38
1,1-Dichloroethene	< 2.00	ug/L		10/26/2016 19:38
1,2,3-Trichlorobenzene	< 5.00	ug/L		10/26/2016 19:38
1,2,4-Trichlorobenzene	< 5.00	ug/L		10/26/2016 19:38
1,2-Dibromo-3-Chloropropane	< 10.0	ug/L		10/26/2016 19:38
1,2-Dibromoethane	< 2.00	ug/L		10/26/2016 19:38
1,2-Dichlorobenzene	< 2.00	ug/L		10/26/2016 19:38
1,2-Dichloroethane	< 2.00	ug/L		10/26/2016 19:38
1,2-Dichloropropane	< 2.00	ug/L		10/26/2016 19:38
1,3-Dichlorobenzene	< 2.00	ug/L		10/26/2016 19:38
1,4-Dichlorobenzene	< 2.00	ug/L		10/26/2016 19:38
1,4-dioxane	< 20.0	ug/L		10/26/2016 19:38
2-Butanone	< 10.0	ug/L		10/26/2016 19:38
2-Hexanone	< 5.00	ug/L		10/26/2016 19:38
4-Methyl-2-pentanone	< 5.00	ug/L		10/26/2016 19:38
Acetone	< 10.0	ug/L		10/26/2016 19:38
Benzene	< 1.00	ug/L		10/26/2016 19:38
Bromochloromethane	< 5.00	ug/L		10/26/2016 19:38
Bromodichloromethane	< 2.00	ug/L		10/26/2016 19:38
Bromoform	< 5.00	ug/L		10/26/2016 19:38
Bromomethane	< 2.00	ug/L		10/26/2016 19:38
Carbon disulfide	< 2.00	ug/L		10/26/2016 19:38
Carbon Tetrachloride	< 2.00	ug/L		10/26/2016 19:38
Chlorobenzene	< 2.00	ug/L		10/26/2016 19:38

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 164672

Client: **C&S Companies**

Project Reference: JCC

Sample Identifier: ESI-1-102016
Lab Sample ID: 164672-06 **Date Sampled:** 10/20/2016
Matrix: Groundwater **Date Received:** 10/24/2016

Chloroethane	< 2.00	ug/L	10/26/2016	19:38
Chloroform	< 2.00	ug/L	10/26/2016	19:38
Chloromethane	< 2.00	ug/L	10/26/2016	19:38
cis-1,2-Dichloroethene	< 2.00	ug/L	10/26/2016	19:38
cis-1,3-Dichloropropene	< 2.00	ug/L	10/26/2016	19:38
Cyclohexane	< 10.0	ug/L	10/26/2016	19:38
Dibromochloromethane	< 2.00	ug/L	10/26/2016	19:38
Dichlorodifluoromethane	< 2.00	ug/L	10/26/2016	19:38
Ethylbenzene	< 2.00	ug/L	10/26/2016	19:38
Freon 113	< 2.00	ug/L	10/26/2016	19:38
Isopropylbenzene	< 2.00	ug/L	10/26/2016	19:38
m,p-Xylene	< 2.00	ug/L	10/26/2016	19:38
Methyl acetate	< 2.00	ug/L	10/26/2016	19:38
Methyl tert-butyl Ether	< 2.00	ug/L	10/26/2016	19:38
Methylcyclohexane	< 2.00	ug/L	10/26/2016	19:38
Methylene chloride	< 5.00	ug/L	10/26/2016	19:38
o-Xylene	< 2.00	ug/L	10/26/2016	19:38
Styrene	< 5.00	ug/L	10/26/2016	19:38
Tetrachloroethene	< 2.00	ug/L	10/26/2016	19:38
Toluene	< 2.00	ug/L	10/26/2016	19:38
trans-1,2-Dichloroethene	< 2.00	ug/L	10/26/2016	19:38
trans-1,3-Dichloropropene	< 2.00	ug/L	10/26/2016	19:38
Trichloroethene	**6.52**	ug/L	10/26/2016	19:38
Trichlorofluoromethane	< 2.00	ug/L	10/26/2016	19:38
Vinyl chloride	< 2.00	ug/L	10/26/2016	19:38

Report Prepared Friday, October 28, 2016

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 164672

Client: **C&S Companies**

Project Reference: JCC

Sample Identifier: ESI-1-102016
Lab Sample ID: 164672-06 **Date Sampled:** 10/20/2016
Matrix: Groundwater **Date Received:** 10/24/2016

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
1,2-Dichloroethane-d4	**100**	85.8 - 116		10/26/2016 19:38
4-Bromofluorobenzene	**92.3**	80.6 - 114		10/26/2016 19:38
Pentafluorobenzene	**97.5**	89.6 - 112		10/26/2016 19:38
Toluene-D8	**95.5**	89.6 - 109		10/26/2016 19:38

Method Reference(s): EPA 8260C
EPA 5030C
Data File: x36401.D

Report Prepared Friday, October 28, 2016

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 164672

Client: **C&S Companies**

Project Reference: JCC

Sample Identifier:	ESI-13R-102016		
Lab Sample ID:	164672-07	**Date Sampled:**	10/20/2016
Matrix:	Groundwater	**Date Received:**	10/24/2016

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 2.00	ug/L		10/26/2016 20:02
1,1,2,2-Tetrachloroethane	< 2.00	ug/L		10/26/2016 20:02
1,1,2-Trichloroethane	< 2.00	ug/L		10/26/2016 20:02
1,1-Dichloroethane	< 2.00	ug/L		10/26/2016 20:02
1,1-Dichloroethene	< 2.00	ug/L		10/26/2016 20:02
1,2,3-Trichlorobenzene	< 5.00	ug/L		10/26/2016 20:02
1,2,4-Trichlorobenzene	< 5.00	ug/L		10/26/2016 20:02
1,2-Dibromo-3-Chloropropane	< 10.0	ug/L		10/26/2016 20:02
1,2-Dibromoethane	< 2.00	ug/L		10/26/2016 20:02
1,2-Dichlorobenzene	< 2.00	ug/L		10/26/2016 20:02
1,2-Dichloroethane	< 2.00	ug/L		10/26/2016 20:02
1,2-Dichloropropane	< 2.00	ug/L		10/26/2016 20:02
1,3-Dichlorobenzene	< 2.00	ug/L		10/26/2016 20:02
1,4-Dichlorobenzene	< 2.00	ug/L		10/26/2016 20:02
1,4-dioxane	< 20.0	ug/L		10/26/2016 20:02
2-Butanone	< 10.0	ug/L		10/26/2016 20:02
2-Hexanone	< 5.00	ug/L		10/26/2016 20:02
4-Methyl-2-pentanone	< 5.00	ug/L		10/26/2016 20:02
Acetone	**5.77**	ug/L	J	10/26/2016 20:02
Benzene	< 1.00	ug/L		10/26/2016 20:02
Bromochloromethane	< 5.00	ug/L		10/26/2016 20:02
Bromodichloromethane	< 2.00	ug/L		10/26/2016 20:02
Bromoform	< 5.00	ug/L		10/26/2016 20:02
Bromomethane	< 2.00	ug/L		10/26/2016 20:02
Carbon disulfide	< 2.00	ug/L		10/26/2016 20:02
Carbon Tetrachloride	< 2.00	ug/L		10/26/2016 20:02
Chlorobenzene	< 2.00	ug/L		10/26/2016 20:02

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 164672

Client: **C&S Companies**

Project Reference: JCC

Sample Identifier: ESI-13R-102016
Lab Sample ID: 164672-07 **Date Sampled:** 10/20/2016
Matrix: Groundwater **Date Received:** 10/24/2016

Chloroethane	< 2.00	ug/L	10/26/2016	20:02
Chloroform	< 2.00	ug/L	10/26/2016	20:02
Chloromethane	< 2.00	ug/L	10/26/2016	20:02
cis-1,2-Dichloroethene	**9.41**	ug/L	10/26/2016	20:02
cis-1,3-Dichloropropene	< 2.00	ug/L	10/26/2016	20:02
Cyclohexane	< 10.0	ug/L	10/26/2016	20:02
Dibromochloromethane	< 2.00	ug/L	10/26/2016	20:02
Dichlorodifluoromethane	< 2.00	ug/L	10/26/2016	20:02
Ethylbenzene	< 2.00	ug/L	10/26/2016	20:02
Freon 113	< 2.00	ug/L	10/26/2016	20:02
Isopropylbenzene	< 2.00	ug/L	10/26/2016	20:02
m,p-Xylene	< 2.00	ug/L	10/26/2016	20:02
Methyl acetate	< 2.00	ug/L	10/26/2016	20:02
Methyl tert-butyl Ether	< 2.00	ug/L	10/26/2016	20:02
Methylcyclohexane	< 2.00	ug/L	10/26/2016	20:02
Methylene chloride	< 5.00	ug/L	10/26/2016	20:02
o-Xylene	< 2.00	ug/L	10/26/2016	20:02
Styrene	< 5.00	ug/L	10/26/2016	20:02
Tetrachloroethene	< 2.00	ug/L	10/26/2016	20:02
Toluene	< 2.00	ug/L	10/26/2016	20:02
trans-1,2-Dichloroethene	< 2.00	ug/L	10/26/2016	20:02
trans-1,3-Dichloropropene	< 2.00	ug/L	10/26/2016	20:02
Trichloroethene	**13.1**	ug/L	10/26/2016	20:02
Trichlorofluoromethane	< 2.00	ug/L	10/26/2016	20:02
Vinyl chloride	< 2.00	ug/L	10/26/2016	20:02

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 164672

Client: **C&S Companies**

Project Reference: JCC

Sample Identifier: ESI-13R-102016
Lab Sample ID: 164672-07 **Date Sampled:** 10/20/2016
Matrix: Groundwater **Date Received:** 10/24/2016

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
1,2-Dichloroethane-d4	**102**	85.8 - 116		10/26/2016 20:02
4-Bromofluorobenzene	**92.5**	80.6 - 114		10/26/2016 20:02
Pentafluorobenzene	**99.7**	89.6 - 112		10/26/2016 20:02
Toluene-D8	**95.2**	89.6 - 109		10/26/2016 20:02

Method Reference(s): EPA 8260C
EPA 5030C
Data File: x36402.D

Report Prepared Friday, October 28, 2016

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 164672

Client: **C&S Companies**

Project Reference: JCC

Sample Identifier:	ESI-7-102016		
Lab Sample ID:	164672-08	**Date Sampled:**	10/20/2016
Matrix:	Groundwater	**Date Received:**	10/24/2016

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 2.00	ug/L		10/26/2016 20:25
1,1,2,2-Tetrachloroethane	< 2.00	ug/L		10/26/2016 20:25
1,1,2-Trichloroethane	< 2.00	ug/L		10/26/2016 20:25
1,1-Dichloroethane	< 2.00	ug/L		10/26/2016 20:25
1,1-Dichloroethene	< 2.00	ug/L		10/26/2016 20:25
1,2,3-Trichlorobenzene	< 5.00	ug/L		10/26/2016 20:25
1,2,4-Trichlorobenzene	< 5.00	ug/L		10/26/2016 20:25
1,2-Dibromo-3-Chloropropane	< 10.0	ug/L		10/26/2016 20:25
1,2-Dibromoethane	< 2.00	ug/L		10/26/2016 20:25
1,2-Dichlorobenzene	< 2.00	ug/L		10/26/2016 20:25
1,2-Dichloroethane	< 2.00	ug/L		10/26/2016 20:25
1,2-Dichloropropane	< 2.00	ug/L		10/26/2016 20:25
1,3-Dichlorobenzene	< 2.00	ug/L		10/26/2016 20:25
1,4-Dichlorobenzene	< 2.00	ug/L		10/26/2016 20:25
1,4-dioxane	< 20.0	ug/L		10/26/2016 20:25
2-Butanone	< 10.0	ug/L		10/26/2016 20:25
2-Hexanone	< 5.00	ug/L		10/26/2016 20:25
4-Methyl-2-pentanone	< 5.00	ug/L		10/26/2016 20:25
Acetone	**6.86**	ug/L	J	10/26/2016 20:25
Benzene	< 1.00	ug/L		10/26/2016 20:25
Bromochloromethane	< 5.00	ug/L		10/26/2016 20:25
Bromodichloromethane	< 2.00	ug/L		10/26/2016 20:25
Bromoform	< 5.00	ug/L		10/26/2016 20:25
Bromomethane	< 2.00	ug/L		10/26/2016 20:25
Carbon disulfide	< 2.00	ug/L		10/26/2016 20:25
Carbon Tetrachloride	< 2.00	ug/L		10/26/2016 20:25
Chlorobenzene	< 2.00	ug/L		10/26/2016 20:25

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 164672

Client: **C&S Companies**

Project Reference: JCC

Sample Identifier: ESI-7-102016
Lab Sample ID: 164672-08 **Date Sampled:** 10/20/2016
Matrix: Groundwater **Date Received:** 10/24/2016

Chloroethane	< 2.00	ug/L	10/26/2016	20:25
Chloroform	< 2.00	ug/L	10/26/2016	20:25
Chloromethane	< 2.00	ug/L	10/26/2016	20:25
cis-1,2-Dichloroethene	**24.5**	ug/L	10/26/2016	20:25
cis-1,3-Dichloropropene	< 2.00	ug/L	10/26/2016	20:25
Cyclohexane	< 10.0	ug/L	10/26/2016	20:25
Dibromochloromethane	< 2.00	ug/L	10/26/2016	20:25
Dichlorodifluoromethane	< 2.00	ug/L	10/26/2016	20:25
Ethylbenzene	< 2.00	ug/L	10/26/2016	20:25
Freon 113	< 2.00	ug/L	10/26/2016	20:25
Isopropylbenzene	< 2.00	ug/L	10/26/2016	20:25
m,p-Xylene	< 2.00	ug/L	10/26/2016	20:25
Methyl acetate	< 2.00	ug/L	10/26/2016	20:25
Methyl tert-butyl Ether	< 2.00	ug/L	10/26/2016	20:25
Methylcyclohexane	< 2.00	ug/L	10/26/2016	20:25
Methylene chloride	< 5.00	ug/L	10/26/2016	20:25
o-Xylene	< 2.00	ug/L	10/26/2016	20:25
Styrene	< 5.00	ug/L	10/26/2016	20:25
Tetrachloroethene	< 2.00	ug/L	10/26/2016	20:25
Toluene	< 2.00	ug/L	10/26/2016	20:25
trans-1,2-Dichloroethene	< 2.00	ug/L	10/26/2016	20:25
trans-1,3-Dichloropropene	< 2.00	ug/L	10/26/2016	20:25
Trichloroethene	**106**	ug/L	10/26/2016	20:25
Trichlorofluoromethane	< 2.00	ug/L	10/26/2016	20:25
Vinyl chloride	< 2.00	ug/L	10/26/2016	20:25

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 164672

Client: **C&S Companies**

Project Reference: JCC

Sample Identifier: ESI-7-102016
Lab Sample ID: 164672-08 **Date Sampled:** 10/20/2016
Matrix: Groundwater **Date Received:** 10/24/2016

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
1,2-Dichloroethane-d4	**102**	85.8 - 116		10/26/2016 20:25
4-Bromofluorobenzene	**92.4**	80.6 - 114		10/26/2016 20:25
Pentafluorobenzene	**100**	89.6 - 112		10/26/2016 20:25
Toluene-D8	**95.7**	89.6 - 109		10/26/2016 20:25

Method Reference(s): EPA 8260C
EPA 5030C
Data File: x36403.D

Report Prepared Friday, October 28, 2016

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 164672

Client: **C&S Companies**

Project Reference: JCC

Sample Identifier:	DUP-102016		
Lab Sample ID:	164672-09	**Date Sampled:**	10/20/2016
Matrix:	Groundwater	**Date Received:**	10/24/2016

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 2.00	ug/L		10/26/2016 20:49
1,1,2,2-Tetrachloroethane	< 2.00	ug/L		10/26/2016 20:49
1,1,2-Trichloroethane	< 2.00	ug/L		10/26/2016 20:49
1,1-Dichloroethane	< 2.00	ug/L		10/26/2016 20:49
1,1-Dichloroethene	< 2.00	ug/L		10/26/2016 20:49
1,2,3-Trichlorobenzene	< 5.00	ug/L		10/26/2016 20:49
1,2,4-Trichlorobenzene	< 5.00	ug/L		10/26/2016 20:49
1,2-Dibromo-3-Chloropropane	< 10.0	ug/L		10/26/2016 20:49
1,2-Dibromoethane	< 2.00	ug/L		10/26/2016 20:49
1,2-Dichlorobenzene	< 2.00	ug/L		10/26/2016 20:49
1,2-Dichloroethane	< 2.00	ug/L		10/26/2016 20:49
1,2-Dichloropropane	< 2.00	ug/L		10/26/2016 20:49
1,3-Dichlorobenzene	< 2.00	ug/L		10/26/2016 20:49
1,4-Dichlorobenzene	< 2.00	ug/L		10/26/2016 20:49
1,4-dioxane	< 20.0	ug/L		10/26/2016 20:49
2-Butanone	< 10.0	ug/L		10/26/2016 20:49
2-Hexanone	< 5.00	ug/L		10/26/2016 20:49
4-Methyl-2-pentanone	< 5.00	ug/L		10/26/2016 20:49
Acetone	< 10.0	ug/L		10/26/2016 20:49
Benzene	< 1.00	ug/L		10/26/2016 20:49
Bromochloromethane	< 5.00	ug/L		10/26/2016 20:49
Bromodichloromethane	< 2.00	ug/L		10/26/2016 20:49
Bromoform	**3.23**	ug/L	J	10/26/2016 20:49
Bromomethane	< 2.00	ug/L		10/26/2016 20:49
Carbon disulfide	< 2.00	ug/L		10/26/2016 20:49
Carbon Tetrachloride	< 2.00	ug/L		10/26/2016 20:49
Chlorobenzene	< 2.00	ug/L		10/26/2016 20:49

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 164672

Client: **C&S Companies**

Project Reference: JCC

Sample Identifier: DUP-102016
Lab Sample ID: 164672-09
Matrix: Groundwater
Date Sampled: 10/20/2016
Date Received: 10/24/2016

Chloroethane	< 2.00	ug/L	10/26/2016	20:49
Chloroform	< 2.00	ug/L	10/26/2016	20:49
Chloromethane	< 2.00	ug/L	10/26/2016	20:49
cis-1,2-Dichloroethene	< 2.00	ug/L	10/26/2016	20:49
cis-1,3-Dichloropropene	< 2.00	ug/L	10/26/2016	20:49
Cyclohexane	< 10.0	ug/L	10/26/2016	20:49
Dibromochloromethane	< 2.00	ug/L	10/26/2016	20:49
Dichlorodifluoromethane	< 2.00	ug/L	10/26/2016	20:49
Ethylbenzene	< 2.00	ug/L	10/26/2016	20:49
Freon 113	< 2.00	ug/L	10/26/2016	20:49
Isopropylbenzene	< 2.00	ug/L	10/26/2016	20:49
m,p-Xylene	< 2.00	ug/L	10/26/2016	20:49
Methyl acetate	< 2.00	ug/L	10/26/2016	20:49
Methyl tert-butyl Ether	< 2.00	ug/L	10/26/2016	20:49
Methylcyclohexane	< 2.00	ug/L	10/26/2016	20:49
Methylene chloride	< 5.00	ug/L	10/26/2016	20:49
o-Xylene	< 2.00	ug/L	10/26/2016	20:49
Styrene	< 5.00	ug/L	10/26/2016	20:49
Tetrachloroethene	< 2.00	ug/L	10/26/2016	20:49
Toluene	< 2.00	ug/L	10/26/2016	20:49
trans-1,2-Dichloroethene	< 2.00	ug/L	10/26/2016	20:49
trans-1,3-Dichloropropene	< 2.00	ug/L	10/26/2016	20:49
Trichloroethene	< 2.00	ug/L	10/26/2016	20:49
Trichlorofluoromethane	< 2.00	ug/L	10/26/2016	20:49
Vinyl chloride	< 2.00	ug/L	10/26/2016	20:49

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 164672

Client: **C&S Companies**

Project Reference: JCC

Sample Identifier: DUP-102016
Lab Sample ID: 164672-09 **Date Sampled:** 10/20/2016
Matrix: Groundwater **Date Received:** 10/24/2016

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
1,2-Dichloroethane-d4	**103**	85.8 - 116		10/26/2016 20:49
4-Bromofluorobenzene	**92.4**	80.6 - 114		10/26/2016 20:49
Pentafluorobenzene	**98.8**	89.6 - 112		10/26/2016 20:49
Toluene-D8	**78.1**	89.6 - 109	*	10/26/2016 20:49

Method Reference(s): EPA 8260C
EPA 5030C
Data File: x36404.D

Report Prepared Friday, October 28, 2016

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 164672

Client: **C&S Companies**

Project Reference: JCC

Sample Identifier:	PW-3R-102116		
Lab Sample ID:	164672-10	**Date Sampled:**	10/21/2016
Matrix:	Groundwater	**Date Received:**	10/24/2016

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 20.0	ug/L		10/27/2016 13:54
1,1,2,2-Tetrachloroethane	< 20.0	ug/L		10/27/2016 13:54
1,1,2-Trichloroethane	< 20.0	ug/L		10/27/2016 13:54
1,1-Dichloroethane	< 20.0	ug/L		10/27/2016 13:54
1,1-Dichloroethene	< 20.0	ug/L		10/27/2016 13:54
1,2,3-Trichlorobenzene	< 50.0	ug/L		10/27/2016 13:54
1,2,4-Trichlorobenzene	< 50.0	ug/L		10/27/2016 13:54
1,2-Dibromo-3-Chloropropane	< 100	ug/L		10/27/2016 13:54
1,2-Dibromoethane	< 20.0	ug/L		10/27/2016 13:54
1,2-Dichlorobenzene	< 20.0	ug/L		10/27/2016 13:54
1,2-Dichloroethane	< 20.0	ug/L		10/27/2016 13:54
1,2-Dichloropropane	< 20.0	ug/L		10/27/2016 13:54
1,3-Dichlorobenzene	< 20.0	ug/L		10/27/2016 13:54
1,4-Dichlorobenzene	< 20.0	ug/L		10/27/2016 13:54
1,4-dioxane	< 200	ug/L		10/27/2016 13:54
2-Butanone	< 100	ug/L		10/27/2016 13:54
2-Hexanone	< 50.0	ug/L		10/27/2016 13:54
4-Methyl-2-pentanone	< 50.0	ug/L		10/27/2016 13:54
Acetone	< 100	ug/L		10/27/2016 13:54
Benzene	< 10.0	ug/L		10/27/2016 13:54
Bromochloromethane	< 50.0	ug/L		10/27/2016 13:54
Bromodichloromethane	< 20.0	ug/L		10/27/2016 13:54
Bromoform	< 50.0	ug/L		10/27/2016 13:54
Bromomethane	< 20.0	ug/L		10/27/2016 13:54
Carbon disulfide	< 20.0	ug/L		10/27/2016 13:54
Carbon Tetrachloride	< 20.0	ug/L		10/27/2016 13:54
Chlorobenzene	< 20.0	ug/L		10/27/2016 13:54

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 164672

Client: **C&S Companies**

Project Reference: JCC

Sample Identifier: PW-3R-102116
Lab Sample ID: 164672-10 **Date Sampled:** 10/21/2016
Matrix: Groundwater **Date Received:** 10/24/2016

Chloroethane	< 20.0	ug/L		10/27/2016	13:54
Chloroform	< 20.0	ug/L		10/27/2016	13:54
Chloromethane	< 20.0	ug/L		10/27/2016	13:54
cis-1,2-Dichloroethene	**1450**	ug/L		10/27/2016	13:54
cis-1,3-Dichloropropene	< 20.0	ug/L		10/27/2016	13:54
Cyclohexane	< 100	ug/L		10/27/2016	13:54
Dibromochloromethane	< 20.0	ug/L		10/27/2016	13:54
Dichlorodifluoromethane	< 20.0	ug/L		10/27/2016	13:54
Ethylbenzene	< 20.0	ug/L		10/27/2016	13:54
Freon 113	< 20.0	ug/L		10/27/2016	13:54
Isopropylbenzene	< 20.0	ug/L		10/27/2016	13:54
m,p-Xylene	< 20.0	ug/L		10/27/2016	13:54
Methyl acetate	< 20.0	ug/L		10/27/2016	13:54
Methyl tert-butyl Ether	< 20.0	ug/L		10/27/2016	13:54
Methylcyclohexane	< 20.0	ug/L		10/27/2016	13:54
Methylene chloride	< 50.0	ug/L		10/27/2016	13:54
o-Xylene	< 20.0	ug/L		10/27/2016	13:54
Styrene	< 50.0	ug/L		10/27/2016	13:54
Tetrachloroethene	< 20.0	ug/L	M	10/27/2016	13:54
Toluene	< 20.0	ug/L		10/27/2016	13:54
trans-1,2-Dichloroethene	< 20.0	ug/L		10/27/2016	13:54
trans-1,3-Dichloropropene	< 20.0	ug/L		10/27/2016	13:54
Trichloroethene	**84.4**	ug/L		10/27/2016	13:54
Trichlorofluoromethane	< 20.0	ug/L		10/27/2016	13:54
Vinyl chloride	**751**	ug/L	M	10/27/2016	13:54

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 164672

Client: **C&S Companies**

Project Reference: JCC

Sample Identifier: PW-3R-102116
Lab Sample ID: 164672-10 **Date Sampled:** 10/21/2016
Matrix: Groundwater **Date Received:** 10/24/2016

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
1,2-Dichloroethane-d4	**106**	85.8 - 116		10/27/2016 13:54
4-Bromofluorobenzene	**86.9**	80.6 - 114		10/27/2016 13:54
Pentafluorobenzene	**97.2**	89.6 - 112		10/27/2016 13:54
Toluene-D8	**93.3**	89.6 - 109		10/27/2016 13:54

Method Reference(s): EPA 8260C
EPA 5030C
Data File: x36446.D

Report Prepared Friday, October 28, 2016

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 164672

Client: **C&S Companies**

Project Reference: JCC

Sample Identifier:	ESI-6-102116		
Lab Sample ID:	164672-11	**Date Sampled:**	10/21/2016
Matrix:	Groundwater	**Date Received:**	10/24/2016

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 20.0	ug/L		10/26/2016 21:35
1,1,2,2-Tetrachloroethane	< 20.0	ug/L		10/26/2016 21:35
1,1,2-Trichloroethane	< 20.0	ug/L		10/26/2016 21:35
1,1-Dichloroethane	< 20.0	ug/L		10/26/2016 21:35
1,1-Dichloroethene	< 20.0	ug/L		10/26/2016 21:35
1,2,3-Trichlorobenzene	< 50.0	ug/L		10/26/2016 21:35
1,2,4-Trichlorobenzene	< 50.0	ug/L		10/26/2016 21:35
1,2-Dibromo-3-Chloropropane	< 100	ug/L		10/26/2016 21:35
1,2-Dibromoethane	< 20.0	ug/L		10/26/2016 21:35
1,2-Dichlorobenzene	< 20.0	ug/L		10/26/2016 21:35
1,2-Dichloroethane	< 20.0	ug/L		10/26/2016 21:35
1,2-Dichloropropane	< 20.0	ug/L		10/26/2016 21:35
1,3-Dichlorobenzene	< 20.0	ug/L		10/26/2016 21:35
1,4-Dichlorobenzene	< 20.0	ug/L		10/26/2016 21:35
1,4-dioxane	< 200	ug/L		10/26/2016 21:35
2-Butanone	< 100	ug/L		10/26/2016 21:35
2-Hexanone	< 50.0	ug/L		10/26/2016 21:35
4-Methyl-2-pentanone	< 50.0	ug/L		10/26/2016 21:35
Acetone	< 100	ug/L		10/26/2016 21:35
Benzene	< 10.0	ug/L		10/26/2016 21:35
Bromochloromethane	< 50.0	ug/L		10/26/2016 21:35
Bromodichloromethane	< 20.0	ug/L		10/26/2016 21:35
Bromoform	< 50.0	ug/L		10/26/2016 21:35
Bromomethane	< 20.0	ug/L		10/26/2016 21:35
Carbon disulfide	< 20.0	ug/L		10/26/2016 21:35
Carbon Tetrachloride	< 20.0	ug/L		10/26/2016 21:35
Chlorobenzene	< 20.0	ug/L		10/26/2016 21:35

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 164672

Client: **C&S Companies**

Project Reference: JCC

Sample Identifier:	ESI-6-102116		
Lab Sample ID:	164672-11	**Date Sampled:**	10/21/2016
Matrix:	Groundwater	**Date Received:**	10/24/2016

Chloroethane	< 20.0	ug/L		10/26/2016	21:35
Chloroform	< 20.0	ug/L		10/26/2016	21:35
Chloromethane	< 20.0	ug/L		10/26/2016	21:35
cis-1,2-Dichloroethene	**626**	ug/L		10/26/2016	21:35
cis-1,3-Dichloropropene	< 20.0	ug/L		10/26/2016	21:35
Cyclohexane	< 100	ug/L		10/26/2016	21:35
Dibromochloromethane	< 20.0	ug/L		10/26/2016	21:35
Dichlorodifluoromethane	< 20.0	ug/L		10/26/2016	21:35
Ethylbenzene	< 20.0	ug/L		10/26/2016	21:35
Freon 113	< 20.0	ug/L		10/26/2016	21:35
Isopropylbenzene	< 20.0	ug/L		10/26/2016	21:35
m,p-Xylene	< 20.0	ug/L		10/26/2016	21:35
Methyl acetate	< 20.0	ug/L		10/26/2016	21:35
Methyl tert-butyl Ether	< 20.0	ug/L		10/26/2016	21:35
Methylcyclohexane	< 20.0	ug/L		10/26/2016	21:35
Methylene chloride	< 50.0	ug/L		10/26/2016	21:35
o-Xylene	< 20.0	ug/L		10/26/2016	21:35
Styrene	< 50.0	ug/L		10/26/2016	21:35
Tetrachloroethene	< 20.0	ug/L		10/26/2016	21:35
Toluene	< 20.0	ug/L		10/26/2016	21:35
trans-1,2-Dichloroethene	**11.1**	ug/L	J	10/26/2016	21:35
trans-1,3-Dichloropropene	< 20.0	ug/L		10/26/2016	21:35
Trichloroethene	**1060**	ug/L		10/26/2016	21:35
Trichlorofluoromethane	< 20.0	ug/L		10/26/2016	21:35
Vinyl chloride	< 20.0	ug/L		10/26/2016	21:35

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 164672

Client: **C&S Companies**

Project Reference: JCC

Sample Identifier: ESI-6-102116
Lab Sample ID: 164672-11 **Date Sampled:** 10/21/2016
Matrix: Groundwater **Date Received:** 10/24/2016

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
1,2-Dichloroethane-d4	**104**	85.8 - 116		10/26/2016 21:35
4-Bromofluorobenzene	**91.9**	80.6 - 114		10/26/2016 21:35
Pentafluorobenzene	**100**	89.6 - 112		10/26/2016 21:35
Toluene-D8	**95.5**	89.6 - 109		10/26/2016 21:35

Method Reference(s): EPA 8260C
EPA 5030C
Data File: x36406.D

Report Prepared Friday, October 28, 2016

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 164672

Client: **C&S Companies**

Project Reference: JCC

Sample Identifier:	ESI-2-102116		
Lab Sample ID:	164672-12	**Date Sampled:**	10/21/2016
Matrix:	Groundwater	**Date Received:**	10/24/2016

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 10.0	ug/L		10/27/2016 13:30
1,1,2,2-Tetrachloroethane	< 10.0	ug/L		10/27/2016 13:30
1,1,2-Trichloroethane	< 10.0	ug/L		10/27/2016 13:30
1,1-Dichloroethane	< 10.0	ug/L		10/27/2016 13:30
1,1-Dichloroethene	< 10.0	ug/L		10/27/2016 13:30
1,2,3-Trichlorobenzene	< 25.0	ug/L		10/27/2016 13:30
1,2,4-Trichlorobenzene	< 25.0	ug/L		10/27/2016 13:30
1,2-Dibromo-3-Chloropropane	< 50.0	ug/L		10/27/2016 13:30
1,2-Dibromoethane	< 10.0	ug/L		10/27/2016 13:30
1,2-Dichlorobenzene	< 10.0	ug/L		10/27/2016 13:30
1,2-Dichloroethane	< 10.0	ug/L		10/27/2016 13:30
1,2-Dichloropropane	< 10.0	ug/L		10/27/2016 13:30
1,3-Dichlorobenzene	< 10.0	ug/L		10/27/2016 13:30
1,4-Dichlorobenzene	< 10.0	ug/L		10/27/2016 13:30
1,4-dioxane	< 100	ug/L		10/27/2016 13:30
2-Butanone	< 50.0	ug/L		10/27/2016 13:30
2-Hexanone	< 25.0	ug/L		10/27/2016 13:30
4-Methyl-2-pentanone	< 25.0	ug/L		10/27/2016 13:30
Acetone	< 50.0	ug/L		10/27/2016 13:30
Benzene	< 5.00	ug/L		10/27/2016 13:30
Bromochloromethane	< 25.0	ug/L		10/27/2016 13:30
Bromodichloromethane	< 10.0	ug/L		10/27/2016 13:30
Bromoform	< 25.0	ug/L		10/27/2016 13:30
Bromomethane	< 10.0	ug/L		10/27/2016 13:30
Carbon disulfide	< 10.0	ug/L		10/27/2016 13:30
Carbon Tetrachloride	< 10.0	ug/L		10/27/2016 13:30
Chlorobenzene	< 10.0	ug/L		10/27/2016 13:30

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 164672

Client: **C&S Companies**

Project Reference: JCC

Sample Identifier:	ESI-2-102116		
Lab Sample ID:	164672-12	**Date Sampled:**	10/21/2016
Matrix:	Groundwater	**Date Received:**	10/24/2016

Chloroethane	< 10.0	ug/L	10/27/2016	13:30
Chloroform	< 10.0	ug/L	10/27/2016	13:30
Chloromethane	< 10.0	ug/L	10/27/2016	13:30
cis-1,2-Dichloroethene	**592**	ug/L	10/27/2016	13:30
cis-1,3-Dichloropropene	< 10.0	ug/L	10/27/2016	13:30
Cyclohexane	< 50.0	ug/L	10/27/2016	13:30
Dibromochloromethane	< 10.0	ug/L	10/27/2016	13:30
Dichlorodifluoromethane	< 10.0	ug/L	10/27/2016	13:30
Ethylbenzene	< 10.0	ug/L	10/27/2016	13:30
Freon 113	< 10.0	ug/L	10/27/2016	13:30
Isopropylbenzene	< 10.0	ug/L	10/27/2016	13:30
m,p-Xylene	< 10.0	ug/L	10/27/2016	13:30
Methyl acetate	< 10.0	ug/L	10/27/2016	13:30
Methyl tert-butyl Ether	< 10.0	ug/L	10/27/2016	13:30
Methylcyclohexane	< 10.0	ug/L	10/27/2016	13:30
Methylene chloride	< 25.0	ug/L	10/27/2016	13:30
o-Xylene	< 10.0	ug/L	10/27/2016	13:30
Styrene	< 25.0	ug/L	10/27/2016	13:30
Tetrachloroethene	< 10.0	ug/L	10/27/2016	13:30
Toluene	< 10.0	ug/L	10/27/2016	13:30
trans-1,2-Dichloroethene	< 10.0	ug/L	10/27/2016	13:30
trans-1,3-Dichloropropene	< 10.0	ug/L	10/27/2016	13:30
Trichloroethene	**303**	ug/L	10/27/2016	13:30
Trichlorofluoromethane	< 10.0	ug/L	10/27/2016	13:30
Vinyl chloride	**62.1**	ug/L	10/27/2016	13:30

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 164672

Client: **C&S Companies**

Project Reference: JCC

Sample Identifier: ESI-2-102116
Lab Sample ID: 164672-12 **Date Sampled:** 10/21/2016
Matrix: Groundwater **Date Received:** 10/24/2016

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
1,2-Dichloroethane-d4	**106**	85.8 - 116		10/27/2016 13:30
4-Bromofluorobenzene	**87.0**	80.6 - 114		10/27/2016 13:30
Pentafluorobenzene	**96.6**	89.6 - 112		10/27/2016 13:30
Toluene-D8	**93.3**	89.6 - 109		10/27/2016 13:30

Method Reference(s): EPA 8260C
EPA 5030C
Data File: x36445.D

Report Prepared Friday, October 28, 2016

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Analytical Report Appendix

The reported results relate only to the samples as they have been received by the laboratory.

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All soil/sludge samples have been reported on a dry weight basis, unless qualified "reported as received". Other solids are reported as received.

Low level Volatiles blank reports for soil/solid matrix are based on a nominal 5 gram weight. Sample results and reporting limits are based on actual weight, which may be more or less than 5 grams.

The Chain of Custody provides additional information, including compliance with sample condition requirements upon receipt. Sample condition requirements are defined under the 2003 NELAC Standard, sections 5.5.8.3.1 and 5.5.8.3.2.

NYSDOH ELAP does not certify for all parameters. Paradigm Environmental Services or the indicated subcontracted laboratory does hold certification for all analytes where certification is offered by ELAP unless otherwise specified. Aliquots separated for certain tests, such as TCLP, are indicated on the Chain of Custody and final reports with an "A" suffix.

Data qualifiers are used, when necessary, to provide additional information about the data. This information may be communicated as a flag or as text at the bottom of the report. Please refer to the following list of analyte-specific, frequently used data flags and their meaning:

"<" = Analyzed for but not detected at or above the quantitation limit.
"E" = Result has been estimated, calibration limit exceeded.
"Z" = See case narrative.
"D" = Sample, Laboratory Control Sample, or Matrix Spike Duplicate results above Relative Percent Difference limit.
"M" = Matrix spike recoveries outside QC limits. Matrix bias indicated.
"B" = Method blank contained trace levels of analyte. Refer to included method blank report.
"J" = Result estimated between the quantitation limit and half the quantitation limit.
"L" = Laboratory Control Sample recovery outside accepted QC limits.
"P" = Concentration differs by more than 40% between the primary and secondary analytical columns.
"NC" = Not calculable. Applicable to RPD if sample or duplicate result is non-detect or estimated (see primary report for data flags). Applicable to MS if sample is greater or equal to ten times the spike added. Applicable to sample surrogates or MS if sample dilution is 10x or higher.
"" = Indicates any recoveries outside associated acceptance windows. Surrogate outliers in samples are presumed matrix effects. LCS demonstrates method compliance unless otherwise noted.*
"(1)" = Indicates data from primary column used for QC calculation.
"A" = denotes a parameter for which ELAP does not offer approval as part of their laboratory certification program.
"F" = denotes a parameter for which Paradigm does not carry certification, the results for which should therefore only be used where ELAP certification is not required, such as personal exposure assessment.

GENERAL TERMS AND CONDITIONS
LABORATORY SERVICES

These Terms and Conditions embody the whole agreement of the parties in the absence of a signed and executed contract between the Laboratory (LAB) and Client. They shall supersede all previous communications, representations, or agreements, either verbal or written, between the parties. The LAB specifically rejects all additional, inconsistent, or conflicting terms, whether printed or otherwise set forth in any purchase order or other communication from the Client to the LAB. The invalidity or unenforceability in whole or in part of any provision, term, or condition hereof shall not affect in any way the validity or enforceability of the remainder of the Terms and Conditions. No waiver by LAB of any provision, term, or condition hereof or of any breach by or obligation of the Client hereunder shall constitute a waiver of such provision, term, or condition on any other occasion or a waiver of any other breach by or obligation of the Client. This agreement shall be administered and interpreted under the laws of the state which services are procured.

Warranty. Recognizing that the nature of many samples is unknown and that some may contain potentially hazardous components, LAB warrants only that it will perform testing services, obtain findings, and prepare reports in accordance with generally accepted analytical laboratory principles and practices at the time of performance of services. LAB makes no other warranty, express or implied.

Scope and Compensation. LAB agrees to perform the services described in the chain of custody to which these terms and conditions are attached. Unless the parties agree in writing to the contrary, the duties of LAB shall not be construed to exceed the services specifically described. LAB will use LAB default method for all tests unless specified otherwise on the Work Order.

Payment terms are net 30 days from the date of invoice. All overdue payments are subject to an interest charge of one and one-half percent (1-1/2%) per month or a portion thereof. Client shall also be responsible for costs of collection, including payment of reasonable attorney fees if such expense is incurred. The prices, unless stated, do not include any sale, use or other taxes. Such taxes will be added to invoice prices when required.

Prices. Compensation for services performed will be based on the current Lab Analytical Fee Schedule or on quotations agreed to in writing by the parties. Turnaround time based charges are determined from the time of resolution of all work order questions. Testimony, court appearances or data compilation for legal action will be charged separately. Evaluation and reporting of initial screening runs may incur additional fees.

Limitations of Liability. In the event of any error, omission, or other professional negligence, the sole and exclusive responsibility of LAB shall be to re-perform the deficient work at its own expense and LAB shall have no other liability whatsoever. All claims shall be deemed waived unless made in writing and received by LAB within ninety (90) days following completion of services.

LAB shall have no liability, obligation, or responsibility of any kind for losses, costs, expenses, or other damages (including but not limited to any special, direct, incidental or consequential damages) with respect to LAB's services or results.

All results provided by LAB are strictly for the use of its clients and LAB is in no way responsible for the use of such results by clients or third parties. All reports should be considered in their entirety, and LAB is not responsible for the separation, detachment, or other use of any portion of these reports. Client may not assign the lab report without the written consent of the LAB.

Client covenants and agrees, at its/his/her sole expense, to indemnify, protect, defend, and save harmless the LAB from and against any and all damages, losses, liabilities, obligations, penalties, claims, litigation, demands, defenses, judgments, suits, actions, proceedings, costs, disbursements and/or expenses (including, without limitation attorneys' and experts' fees and disbursements) of any kind whatsoever which may at any time be imposed upon, incurred by or asserted or awarded against client relating to, resulting from or arising out of (a) the breach of this agreement by this client, (b) the negligence of the client in handling, delivering or disclosing any hazardous substance, (c) the violation of the Client of any applicable law, (d) non-compliance by the Client with any environmental permit or (e) a material misrepresentation in disclosing the materials to be tested.

Hazard Disclosure. Client represents and warrants that any sample delivered to LAB will be preceded or accompanied by complete written disclosure of the presence of any hazardous substances known or suspected by Client. Client further warrants that any sample containing any hazardous substance that is to be delivered to LAB will be packaged, labeled, transported, and delivered properly and in accordance with applicable laws.

Sample Handling. Prior to LAB's acceptance of any sample (or after any revocation of acceptance), the entire risk of loss or of damage to such sample remains with Client. Samples are accepted when receipt is acknowledged on chain of custody documentation. In no event will LAB have any responsibility for the action or inaction of any carrier shipping or delivering any sample to or from LAB premises.

Client authorizes LAB to proceed with the analysis of samples as received by the laboratory, recognizing that any samples not in compliance with all current DOH-ELAP-NELAP requirements for containers, preservation or holding time will be noted as such on the final report.

Disposal of hazardous waste samples is the responsibility of the Client. If the Client does not wish such samples returned, LAB may add storage and disposal fees to the final invoice. Maximum storage time for samples is 30 days after completion of analysis unless modified by applicable state or federal laws. Client will be required to give the LAB written instructions concerning disposal of these samples.

LAB reserves the absolute right, exercisable at any time, to refuse to receive delivery of, refuse to accept, or revoke acceptance of any sample, which, in the sole judgment of LAB (a) is of unsuitable volume, (b) may be or become unsuitable for or may pose a risk in handling, transport, or processing for any health, safety, environmental or other reason whether or not due to the presence in the sample of any hazardous substance, and whether or not such presence has been disclosed to LAB by Client or (c) if the condition or sample date make the sample unsuitable for analysis.

Legal Responsibility. LAB is solely responsible for performance of this contract, and no affiliated company, director, officer, employee, or agent shall have any legal responsibility hereunder, whether in contract or tort including negligence.

Assignment. LAB may assign its performance obligations under this contract to other parties, as it deems necessary. LAB shall disclose to Client any assignee (subcontractor) by ELAP ID # on the submitted final report.

Force Majeure. LAB shall have no responsibility or liability to the Client for any failure or delay in performance by LAB, which results in whole or in part from any cause or circumstance beyond the reasonable control of LAB. Such causes and circumstances shall include, but not limited to, acts of God, acts or orders of any government authority, strikes or other labor disputes, natural disasters, accidents, wars, civil disturbances, difficulties or delays in transportation, mail or delivery services, inability to obtain sufficient services or supplies from LAB's usual suppliers, or any other cause beyond LAB's reasonable control.

Law. This contract shall be continued under the laws of the State of New York without regard to its conflicts of laws provision.

PARADIGM
ENVIRONMENTAL SERVICES, INC

179 Lake Avenue, Rochester, NY 14608 Office (585) 647-2530 Fax (585) 647-3311

CHAIN OF CUSTODY

1 of 2

REPORT TO:		INVOICE TO:		LAB PROJECT ID
CLIENT: C&S Engineers		CLIENT: Same		164672
ADDRESS: 141 Elm St		ADDRESS:		Quotation #:
CITY: Buffalo STATE: NY ZIP: 14203		CITY: STATE: ZIP:		
PHONE: 716-955-3021		PHONE:		Email:
ATTN: Cody Martin		ATTN:		CMartin@cscos.com

PROJECT REFERENCE: JCC

Matrix Codes:
AQ - Aqueous Liquid, NQ - Non-Aqueous Liquid, WA - Water, WG - Groundwater, DW - Drinking Water, WW - Wastewater, SO - Soil, SL - Sludge, SD - Solid, PT - Paint, WP - Wipe, CK - Caulk, OL - Oil, AR - Air

REQUESTED ANALYSIS

DATE COLLECTED	TIME COLLECTED	COMPOSITE	GRAB	SAMPLE IDENTIFIER	MATRIX CODES	NUMBER OF CONTAINERS	Dissolved	Chloride	Conductivity	VOC	TCL	REMARKS	PARADIGM LAB SAMPLE NUMBER
10/20/16	10:00		X	ESI-12-102016	WG	6	X	X	X	X			01
	11:07		X	ESI-11-102016									02
	12:00		X	ESI-10-102016		GP 10/24/16							03
	1:06		X	ESI-3-102016 1 of 2 VOA vials received broken GP 10/24/16		7							04
	2:10		X	PW-1-102016								Sub sent directly to	05
	3:00		X	ESI-1-102016		GP 10/24/16						sub lab. GP 10/24/16	06
	3:40		X	ESI-13R-102016 1 of 2 VOA vials received broken GP 10/24/16		5							07
	4:00		X	ESI-7-102016									08
	10:00		X	DUP-102016		2	X	X	X		per Remarks GP 10/24/16	VOC Only	09
10/21/16	8:30		X	PW-3R-102116								MS/MSD VOC only	10

Turnaround Time		Report Supplements			
Availability contingent upon lab approval; additional fees may apply.					
Standard 5 day	X	None Required	☐	None Required	☐
10 day	☐	Batch QC	☐	Basic EDD	☐
Rush 3 day	☐	Category A	☐	NYSDEC EDD	X
Rush 2 day	☐	Category B	X		
Rush 1 day	☐				
Other please indicate date needed:	☐	Other please indicate package needed:	☐	Other EDD please indicate EDD needed: EIM	X

Sampled By: [signature] Date/Time: 10/21/16 12:01

delivered by UPS 6°C iced custody seal N/A - from Paradigm 10/22/16 1145

Total Cost:

Relinquished By: [signature] Date/Time: 10/21/16 2:07

Received By: [signature] Date/Time: 10/21/16 2:07 / 10/22/16 1145

P.I.F.

Received @ Lab By: [signature] Date/Time: 10/24/16 15:06

By signing this form, client agrees to Paradigm Terms and Conditions (reverse).

See additional page for sample conditions.

179 Lake Avenue, Rochester, NY 14608 Office (585) 647-2530 Fax (585) 647-3311

2 of 3

CHAIN OF CUSTODY

2 of 2

PARADIGM ENVIRONMENTAL SERVICES, INC

REPORT TO:			INVOICE TO:			
CLIENT: C&S			CLIENT: Same			LAB PROJECT ID: 164672
ADDRESS:			ADDRESS:			
CITY:	STATE:	ZIP	CITY:	STATE:	ZIP:	Quotation #:
PHONE:			PHONE:			Email:
ATTN: Cody Martin			ATTN:			

PROJECT REFERENCE

JCC

Matrix Codes:

AQ - Aqueous Liquid; NQ - Non-Aqueous Liquid; WA - Water; WG - Groundwater; DW - Drinking Water; WW - Wastewater; SO - Soil; SL - Sludge; SD - Solid; PT - Paint; WP - Wipe; CK - Caulk; OL - Oil; AR - Air

REQUESTED ANALYSIS

DATE COLLECTED	TIME COLLECTED	COMPOSITE	GRAB	SAMPLE IDENTIFIER	MATRIX CODES	NUMBER OF CONTAINERS	Dissolve O2	Chloride	Conductivity	TCL VOC								REMARKS	PARADIGM LAB SAMPLE NUMBER
10/21/16	9:30		X	ESI-6-102116	WG	6	X	X	X	X									11
10/21/16	11:30		X	ESI-2-102116	WG	6	X	X	X	X									12

Turnaround Time		Report Supplements			
Availability contingent upon lab approval; additional fees may apply.					
Standard 5 day	X	None Required		None Required	
10 day		Batch QC		Basic EDD	
Rush 3 day		Category A		NYSDEC EDD	X
Rush 2 day		Category B	X		
Rush 1 day					
Other		Other		Other EDD	X
please indicate date needed:		please indicate package needed:		please indicate EDD needed: EQuIS	

Cody Martin	10/21/16 12:21	Total Cost:
Sampled By	Date/Time	
Cody A Martin	10/21/16 2:07	
Relinquished By	Date/Time	
John Hoyt	10/21/16 2:07	P.I.F.
Received By	Date/Time	
JR	10/24/16 15:06	
Received @ Lab By	Date/Time	

By signing this form, client agrees to Paradigm Terms and Conditions (reverse).

See additional page for sample conditions.

PARADIGM

Chain of Custody Supplement

Client: C & S Engineers **Completed by:** Glenn Pezzulo

Lab Project ID: 164672 **Date:** 10/24/16

Sample Condition Requirements

Per NELAC/ELAP 210/241/242/243/244

Condition	NELAC compliance with the sample condition requirements upon receipt: Yes	No	N/A
Container Type	X		
Comments			
Transferred to method-compliant container			X
Headspace (<1 mL)	X		
Comments			
Preservation	X		
Comments			
Chlorine Absent (<0.10 ppm per test strip)			X
Comments			
Holding Time	X		
Comments			
Temperature	X		
Comments	6° C iced 10/22/16 11:45		
Sufficient Sample Quantity	X		
Comments	Samples for Dissolved Oxygen, Chloride, Conductivity sent directly to sub lab		

ANALYTICAL REPORT

Lab Number:	L1634080
Client:	Paradigm Environmental Services 179 Lake Avenue Rochester, NY 14608
ATTN:	Rebecca Ross
Phone:	(585) 647-2530
Project Name:	JCC
Project Number:	Not Specified
Report Date:	10/27/16

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

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

Project Name: JCC
Project Number: Not Specified

Lab Number: L1634080
Report Date: 10/27/16

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1634080-01	ESI-12-102016	WATER	Not Specified	10/20/16 10:00	10/21/16
L1634080-02	ESI-11-102016	WATER	Not Specified	10/20/16 11:07	10/21/16
L1634080-03	ESI-10-102016	WATER	Not Specified	10/20/16 12:00	10/21/16
L1634080-04	ESI-3-102016	WATER	Not Specified	10/20/16 13:06	10/21/16
L1634080-05	PW-1-102016	WATER	Not Specified	10/20/16 14:10	10/21/16
L1634080-06	ESI-1-102016	WATER	Not Specified	10/20/16 15:00	10/21/16
L1634080-07	ESI-13R-102016	WATER	Not Specified	10/20/16 15:40	10/21/16
L1634080-08	ESI-7-102016	WATER	Not Specified	10/20/16 16:00	10/21/16
L1634080-09	DUP-102016	WATER	Not Specified	10/20/16 10:00	10/21/16
L1634080-10	PW-3R-102016	WATER	Not Specified	10/21/16 08:30	10/21/16
L1634080-11	ESI-6-102016	WATER	Not Specified	10/21/16 09:30	10/21/16
L1634080-12	ESI-2-102016	WATER	Not Specified	10/21/16 11:30	10/21/16

Project Name: JCC
Project Number: Not Specified

Lab Number: L1634080
Report Date: 10/27/16

Case Narrative

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

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

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

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

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

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

Project Name: JCC
Project Number: Not Specified

Lab Number: L1634080
Report Date: 10/27/16

Case Narrative (continued)

Report Submission

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

Sample Receipt

A sample identified as "DUP-102016" was listed on the Chain of Custody, but not received. This was verified by the client.

Dissolved Oxygen

L1634080-01 through -08, and -10 through -12 were analyzed with the method required holding time exceeded.

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

Authorized Signature: Michelle M. Morris

Title: Technical Director/Representative Date: 10/27/16

INORGANICS
&
MISCELLANEOUS

Project Name: JCC
Project Number: Not Specified

Lab Number: L1634080
Report Date: 10/27/16

SAMPLE RESULTS

Lab ID: L1634080-01
Client ID: ESI-12-102016
Sample Location: Not Specified
Matrix: Water

Date Collected: 10/20/16 10:00
Date Received: 10/21/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Specific Conductance @ 25 C	1000		umhos/cm	10	10.	1	-	10/22/16 01:04	1,9050A	TH
Dissolved Oxygen	6.5		mg/l	0.10	0.10	1	-	10/22/16 01:15	121,4500O-C	WR
Anions by Ion Chromatography - Westborough Lab										
Chloride	185.		mg/l	25.0	2.70	50	-	10/24/16 20:53	44,300.0	AU

Project Name: JCC
Project Number: Not Specified

Lab Number: L1634080
Report Date: 10/27/16

SAMPLE RESULTS

Lab ID: L1634080-02
Client ID: ESI-11-102016
Sample Location: Not Specified
Matrix: Water

Date Collected: 10/20/16 11:07
Date Received: 10/21/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Specific Conductance @ 25 C	860		umhos/cm	10	10.	1	-	10/22/16 01:04	1,9050A	TH
Dissolved Oxygen	15.		mg/l	0.10	0.10	1	-	10/22/16 01:15	121,4500O-C	WR
Anions by Ion Chromatography - Westborough Lab										
Chloride	138.		mg/l	25.0	2.70	50	-	10/24/16 21:05	44,300.0	AU

Project Name: JCC
Project Number: Not Specified

Lab Number: L1634080
Report Date: 10/27/16

SAMPLE RESULTS

Lab ID: L1634080-03
Client ID: ESI-10-102016
Sample Location: Not Specified
Matrix: Water

Date Collected: 10/20/16 12:00
Date Received: 10/21/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Specific Conductance @ 25 C	820		umhos/cm	10	10.	1	-	10/22/16 01:04	1,9050A	TH
Dissolved Oxygen	4.7		mg/l	0.10	0.10	1	-	10/22/16 01:15	121,4500O-C	WR
Anions by Ion Chromatography - Westborough Lab										
Chloride	132.		mg/l	25.0	2.70	50	-	10/24/16 21:17	44,300.0	AU

Project Name: JCC
Project Number: Not Specified

Lab Number: L1634080
Report Date: 10/27/16

SAMPLE RESULTS

Lab ID: L1634080-04
Client ID: ESI-3-102016
Sample Location: Not Specified
Matrix: Water

Date Collected: 10/20/16 13:06
Date Received: 10/21/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Specific Conductance @ 25 C	1400		umhos/cm	10	10.	1	-	10/22/16 01:04	1,9050A	TH
Dissolved Oxygen	4.8		mg/l	0.10	0.10	1	-	10/22/16 01:15	121,4500O-C	WR
Anions by Ion Chromatography - Westborough Lab										
Chloride	288.		mg/l	12.5	1.35	25	-	10/25/16 19:15	44,300.0	AU

Project Name: JCC
Project Number: Not Specified

Lab Number: L1634080
Report Date: 10/27/16

SAMPLE RESULTS

Lab ID: L1634080-05
Client ID: PW-1-102016
Sample Location: Not Specified
Matrix: Water

Date Collected: 10/20/16 14:10
Date Received: 10/21/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Specific Conductance @ 25 C	1300		umhos/cm	10	10.	1	-	10/22/16 01:04	1,9050A	TH
Dissolved Oxygen	4.4		mg/l	0.10	0.10	1	-	10/22/16 01:15	121,4500O-C	WR
Anions by Ion Chromatography - Westborough Lab										
Chloride	228.		mg/l	12.5	1.35	25	-	10/25/16 19:51	44,300.0	AU

Project Name: JCC
Project Number: Not Specified

Lab Number: L1634080
Report Date: 10/27/16

SAMPLE RESULTS

Lab ID: L1634080-06
Client ID: ESI-1-102016
Sample Location: Not Specified
Matrix: Water

Date Collected: 10/20/16 15:00
Date Received: 10/21/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Specific Conductance @ 25 C	1200		umhos/cm	10	10.	1	-	10/22/16 01:04	1,9050A	TH
Dissolved Oxygen	4.3		mg/l	0.10	0.10	1	-	10/22/16 01:15	121,4500O-C	WR
Anions by Ion Chromatography - Westborough Lab										
Chloride	263.		mg/l	12.5	1.35	25	-	10/25/16 20:03	44,300.0	AU

Project Name: JCC
Project Number: Not Specified

Lab Number: L1634080
Report Date: 10/27/16

SAMPLE RESULTS

Lab ID: L1634080-07
Client ID: ESI-13R-102016
Sample Location: Not Specified
Matrix: Water

Date Collected: 10/20/16 15:40
Date Received: 10/21/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Specific Conductance @ 25 C	1100		umhos/cm	10	10.	1	-	10/22/16 01:04	1,9050A	TH
Dissolved Oxygen	1.0		mg/l	0.10	0.10	1	-	10/22/16 01:15	121,4500O-C	WR
Anions by Ion Chromatography - Westborough Lab										
Chloride	233.		mg/l	12.5	1.35	25	-	10/25/16 20:15	44,300.0	AU

Project Name: JCC
Project Number: Not Specified

Lab Number: L1634080
Report Date: 10/27/16

SAMPLE RESULTS

Lab ID: L1634080-08
Client ID: ESI-7-102016
Sample Location: Not Specified
Matrix: Water

Date Collected: 10/20/16 16:00
Date Received: 10/21/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Specific Conductance @ 25 C	550		umhos/cm	10	10.	1	-	10/22/16 01:04	1,9050A	TH
Dissolved Oxygen	5.1		mg/l	0.10	0.10	1	-	10/22/16 01:15	121,4500O-C	WR
Anions by Ion Chromatography - Westborough Lab										
Chloride	70.9		mg/l	12.5	1.35	25	-	10/25/16 20:27	44,300.0	AU

Project Name: JCC
Project Number: Not Specified

Lab Number: L1634080
Report Date: 10/27/16

SAMPLE RESULTS

Lab ID: L1634080-10
Client ID: PW-3R-102016
Sample Location: Not Specified
Matrix: Water

Date Collected: 10/21/16 08:30
Date Received: 10/21/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Specific Conductance @ 25 C	1600		umhos/cm	10	10.	1	-	10/22/16 01:04	1,9050A	TH
Dissolved Oxygen	ND		mg/l	0.10	0.10	1	-	10/22/16 01:15	121,4500O-C	WR
Anions by Ion Chromatography - Westborough Lab										
Chloride	317.		mg/l	12.5	1.35	25	-	10/25/16 20:39	44,300.0	AU

Project Name: JCC
Project Number: Not Specified

Lab Number: L1634080
Report Date: 10/27/16

SAMPLE RESULTS

Lab ID: L1634080-11
Client ID: ESI-6-102016
Sample Location: Not Specified
Matrix: Water

Date Collected: 10/21/16 09:30
Date Received: 10/21/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Specific Conductance @ 25 C	1300		umhos/cm	10	10.	1	-	10/22/16 01:04	1,9050A	TH
Dissolved Oxygen	2.5		mg/l	0.10	0.10	1	-	10/22/16 01:15	121,4500O-C	WR
Anions by Ion Chromatography - Westborough Lab										
Chloride	241.		mg/l	12.5	1.35	25	-	10/25/16 20:51	44,300.0	AU

Project Name: JCC
Project Number: Not Specified

Lab Number: L1634080
Report Date: 10/27/16

SAMPLE RESULTS

Lab ID: L1634080-12
Client ID: ESI-2-102016
Sample Location: Not Specified
Matrix: Water

Date Collected: 10/21/16 11:30
Date Received: 10/21/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Specific Conductance @ 25 C	930		umhos/cm	10	10.	1	-	10/22/16 01:35	1,9050A	MC
Dissolved Oxygen	3.7		mg/l	0.10	0.10	1	-	10/22/16 01:15	121,4500O-C	WR
Anions by Ion Chromatography - Westborough Lab										
Chloride	141.		mg/l	12.5	1.35	25	-	10/25/16 21:27	44,300.0	AU

Project Name: JCC
Project Number: Not Specified

Lab Number: L1634080
Report Date: 10/27/16

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Anions by Ion Chromatography - Westborough Lab for sample(s): 01-03 Batch: WG945711-1										
Chloride	ND		mg/l	0.500	0.054	1	-	10/24/16 17:11	44,300.0	AU
Anions by Ion Chromatography - Westborough Lab for sample(s): 04-08,10-12 Batch: WG946120-1										
Chloride	ND		mg/l	0.500	0.054	1	-	10/25/16 17:26	44,300.0	AU

Lab Control Sample Analysis

Batch Quality Control

Project Name: JCC

Project Number: Not Specified

Lab Number: L1634080

Report Date: 10/27/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-08,10-11 Batch: WG944670-1								
Specific Conductance	100		-		99-101	-		
General Chemistry - Westborough Lab Associated sample(s): 12 Batch: WG944672-1								
Specific Conductance	100		-		99-101	-		
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01-03 Batch: WG945711-2								
Chloride	100		-		90-110	-		
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 04-08,10-12 Batch: WG946120-2								
Chloride	104		-		90-110	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: JCC
Project Number: Not Specified

Lab Number: L1634080
Report Date: 10/27/16

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01-03 QC Batch ID: WG945711-3 QC Sample: L1634081-02 Client ID: MS Sample												
Chloride	221.	100	323	103		-	-		40-151	-		18
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 04-08,10-12 QC Batch ID: WG946120-3 QC Sample: L1634242-01 Client ID: MS Sample												
Chloride	19.4	4	23.0	90		-	-		40-151	-		18

Lab Duplicate Analysis
Batch Quality Control

Project Name: JCC
Project Number: Not Specified

Lab Number: L1634080
Report Date: 10/27/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-08,10-12 QC Batch ID: WG944668-1 QC Sample: L1634080-01 Client ID: ESI-12-102016						
Dissolved Oxygen	6.5	6.9	mg/l	6		
General Chemistry - Westborough Lab Associated sample(s): 01-08,10-11 QC Batch ID: WG944670-2 QC Sample: L1634080-11 Client ID: ESI-6-102016						
Specific Conductance @ 25 C	1300	1300	umhos/cm	0		20
General Chemistry - Westborough Lab Associated sample(s): 12 QC Batch ID: WG944672-2 QC Sample: L1634080-12 Client ID: ESI-2-102016						
Specific Conductance @ 25 C	930	930	umhos/cm	0		20
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01-03 QC Batch ID: WG945711-4 QC Sample: L1634081-02 Client ID: DUP Sample						
Chloride	221.	221	mg/l	0		18
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 04-08,10-12 QC Batch ID: WG946120-4 QC Sample: L1634242-01 Client ID: DUP Sample						
Chloride	19.4	19.5	mg/l	1		18

Project Name: JCC
Project Number: Not Specified

Lab Number: L1634080
Report Date: 10/27/16

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information Custody Seal

Cooler	
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1634080-01A	Plastic 120ml unpreserved	A	7	2.6	Y	Absent	CL-300(28)
L1634080-01B	Plastic 120ml unpreserved	A	7	2.6	Y	Absent	COND-9050(28)
L1634080-01C	BOD bottle Powder Pillow preserv	A	N/A	2.6	Y	Absent	DO-4500(.3)
L1634080-01D	BOD bottle Powder Pillow preserv	A	N/A	2.6	Y	Absent	DO-4500(.3)
L1634080-02A	Plastic 120ml unpreserved	A	7	2.6	Y	Absent	CL-300(28)
L1634080-02B	Plastic 120ml unpreserved	A	7	2.6	Y	Absent	COND-9050(28)
L1634080-02C	BOD bottle Powder Pillow preserv	A	N/A	2.6	Y	Absent	DO-4500(.3)
L1634080-02D	BOD bottle Powder Pillow preserv	A	N/A	2.6	Y	Absent	DO-4500(.3)
L1634080-03A	Plastic 120ml unpreserved	A	7	2.6	Y	Absent	CL-300(28)
L1634080-03B	Plastic 120ml unpreserved	A	7	2.6	Y	Absent	COND-9050(28)
L1634080-03C	BOD bottle Powder Pillow preserv	A	N/A	2.6	Y	Absent	DO-4500(.3)
L1634080-03D	BOD bottle Powder Pillow preserv	A	N/A	2.6	Y	Absent	DO-4500(.3)
L1634080-04A	Plastic 120ml unpreserved	A	7	2.6	Y	Absent	CL-300(28)
L1634080-04B	Plastic 120ml unpreserved	A	7	2.6	Y	Absent	COND-9050(28)
L1634080-04C	BOD bottle Powder Pillow preserv	A	N/A	2.6	Y	Absent	DO-4500(.3)
L1634080-04D	BOD bottle Powder Pillow preserv	A	N/A	2.6	Y	Absent	DO-4500(.3)
L1634080-05A	Plastic 120ml unpreserved	A	7	2.6	Y	Absent	CL-300(28)
L1634080-05B	Plastic 120ml unpreserved	A	7	2.6	Y	Absent	COND-9050(28)
L1634080-05C	BOD bottle Powder Pillow preserv	A	N/A	2.6	Y	Absent	DO-4500(.3)
L1634080-05D	BOD bottle Powder Pillow preserv	A	N/A	2.6	Y	Absent	DO-4500(.3)
L1634080-06A	Plastic 120ml unpreserved	A	7	2.6	Y	Absent	CL-300(28)
L1634080-06B	Plastic 120ml unpreserved	A	7	2.6	Y	Absent	COND-9050(28)
L1634080-06C	BOD bottle Powder Pillow preserv	A	N/A	2.6	Y	Absent	DO-4500(.3)
L1634080-06D	BOD bottle Powder Pillow preserv	A	N/A	2.6	Y	Absent	DO-4500(.3)
L1634080-07A	Plastic 120ml unpreserved	A	7	2.6	Y	Absent	CL-300(28)
L1634080-07B	Plastic 120ml unpreserved	A	7	2.6	Y	Absent	COND-9050(28)
L1634080-07C	BOD bottle Powder Pillow preserv	A	N/A	2.6	Y	Absent	DO-4500(.3)
L1634080-07D	BOD bottle Powder Pillow preserv	A	N/A	2.6	Y	Absent	DO-4500(.3)
L1634080-08A	Plastic 120ml unpreserved	A	7	2.6	Y	Absent	CL-300(28)

*Values in parentheses indicate holding time in days

Project Name: JCC
Project Number: Not Specified

Lab Number: L1634080
Report Date: 10/27/16

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1634080-08B	Plastic 120ml unpreserved	A	7	2.6	Y	Absent	COND-9050(28)
L1634080-08C	BOD bottle Powder Pillow preserv	A	N/A	2.6	Y	Absent	DO-4500(.3)
L1634080-08D	BOD bottle Powder Pillow preserv	A	N/A	2.6	Y	Absent	DO-4500(.3)
L1634080-10A	Plastic 120ml unpreserved	A	7	2.6	Y	Absent	CL-300(28)
L1634080-10B	Plastic 120ml unpreserved	A	7	2.6	Y	Absent	COND-9050(28)
L1634080-10C	BOD bottle Powder Pillow preserv	A	N/A	2.6	Y	Absent	DO-4500(.3)
L1634080-10D	BOD bottle Powder Pillow preserv	A	N/A	2.6	Y	Absent	DO-4500(.3)
L1634080-11A	Plastic 120ml unpreserved	A	7	2.6	Y	Absent	CL-300(28)
L1634080-11B	Plastic 120ml unpreserved	A	7	2.6	Y	Absent	COND-9050(28)
L1634080-11C	BOD bottle Powder Pillow preserv	A	N/A	2.6	Y	Absent	DO-4500(.3)
L1634080-11D	BOD bottle Powder Pillow preserv	A	N/A	2.6	Y	Absent	DO-4500(.3)
L1634080-12A	Plastic 120ml unpreserved	A	7	2.6	Y	Absent	CL-300(28)
L1634080-12B	Plastic 120ml unpreserved	A	7	2.6	Y	Absent	COND-9050(28)
L1634080-12C	BOD bottle Powder Pillow preserv	A	N/A	2.6	Y	Absent	DO-4500(.3)
L1634080-12D	BOD bottle Powder Pillow preserv	A	N/A	2.6	Y	Absent	DO-4500(.3)

*Values in parentheses indicate holding time in days

Project Name:	JCC	**Lab Number:**	L1634080
Project Number:	Not Specified	**Report Date:**	10/27/16

GLOSSARY

Acronyms

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

Footnotes

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

Terms

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

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

Data Qualifiers

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

Report Format: DU Report with 'J' Qualifiers

Project Name:	JCC	**Lab Number:**	L1634080
Project Number:	Not Specified	**Report Date:**	10/27/16

Data Qualifiers

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

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

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

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

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

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

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

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

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

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

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

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

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

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

Report Format: DU Report with 'J' Qualifiers

Project Name:	JCC	**Lab Number:**	L1634080
Project Number:	Not Specified	**Report Date:**	10/27/16

REFERENCES

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

44 Methods for the Determination of Inorganic Substances in Environmental Samples, EPA/600/R-93/100, August 1993.

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

LIMITATION OF LIABILITIES

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

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

Certification Information

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

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

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

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

Westborough Facility:

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

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

Mansfield Facility:

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

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

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

179 Lake Avenue, Rochester, NY 14608 Office (585) 647-2530 Fax (585) 647-3311

CHAIN OF CUSTODY

148071

L1634080

REPORT TO:		INVOICE TO:			
COMPANY:	Paradigm Environmental	COMPANY:	Same	LAB PROJECT #:	CLIENT PROJECT #:
ADDRESS:	179 Lake Avenue	ADDRESS:			
CITY:	Rochester STATE: NY ZIP: 14608	CITY:	STATE: ZIP:	TURNAROUND TIME: (WORKING DAYS)	
PHONE:	FAX:	PHONE:	FAX:	STD	OTHER
PROJECT NAME/SITE NAME:	JCC	ATTN:	Kate Hansen	ATTN: Meridith Dillman	☐ 1 ☐ 2 ☐ 3 ☒ 5
		COMMENTS:	Please email results to khansen@paradigmenv.com and reporting@paradigmenv.com	Date Due:	

REQUESTED ANALYSIS

DATE	TIME	COMPOSITE	GRAB	SAMPLE LOCATION/FIELD ID	MATRIX	NUMBER OF CONTAINERS	Dissolved O2	Chloride	SPEC Conductivity	REMARKS	PARADIGM LAB SAMPLE NUMBER
10/20/16	10:00		X	ESI-12-102016	WG	4	X	X	X	Cat "B"	
	11:07		X	ESI-11-102016	WG	4	X	X	X		
	12:00		X	ESI-10-102016	WG	4	X	X	X		
	1:06		X	ESI-3-102016	WG	4	X	X	X		
	2:10		X	PW-1-102016	WG	4	X	X	X		
	3:00		X	ESI-1-102016	WG	4	X	X	X		
	3:40		X	ESI-13R-102016	WG	4	X	X	X		
	4:00		X	ESI-7-102016	WG	4	X	X	X		
	10:00		X	DUP-102016	WG	4	X	X	X		
10/21/16	8:30		X	PW-3R-102116	WG	4	X	X	X		

LAB USE ONLY BELOW THIS LINE

Sample Condition: Per NELAC/ELAP 210/241/242/243/244

Receipt Parameter	NELAC Compliance	
Container Type:	Y ☐	N ☐
Comments:		
Preservation:	Y ☐	N ☐
Comments:		
Holding Time:	Y ☐	N ☐
Comments:		
Temperature:	Y ☐	N ☐
Comments:		

Client Sampled By	10/21/16 Date/Time	Total Cost:
Relinquished By	10/21/16 1510 Date/Time	
Received By	10.21.16 @ 1510 Date/Time	P.I.F.
Rel. Received By	10.21.16 @ 1510 Date/Time	
Received @ Lab By	10/22/16 0835 Date/Time	

179 Lake Avenue, Rochester, NY 14608 Office (585) 647-2530 Fax (585) 647-3311

PARADIGM ENVIRONMENTAL SERVICES, INC.

CHAIN OF CUSTODY

148071

L1634080

REPORT TO:		INVOICE TO:			
COMPANY:	Paradigm Environmental	COMPANY:	Same	LAB PROJECT #:	CLIENT PROJECT #:
ADDRESS:	179 Lake Avenue	ADDRESS:			
CITY:	Rochester STATE: NY ZIP: 14608	CITY:	STATE: ZIP:	TURNAROUND TIME: (WORKING DAYS)	
PHONE:	FAX:	PHONE:	FAX:	STD	OTHER
PROJECT NAME/SITE NAME: JCC		ATTN: Kate Hansen	ATTN: Meridith Dillman	☐ 1 ☐ 2 ☐ 3 ☒ 5	
		COMMENTS: Please email results to khansen@paradigmenv.com and reporting@paradigmenv.com		Date Due:	

REQUESTED ANALYSIS

DATE	TIME	COMPOSITE	GRAB	SAMPLE LOCATION/FIELD ID	MATRIX	NUMBER OF CONTAINERS	Dissolved O2	Chloride	Spec Conductivity	REMARKS	PARADIGM LAB SAMPLE NUMBER
10/21/16	9:30		X	ESI-6-102116	WG	4	X	X	X	CAT "B"	
10/21/16	11:30		X	ESI-2-102116	WG	4	X	X	X		

LAB USE ONLY BELOW THIS LINE

Sample Condition: Per NELAC/ELAP 210/241/242/243/244

Receipt Parameter	NELAC Compliance	
Container Type:	Y ☐	N ☐
Comments:		
Preservation:	Y ☐	N ☐
Comments:		
Holding Time:	Y ☐	N ☐
Comments:		
Temperature:	Y ☐	N ☐
Comments:		

Client Sampled By	Date/Time 10/21/16	Total Cost:
Relinquished By	Date/Time 10/21/16 1510	
Received By	Date/Time 10.21.16 @ 1510	P.I.F.
Rec. Relinquished By	Date/Time 10.21.16 @ 1510	
Received By	Date/Time	
Received @ Lab By	Date/Time	