2019

PERIODIC REVIEW REPORT

FOR
DOWCRAFT, SOUTH DOW STREET
NYSDEC SITE #907020
FALCONER, CHAUTAUQUA COUNTY, NEW YORK

Prepared by:

C&S ENGINEERS, INC.
141 ELM STREET
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Prepared for:

JAMESTOWN CONTAINER COMPANIES
14 DEMING DRIVE
FALCONER, NEW YORK 14733

NOVEMBER 2019

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ACRONYM LIST

C&S	C&S ENGINEERS, INC.
JCC	JAMESTOWN CONTAINER COMPANIES
SITE	FORMER DOWCRAFT FACILITY
TCE	TRICHLOROETHYLENE
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
SVI	SOIL VAPOR INTRUSION

EXECUTIVE SUMMARY

C&S Engineers, Inc. (C&S) has prepared the 2019 Periodic Review Report for the former Dowcraft, South Dow Street Site (NYSDEC Site No. 907020) located at 65 South Dow Street in Falconer, New York. From 1939 to 1999, the Site manufactured steel partitions. As part of this manufacturing process, a vapor degreaser was used which included the use of chemicals such as trichloroethylene (TCE).

Previous environmental investigations have detected a TCE plume in the area of the former Dowcraft, South Dow Street Site. TCE contamination is located within two sand/gravel layers separated by a silt/clay lens. 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 TCE 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. Sampling in the River has not shown any impact to date.

The 2003 Record of Decision of the Site selected in-situ chemical dechlorination using potassium permanganate as the approved remedy. Nine in-situ treatment events occurred between May 2000 and July 2006. In 2014, C&S completed another treatment on the Site. Ten injection borings were advanced throughout the TCE plume and a potassium permanganate treatment fence was installed adjacent to the source area by PW-3R.

Post-treatment groundwater monitoring indicates that the latest treatment was successful in the dechlorination of TCE; however, the affect of the treatments seems to be lessening. Out of eleven monitoring wells, seven wells show a decrease in TCE and other chlorinated compounds, and two of these monitoring wells show a decrease of 80% or greater. Some wells show an increase of daughter compounds, this suggests that the dechlorination process is breaking TCE into its daughter compounds.

The Site is compliant with all institutional and engineering controls. The Institutional and Engineering Controls Certification form is provided in **Appendix C**.

1 SITE OVERVIEW

1.1 Site Description

The Dowcraft, South Dow Street 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.

1.2 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.

Under the fill, 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.

1.3 Nature and Extent of Contamination

The chemicals of concern (COC) of the Site are trichloroethylene and its daughter compounds (cis-1,2-dichloroethene and vinyl chloride). 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. Sampling in the River has not shown any impact to date.

Total volatile organic compound (VOC) concentrations range between 4.2 to 3,446 ug/L. The volume of the COC plume extends from the degreaser pits to the southern façade of the JCC building (approximate area of 5,000 square feet), then vertically down to the base of the second sand/gravel layer (43 feet BGS); a total volume of approximately 8,333 cubic yards of groundwater and subsurface soil.

Table 1 presents the 2013 baseline groundwater monitoring data. **Table 2** presents data for the pre-treatment and post-treatment groundwater monitoring events. Another groundwater monitoring event was conducted on June 2019. Sampling data will be submitted as a separate report to the NYSDEC.

1.4 Site History

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. In 1986 the deed was transferred to the Dowcraft Corporation. Manufacturing activities continued until the facility closed in 1999. As part of this manufacturing process, a vapor degreaser was used which included the use of chemicals such as trichloroethylene (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 Dowcraft, South Dow Street 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. These injection treatments were successful in oxidizing TCE in outer plume area; however, the concentrations of TCE in the source area remain high.

<u>2014 and 2015 In-situ Remedial Activities</u>

In May 2013, C&S was asked to re-evaluate the environmental conditions of the Site. On July 2013, baseline groundwater monitoring was conducted to determine the changes, if any, in TCE concentrations since 2006. Based on the findings of this work, a Corrective Measures Work Plan was submitted to the NYSDEC on May 2, 2014. C&S proposed additional in-situ chemical oxidation (ISCO) injections and the installation of a potassium permanganate treatment fence. This work was conducted on December 1 through 9, 2014.

Ten borings were each injected with approximately 33 gallons ISCO solution containing approximately 400 pounds of ISCO material. As the solution was pumped into the subsurface, the drill rods were lifted at a rate designed to inject a consistent amount of materials between 5 and 30 feet below grade. A total of 4,024.12 pounds of potassium permanganate was injected into the TCE plume.

Within the lower sand/gravel layer, the area adjacent to PW-3R contains the highest concentrations of TCE. To address these concentrations, a treatment fence was installed to reduce source loading into downgradient groundwater zones. The treatment fence consisted of 1.5 foot long tubes of paraffin wax mixed with potassium permanganate installed in selected monitoring wells and in the subsurface. A 36-foot treatment fence was installed next to the northwest corner of the building. A total of ten borings to 40 feet below grade were drilled to facilitate the installation of the treatment fence. A potassium permanganate cylinder was dropped down the drill casing. Four feet of casing was removed allowing the bore hole to collapse and another cylinder was placed in series until a total of 5 cylinders were installed (a vertical treatment thickness of approximately 7.5 feet in each boring).

2 Monitoring Plan Compliance Report

The monitoring plan developed by C&S for the Site includes both chemical and hydraulic monitoring of groundwater before and after treatment semi-annually for two years (sampling frequency was changed in the 2018 Operation, Monitoring and Maintenance Plan). Baseline groundwater monitoring was performed on July 2, 2013 and the chemical data is provided in **Table 1**. The following monitoring wells are included in the groundwater monitoring plan:

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

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. Pre-treatment sampling was conducted on October 21, 22 and 29, 2014 and post-treatment sampling was conducted on:

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
June 7 and 8, 2017	5th Post-treatment
May 7 and 8, 2018	6th Post-treatment (1st Annual Sample Event under new OM&M)
June 25 and 25, 2019	7th Post-treatment (2st Annual Sample Event under new OM&M)

Groundwater sampling was conducted in accordance with the U.S. Environmental Protection Agency Low flow sample procedure.

3 Remedy Performance, Effectiveness and Protectiveness

Contaminant concentrations appeared to have deceased, although some increases were also observed. The table below presents a comparison of total VOC concentrations from each monitoring well and the percent change from pre-treatment and post-treatment groundwater monitoring.

Change in VOC Concentration 2014-2019

Monitoring Well	*Total VOC Concentration (ug/L)*		*Percent Change*
	Pre-Treatment October 2014	*Post-Treatment June 2019*	

PW-1	16.9	4.6	-72.8%
PW-3R	2,609.3	3,446.3	+32.07%
ESI-1	8.9	12.39	+39.21%
ESI-2	816.08	2,228	+173.01%
ESI-3	4.8	4.2	-13%
ESI-6	575.22	204	-64.53%
ESI-7	208.39	Not Sampled	NA
ESI-10	352.11	155.62	-55.80%
ESI-11	157	26.4	-83.18%
ESI-12	221.48	21.8	-90.15%
ESI-13R	40	21.4	-46.5%

Out of eleven monitoring wells, seven wells still show significant decreases, over 40%, in TCE and other chlorinated compounds from the first initial sampling event in 2014. Results from the latest sample event show an increase in total VOC concentrations from the previous sampling event in 2018. TCE and other chlorinated compounds were observed to increase, compared to the previous groundwater sampling event in May 2018, in wells on the outside of the contaminant plume (ESI-1, ESI-2 and ESI-13R), Wells inside the JCC building (ESI-10, ESI-11 and ESI-12) showed a continuation of non-detect for TCE, with an exception to ESI-10, which showed an increase in TCE. PW-3R (source area) shows an increase in DCE and vinyl chloride from the 2018 sample event. TCE continued to show non-detect in PW-3R.

ESI-1, ESI-2, ESI-10 and PW-3R showed rebounds of chlorinated compounds from the December 2014 treatment event. ESI-2 still contains elevated levels of TCE and daughter compounds. Elevated concentrations were observed in sampling events conducted from April 2015 through October 2016. 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 overall when compared to previous treatments, compared to the initially sampling event in 2014.

ESI-2 shows a trend in chlorinated contaminants back to pre-treatment levels, indicating that this area is still in the process of reductive de-chlorination.

Historic concentrations of TCE and its daughter compounds from October 2005 to June 2019 are presented on **Figures 2, 3, and 4**. Laboratory analytical results and Data Usability Summary Report (DUSR) are provided in **Appendix A**.

4 IC/EC PLAN COMPLIANCE REPORT

4.1 IC/EC Requirements and Compliance

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

- Treat the source area of groundwater contamination by oxidation dechlorination 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.

4.1.1 Institutional Controls

The institutional controls for this Site are:

- Groundwater Use Restriction
- Land Use Restriction
- Monitoring Plan
- Operation and Monitoring Plan

The Site has not changed owners and the land use of the Site has not change. A signed certification that groundwater is not utilized is provided by the property owner in **Appendix B**.

4.1.2 Engineering Controls

As specified under the Engineering Control Provision, any future development on the Site will include provisions for soil gas controls, or an assessment demonstrating that such controls are not needed.

The soil vapor intrusion (SVI) work plan, submitted on February 20, 2015, targeted areas in the main JCC building and one smaller out building to determine if TCE and other chlorinated compounds in the groundwater have impacted the soil vapor and indoor air quality.

The main JCC building is a linear building that begins at South Dow Street and extends approximately 1,060 feet to the northeast. The main building consists of multiple interconnected buildings that have been added throughout its history. The main building consists of the following portions, starting from South Dow Street:

- Four-story brick building, 55 feet long by 100 feet wide;

- Two-story brick building 300, feet long by 50 feet wide;
- One-story brick building 380, feet long by 80 feet wide; and
- One-story steel building 325, feet long by 100 feet wide.

A second, one-story concrete block building (220 feet long by 50 feet wide), referred by JCC as Building #9, is south of the main building. Building #9 is used for manufacturing.

Building #9 SSD System

Two multi-suction point SSD systems were installed by Mitigation Tech using principles and equipment typically used for soil vapor intrusion mitigation in buildings in compliance with the NYSDOH document, "Guidance for Evaluation Soil Vapor Intrusion in the State of New York, October 2006."

The building was assessed by confirmatory sub-slab air communication testing at the job start to refine data obtained from the preliminary building assessment. The system, comprised of two fans, suction cavities, and other SSD system components, was constructed on March 21 through 27, 2017. Vacuum and air flow measurements were performed continuously during construction to ensure design integrity.

A detailed description of the SSDS components are provided in **Appendix D**.

Building #5 and #6 SSD System

Mitigation Tech installed five single suction point SSD systems using principles and equipment typically used for soil vapor intrusion mitigation in buildings in compliance with the NYSDOH document, "Guidance for Evaluation Soil Vapor Intrusion in the State of New York, October 2006."

The building was assessed by extensive sub-slab air communication testing at job start to refine data obtained from the preliminary building assessment. Due to a system of sub-slab structural arches and crisscrossing grade beams, sub-slab spaces were either inaccessible or difficult to access. In the case of Building 5, extensive backfilling has occurred such that the soil is present immediately below the floor in the central and northernmost portions of the foundation. The southernmost portion is an open crawlspace with a dirt floor. Mitigation Tech determined that active ventilation of the southernmost sub-slab compartment bounded by buildings 4 and 6A would constitute a zone of defense to intercept soil vapor migrating from the south which would also create some limited depressurization north of the first grade beam. In the case of Building 6, the sub-space is in essence a crawlspace so ventilation was determined the most appropriate strategy to divert vapors from the building interior.

A detailed description of the SSDS components are provided in **Appendix D**.

4.2 IC/EC Certification

As required, the Site Management Periodic Review Report Notice – Institutional and Engineering Controls Certificate Form has been completed and a copy is provided in **Appendix C**.

5 OPERATION AND MAINTENANCE PLAN COMPLIANCE

An updated Operation, Maintenance and Monitoring (OM&M) Work Plan was approved by the NYSDEC in March 2018. The updated Work Plan includes monitoring the natural attenuation of the groundwater contamination and periodic inspection of two soil vapor mitigation systems over five years. The Remedial Action Monitoring Program consists of monitoring Site groundwater on an annual basis and the performance of the SSDS on a monthly and annual basis.

Appendix D provides the approved OM&M Work Plan

5.1 Groundwater Monitoring Wells

The following maintenance items were identified:

- At the time of the June 2019 monitoring event, ESI-7 could not be sampled because the driveway in front of the JCC building was recently paved and the monitoring well was covered with asphalt.

Recently, JCC staff was able to locate and uncover ESI-7. This monitoring well will be sampled for the next monitoring event.

5.2 Soil Vapor Mitigation Systems

5.2.1 Monthly Monitoring

Monthly monitoring will be conducted as follows:

- Inspect fan vacuum indicator to verify that the value indicated by a mark on the gauge has not changed significantly from the position of the mark. The gauge is inspected by observing the level of colored fluid.

- Record the observed measurement for each fan vacuum indicator on form labeled "SSD System Vacuum Gauge Record". Store all forms in the facility maintenance office.

- Inspect visible components of SSD system for degraded condition.

5.2.2 Annual Inspection

Annual inspection will be conducted as follows:

- Conduct a visual inspection of the complete system (e.g., vent fans, piping, warning devices, labeling).
- Inspect all components for condition and proper operation.
- Identify and repair any leaks in accordance with Sections 4.3.1(a) and 4.3.4(a) of the NYS DOH VI Guidance (i.e., with the systems running, use smoke sticks to check for leaks through concrete cracks, floor joints and at the suction points; any leaks will be resealed until smoke is no longer observed flowing through the opening).
- Inspect the exhaust or discharge point of each exhaust fan to verify that no air intakes have been located within 10 feet.
- Conduct pressure field extension testing to ensure that the system is maintaining a vacuum beneath the entire slab. Perform a differential pressure reading at least one vacuum test point.
- Interview appropriate building occupants seeking comments and observations regarding the operation of the system.
- Confirm that the circuit breakers controlling the circuits on which the soil vapor vent fans operate are labeled "Soil Vapor System."

5.2.2.1 SSDS Inspection

On November 27, 2019, Mitigation Tech performed a complete inspection of all system components. Mitigation Tech certifies both systems are effectively maintaining sub-slab depressurization.

Mitigation Tech's inspection reports are provided in **Appendix E**.

6 Conclusions and Recommendations

Based upon the remedial activates performed, the following conclusions have been formulated:

- All of the required work was completed and is reported herein.
- The remedial activities performed at the Site have prevented any adverse risk to human health and the environment.

- The groundwater flow configuration beneath the Site is stable and remains consistent with the historically identified trends. The groundwater flow is to the north and discharges into the Chadakoin River.
- Sampling suggests the effectiveness of potassium permanganate injections and cylinders may be waning at treating the groundwater contaminants in many well.
- The SVI systems comprised of a SSD system for Building 9 and a SSD system and CVS for Buildings 5 and 6 were properly installed and verified for effectiveness. The primary objective of implementing these systems was to mitigate potential intrusion of soil vapors.

In addition to the groundwater monitoring under the OM&M Plan and PRR, C&S will investigate remedial options in order to reduce CVOC concentrations around PW-3R, ESI-2 and ESI-10. Various remedial methods will be evaluated based on their logistic and financial feasibility. Once an appropriate remedial method is identified, C&S will provide a work plan for DEC review.

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FIGURES

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LABORATORY ANALYTICAL RESULTS

APPENDIX B
GROUNDWATER USE CERTIFICATION

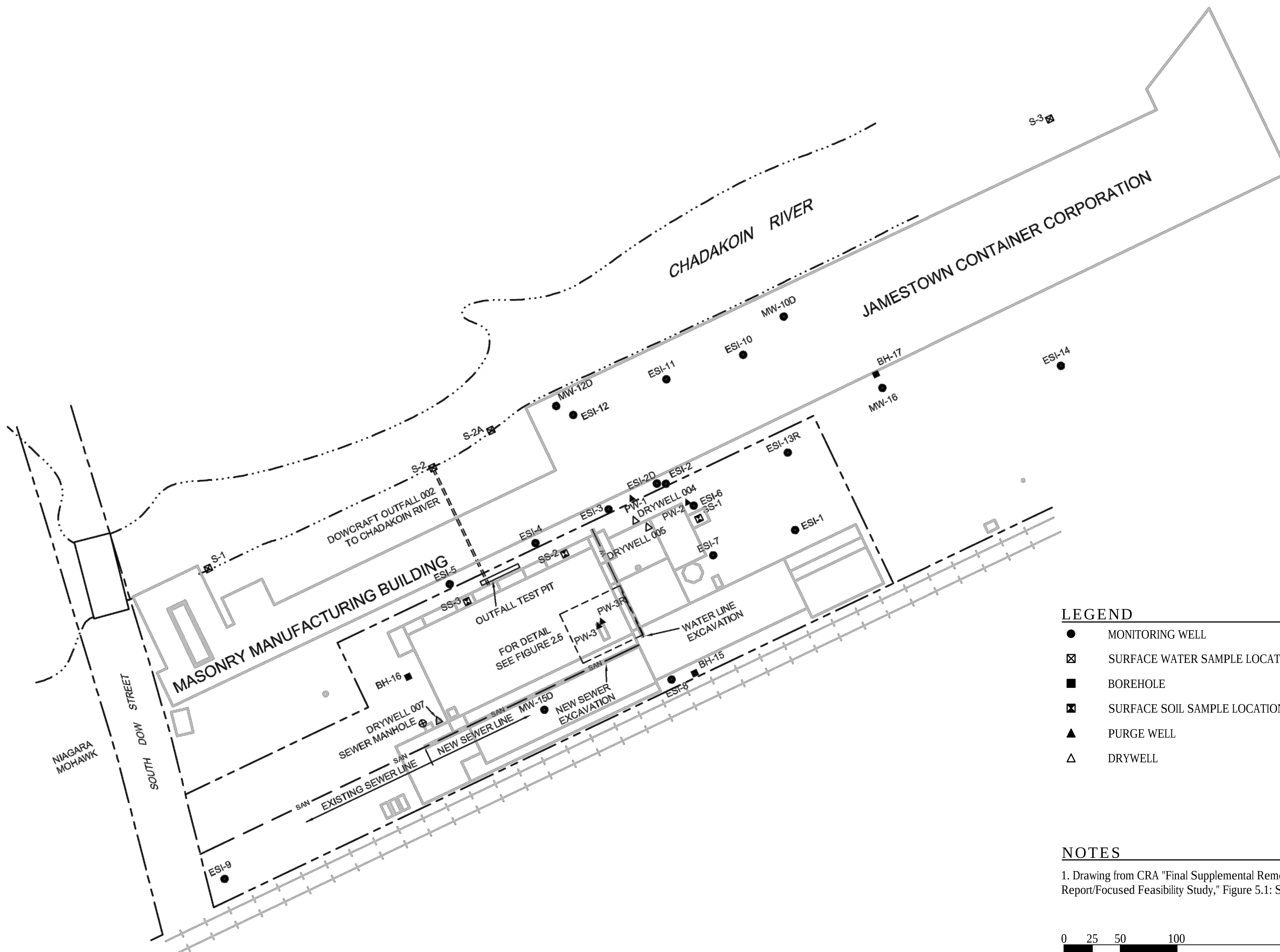
APPENDIX C

INSTITUTIONAL AND ENGINEERING CONTROLS CERTIFICATION FORM

APPENDIX D
Operation, Maintenance and Monitoring Work Plan

APPENDIX E
SSDS INSPECTION REPORTS

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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-N-

FORMER DOWCRAFT FACILITY
GROUNDWATER REMEDIATION

FALCONER, NEW YORK

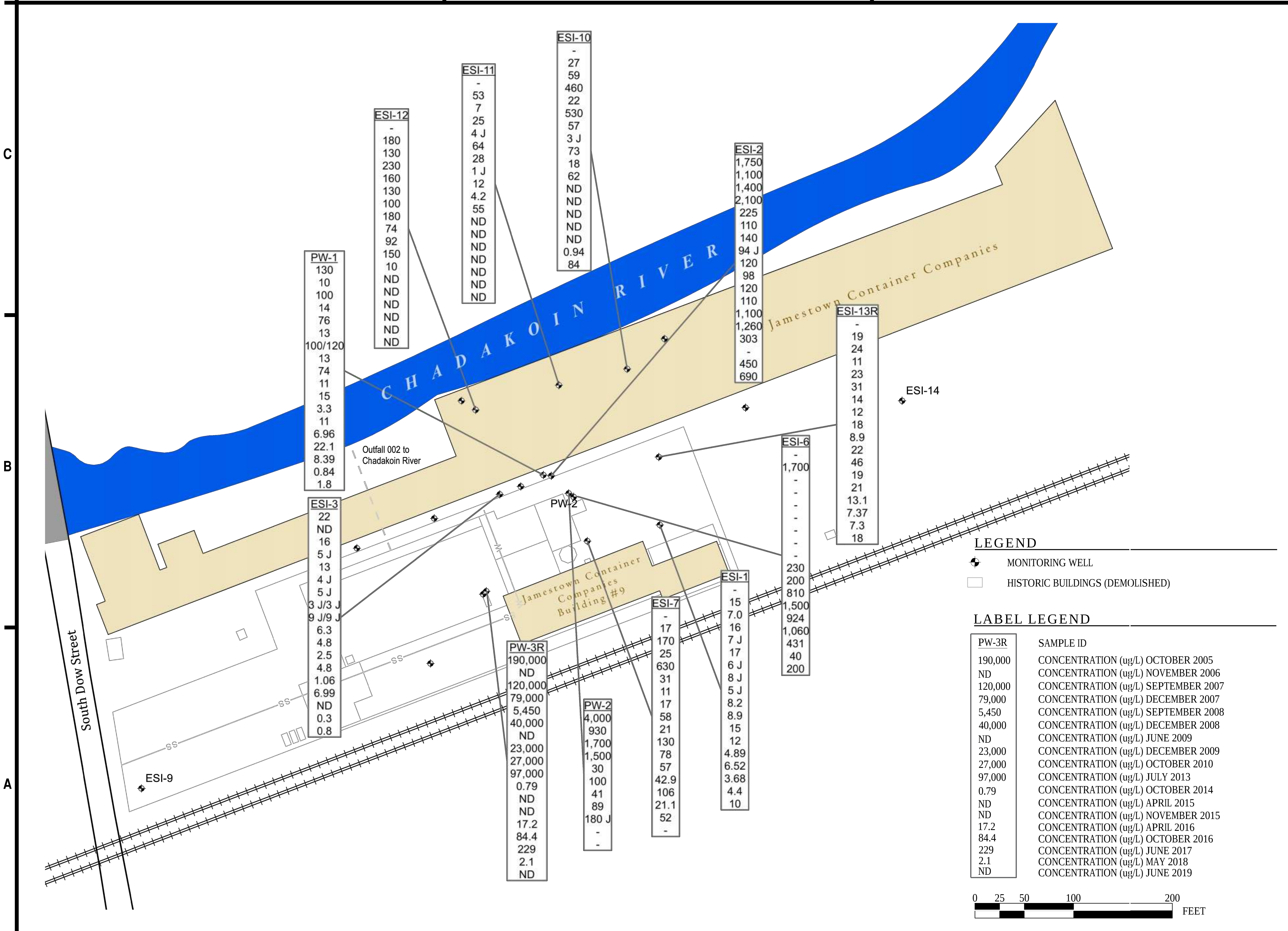
MARK	DATE	DESCRIPTION

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



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FORMER DOWCRAFT FACILITY - PERIODIC REVIEW REPORT

FALCONER, NEW YORK

MARK	DATE	DESCRIPTION

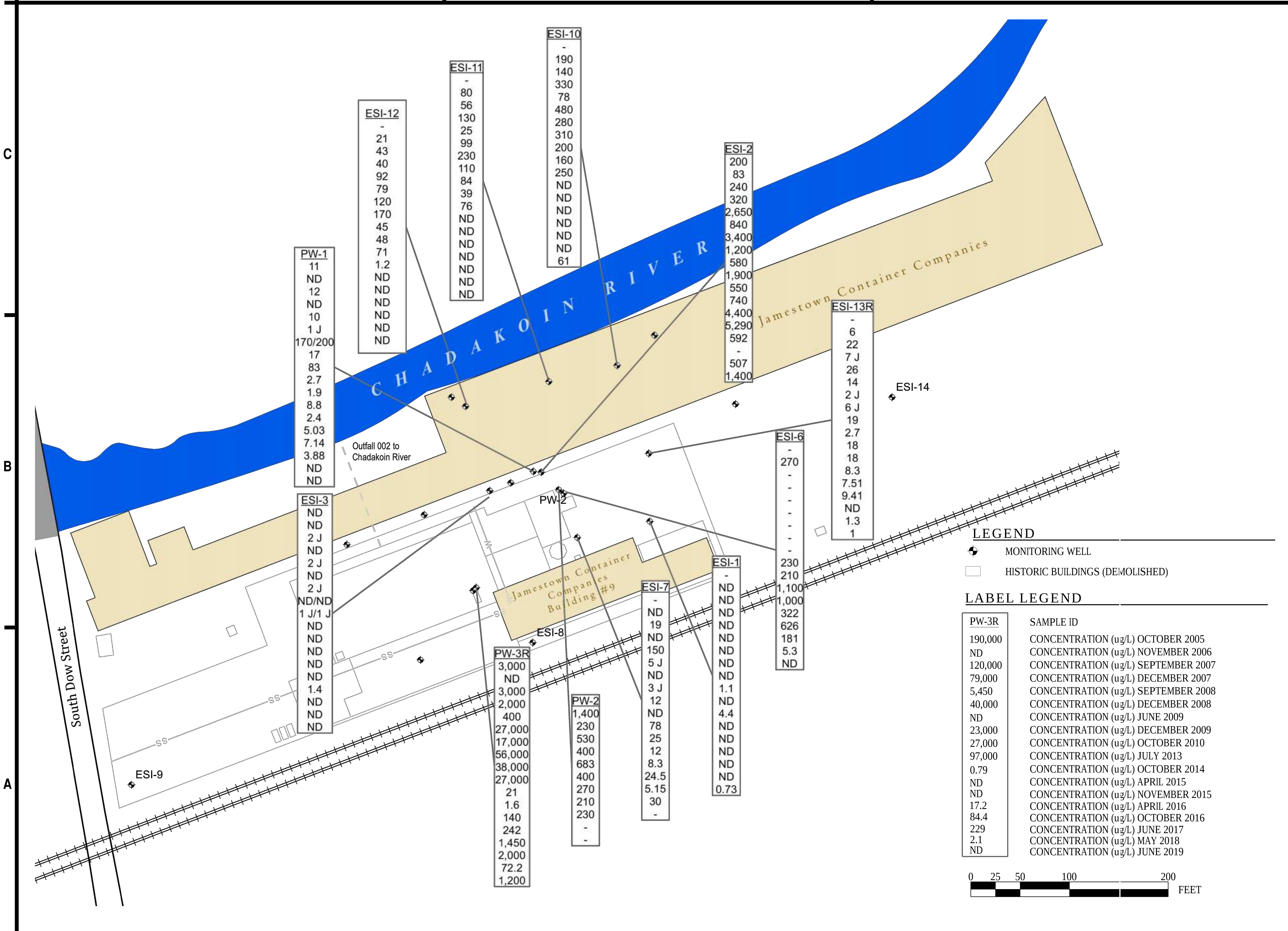
REVISIONS

PROJECT NO:	N30.001.001
DATE:	NOVEMBER 25, 2019
DRAWN BY:	C. MARTIN
DESIGNED BY:	C. MARTIN
CHECKED BY:	D. RIKER

TRICHLOROETHYLENE CONCENTRATIONS

FIGURE 2

F:\Project\N30 - Jamestown Container\N30001001 - Jamestown Container\Environmental\CADD-GIS\Sheet Files\FIGURE 2 TRICLOROETHYLENE CONCENTRATIONS.dwg



F:\Project\N30 - Jamestown Container\N30001001 - Jamestown Container\Environmental\CADD-GIS\Sheet Files\FIGURE 3 cis-1,2-DICHLOROETHENE CONCENTRATIONS.dwg

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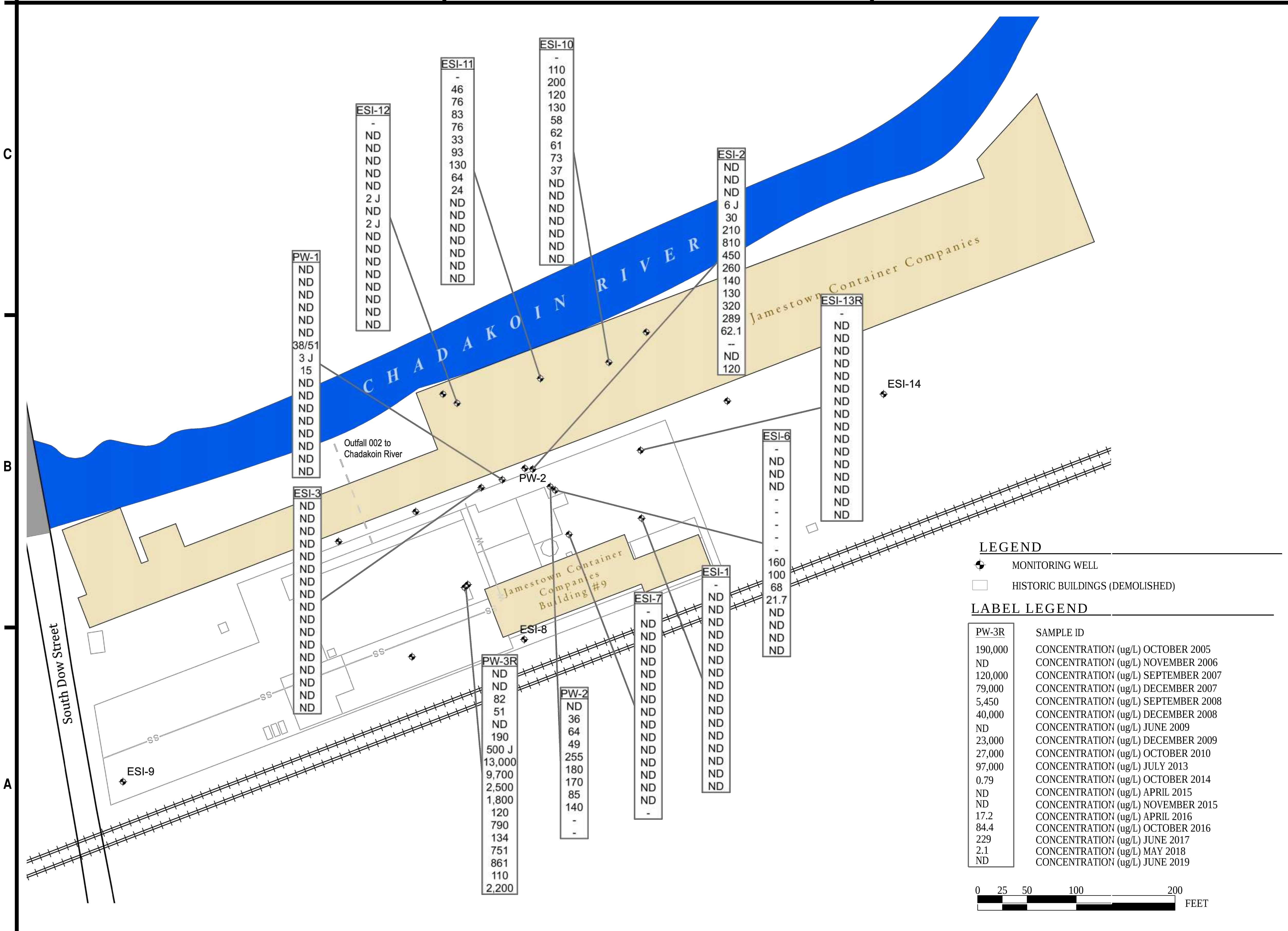
cis-1,2-DICHLOROETHENE CONCENTRATIONS

FIGURE 3



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DATE: NOVEMBER 25, 2019
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DESIGNED BY: C. MARTIN
CHECKED BY: D. RIKER

NO ALTERATION PERMITTED HEREON EXCEPT AS PROVIDED UNDER SECTION 7209 SUBDIVISION 2 OF THE NEW YORK EDUCATION LAW

VINYL CHLORIDE CONCENTRATIONS

FIGURE 4

F:\Project\N30 - Jamestown Container\N30001001 - Jamestown Container\Environmental\CADD-GIS\Sheet Files\FIGURE 4 VINYL CHLORIDE CONCENTRATIONS.dwg

TABLES

TABLE 1: JULY 2013 GROUNDWATER ANALYTICAL RESULTS - VOLATILE ORGANIC CONMPOUNDS
FORMER DOWCRAFT FACILITY

Sample Location	NYSDEC Standards & Guidance Values	ESI - 1	ESI - 2	ESI - 3	ESI - 6	ESI - 7	ESI - 10	ESI - 11	ESI - 12	ESI - 13R	PW - 1	PW - 3R
Sample Date		2-Jul-13	2-Jul-13	2-Jul-13	2-Jul-13	2-Jul-13	2-Jul-13	2-Jul-13	2-Jul-13	2-Jul-13	2-Jul-13	2-Jul-13
Matrix		Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water
Units		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/l	ug/l	ug/l	ug/l
Contaminant												
Volatile Organic Compounds												
Acetone	50	<10.0	<10.0	<10.0		<10.0	<10.0	<10.0				13
Benzene	1	<0.70	<0.70	<0.70		<0.70	<0.70	<0.70				0.88 J
Carbon disulfide	N/S	<2.0	1.3	<2.0		<2.0	<2.0	<2.0				5.0
1,1-Dichloroethane	5	<2.0	<2.0	<2.0		<2.0	<2.0	<2.0				5.5
1,2-Dichloroethane	0.6	<2.0	<2.0	<2.0		<2.0	<2.0	<2.0				1.2
1,1-Dichloroethene	5	<2.0	2.8	<2.0	1.6	<2.0	0.34 J	<2.0				48
cis-1,2-Dichloroethene	5	1.1	1,900	<2.0	230	1.9	160	39	48	2.7	2.7	27,000 DL
trans-1,2-Dichloroethene	5	<2.0	13	<2.0	1.2	<2.0	1.6	<2.0				500 E
1,2-Dichloropropane	1	<2.0	<2.0	<2.0		<2.0	<2.0	<2.0				2.2
Ethylbenzene	5	<2.0	<2.0	<2.0		<2.0	<2.0	<2.0				0.77 J
Methylene Chloride	5	<5.0	<5.0	<5.0		<5.0	<5.0	<5.0				1.3
4-Methyl-2-pentanone	N/S	<5.0	<5.0	<5.0		<5.0	<5.0	<5.0				2.6 J
Tetrachloroethene	5	<2.0	0.55 J	<2.0	0.88 J	<2.0	<2.0	<2.0				18
1,1,2-Trichloroethane	1	<2.0	<2.0	<2.0		<2.0	<2.0	<2.0				2.8
Trichloroethene	5	8.2	98	6.3	230	21	18	4.2	92	8.9	11	97000 DL
Toluene	5	<2.0	<2.0	<2.0		<2.0	<2.0	<2.0				18
Vinyl chloride	2	<2.0	800	<2.0	73	<2.0	11	75				6300 DL
Xylene (total)	5	<2.0	<2.0	<2.0		<2.0	<2.0	<2.0				4.8
Total VOCs		**9.3**	**2815.65**	**6.3**	**536.68**	**22.9**	**190.94**	**118.2**	**140**	**11.6**	**13.7**	**130924**

Notes

1) Shaded areas indicate concentration exceeds NYSDEC T.O.G.S 1.1.1 Ambient Water Quality Standards

2) < = not detected - below Method Detection Limit.

3) J = The analyte was positively identified but, the number indicates an estimated value. Detected concentration is less than the contract required quanititation limit but is greater than zero.

4) N/S = No Standard

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-1	ESI-1	ESI-1	ESI-1 (DUP)	ESI-2	ESI-2	ESI-2	ESI-2	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	WG	WG
Date Sampled		12/02/2014	04/21/2015	11/03/2015	04/25/2016	10/20/2016	06/07/2017	05/07/2018	06/26/2019	06/26/2019	12/02/2014	04/22/2015	11/03/2015	04/25/2016	10/21/2016	06/08/2017	05/08/2018 ug/l	06/26/2019 ug/l
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	-- U
1,1-Dichloroethane	5.0 ug/l	-- U	-- 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	-- U	-- U		-- U,*	12	-- U	-- U		-- U	3.7 J
1,2-Dichlorobenzene	3.0 ug/l	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	WELL CAP	-- U	-- U
1,2-Dichloroethane	0.6 ug/l	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	DAMAGED.	-- U	-- U
1,3-Dichlorobenzene	3.0 ug/l	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	SAMPLE	-- U	-- U
1,4-Dichlorobenzene	3.0 ug/l	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	NOT	-- U	-- U
Bromoform	50.0 ug/l	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	COLLCETED.	-- U	-- U
Dibromochloromethane	50.0 ug/l	-- U	-- 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	2.2 J	3.2 J	-- 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	-- U
Carbon Tetrachloride	5.0 ug/l	-- U	-- 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	-- U
Chloroform	7.0 ug/l	-- U	-- U	-- 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	-- U	-- U	0.73 J	0.83 J	E	740	4400 E	5290	592		480	1400
Ethylbenzene	5.0 ug/l	-- U	-- 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	-- U	-- U	7.9 J	-- U	-- U	-- U		-- U	-- U
Tetrachloroethylene (PCE)	5.0 ug/l	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	J	-- 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		-- U	-- U
Trans-1,2-Dichloroethene	5.0 ug/l	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U		-- U	19	-- U	-- U		27	18 J
Trichloroethylene (TCE)	5.0 ug/l	8.9	15	12	4.89	6.52	3.68	4.4	10	10	E	110	1100 E	1260	303		450	690
Vinyl Chloride	2.0 ug/l	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	E	130	320	289	-- U		-- U	120
Xylenes	5.0 ug/l	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U		-- U	-- U
TOTAL VOCs		8.9	19.4	12	4.89	6.52	3.68	4.4	12.39	12.39		988	6151	6,839	895	--	957	2,228.00

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

Location ID		ESI-3		ESI-3		ESI-3		ESI-3		ESI-3		ESI-3		ESI-3		ESI-3	
Sample Matrix		WG		WG		WG		WG		WG		WG		WG		WG	
Date Sampled		10/21/2014		04/22/2015		11/02/2015		04/25/2016		10/20/2016		06/07/2017		05/08/2018		06/26/2019	
Units		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
1,1-Dichloroethane	5.0 ug/l	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U
1,1-Dichloroethene	5.0 ug/l	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U
1,2-Dichlorobenzene	3.0 ug/l	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U
1,2-Dichloroethane	0.6 ug/l	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U
1,3-Dichlorobenzene	3.0 ug/l	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U
1,4-Dichlorobenzene	3.0 ug/l	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U
Bromoform	50.0 ug/l	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U
Dibromochloromethane	50.0 ug/l	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U
Acetone	50.0 ug/l	--	U	--	U	--	U	--	U	--	U	--	U	--	U	**3.4**	**J**
Benzene	1.0 ug/l	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U
Carbon Tetrachloride	5.0 ug/l	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U
Chlorobenzene	5.0 ug/l	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U
Chloroform	7.0 ug/l	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U
Cis-1,2-Dichloroethylene	5.0 ug/l	--	U	--	U	--	U	--	U	**1.4**	**J**	--	U	--	U	--	U
Ethylbenzene	5.0 ug/l	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U
Methylene Chloride	5.0 ug/l	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U
Tetrachloroethylene (PCE)	5.0 ug/l	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U
Toluene	5.0 ug/l	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U
Trans-1,2-Dichloroethene	5.0 ug/l	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U
Trichloroethylene (TCE)	5.0 ug/l	**4.8**		**2.5**		**4.8**		**1.06**	**J**	**6.99**		--	U	**0.3**		**0.8**	
Vinyl Chloride	2.0 ug/l	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U
Xylenes	5.0 ug/l	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U
TOTAL VOCs		4.8		2.5		4.8		1.06		8.39		--		0.3		4.2	

Location ID		ESI-6		ESI-6		ESI-6		ESI-6		ESI-6		ESI-6		ESI-6		ESI-6	
Sample Matrix		WG		WG		WG		WG		WG		WG		WG		WG	
Date Sampled		10/29/2014		04/22/2015		11/02/2015	ug/l	04/25/2016		10/21/2016		06/08/2017		05/08/2018		06/26/2019	
Units		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
1,1-Dichloroethane	5.0 ug/l	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U
1,1-Dichloroethene	5.0 ug/l	**1.6**	U	--	U	**3.9**		--	U	--	U	--	U	--	U	--	U
1,2-Dichlorobenzene	3.0 ug/l	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U
1,2-Dichloroethane	0.6 ug/l	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U
1,3-Dichlorobenzene	3.0 ug/l	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U
1,4-Dichlorobenzene	3.0 ug/l	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U
Bromoform	50.0 ug/l	--	U	--	U	--	U	--	U	--	U	--	U	--	U	**1.2**	**J**
Dibromochloromethane	50.0 ug/l	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U
Acetone	50.0 ug/l	--	U	--	U	--	U	--	U	--	U	--	U	**2.4**	**J**	**7.7**	
Benzene	1.0 ug/l	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U
Carbon Tetrachloride	5.0 ug/l	--	U,*	--	U	--	U	--	U	--	U	--	U	--	U	--	U
Chlorobenzene	5.0 ug/l	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U
Chloroform	7.0 ug/l	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U
Cis-1,2-Dichloroethylene	5.0 ug/l	**210**	**E**	**1100**		**1000**	**E**	**322**		**626**		**181**		**5.3**		**80**	
Ethylbenzene	5.0 ug/l	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U
Methylene Chloride	5.0 ug/l	--	U	**10**	**J**	--	U	--	U	--	U	--	U	--	U	--	U
Tetrachloroethylene (PCE)	5.0 ug/l	**1.1**		--	U	**5.8**		--	U	--	U	--	U	**1.4**		**1.6**	
Toluene	5.0 ug/l	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U
Trans-1,2-Dichloroethene	5.0 ug/l	**2.2**		--	U	**4**		--	U	**11.1**	**J**	--	U	--	U	**1.2**	**J**
Trichloroethylene (TCE)	5.0 ug/l	**200**	**E**	**810**		**1500**	**E**	**924**		**1060**		**431**		**40**		**200**	**E**
Vinyl Chloride	2.0 ug/l	**160**	**E**	**100**	***,^**	**68**		**21.7**		--	U	--	U	--	U	--	U
Xylenes	5.0 ug/l	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U
TOTAL VOCs		575.22		2,020		3,281.70		1,267.70		1,697.10		612		49.1		204	

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

Location ID		ESI-7	ESI-7	ESI-7	ESI-7	ESI-7	ESI-7	ESI-7	*ESI-4*	ESI-10	ESI-10	ESI-10	ESI-10	ESI-10	ESI-10	ESI-10	ESI-10
Sample Matrix		WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG
Date Sampled		10/21/2014	04/21/2015	11/02/2015	04/25/2016	10/20/2016	06/08/2017	05/07/2018	06/26/2019 ug/l	10/29/2014	04/21/2015	11/03/2015	04/26/2016	10/20/2016	06/07/2017	05/07/2018	06/25/2019
Units		ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	* Well ESI-7 was paved over, Well	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	--	0.61 J	-- 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	-- 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
Bromoform	50.0 ug/l	-- U	-- U	-- U	-- U	-- U	-- U	-- U	--	-- U	-- U	-- U	-- U	-- U	3.01	-- U	-- U
Dibromochloromethane	50.0 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	6.89 J	10.1	-- U	--	-- U	8.5 J	5.9 J	7.16 J	7.11 J	-- U	-- U	9.6
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	78	25	12	8.3	25	5.15	30	--	240 E	-- U	-- U	-- U	-- U	-- U	-- U	61
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	-- U	-- U	-- U	-- U	-- U	-- U	-- U
Tetrachloroethylene (PCE)	5.0 ug/l	0.39 J	-- U	-- U	-- U	-- U	-- U	-- U	--	-- U	-- U	-- U	-- U	-- U	-- U	-- U	0.22 J
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	--	2.5	-- U	-- U	-- U	-- U	-- U	-- U	0.8 J
Trichloroethylene (TCE)	5.0 ug/l	150 E	78	57	43	106	21	52	--	62	-- U	-- U	-- U	-- U	-- U	0.94	84
Vinyl Chloride	2.0 ug/l	-- U	-- U	-- U	-- U	-- U	-- U	-- U	--	37	--	-- U	-- U	-- U	-- U	-- U	-- U
Xylenes	5.0 ug/l	-- U	-- U	-- U	-- U	-- U	-- U	-- U	--	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U
TOTAL VOCs		208.39	103	69	51.2	137.36	36.35	82	--	352.11	8.5	5.9	7.16	7.11	3.01	0.94	155.62

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

Location ID		ESI-11	ESI-11	ESI-11	ESI-11	ESI-11	ESI-11	ESI-11	ESI-11	ESI-12	ESI-12	ESI-12	ESI-12	ESI-12	ESI-12	ESI-12	ESI-12
Sample Matrix		WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG
Date Sampled		10/29/2014	04/21/2015	11/03/2015	04/26/2016	10/20/2016	06/07/2017	05/07/2018	06/25/2019	10/22/2014	04/21/2015	11/03/2015	04/26/2016	10/21/2016	06/07/2017	05/08/2018	06/25/2019
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	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	-- U
1,1-Dichloroethane	5.0 ug/l	-- U	-- 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	-- 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	-- 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	-- U
1,3-Dichlorobenzene	3.0 ug/l	-- U	-- 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	-- U
Bromoform	50.0 ug/l	-- U	-- U	-- U	-- U	-- U	**4.78**	-- U	**2.4**	-- U	-- U	-- U	-- U	-- U	**14.5**	-- U	**2.8**
Dibromochloromethane	50.0 ug/l	-- U	-- U	-- U	-- U	-- U	**1.09**	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U
Acetone	50.0 ug/l	-- U	**3.9 J**	**7 J**	**32.4**	-- U	-- U	**2.6 J**	**24**	-- U	-- U	**5.6 J**	**5.85 J**	**6.19 J**	-- U	**3 J**	**19**
Benzene	1.0 ug/l	-- U	-- 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	-- U
Chlorobenzene	5.0 ug/l	-- U	-- 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	-- U
Cis-1,2-Dichloroethylene	5.0 ug/l	**76**	-- U	-- U	-- U	-- U	-- U	-- U	-- U	**71**	**1.2**	-- U	-- U	-- U	-- U	-- U	-- U
Ethylbenzene	5.0 ug/l	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- UM	-- UM	-- U
Methylene Chloride	5.0 ug/l	-- U	-- U	-- 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	**0.48 J**	**0.54 J**	-- U	-- U	-- U	-- U	-- U	-- U
Toluene	5.0 ug/l	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- UM	-- UM	-- U
Trans-1,2-Dichloroethene	5.0 ug/l	**2** U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- UM	-- UM	-- U
Trichloroethylene (TCE)	5.0 ug/l	**55**	-- U	-- U	-- U	-- U	-- U	-- U	-- U	**140 E**	**10**	-- U	-- U	-- U	-- UM	-- UM	-- U
Vinyl Chloride	2.0 ug/l	**24**	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- UM	-- UM	-- U
Xylenes	5.0 ug/l	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U
TOTAL VOCs		157	3.9	7	32.4	--	5.87	2.6	26.4	221.48	11.74	5.6	5.85	6.19	14.5	3	21.8

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

NYSDEC Groundwater Standards & Guidance Values	Location ID	ESI-13R	ESI-13R	ESI-13R	ESI-13R	ESI-13R	ESI-13R	ESI-13R	ESI-13R	PW-1	PW-1	PW-1	PW-1	PW-1	PW-1	PW-1	PW-1
	Sample Matrix	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG
	Date Sampled	10/21/2014	04/21/2015	11/02/2015	04/25/2016	10/20/2016	06/07/2017	05/08/2018	06/26/2019	10/21/2014	04/21/2015	11/02/2015	04/25/2016	10/20/2016	06/08/2017	05/08/2018	06/26/2019
	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	ug/l
1,1,1-Trichloroethane	5.0 ug/l	-- U	-- 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	-- U
1,1-Dichloroethene	5.0 ug/l	-- U	-- U	-- U	-- U	-- 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	-- 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	-- U
1,3-Dichlorobenzene	3.0 ug/l	-- U	-- 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	-- U
Bromoform	50.0 ug/l	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U
Dibromochloromethane	50.0 ug/l	-- U	-- 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	**2.4 J**	-- U	-- U	-- U	-- U	-- U	**8.09** J	-- U	**2.8 J**
Benzene	1.0 ug/l	-- U	-- 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	-- U
Chlorobenzene	5.0 ug/l	-- U	-- 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	-- U
Cis-1,2-Dichloroethylene	5.0 ug/l	**18**	**18**	**8.3**	**7.51**	**9.41**	-- U	**1.3**	**1 J**	**1.9**	**8.8**	**2.4**	**5.03**	**7.14**	**3.88**	-- U	-- U
Ethylbenzene	5.0 ug/l	-- U	-- 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	-- 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	-- U	-- U
Toluene	5.0 ug/l	-- U	-- 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	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U
Trichloroethylene (TCE)	5.0 ug/l	**22**	**46**	**19**	**21**	**13**	**7.4**	**7.3**	**18**	**15**	**3.3**	**11**	**6.96**	**22.1**	**8.39**	**0.84**	**1.8**
Vinyl Chloride	2.0 ug/l	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U
Xylenes	5.0 ug/l	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U	-- U
TOTAL VOCs		40	64	27.3	28.51	28.28	7.37	8.6	21.4	16.9	12.1	13.4	11.99	29.24	20.36	0.84	4.6

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

Location ID Sample Matrix Date Sampled Units NYSDEC Groundwater Standards & Guidance Values		PW-3R WG 10/29/2014 ug/l		PW-3R WG 04/22/2015 ug/l		PW-3R WG 11/03/2015 ug/l		PW-3R WG 04/26/2016 ug/l		PW-3R WG 10/21/2016 ug/l		PW-3R WG 06/08/2017 ug/l		PW-3R WG 05/08/2018 ug/l		PW-3R WG 06/26/2019 ug/l	
1,1,1-Trichloroethane	5.0 ug/l	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U
1,1-Dichloroethane	5.0 ug/l	5.1		4.0		--	U	--	U	--	U	--	U	--	U	--	U
1,1-Dichloroethene	5.0 ug/l	--	U	--	U,*	--	U	--	U	--	U	--	U	--	U	--	U
1,2-Dichlorobenzene	3.0 ug/l	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U
1,2-Dichloroethane	0.6 ug/l	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U
1,3-Dichlorobenzene	3.0 ug/l	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U
1,4-Dichlorobenzene	3.0 ug/l	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U
Bromoform	50.0 ug/l	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U
Dibromochloromethane	50.0 ug/l	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U
Acetone	50.0 ug/l	12		16		--	U	11.3	J	12.3	J	--	U	9		19	J
Benzene	1.0 ug/l	0.61	J	0.53	J	--	U	--	U	--	U	--	U	--	U	--	U
Carbon Tetrachloride	5.0 ug/l	--	U,*	--	U	--	U	--	U	--	U	--	U	--	U	--	U
Chlorobenzene	5.0 ug/l	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U
Chloroform	7.0 ug/l	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U
Cis-1,2-Dichloroethylene	5.0 ug/l	21		1.6		140		242		1450		1,990		70		1200	
Ethylbenzene	5.0 ug/l	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U
Methylene Chloride	5.0 ug/l	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U
Tetrachloroethylene (PCE)	5.0 ug/l	--	U	--	U	--	U	--	U	--	U	--	U	--	U	--	U
Toluene	5.0 ug/l	8.1		6.9		8.0	J	4.90		--	U	--	U	4.6		7.3	J
Trans-1,2-Dichloroethene	5.0 ug/l	39		--	U	--	U	--	U	--	U	10.2		2.2		20	J
Trichloroethylene (TCE)	5.0 ug/l	0.79	J	--	U	--	U	17.2		84.4		229		--	U	--	U
Vinyl Chloride	2.0 ug/l	1800	E	120	E	790	^,F1	134		751		861		110		2200	E
Xylenes	5.0 ug/l	2.3	U	1.1	J	--	U	--	U	--	U	--	U	1.1	J	--	U
TOTAL VOCs		2,609.30		147.71		938		409.4		2285.4		3,090.20		199		3,446.30	

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. For DOD-related projects, flag only applies to associated field

* - 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 4 : Emerging Contaminants
Former Dowcraft Facility
Falconer, New York

LOCATION	ESI-1		ESI-3		ESI-4		ESI-4 (DUP)	
SAMPLING DATE	6/26/2019		6/26/2019		6/26/2019		6/26/2019	
SAMPLE TYPE	WATER		WATER		WATER		WATER	
UNITS	ng/l		ng/l		ng/l		ng/l	
Emerging Contaminants								
1,4-Dioxane	ND	U	ND	U	ND	U	ND	U
Perfluorobutanoic Acid (PFBA)	1.39	J	3.16		3.26	J	3.32	J
Perfluoropentanoic Acid (PFPeA)	1.03	J	0.817	J	1.71	J	1.57	J
Perfluorobutanesulfonic Acid (PFBS)	0.568	J	1.06	J	1.07	J	1.11	J
Perfluorohexanoic Acid (PFHxA)	0.703	J	0.664	J	1.02	J	0.945	J
Perfluoroheptanoic Acid (PFHpA)	0.981	J	0.653	J	1.15	J	1.05	J
Perfluorohexanesulfonic Acid (PFHxS)	0.436	J	1.12	J	1.03	J	0.808	J
Perfluorooctanoic Acid (PFOA)	1.88	J	2.29		1.72	J	1.73	J
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	U	ND	U	ND	U	ND	U
Perfluoroheptanesulfonic Acid (PFHpS)	ND	U	ND	U	ND	U	ND	U
Perfluorononanoic Acid (PFNA)	0.386	J	ND	U	ND	U	ND	U
Perfluorooctanesulfonic Acid (PFOS)	4.49		1.49	J	1.79	J	1.79	J
Perfluorodecanoic Acid (PFDA)	ND	U	ND	U	ND	U	ND	U
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	U	ND	U	ND	U	ND	U
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	U	ND	U	ND	U	ND	U
Perfluoroundecanoic Acid (PFUnA)	ND	U	0.466	J	ND	U	ND	U
Perfluorodecanesulfonic Acid (PFDS)	ND	U	ND	U	ND	U	ND	U
Perfluorooctanesulfonamide (FOSA)	ND	U	ND	U	ND	U	ND	U
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	U	ND	U	ND	U	ND	U
Perfluorododecanoic Acid (PFDoA)	ND	U	0.526	J	ND	U	ND	U
Perfluorotridecanoic Acid (PFTrDA)	ND	U	0.436	J	ND	U	ND	U
Perfluorotetradecanoic Acid (PFTA)	ND	U	0.444	J	ND	U	ND	U
PFOA/PFOS, Total	6.37	J	3.78	J	3.51	J	3.52	J

APPENDICES

APPENDIX A
LABORATORY ANALYTICAL RESULTS

ANALYTICAL REPORT

Lab Number:	L1928183
Client:	C&S Companies 141 Elm Street, Suite 100 Buffalo, NY 14203
ATTN:	Cody Martin
Phone:	(716) 847-1630
Project Name:	JAMESTOWN CONTAINER
Project Number:	N30001001
Report Date:	07/15/19

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

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

Project Name: JAMESTOWN CONTAINER
Project Number: N30001001

Lab Number: L1928183
Report Date: 07/15/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1928183-01	ESI-10-062519	WATER	14 DEMING DRIVE	06/25/19 11:55	06/27/19
L1928183-02	ESI-11-062519	WATER	14 DEMING DRIVE	06/25/19 13:45	06/27/19
L1928183-03	ESI-12-062519	WATER	14 DEMING DRIVE	06/25/19 14:30	06/27/19
L1928183-04	ESI-3-062619	WATER	14 DEMING DRIVE	06/26/19 10:00	06/27/19
L1928183-05	PW-1-062619	WATER	14 DEMING DRIVE	06/26/19 10:33	06/27/19
L1928183-06	DUP-ESI-1-062619	WATER	14 DEMING DRIVE	06/26/19 11:10	06/27/19
L1928183-07	ESI-1-062619	WATER	14 DEMING DRIVE	06/26/19 11:10	06/27/19
L1928183-08	ESI-13R-062619	WATER	14 DEMING DRIVE	06/26/19 11:45	06/27/19
L1928183-09	ESI-6-062619	WATER	14 DEMING DRIVE	06/26/19 12:20	06/27/19
L1928183-10	ESI-4-062619	WATER	14 DEMING DRIVE	06/26/19 13:00	06/27/19
L1928183-11	PW-3R-062619	WATER	14 DEMING DRIVE	06/26/19 13:35	06/27/19
L1928183-12	ESI-2-062619	WATER	14 DEMING DRIVE	06/26/19 14:20	06/27/19
L1928183-13	DUP-ESI4-062619	WATER	14 DEMING DRIVE	06/26/19 13:00	06/27/19
L1928183-14	EQUIPMENT BLANK-062619	WATER	14 DEMING DRIVE	06/26/19 16:00	06/27/19
L1928183-15	FIELD BLANK	WATER	14 DEMING DRIVE	06/26/19 15:00	06/27/19
L1928183-16	TRIP BLANK	WATER	14 DEMING DRIVE	06/26/19 15:00	06/27/19

Case Narrative

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

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

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

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

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

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

Case Narrative (continued)

Report Submission

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

Volatile Organics

L1928183-11D2: Headspace was noted in the sample container utilized for analysis.

L1928183-11: Differences were noted between the results of the analyses which have been attributed to vial discrepancies. Further re-analysis could not be performed due to the existing vials being compromised.

Perfluorinated Alkyl Acids by Isotope Dilution

WG1258087-7: The continuing calibration standard had the response for Perfluoroctanesulfonic Acid-Branched (br-PFOS) outside of acceptance criteria. The response for Perfluorooctanesulfonic Acid (PFOS) was within acceptance criteria; therefore, no further action was taken.

WG1258709-3: The continuing calibration standard had the response for PFHxA, PFDA, PFUnA, PFDoA, PFTrDA, and PFTA above the acceptance criteria for the method. The associated samples were non-detect to the RL for these target analytes; therefore, no further action was taken.

WG1258709-1: The continuing calibration standard had the response for Perfluoroctanesulfonic Acid-Branched (br-PFOS) outside of acceptance criteria. The response for Perfluorooctanesulfonic Acid (PFOS) was within acceptance criteria; therefore, no further action was taken.

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: 07/15/19

ORGANICS

VOLATILES

Project Name: JAMESTOWN CONTAINER | **Lab Number:** L1928183
Project Number: N30001001 | **Report Date:** 07/15/19

SAMPLE RESULTS

Lab ID: L1928183-01 | Date Collected: 06/25/19 11:55
Client ID: ESI-10-062519 | Date Received: 06/27/19
Sample Location: 14 DEMING DRIVE | Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 07/05/19 10:27
Analyst: KJD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	0.22	J	ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	0.80	J	ug/l	2.5	0.70	1
Trichloroethene	84		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1

Project Name: JAMESTOWN CONTAINER **Lab Number:** L1928183

Project Number: N30001001 **Report Date:** 07/15/19

SAMPLE RESULTS

Lab ID:	L1928183-01	Date Collected:	06/25/19 11:55
Client ID:	ESI-10-062519	Date Received:	06/27/19
Sample Location:	14 DEMING DRIVE	Field Prep:	Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	61		ug/l	2.5	0.70	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	9.6		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
Methyl Acetate	ND		ug/l	2.0	0.23	1
Cyclohexane	ND		ug/l	10	0.27	1
Freon-113	ND		ug/l	2.5	0.70	1
Methyl cyclohexane	ND		ug/l	10	0.40	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	106		70-130

Project Name: JAMESTOWN CONTAINER **Lab Number:** L1928183

Project Number: N30001001 **Report Date:** 07/15/19

SAMPLE RESULTS

Lab ID:	L1928183-02	Date Collected:	06/25/19 13:45
Client ID:	ESI-11-062519	Date Received:	06/27/19
Sample Location:	14 DEMING DRIVE	Field Prep:	Not Specified

Sample Depth:

Matrix: Water

Analytical Method: 1,8260C

Analytical Date: 07/05/19 10:55

Analyst: KJD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
Bromoform	2.4		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1

Project Name: JAMESTOWN CONTAINER **Lab Number:** L1928183
Project Number: N30001001 **Report Date:** 07/15/19

SAMPLE RESULTS

Lab ID:	L1928183-02	Date Collected:	06/25/19 13:45
Client ID:	ESI-11-062519	Date Received:	06/27/19
Sample Location:	14 DEMING DRIVE	Field Prep:	Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	24		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
Methyl Acetate	ND		ug/l	2.0	0.23	1
Cyclohexane	ND		ug/l	10	0.27	1
Freon-113	ND		ug/l	2.5	0.70	1
Methyl cyclohexane	ND		ug/l	10	0.40	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	105		70-130

Project Name: JAMESTOWN CONTAINER
Lab Number: L1928183
Project Number: N30001001
Report Date: 07/15/19

SAMPLE RESULTS

Lab ID: L1928183-03
Client ID: ESI-12-062519
Sample Location: 14 DEMING DRIVE
Date Collected: 06/25/19 14:30
Date Received: 06/27/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 07/05/19 11:24
Analyst: KJD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
Bromoform	2.8		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1

Project Name: JAMESTOWN CONTAINER **Lab Number:** L1928183
Project Number: N30001001 **Report Date:** 07/15/19

SAMPLE RESULTS

Lab ID:	L1928183-03	Date Collected:	06/25/19 14:30
Client ID:	ESI-12-062519	Date Received:	06/27/19
Sample Location:	14 DEMING DRIVE	Field Prep:	Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	19		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
Methyl Acetate	ND		ug/l	2.0	0.23	1
Cyclohexane	ND		ug/l	10	0.27	1
Freon-113	ND		ug/l	2.5	0.70	1
Methyl cyclohexane	ND		ug/l	10	0.40	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	103		70-130
Dibromofluoromethane	107		70-130

Project Name: JAMESTOWN CONTAINER | **Lab Number:** L1928183

Project Number: N30001001 | **Report Date:** 07/15/19

SAMPLE RESULTS

Lab ID:	L1928183-04	Date Collected:	06/26/19 10:00
Client ID:	ESI-3-062619	Date Received:	06/27/19
Sample Location:	14 DEMING DRIVE	Field Prep:	Not Specified

Sample Depth:

Matrix:	Water
Analytical Method:	1,8260C
Analytical Date:	07/05/19 11:52
Analyst:	KJD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
Trichloroethene	0.80		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1

Project Name: JAMESTOWN CONTAINER **Lab Number:** L1928183
Project Number: N30001001 **Report Date:** 07/15/19

SAMPLE RESULTS

Lab ID:	L1928183-04	Date Collected:	06/26/19 10:00
Client ID:	ESI-3-062619	Date Received:	06/27/19
Sample Location:	14 DEMING DRIVE	Field Prep:	Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	3.4	J	ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
Methyl Acetate	ND		ug/l	2.0	0.23	1
Cyclohexane	ND		ug/l	10	0.27	1
Freon-113	ND		ug/l	2.5	0.70	1
Methyl cyclohexane	ND		ug/l	10	0.40	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	105		70-130

Project Name: JAMESTOWN CONTAINER **Lab Number:** L1928183

Project Number: N30001001 **Report Date:** 07/15/19

SAMPLE RESULTS

Lab ID: L1928183-05 Date Collected: 06/26/19 10:33
Client ID: PW-1-062619 Date Received: 06/27/19
Sample Location: 14 DEMING DRIVE Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 07/09/19 20:11
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
Trichloroethene	1.8		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1

Project Name:	JAMESTOWN CONTAINER	**Lab Number:**	L1928183
Project Number:	N30001001	**Report Date:**	07/15/19

SAMPLE RESULTS

Lab ID:	L1928183-05	Date Collected:	06/26/19 10:33
Client ID:	PW-1-062619	Date Received:	06/27/19
Sample Location:	14 DEMING DRIVE	Field Prep:	Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	2.8	J	ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
Methyl Acetate	ND		ug/l	2.0	0.23	1
Cyclohexane	ND		ug/l	10	0.27	1
Freon-113	ND		ug/l	2.5	0.70	1
Methyl cyclohexane	ND		ug/l	10	0.40	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	93		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	102		70-130

Project Name: JAMESTOWN CONTAINER **Lab Number:** L1928183

Project Number: N30001001 **Report Date:** 07/15/19

SAMPLE RESULTS

Lab ID:	L1928183-06	Date Collected:	06/26/19 11:10
Client ID:	DUP-ESI-1-062619	Date Received:	06/27/19
Sample Location:	14 DEMING DRIVE	Field Prep:	Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 07/08/19 22:04
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
Trichloroethene	10		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1

Project Name: JAMESTOWN CONTAINER **Lab Number:** L1928183
Project Number: N30001001 **Report Date:** 07/15/19

SAMPLE RESULTS

Lab ID:	L1928183-06	Date Collected:	06/26/19 11:10
Client ID:	DUP-ESI-1-062619	Date Received:	06/27/19
Sample Location:	14 DEMING DRIVE	Field Prep:	Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	0.83	J	ug/l	2.5	0.70	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	3.2	J	ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
Methyl Acetate	ND		ug/l	2.0	0.23	1
Cyclohexane	ND		ug/l	10	0.27	1
Freon-113	ND		ug/l	2.5	0.70	1
Methyl cyclohexane	ND		ug/l	10	0.40	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	94		70-130
Toluene-d8	94		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	101		70-130

Project Name: JAMESTOWN CONTAINER **Lab Number:** L1928183

Project Number: N30001001 **Report Date:** 07/15/19

SAMPLE RESULTS

Lab ID:	L1928183-07	Date Collected:	06/26/19 11:10
Client ID:	ESI-1-062619	Date Received:	06/27/19
Sample Location:	14 DEMING DRIVE	Field Prep:	Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 07/08/19 22:29
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
Trichloroethene	10		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1

Project Name: JAMESTOWN CONTAINER **Lab Number:** L1928183

Project Number: N30001001 **Report Date:** 07/15/19

SAMPLE RESULTS

Lab ID:	L1928183-07	Date Collected:	06/26/19 11:10
Client ID:	ESI-1-062619	Date Received:	06/27/19
Sample Location:	14 DEMING DRIVE	Field Prep:	Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	0.73	J	ug/l	2.5	0.70	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	2.2	J	ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
Methyl Acetate	ND		ug/l	2.0	0.23	1
Cyclohexane	ND		ug/l	10	0.27	1
Freon-113	ND		ug/l	2.5	0.70	1
Methyl cyclohexane	ND		ug/l	10	0.40	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	95		70-130
Toluene-d8	94		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	102		70-130

Project Name: JAMESTOWN CONTAINER **Lab Number:** L1928183

Project Number: N30001001 **Report Date:** 07/15/19

SAMPLE RESULTS

Lab ID:	L1928183-08	Date Collected:	06/26/19 11:45
Client ID:	ESI-13R-062619	Date Received:	06/27/19
Sample Location:	14 DEMING DRIVE	Field Prep:	Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 07/08/19 22:54
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
Trichloroethene	18		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1

Project Name:	JAMESTOWN CONTAINER	**Lab Number:**	L1928183
Project Number:	N30001001	**Report Date:**	07/15/19

SAMPLE RESULTS

Lab ID:	L1928183-08	Date Collected:	06/26/19 11:45
Client ID:	ESI-13R-062619	Date Received:	06/27/19
Sample Location:	14 DEMING DRIVE	Field Prep:	Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	1.0	J	ug/l	2.5	0.70	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	2.4	J	ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
Methyl Acetate	ND		ug/l	2.0	0.23	1
Cyclohexane	ND		ug/l	10	0.27	1
Freon-113	ND		ug/l	2.5	0.70	1
Methyl cyclohexane	ND		ug/l	10	0.40	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	95		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	101		70-130

Project Name: JAMESTOWN CONTAINER
Lab Number: L1928183
Project Number: N30001001
Report Date: 07/15/19

SAMPLE RESULTS

Lab ID:	L1928183-09	Date Collected:	06/26/19 12:20
Client ID:	ESI-6-062619	Date Received:	06/27/19
Sample Location:	14 DEMING DRIVE	Field Prep:	Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 07/09/19 23:44
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	1.6		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
Bromoform	1.2	J	ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	0.86	J	ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	1.2	J	ug/l	2.5	0.70	1
Trichloroethene	200	E	ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1

Project Name:	JAMESTOWN CONTAINER	**Lab Number:**	L1928183
Project Number:	N30001001	**Report Date:**	07/15/19

SAMPLE RESULTS

Lab ID:	L1928183-09	Date Collected:	06/26/19 12:20
Client ID:	ESI-6-062619	Date Received:	06/27/19
Sample Location:	14 DEMING DRIVE	Field Prep:	Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	80		ug/l	2.5	0.70	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	7.7		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
Methyl Acetate	ND		ug/l	2.0	0.23	1
Cyclohexane	ND		ug/l	10	0.27	1
Freon-113	ND		ug/l	2.5	0.70	1
Methyl cyclohexane	ND		ug/l	10	0.40	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	123		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	90		70-130
Dibromofluoromethane	124		70-130

Project Name: JAMESTOWN CONTAINER **Lab Number:** L1928183

Project Number: N30001001 **Report Date:** 07/15/19

SAMPLE RESULTS

Lab ID: L1928183-09 D
Client ID: ESI-6-062619
Sample Location: 14 DEMING DRIVE

Date Collected: 06/26/19 12:20
Date Received: 06/27/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 07/08/19 23:20
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	140		ug/l	1.0	0.35	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	104		70-130

Project Name:	JAMESTOWN CONTAINER	**Lab Number:**	L1928183
Project Number:	N30001001	**Report Date:**	07/15/19

SAMPLE RESULTS

Lab ID:	L1928183-11	D2	Date Collected:	06/26/19 13:35
Client ID:	PW-3R-062619		Date Received:	06/27/19
Sample Location:	14 DEMING DRIVE		Field Prep:	Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 07/10/19 00:05
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Vinyl chloride	320		ug/l	40	2.8	40

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	124		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	90		70-130
Dibromofluoromethane	123		70-130

Project Name: JAMESTOWN CONTAINER **Lab Number:** L1928183

Project Number: N30001001 **Report Date:** 07/15/19

SAMPLE RESULTS

Lab ID:	L1928183-11 D	Date Collected:	06/26/19 13:35
Client ID:	PW-3R-062619	Date Received:	06/27/19
Sample Location:	14 DEMING DRIVE	Field Prep:	Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 07/08/19 23:45
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	25	7.0	10
1,1-Dichloroethane	ND		ug/l	25	7.0	10
Chloroform	ND		ug/l	25	7.0	10
Carbon tetrachloride	ND		ug/l	5.0	1.3	10
1,2-Dichloropropane	ND		ug/l	10	1.4	10
Dibromochloromethane	ND		ug/l	5.0	1.5	10
1,1,2-Trichloroethane	ND		ug/l	15	5.0	10
Tetrachloroethene	ND		ug/l	5.0	1.8	10
Chlorobenzene	ND		ug/l	25	7.0	10
Trichlorofluoromethane	ND		ug/l	25	7.0	10
1,2-Dichloroethane	ND		ug/l	5.0	1.3	10
1,1,1-Trichloroethane	ND		ug/l	25	7.0	10
Bromodichloromethane	ND		ug/l	5.0	1.9	10
trans-1,3-Dichloropropene	ND		ug/l	5.0	1.6	10
cis-1,3-Dichloropropene	ND		ug/l	5.0	1.4	10
Bromoform	ND		ug/l	20	6.5	10
1,1,2,2-Tetrachloroethane	ND		ug/l	5.0	1.7	10
Benzene	ND		ug/l	5.0	1.6	10
Toluene	7.3	J	ug/l	25	7.0	10
Ethylbenzene	ND		ug/l	25	7.0	10
Chloromethane	ND		ug/l	25	7.0	10
Bromomethane	ND		ug/l	25	7.0	10
Vinyl chloride	2200	E	ug/l	10	0.71	10
Chloroethane	ND		ug/l	25	7.0	10
1,1-Dichloroethene	ND		ug/l	5.0	1.7	10
trans-1,2-Dichloroethene	20	J	ug/l	25	7.0	10
Trichloroethene	ND		ug/l	5.0	1.8	10
1,2-Dichlorobenzene	ND		ug/l	25	7.0	10

Project Name: JAMESTOWN CONTAINER **Lab Number:** L1928183

Project Number: N30001001 **Report Date:** 07/15/19

SAMPLE RESULTS

Lab ID:	L1928183-11	D	Date Collected:	06/26/19 13:35
Client ID:	PW-3R-062619		Date Received:	06/27/19
Sample Location:	14 DEMING DRIVE		Field Prep:	Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/l	25	7.0	10
1,4-Dichlorobenzene	ND		ug/l	25	7.0	10
Methyl tert butyl ether	ND		ug/l	25	7.0	10
p/m-Xylene	ND		ug/l	25	7.0	10
o-Xylene	ND		ug/l	25	7.0	10
cis-1,2-Dichloroethene	1200		ug/l	25	7.0	10
Styrene	ND		ug/l	25	7.0	10
Dichlorodifluoromethane	ND		ug/l	50	10.	10
Acetone	19	J	ug/l	50	15.	10
Carbon disulfide	ND		ug/l	50	10.	10
2-Butanone	ND		ug/l	50	19.	10
4-Methyl-2-pentanone	ND		ug/l	50	10.	10
2-Hexanone	ND		ug/l	50	10.	10
1,2-Dibromoethane	ND		ug/l	20	6.5	10
n-Butylbenzene	ND		ug/l	25	7.0	10
sec-Butylbenzene	ND		ug/l	25	7.0	10
tert-Butylbenzene	ND		ug/l	25	7.0	10
1,2-Dibromo-3-chloropropane	ND		ug/l	25	7.0	10
Isopropylbenzene	ND		ug/l	25	7.0	10
p-Isopropyltoluene	ND		ug/l	25	7.0	10
Naphthalene	ND		ug/l	25	7.0	10
n-Propylbenzene	ND		ug/l	25	7.0	10
1,2,4-Trichlorobenzene	ND		ug/l	25	7.0	10
1,3,5-Trimethylbenzene	ND		ug/l	25	7.0	10
1,2,4-Trimethylbenzene	ND		ug/l	25	7.0	10
Methyl Acetate	ND		ug/l	20	2.3	10
Cyclohexane	ND		ug/l	100	2.7	10
Freon-113	ND		ug/l	25	7.0	10
Methyl cyclohexane	ND		ug/l	100	4.0	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	103		70-130

Project Name: JAMESTOWN CONTAINER **Lab Number:** L1928183

Project Number: N30001001 **Report Date:** 07/15/19

SAMPLE RESULTS

Lab ID:	L1928183-12 D	Date Collected:	06/26/19 14:20
Client ID:	ESI-2-062619	Date Received:	06/27/19
Sample Location:	14 DEMING DRIVE	Field Prep:	Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 07/09/19 00:10
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	25	7.0	10
1,1-Dichloroethane	ND		ug/l	25	7.0	10
Chloroform	ND		ug/l	25	7.0	10
Carbon tetrachloride	ND		ug/l	5.0	1.3	10
1,2-Dichloropropane	ND		ug/l	10	1.4	10
Dibromochloromethane	ND		ug/l	5.0	1.5	10
1,1,2-Trichloroethane	ND		ug/l	15	5.0	10
Tetrachloroethene	ND		ug/l	5.0	1.8	10
Chlorobenzene	ND		ug/l	25	7.0	10
Trichlorofluoromethane	ND		ug/l	25	7.0	10
1,2-Dichloroethane	ND		ug/l	5.0	1.3	10
1,1,1-Trichloroethane	ND		ug/l	25	7.0	10
Bromodichloromethane	ND		ug/l	5.0	1.9	10
trans-1,3-Dichloropropene	ND		ug/l	5.0	1.6	10
cis-1,3-Dichloropropene	ND		ug/l	5.0	1.4	10
Bromoform	ND		ug/l	20	6.5	10
1,1,2,2-Tetrachloroethane	ND		ug/l	5.0	1.7	10
Benzene	ND		ug/l	5.0	1.6	10
Toluene	ND		ug/l	25	7.0	10
Ethylbenzene	ND		ug/l	25	7.0	10
Chloromethane	ND		ug/l	25	7.0	10
Bromomethane	ND		ug/l	25	7.0	10
Vinyl chloride	120		ug/l	10	0.71	10
Chloroethane	ND		ug/l	25	7.0	10
1,1-Dichloroethene	3.7	J	ug/l	5.0	1.7	10
trans-1,2-Dichloroethene	18	J	ug/l	25	7.0	10
Trichloroethene	690		ug/l	5.0	1.8	10
1,2-Dichlorobenzene	ND		ug/l	25	7.0	10

Project Name: JAMESTOWN CONTAINER
Lab Number: L1928183
Project Number: N30001001
Report Date: 07/15/19

SAMPLE RESULTS

Lab ID:	L1928183-12	D	Date Collected:	06/26/19 14:20
Client ID:	ESI-2-062619		Date Received:	06/27/19
Sample Location:	14 DEMING DRIVE		Field Prep:	Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/l	25	7.0	10
1,4-Dichlorobenzene	ND		ug/l	25	7.0	10
Methyl tert butyl ether	ND		ug/l	25	7.0	10
p/m-Xylene	ND		ug/l	25	7.0	10
o-Xylene	ND		ug/l	25	7.0	10
cis-1,2-Dichloroethene	1400		ug/l	25	7.0	10
Styrene	ND		ug/l	25	7.0	10
Dichlorodifluoromethane	ND		ug/l	50	10.	10
Acetone	ND		ug/l	50	15.	10
Carbon disulfide	ND		ug/l	50	10.	10
2-Butanone	ND		ug/l	50	19.	10
4-Methyl-2-pentanone	ND		ug/l	50	10.	10
2-Hexanone	ND		ug/l	50	10.	10
1,2-Dibromoethane	ND		ug/l	20	6.5	10
n-Butylbenzene	ND		ug/l	25	7.0	10
sec-Butylbenzene	ND		ug/l	25	7.0	10
tert-Butylbenzene	ND		ug/l	25	7.0	10
1,2-Dibromo-3-chloropropane	ND		ug/l	25	7.0	10
Isopropylbenzene	ND		ug/l	25	7.0	10
p-Isopropyltoluene	ND		ug/l	25	7.0	10
Naphthalene	ND		ug/l	25	7.0	10
n-Propylbenzene	ND		ug/l	25	7.0	10
1,2,4-Trichlorobenzene	ND		ug/l	25	7.0	10
1,3,5-Trimethylbenzene	ND		ug/l	25	7.0	10
1,2,4-Trimethylbenzene	ND		ug/l	25	7.0	10
Methyl Acetate	ND		ug/l	20	2.3	10
Cyclohexane	ND		ug/l	100	2.7	10
Freon-113	ND		ug/l	25	7.0	10
Methyl cyclohexane	ND		ug/l	100	4.0	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	105		70-130

Project Name: JAMESTOWN CONTAINER **Lab Number:** L1928183

Project Number: N30001001 **Report Date:** 07/15/19

SAMPLE RESULTS

Lab ID:	L1928183-16	Date Collected:	06/26/19 15:00
Client ID:	TRIP BLANK	Date Received:	06/27/19
Sample Location:	14 DEMING DRIVE	Field Prep:	Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 07/10/19 14:46
Analyst: KJD

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

Project Name: JAMESTOWN CONTAINER **Lab Number:** L1928183

Project Number: N30001001 **Report Date:** 07/15/19

SAMPLE RESULTS

Lab ID:	L1928183-16	Date Collected:	06/26/19 15:00
Client ID:	TRIP BLANK	Date Received:	06/27/19
Sample Location:	14 DEMING DRIVE	Field Prep:	Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	2.5	J	ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
Methyl Acetate	ND		ug/l	2.0	0.23	1
Cyclohexane	ND		ug/l	10	0.27	1
Freon-113	ND		ug/l	2.5	0.70	1
Methyl cyclohexane	ND		ug/l	10	0.40	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	108		70-130

Project Name:	JAMESTOWN CONTAINER	**Lab Number:**	L1928183
Project Number:	N30001001	**Report Date:**	07/15/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/05/19 09:31
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-04 Batch: WG1257156-5					
Methylene chloride	ND		ug/l	2.5	0.70
1,1-Dichloroethane	ND		ug/l	2.5	0.70
Chloroform	ND		ug/l	2.5	0.70
Carbon tetrachloride	ND		ug/l	0.50	0.13
1,2-Dichloropropane	ND		ug/l	1.0	0.14
Dibromochloromethane	ND		ug/l	0.50	0.15
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50
Tetrachloroethene	ND		ug/l	0.50	0.18
Chlorobenzene	ND		ug/l	2.5	0.70
Trichlorofluoromethane	ND		ug/l	2.5	0.70
1,2-Dichloroethane	ND		ug/l	0.50	0.13
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70
Bromodichloromethane	ND		ug/l	0.50	0.19
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14
Bromoform	ND		ug/l	2.0	0.65
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17
Benzene	ND		ug/l	0.50	0.16
Toluene	ND		ug/l	2.5	0.70
Ethylbenzene	ND		ug/l	2.5	0.70
Chloromethane	ND		ug/l	2.5	0.70
Bromomethane	ND		ug/l	2.5	0.70
Vinyl chloride	ND		ug/l	1.0	0.07
Chloroethane	ND		ug/l	2.5	0.70
1,1-Dichloroethene	ND		ug/l	0.50	0.17
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70
Trichloroethene	ND		ug/l	0.50	0.18
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70

Project Name: JAMESTOWN CONTAINER **Lab Number:** L1928183
Project Number: N30001001 **Report Date:** 07/15/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/05/19 09:31
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-04 Batch: WG1257156-5					
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70
Methyl tert butyl ether	ND		ug/l	2.5	0.70
p/m-Xylene	ND		ug/l	2.5	0.70
o-Xylene	ND		ug/l	2.5	0.70
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70
Styrene	ND		ug/l	2.5	0.70
Dichlorodifluoromethane	ND		ug/l	5.0	1.0
Acetone	ND		ug/l	5.0	1.5
Carbon disulfide	ND		ug/l	5.0	1.0
2-Butanone	ND		ug/l	5.0	1.9
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0
2-Hexanone	ND		ug/l	5.0	1.0
1,2-Dibromoethane	ND		ug/l	2.0	0.65
n-Butylbenzene	ND		ug/l	2.5	0.70
sec-Butylbenzene	ND		ug/l	2.5	0.70
tert-Butylbenzene	ND		ug/l	2.5	0.70
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70
Isopropylbenzene	ND		ug/l	2.5	0.70
p-Isopropyltoluene	ND		ug/l	2.5	0.70
Naphthalene	ND		ug/l	2.5	0.70
n-Propylbenzene	ND		ug/l	2.5	0.70
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70
Methyl Acetate	ND		ug/l	2.0	0.23
Cyclohexane	ND		ug/l	10	0.27
Freon-113	ND		ug/l	2.5	0.70
Methyl cyclohexane	ND		ug/l	10	0.40

Project Name:	JAMESTOWN CONTAINER	**Lab Number:**	L1928183
Project Number:	N30001001	**Report Date:**	07/15/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/05/19 09:31
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-04 Batch: WG1257156-5					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	93		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	106		70-130

Project Name: JAMESTOWN CONTAINER　　**Lab Number:** L1928183
Project Number: N30001001　　**Report Date:** 07/15/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/08/19 19:58
Analyst: KJD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 06-09,11-12 Batch: WG1257506-5					
Methylene chloride	ND		ug/l	2.5	0.70
1,1-Dichloroethane	ND		ug/l	2.5	0.70
Chloroform	ND		ug/l	2.5	0.70
Carbon tetrachloride	ND		ug/l	0.50	0.13
1,2-Dichloropropane	ND		ug/l	1.0	0.14
Dibromochloromethane	ND		ug/l	0.50	0.15
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50
Tetrachloroethene	ND		ug/l	0.50	0.18
Chlorobenzene	ND		ug/l	2.5	0.70
Trichlorofluoromethane	ND		ug/l	2.5	0.70
1,2-Dichloroethane	ND		ug/l	0.50	0.13
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70
Bromodichloromethane	ND		ug/l	0.50	0.19
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14
Bromoform	ND		ug/l	2.0	0.65
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17
Benzene	ND		ug/l	0.50	0.16
Toluene	ND		ug/l	2.5	0.70
Ethylbenzene	ND		ug/l	2.5	0.70
Chloromethane	ND		ug/l	2.5	0.70
Bromomethane	ND		ug/l	2.5	0.70
Vinyl chloride	ND		ug/l	1.0	0.07
Chloroethane	ND		ug/l	2.5	0.70
1,1-Dichloroethene	ND		ug/l	0.50	0.17
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70
Trichloroethene	ND		ug/l	0.50	0.18
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70

Project Name:	JAMESTOWN CONTAINER	**Lab Number:**	L1928183
Project Number:	N30001001	**Report Date:**	07/15/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/08/19 19:58
Analyst: KJD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 06-09,11-12 Batch: WG1257506-5					
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70
Methyl tert butyl ether	ND		ug/l	2.5	0.70
p/m-Xylene	ND		ug/l	2.5	0.70
o-Xylene	ND		ug/l	2.5	0.70
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70
Styrene	ND		ug/l	2.5	0.70
Dichlorodifluoromethane	ND		ug/l	5.0	1.0
Acetone	ND		ug/l	5.0	1.5
Carbon disulfide	ND		ug/l	5.0	1.0
2-Butanone	ND		ug/l	5.0	1.9
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0
2-Hexanone	ND		ug/l	5.0	1.0
1,2-Dibromoethane	ND		ug/l	2.0	0.65
n-Butylbenzene	ND		ug/l	2.5	0.70
sec-Butylbenzene	ND		ug/l	2.5	0.70
tert-Butylbenzene	ND		ug/l	2.5	0.70
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70
Isopropylbenzene	ND		ug/l	2.5	0.70
p-Isopropyltoluene	ND		ug/l	2.5	0.70
Naphthalene	ND		ug/l	2.5	0.70
n-Propylbenzene	ND		ug/l	2.5	0.70
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70
Methyl Acetate	ND		ug/l	2.0	0.23
Cyclohexane	ND		ug/l	10	0.27
Freon-113	ND		ug/l	2.5	0.70
Methyl cyclohexane	ND		ug/l	10	0.40

Project Name:	JAMESTOWN CONTAINER	**Lab Number:**	L1928183
Project Number:	N30001001	**Report Date:**	07/15/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/08/19 19:58
Analyst: KJD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 06-09,11-12 Batch: WG1257506-5					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	92		70-130
Toluene-d8	94		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	99		70-130

Project Name: JAMESTOWN CONTAINER **Lab Number:** L1928183
Project Number: N30001001 **Report Date:** 07/15/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/09/19 19:21
Analyst: KJD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 05 Batch: WG1257954-5					
Methylene chloride	ND		ug/l	2.5	0.70
1,1-Dichloroethane	ND		ug/l	2.5	0.70
Chloroform	ND		ug/l	2.5	0.70
Carbon tetrachloride	ND		ug/l	0.50	0.13
1,2-Dichloropropane	ND		ug/l	1.0	0.14
Dibromochloromethane	ND		ug/l	0.50	0.15
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50
Tetrachloroethene	ND		ug/l	0.50	0.18
Chlorobenzene	ND		ug/l	2.5	0.70
Trichlorofluoromethane	ND		ug/l	2.5	0.70
1,2-Dichloroethane	ND		ug/l	0.50	0.13
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70
Bromodichloromethane	ND		ug/l	0.50	0.19
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14
Bromoform	ND		ug/l	2.0	0.65
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17
Benzene	ND		ug/l	0.50	0.16
Toluene	ND		ug/l	2.5	0.70
Ethylbenzene	ND		ug/l	2.5	0.70
Chloromethane	ND		ug/l	2.5	0.70
Bromomethane	ND		ug/l	2.5	0.70
Vinyl chloride	ND		ug/l	1.0	0.07
Chloroethane	ND		ug/l	2.5	0.70
1,1-Dichloroethene	ND		ug/l	0.50	0.17
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70
Trichloroethene	ND		ug/l	0.50	0.18
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70

Project Name: JAMESTOWN CONTAINER **Lab Number:** L1928183
Project Number: N30001001 **Report Date:** 07/15/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/09/19 19:21
Analyst: KJD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 05 Batch: WG1257954-5					
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70
Methyl tert butyl ether	ND		ug/l	2.5	0.70
p/m-Xylene	ND		ug/l	2.5	0.70
o-Xylene	ND		ug/l	2.5	0.70
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70
Styrene	ND		ug/l	2.5	0.70
Dichlorodifluoromethane	ND		ug/l	5.0	1.0
Acetone	ND		ug/l	5.0	1.5
Carbon disulfide	ND		ug/l	5.0	1.0
2-Butanone	ND		ug/l	5.0	1.9
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0
2-Hexanone	ND		ug/l	5.0	1.0
1,2-Dibromoethane	ND		ug/l	2.0	0.65
n-Butylbenzene	ND		ug/l	2.5	0.70
sec-Butylbenzene	ND		ug/l	2.5	0.70
tert-Butylbenzene	ND		ug/l	2.5	0.70
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70
Isopropylbenzene	ND		ug/l	2.5	0.70
p-Isopropyltoluene	ND		ug/l	2.5	0.70
Naphthalene	ND		ug/l	2.5	0.70
n-Propylbenzene	ND		ug/l	2.5	0.70
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70
Methyl Acetate	ND		ug/l	2.0	0.23
Cyclohexane	ND		ug/l	10	0.27
Freon-113	ND		ug/l	2.5	0.70
Methyl cyclohexane	ND		ug/l	10	0.40

Project Name:	JAMESTOWN CONTAINER	**Lab Number:**	L1928183
Project Number:	N30001001	**Report Date:**	07/15/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/09/19 19:21
Analyst: KJD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 05 Batch: WG1257954-5					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	94		70-130
Toluene-d8	93		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	101		70-130

Project Name: JAMESTOWN CONTAINER **Lab Number:** L1928183
Project Number: N30001001 **Report Date:** 07/15/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/09/19 20:26
Analyst: KJD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 09,11 Batch: WG1258007-5					
Methylene chloride	ND		ug/l	2.5	0.70
1,1-Dichloroethane	ND		ug/l	2.5	0.70
Chloroform	ND		ug/l	2.5	0.70
Carbon tetrachloride	ND		ug/l	0.50	0.13
1,2-Dichloropropane	ND		ug/l	1.0	0.14
Dibromochloromethane	ND		ug/l	0.50	0.15
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50
Tetrachloroethene	ND		ug/l	0.50	0.18
Chlorobenzene	ND		ug/l	2.5	0.70
Trichlorofluoromethane	ND		ug/l	2.5	0.70
1,2-Dichloroethane	ND		ug/l	0.50	0.13
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70
Bromodichloromethane	ND		ug/l	0.50	0.19
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14
Bromoform	ND		ug/l	2.0	0.65
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17
Benzene	ND		ug/l	0.50	0.16
Toluene	ND		ug/l	2.5	0.70
Ethylbenzene	ND		ug/l	2.5	0.70
Chloromethane	ND		ug/l	2.5	0.70
Bromomethane	ND		ug/l	2.5	0.70
Vinyl chloride	ND		ug/l	1.0	0.07
Chloroethane	ND		ug/l	2.5	0.70
1,1-Dichloroethene	ND		ug/l	0.50	0.17
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70
Trichloroethene	ND		ug/l	0.50	0.18
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70

Project Name:	JAMESTOWN CONTAINER	**Lab Number:**	L1928183
Project Number:	N30001001	**Report Date:**	07/15/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/09/19 20:26
Analyst: KJD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 09,11 Batch: WG1258007-5					
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70
Methyl tert butyl ether	ND		ug/l	2.5	0.70
p/m-Xylene	ND		ug/l	2.5	0.70
o-Xylene	ND		ug/l	2.5	0.70
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70
Styrene	ND		ug/l	2.5	0.70
Dichlorodifluoromethane	ND		ug/l	5.0	1.0
Acetone	ND		ug/l	5.0	1.5
Carbon disulfide	ND		ug/l	5.0	1.0
2-Butanone	ND		ug/l	5.0	1.9
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0
2-Hexanone	ND		ug/l	5.0	1.0
1,2-Dibromoethane	ND		ug/l	2.0	0.65
n-Butylbenzene	ND		ug/l	2.5	0.70
sec-Butylbenzene	ND		ug/l	2.5	0.70
tert-Butylbenzene	ND		ug/l	2.5	0.70
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70
Isopropylbenzene	ND		ug/l	2.5	0.70
p-Isopropyltoluene	ND		ug/l	2.5	0.70
Naphthalene	ND		ug/l	2.5	0.70
n-Propylbenzene	ND		ug/l	2.5	0.70
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70
Methyl Acetate	ND		ug/l	2.0	0.23
Cyclohexane	ND		ug/l	10	0.27
Freon-113	ND		ug/l	2.5	0.70
Methyl cyclohexane	ND		ug/l	10	0.40

Project Name:	JAMESTOWN CONTAINER	**Lab Number:**	L1928183
Project Number:	N30001001	**Report Date:**	07/15/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/09/19 20:26
Analyst: KJD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 09,11 Batch: WG1258007-5					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	122		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	114		70-130

Project Name: JAMESTOWN CONTAINER **Lab Number:** L1928183
Project Number: N30001001 **Report Date:** 07/15/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/10/19 10:03
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 16 Batch: WG1258342-5					
Methylene chloride	ND		ug/l	2.5	0.70
1,1-Dichloroethane	ND		ug/l	2.5	0.70
Chloroform	ND		ug/l	2.5	0.70
Carbon tetrachloride	ND		ug/l	0.50	0.13
1,2-Dichloropropane	ND		ug/l	1.0	0.14
Dibromochloromethane	ND		ug/l	0.50	0.15
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50
Tetrachloroethene	ND		ug/l	0.50	0.18
Chlorobenzene	ND		ug/l	2.5	0.70
Trichlorofluoromethane	ND		ug/l	2.5	0.70
1,2-Dichloroethane	ND		ug/l	0.50	0.13
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70
Bromodichloromethane	ND		ug/l	0.50	0.19
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14
Bromoform	ND		ug/l	2.0	0.65
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17
Benzene	ND		ug/l	0.50	0.16
Toluene	ND		ug/l	2.5	0.70
Ethylbenzene	ND		ug/l	2.5	0.70
Chloromethane	ND		ug/l	2.5	0.70
Bromomethane	ND		ug/l	2.5	0.70
Vinyl chloride	ND		ug/l	1.0	0.07
Chloroethane	ND		ug/l	2.5	0.70
1,1-Dichloroethene	ND		ug/l	0.50	0.17
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70
Trichloroethene	ND		ug/l	0.50	0.18
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70

Project Name: JAMESTOWN CONTAINER **Lab Number:** L1928183
Project Number: N30001001 **Report Date:** 07/15/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/10/19 10:03
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 16 Batch: WG1258342-5					
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70
Methyl tert butyl ether	ND		ug/l	2.5	0.70
p/m-Xylene	ND		ug/l	2.5	0.70
o-Xylene	ND		ug/l	2.5	0.70
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70
Styrene	ND		ug/l	2.5	0.70
Dichlorodifluoromethane	ND		ug/l	5.0	1.0
Acetone	ND		ug/l	5.0	1.5
Carbon disulfide	ND		ug/l	5.0	1.0
2-Butanone	ND		ug/l	5.0	1.9
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0
2-Hexanone	ND		ug/l	5.0	1.0
1,2-Dibromoethane	ND		ug/l	2.0	0.65
n-Butylbenzene	ND		ug/l	2.5	0.70
sec-Butylbenzene	ND		ug/l	2.5	0.70
tert-Butylbenzene	ND		ug/l	2.5	0.70
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70
Isopropylbenzene	ND		ug/l	2.5	0.70
p-Isopropyltoluene	ND		ug/l	2.5	0.70
Naphthalene	ND		ug/l	2.5	0.70
n-Propylbenzene	ND		ug/l	2.5	0.70
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70
Methyl Acetate	ND		ug/l	2.0	0.23
Cyclohexane	ND		ug/l	10	0.27
Freon-113	ND		ug/l	2.5	0.70
Methyl cyclohexane	ND		ug/l	10	0.40

Project Name: JAMESTOWN CONTAINER **Lab Number:** L1928183
Project Number: N30001001 **Report Date:** 07/15/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/10/19 10:03
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 16 Batch: WG1258342-5					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	92		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	103		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: JAMESTOWN CONTAINER
Project Number: N30001001
Lab Number: L1928183
Report Date: 07/15/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-04 Batch: WG1257156-3 WG1257156-4								
Methylene chloride	110		110		70-130	0		20
1,1-Dichloroethane	100		100		70-130	0		20
Chloroform	100		110		70-130	10		20
Carbon tetrachloride	100		100		63-132	0		20
1,2-Dichloropropane	100		110		70-130	10		20
Dibromochloromethane	98		100		63-130	2		20
1,1,2-Trichloroethane	100		100		70-130	0		20
Tetrachloroethene	100		100		70-130	0		20
Chlorobenzene	100		100		75-130	0		20
Trichlorofluoromethane	100		100		62-150	0		20
1,2-Dichloroethane	98		94		70-130	4		20
1,1,1-Trichloroethane	100		100		67-130	0		20
Bromodichloromethane	100		100		67-130	0		20
trans-1,3-Dichloropropene	100		98		70-130	2		20
cis-1,3-Dichloropropene	90		100		70-130	11		20
Bromoform	93		93		54-136	0		20
1,1,2,2-Tetrachloroethane	100		100		67-130	0		20
Benzene	110		110		70-130	0		20
Toluene	100		100		70-130	0		20
Ethylbenzene	100		100		70-130	0		20
Chloromethane	84		81		64-130	4		20
Bromomethane	98		100		39-139	2		20
Vinyl chloride	100		97		55-140	3		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: JAMESTOWN CONTAINER
Project Number: N30001001

Lab Number: L1928183
Report Date: 07/15/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-04 Batch: WG1257156-3 WG1257156-4								
Chloroethane	110		110		55-138	0		20
1,1-Dichloroethene	110		110		61-145	0		20
trans-1,2-Dichloroethene	110		110		70-130	0		20
Trichloroethene	110		110		70-130	0		20
1,2-Dichlorobenzene	95		97		70-130	2		20
1,3-Dichlorobenzene	100		98		70-130	2		20
1,4-Dichlorobenzene	95		98		70-130	3		20
Methyl tert butyl ether	120		110		63-130	9		20
p/m-Xylene	100		100		70-130	0		20
o-Xylene	100		100		70-130	0		20
cis-1,2-Dichloroethene	120		110		70-130	9		20
Styrene	100		95		70-130	5		20
Dichlorodifluoromethane	97		97		36-147	0		20
Acetone	110		110		58-148	0		20
Carbon disulfide	120		110		51-130	9		20
2-Butanone	100		100		63-138	0		20
4-Methyl-2-pentanone	95		100		59-130	5		20
2-Hexanone	94		90		57-130	4		20
1,2-Dibromoethane	100		100		70-130	0		20
n-Butylbenzene	98		100		53-136	2		20
sec-Butylbenzene	74		79		70-130	7		20
tert-Butylbenzene	97		100		70-130	3		20
1,2-Dibromo-3-chloropropane	97		96		41-144	1		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: JAMESTOWN CONTAINER
Project Number: N30001001
Lab Number: L1928183
Report Date: 07/15/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-04 Batch: WG1257156-3 WG1257156-4								
Isopropylbenzene	100		100		70-130	0		20
p-Isopropyltoluene	100		100		70-130	0		20
Naphthalene	92		94		70-130	2		20
n-Propylbenzene	100		100		69-130	0		20
1,2,4-Trichlorobenzene	93		96		70-130	3		20
1,3,5-Trimethylbenzene	99		100		64-130	1		20
1,2,4-Trimethylbenzene	99		100		70-130	1		20
Methyl Acetate	110		110		70-130	0		20
Cyclohexane	110		110		70-130	0		20
Freon-113	120		110		70-130	9		20
Methyl cyclohexane	110		110		70-130	0		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	91		89		70-130
Toluene-d8	99		98		70-130
4-Bromofluorobenzene	100		102		70-130
Dibromofluoromethane	100		99		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: JAMESTOWN CONTAINER
Project Number: N30001001
Lab Number: L1928183
Report Date: 07/15/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 06-09,11-12 Batch: WG1257506-3 WG1257506-4								
Methylene chloride	110		100		70-130	10		20
1,1-Dichloroethane	100		100		70-130	0		20
Chloroform	100		100		70-130	0		20
Carbon tetrachloride	110		110		63-132	0		20
1,2-Dichloropropane	100		100		70-130	0		20
Dibromochloromethane	100		98		63-130	2		20
1,1,2-Trichloroethane	100		100		70-130	0		20
Tetrachloroethene	110		100		70-130	10		20
Chlorobenzene	100		98		75-130	2		20
Trichlorofluoromethane	100		100		62-150	0		20
1,2-Dichloroethane	98		97		70-130	1		20
1,1,1-Trichloroethane	100		100		67-130	0		20
Bromodichloromethane	100		99		67-130	1		20
trans-1,3-Dichloropropene	86		84		70-130	2		20
cis-1,3-Dichloropropene	98		97		70-130	1		20
Bromoform	83		83		54-136	0		20
1,1,2,2-Tetrachloroethane	99		98		67-130	1		20
Benzene	110		110		70-130	0		20
Toluene	98		98		70-130	0		20
Ethylbenzene	98		97		70-130	1		20
Chloromethane	97		95		64-130	2		20
Bromomethane	71		75		39-139	5		20
Vinyl chloride	110		100		55-140	10		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: JAMESTOWN CONTAINER
Project Number: N30001001

Lab Number: L1928183
Report Date: 07/15/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 06-09,11-12 Batch: WG1257506-3 WG1257506-4								
Chloroethane	98		96		55-138	2		20
1,1-Dichloroethene	110		110		61-145	0		20
trans-1,2-Dichloroethene	110		110		70-130	0		20
Trichloroethene	100		100		70-130	0		20
1,2-Dichlorobenzene	98		97		70-130	1		20
1,3-Dichlorobenzene	96		97		70-130	1		20
1,4-Dichlorobenzene	97		96		70-130	1		20
Methyl tert butyl ether	110		110		63-130	0		20
p/m-Xylene	105		100		70-130	5		20
o-Xylene	105		100		70-130	5		20
cis-1,2-Dichloroethene	110		110		70-130	0		20
Styrene	105		105		70-130	0		20
Dichlorodifluoromethane	100		100		36-147	0		20
Acetone	97		95		58-148	2		20
Carbon disulfide	100		100		51-130	0		20
2-Butanone	92		90		63-138	2		20
4-Methyl-2-pentanone	98		93		59-130	5		20
2-Hexanone	86		85		57-130	1		20
1,2-Dibromoethane	100		100		70-130	0		20
n-Butylbenzene	97		96		53-136	1		20
sec-Butylbenzene	100		98		70-130	2		20
tert-Butylbenzene	99		98		70-130	1		20
1,2-Dibromo-3-chloropropane	85		84		41-144	1		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: JAMESTOWN CONTAINER

Project Number: N30001001

Lab Number: L1928183

Report Date: 07/15/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 06-09,11-12 Batch: WG1257506-3 WG1257506-4								
Isopropylbenzene	99		99		70-130	0		20
p-Isopropyltoluene	100		100		70-130	0		20
Naphthalene	96		92		70-130	4		20
n-Propylbenzene	98		97		69-130	1		20
1,2,4-Trichlorobenzene	100		100		70-130	0		20
1,3,5-Trimethylbenzene	97		96		64-130	1		20
1,2,4-Trimethylbenzene	98		96		70-130	2		20
Methyl Acetate	100		100		70-130	0		20
Cyclohexane	110		110		70-130	0		20
Freon-113	120		110		70-130	9		20
Methyl cyclohexane	120		120		70-130	0		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	94		92		70-130
Toluene-d8	96		96		70-130
4-Bromofluorobenzene	96		95		70-130
Dibromofluoromethane	101		101		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: JAMESTOWN CONTAINER **Lab Number:** L1928183
Project Number: N30001001 **Report Date:** 07/15/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 05 Batch: WG1257954-3 WG1257954-4								
Methylene chloride	100		100		70-130	0		20
1,1-Dichloroethane	96		97		70-130	1		20
Chloroform	98		99		70-130	1		20
Carbon tetrachloride	99		99		63-132	0		20
1,2-Dichloropropane	100		100		70-130	0		20
Dibromochloromethane	92		92		63-130	0		20
1,1,2-Trichloroethane	97		96		70-130	1		20
Tetrachloroethene	96		94		70-130	2		20
Chlorobenzene	94		93		75-130	1		20
Trichlorofluoromethane	95		94		62-150	1		20
1,2-Dichloroethane	96		96		70-130	0		20
1,1,1-Trichloroethane	98		97		67-130	1		20
Bromodichloromethane	94		97		67-130	3		20
trans-1,3-Dichloropropene	78		77		70-130	1		20
cis-1,3-Dichloropropene	92		92		70-130	0		20
Bromoform	76		77		54-136	1		20
1,1,2,2-Tetrachloroethane	90		91		67-130	1		20
Benzene	100		100		70-130	0		20
Toluene	92		90		70-130	2		20
Ethylbenzene	91		90		70-130	1		20
Chloromethane	91		91		64-130	0		20
Bromomethane	52		58		39-139	11		20
Vinyl chloride	100		99		55-140	1		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: JAMESTOWN CONTAINER
Lab Number: L1928183
Project Number: N30001001
Report Date: 07/15/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 05 Batch: WG1257954-3 WG1257954-4								
Chloroethane	95		92		55-138	3		20
1,1-Dichloroethene	100		100		61-145	0		20
trans-1,2-Dichloroethene	100		100		70-130	0		20
Trichloroethene	95		95		70-130	0		20
1,2-Dichlorobenzene	93		92		70-130	1		20
1,3-Dichlorobenzene	92		89		70-130	3		20
1,4-Dichlorobenzene	91		90		70-130	1		20
Methyl tert butyl ether	110		110		63-130	0		20
p/m-Xylene	95		95		70-130	0		20
o-Xylene	100		95		70-130	5		20
cis-1,2-Dichloroethene	100		100		70-130	0		20
Styrene	100		100		70-130	0		20
Dichlorodifluoromethane	92		92		36-147	0		20
Acetone	99		100		58-148	1		20
Carbon disulfide	98		98		51-130	0		20
2-Butanone	88		90		63-138	2		20
4-Methyl-2-pentanone	89		89		59-130	0		20
2-Hexanone	79		79		57-130	0		20
1,2-Dibromoethane	96		97		70-130	1		20
n-Butylbenzene	88		86		53-136	2		20
sec-Butylbenzene	90		88		70-130	2		20
tert-Butylbenzene	91		88		70-130	3		20
1,2-Dibromo-3-chloropropane	78		83		41-144	6		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: JAMESTOWN CONTAINER **Lab Number:** L1928183
Project Number: N30001001 **Report Date:** 07/15/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 05 Batch: WG1257954-3 WG1257954-4								
Isopropylbenzene	91		90		70-130	1		20
p-Isopropyltoluene	92		90		70-130	2		20
Naphthalene	85		89		70-130	5		20
n-Propylbenzene	90		87		69-130	3		20
1,2,4-Trichlorobenzene	92		94		70-130	2		20
1,3,5-Trimethylbenzene	90		88		64-130	2		20
1,2,4-Trimethylbenzene	92		89		70-130	3		20
Methyl Acetate	95		99		70-130	4		20
Cyclohexane	100		100		70-130	0		20
Freon-113	100		100		70-130	0		20
Methyl cyclohexane	100		100		70-130	0		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	95		96		70-130
Toluene-d8	95		94		70-130
4-Bromofluorobenzene	96		95		70-130
Dibromofluoromethane	102		104		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: JAMESTOWN CONTAINER | **Lab Number:** L1928183
Project Number: N30001001 | **Report Date:** 07/15/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 09,11 Batch: WG1258007-3 WG1258007-4								
Methylene chloride	100		100		70-130	0		20
1,1-Dichloroethane	99		99		70-130	0		20
Chloroform	100		100		70-130	0		20
Carbon tetrachloride	100		100		63-132	0		20
1,2-Dichloropropane	98		99		70-130	1		20
Dibromochloromethane	100		100		63-130	0		20
1,1,2-Trichloroethane	110		100		70-130	10		20
Tetrachloroethene	110		110		70-130	0		20
Chlorobenzene	99		99		75-130	0		20
Trichlorofluoromethane	120		120		62-150	0		20
1,2-Dichloroethane	100		100		70-130	0		20
1,1,1-Trichloroethane	98		100		67-130	2		20
Bromodichloromethane	100		100		67-130	0		20
trans-1,3-Dichloropropene	89		88		70-130	1		20
cis-1,3-Dichloropropene	89		90		70-130	1		20
Bromoform	110		110		54-136	0		20
1,1,2,2-Tetrachloroethane	100		100		67-130	0		20
Benzene	98		100		70-130	2		20
Toluene	97		98		70-130	1		20
Ethylbenzene	93		96		70-130	3		20
Chloromethane	97		95		64-130	2		20
Bromomethane	120		130		39-139	8		20
Vinyl chloride	100		100		55-140	0		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: JAMESTOWN CONTAINER
Project Number: N30001001

Lab Number: L1928183
Report Date: 07/15/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 09,11 Batch: WG1258007-3 WG1258007-4								
Chloroethane	**160**	Q	**170**	Q	55-138	6		20
1,1-Dichloroethene	93		100		61-145	7		20
trans-1,2-Dichloroethene	88		95		70-130	8		20
Trichloroethene	96		99		70-130	3		20
1,2-Dichlorobenzene	97		93		70-130	4		20
1,3-Dichlorobenzene	97		96		70-130	1		20
1,4-Dichlorobenzene	95		95		70-130	0		20
Methyl tert butyl ether	87		88		63-130	1		20
p/m-Xylene	95		95		70-130	0		20
o-Xylene	95		95		70-130	0		20
cis-1,2-Dichloroethene	94		94		70-130	0		20
Styrene	95		100		70-130	5		20
Dichlorodifluoromethane	92		92		36-147	0		20
Acetone	120		120		58-148	0		20
Carbon disulfide	100		100		51-130	0		20
2-Butanone	90		93		63-138	3		20
4-Methyl-2-pentanone	86		88		59-130	2		20
2-Hexanone	81		80		57-130	1		20
1,2-Dibromoethane	98		97		70-130	1		20
n-Butylbenzene	98		96		53-136	2		20
sec-Butylbenzene	94		92		70-130	2		20
tert-Butylbenzene	87		86		70-130	1		20
1,2-Dibromo-3-chloropropane	100		94		41-144	6		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: JAMESTOWN CONTAINER

Project Number: N30001001

Lab Number: L1928183

Report Date: 07/15/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 09,11 Batch: WG1258007-3 WG1258007-4								
Isopropylbenzene	89		89		70-130	0		20
p-Isopropyltoluene	90		89		70-130	1		20
Naphthalene	78		77		70-130	1		20
n-Propylbenzene	94		95		69-130	1		20
1,2,4-Trichlorobenzene	89		88		70-130	1		20
1,3,5-Trimethylbenzene	92		93		64-130	1		20
1,2,4-Trimethylbenzene	92		90		70-130	2		20
Methyl Acetate	97		100		70-130	3		20
Cyclohexane	84		80		70-130	5		20
Freon-113	100		100		70-130	0		20
Methyl cyclohexane	87		87		70-130	0		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	108		106		70-130
Toluene-d8	102		102		70-130
4-Bromofluorobenzene	92		92		70-130
Dibromofluoromethane	108		107		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: JAMESTOWN CONTAINER
Project Number: N30001001

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Report Date: 07/15/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 16 Batch: WG1258342-3 WG1258342-4								
Methylene chloride	100		100		70-130	0		20
1,1-Dichloroethane	95		92		70-130	3		20
Chloroform	110		97		70-130	13		20
Carbon tetrachloride	100		100		63-132	0		20
1,2-Dichloropropane	96		95		70-130	1		20
Dibromochloromethane	100		100		63-130	0		20
1,1,2-Trichloroethane	110		100		70-130	10		20
Tetrachloroethene	100		100		70-130	0		20
Chlorobenzene	100		100		75-130	0		20
Trichlorofluoromethane	99		94		62-150	5		20
1,2-Dichloroethane	91		90		70-130	1		20
1,1,1-Trichloroethane	100		98		67-130	2		20
Bromodichloromethane	98		96		67-130	2		20
trans-1,3-Dichloropropene	100		100		70-130	0		20
cis-1,3-Dichloropropene	91		89		70-130	2		20
Bromoform	100		99		54-136	1		20
1,1,2,2-Tetrachloroethane	100		100		67-130	0		20
Benzene	100		100		70-130	0		20
Toluene	100		100		70-130	0		20
Ethylbenzene	100		100		70-130	0		20
Chloromethane	74		70		64-130	6		20
Bromomethane	93		77		39-139	19		20
Vinyl chloride	87		83		55-140	5		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: JAMESTOWN CONTAINER
Project Number: N30001001

Lab Number: L1928183
Report Date: 07/15/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 16 Batch: WG1258342-3 WG1258342-4								
Chloroethane	90		88		55-138	2		20
1,1-Dichloroethene	110		100		61-145	10		20
trans-1,2-Dichloroethene	100		100		70-130	0		20
Trichloroethene	100		100		70-130	0		20
1,2-Dichlorobenzene	100		98		70-130	2		20
1,3-Dichlorobenzene	110		100		70-130	10		20
1,4-Dichlorobenzene	100		100		70-130	0		20
Methyl tert butyl ether	100		110		63-130	10		20
p/m-Xylene	105		105		70-130	0		20
o-Xylene	105		100		70-130	5		20
cis-1,2-Dichloroethene	100		100		70-130	0		20
Styrene	100		100		70-130	0		20
Dichlorodifluoromethane	82		77		36-147	6		20
Acetone	100		90		58-148	11		20
Carbon disulfide	100		100		51-130	0		20
2-Butanone	92		93		63-138	1		20
4-Methyl-2-pentanone	93		92		59-130	1		20
2-Hexanone	83		88		57-130	6		20
1,2-Dibromoethane	100		110		70-130	10		20
n-Butylbenzene	100		100		53-136	0		20
sec-Butylbenzene	82		82		70-130	0		20
tert-Butylbenzene	110		100		70-130	10		20
1,2-Dibromo-3-chloropropane	110		100		41-144	10		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: JAMESTOWN CONTAINER
Project Number: N30001001
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Report Date: 07/15/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 16 Batch: WG1258342-3 WG1258342-4								
Isopropylbenzene	110		100		70-130	10		20
p-Isopropyltoluene	110		100		70-130	10		20
Naphthalene	100		99		70-130	1		20
n-Propylbenzene	100		100		69-130	0		20
1,2,4-Trichlorobenzene	100		97		70-130	3		20
1,3,5-Trimethylbenzene	110		100		64-130	10		20
1,2,4-Trimethylbenzene	110		100		70-130	10		20
Methyl Acetate	89		92		70-130	3		20
Cyclohexane	92		88		70-130	4		20
Freon-113	100		100		70-130	0		20
Methyl cyclohexane	98		92		70-130	6		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	93		91		70-130
Toluene-d8	102		104		70-130
4-Bromofluorobenzene	101		98		70-130
Dibromofluoromethane	101		101		70-130

Matrix Spike Analysis
Batch Quality Control

Project Name: JAMESTOWN CONTAINER
Lab Number: L1928183
Project Number: N30001001
Report Date: 07/15/19

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 05 QC Batch ID: WG1257954-6 WG1257954-7 QC Sample: L1928183-05 Client ID: PW-1-062619												
Methylene chloride	ND	10	11	110		12	120		70-130	9		20
1,1-Dichloroethane	ND	10	12	120		12	120		70-130	0		20
Chloroform	ND	10	12	120		12	120		70-130	0		20
Carbon tetrachloride	ND	10	13	130		14	**140**	Q	63-132	7		20
1,2-Dichloropropane	ND	10	11	110		11	110		70-130	0		20
Dibromochloromethane	ND	10	9.6	96		10	100		63-130	4		20
1,1,2-Trichloroethane	ND	10	9.9	99		10	100		70-130	1		20
Tetrachloroethene	ND	10	11	110		11	110		70-130	0		20
Chlorobenzene	ND	10	9.9	99		10	100		75-130	1		20
Trichlorofluoromethane	ND	10	14	140		14	140		62-150	0		20
1,2-Dichloroethane	ND	10	11	110		12	120		70-130	9		20
1,1,1-Trichloroethane	ND	10	13	130		13	130		67-130	0		20
Bromodichloromethane	ND	10	11	110		12	120		67-130	9		20
trans-1,3-Dichloropropene	ND	10	7.8	78		8.4	84		70-130	7		20
cis-1,3-Dichloropropene	ND	10	9.0	90		9.8	98		70-130	9		20
Bromoform	ND	10	7.7	77		8.2	82		54-136	6		20
1,1,2,2-Tetrachloroethane	ND	10	8.5	85		9.0	90		67-130	6		20
Benzene	ND	10	12	120		12	120		70-130	0		20
Toluene	ND	10	10	100		10	100		70-130	0		20
Ethylbenzene	ND	10	9.9	99		11	110		70-130	11		20
Chloromethane	ND	10	12	120		12	120		64-130	0		20
Bromomethane	ND	10	5.5	55		7.5	75		39-139	**31**	Q	20
Vinyl chloride	ND	10	13	130		13	130		55-140	0		20

Matrix Spike Analysis
Batch Quality Control

Project Name: JAMESTOWN CONTAINER | **Lab Number:** L1928183
Project Number: N30001001 | **Report Date:** 07/15/19

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 05 QC Batch ID: WG1257954-6 WG1257954-7 QC Sample: L1928183-05 Client ID: PW-1-062619												
Chloroethane	ND	10	13	130		13	130		55-138	0		20
1,1-Dichloroethene	ND	10	13	130		13	130		61-145	0		20
trans-1,2-Dichloroethene	ND	10	12	120		13	130		70-130	8		20
Trichloroethene	1.8	10	13	112		14	122		70-130	7		20
1,2-Dichlorobenzene	ND	10	9.2	92		10	100		70-130	8		20
1,3-Dichlorobenzene	ND	10	9.2	92		9.9	99		70-130	7		20
1,4-Dichlorobenzene	ND	10	9.1	91		9.8	98		70-130	7		20
Methyl tert butyl ether	ND	10	11	110		11	110		63-130	0		20
p/m-Xylene	ND	20	20	100		22	110		70-130	10		20
o-Xylene	ND	20	20	100		22	110		70-130	10		20
cis-1,2-Dichloroethene	ND	10	12	120		12	120		70-130	0		20
Styrene	ND	20	20	100		22	110		70-130	10		20
Dichlorodifluoromethane	ND	10	12	120		13	130		36-147	8		20
Acetone	2.8J	10	12	120		11	110		58-148	9		20
Carbon disulfide	ND	10	12	120		13	130		51-130	8		20
2-Butanone	ND	10	8.5	85		9.4	94		63-138	10		20
4-Methyl-2-pentanone	ND	10	7.6	76		8.2	82		59-130	8		20
2-Hexanone	ND	10	6.8	68		7.4	74		57-130	8		20
1,2-Dibromoethane	ND	10	9.6	96		10	100		70-130	4		20
n-Butylbenzene	ND	10	8.9	89		9.9	99		53-136	11		20
sec-Butylbenzene	ND	10	9.3	93		10	100		70-130	7		20
tert-Butylbenzene	ND	10	9.5	95		10	100		70-130	5		20
1,2-Dibromo-3-chloropropane	ND	10	7.4	74		8.0	80		41-144	8		20

Matrix Spike Analysis

Batch Quality Control

Project Name: JAMESTOWN CONTAINER **Lab Number:** L1928183

Project Number: N30001001 **Report Date:** 07/15/19

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 05 QC Batch ID: WG1257954-6 WG1257954-7 QC Sample: L1928183-05 Client ID: PW-1-062619												
Isopropylbenzene	ND	10	9.5	95		10	100		70-130	5		20
p-Isopropyltoluene	ND	10	9.4	94		10	100		70-130	6		20
Naphthalene	ND	10	6.6	**66**	Q	8.1	81		70-130	20		20
n-Propylbenzene	ND	10	9.4	94		10	100		69-130	6		20
1,2,4-Trichlorobenzene	ND	10	8.5	85		9.7	97		70-130	13		20
1,3,5-Trimethylbenzene	ND	10	9.3	93		10	100		64-130	7		20
1,2,4-Trimethylbenzene	ND	10	9.3	93		10	100		70-130	7		20
Methyl Acetate	ND	10	8.8	88		9.4	94		70-130	7		20
Cyclohexane	ND	10	12	120		13	130		70-130	8		20
Freon-113	ND	10	13	130		13	130		70-130	0		20
Methyl cyclohexane	ND	10	12	120		12	120		70-130	0		20

Surrogate	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		102		70-130
4-Bromofluorobenzene	95		96		70-130
Dibromofluoromethane	107		106		70-130
Toluene-d8	93		92		70-130

SEMIVOLATILES

Project Name:	JAMESTOWN CONTAINER	**Lab Number:**	L1928183
Project Number:	N30001001	**Report Date:**	07/15/19

SAMPLE RESULTS

Lab ID:	L1928183-04	Date Collected:	06/26/19 10:00
Client ID:	ESI-3-062619	Date Received:	06/27/19
Sample Location:	14 DEMING DRIVE	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8270D-SIM	Extraction Date:	07/02/19 08:39
Analytical Date:	07/02/19 15:10		
Analyst:	MA		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	ND		ng/l	150	33.9	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	45		15-110

Project Name:	JAMESTOWN CONTAINER	**Lab Number:**	L1928183
Project Number:	N30001001	**Report Date:**	07/15/19

SAMPLE RESULTS

Lab ID:	L1928183-04	Date Collected:	06/26/19 10:00
Client ID:	ESI-3-062619	Date Received:	06/27/19
Sample Location:	14 DEMING DRIVE	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Water	Extraction Method:	EPA 537
Analytical Method:	122,537(M)	Extraction Date:	07/10/19 07:12
Analytical Date:	07/11/19 21:21		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	3.16		ng/l	1.86	0.380	1
Perfluoropentanoic Acid (PFPeA)	0.817	J	ng/l	1.86	0.369	1
Perfluorobutanesulfonic Acid (PFBS)	1.06	J	ng/l	1.86	0.222	1
Perfluorohexanoic Acid (PFHxA)	0.664	J	ng/l	1.86	0.306	1
Perfluoroheptanoic Acid (PFHpA)	0.653	J	ng/l	1.86	0.210	1
Perfluorohexanesulfonic Acid (PFHxS)	1.12	J	ng/l	1.86	0.351	1
Perfluorooctanoic Acid (PFOA)	2.29		ng/l	1.86	0.220	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	1.86	1.24	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.86	0.642	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.86	0.291	1
Perfluorooctanesulfonic Acid (PFOS)	1.49	J	ng/l	1.86	0.470	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.86	0.284	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	1.86	1.13	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.86	0.604	1
Perfluoroundecanoic Acid (PFUnA)	0.466	J	ng/l	1.86	0.242	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.86	0.914	1
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	1.86	0.541	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.86	0.750	1
Perfluorododecanoic Acid (PFDoA)	0.526	J	ng/l	1.86	0.347	1
Perfluorotridecanoic Acid (PFTrDA)	0.436	J	ng/l	1.86	0.305	1
Perfluorotetradecanoic Acid (PFTA)	0.444	J	ng/l	1.86	0.231	1
PFOA/PFOS, Total	3.78	J	ng/l	1.86	0.220	1

Project Name: JAMESTOWN CONTAINER **Lab Number:** L1928183

Project Number: N30001001 **Report Date:** 07/15/19

SAMPLE RESULTS

Lab ID:	L1928183-04	Date Collected:	06/26/19 10:00
Client ID:	ESI-3-062619	Date Received:	06/27/19
Sample Location:	14 DEMING DRIVE	Field Prep:	Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	66		2-156
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	80		16-173
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	86		31-159
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	62		21-145
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	59		30-139
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	83		47-153
Perfluoro[13C8]Octanoic Acid (M8PFOA)	70		36-149
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	81		1-244
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	72		34-146
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	77		42-146
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	63		38-144
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	80		7-170
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	48		1-181
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	66		40-144
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	20		1-87
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	43		23-146
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	62		24-161
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	69		33-143

Project Name:	JAMESTOWN CONTAINER	**Lab Number:**	L1928183
Project Number:	N30001001	**Report Date:**	07/15/19

SAMPLE RESULTS

Lab ID:	L1928183-07	Date Collected:	06/26/19 11:10
Client ID:	ESI-1-062619	Date Received:	06/27/19
Sample Location:	14 DEMING DRIVE	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8270D-SIM	Extraction Date:	07/02/19 08:39
Analytical Date:	07/02/19 16:45		
Analyst:	MA		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	ND		ng/l	144	32.6	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	43		15-110

Project Name: JAMESTOWN CONTAINER **Lab Number:** L1928183

Project Number: N30001001 **Report Date:** 07/15/19

SAMPLE RESULTS

Lab ID:	L1928183-07		Date Collected:	06/26/19 11:10
Client ID:	ESI-1-062619		Date Received:	06/27/19
Sample Location:	14 DEMING DRIVE		Field Prep:	Not Specified
Sample Depth:				
Matrix:	Water		Extraction Method:	EPA 537
Analytical Method:	122,537(M)		Extraction Date:	07/10/19 12:00
Analytical Date:	07/12/19 08:39			
Analyst:	JW			

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	1.39	J	ng/l	1.93	0.394	1
Perfluoropentanoic Acid (PFPeA)	1.03	J	ng/l	1.93	0.382	1
Perfluorobutanesulfonic Acid (PFBS)	0.568	J	ng/l	1.93	0.230	1
Perfluorohexanoic Acid (PFHxA)	0.703	J	ng/l	1.93	0.317	1
Perfluoroheptanoic Acid (PFHpA)	0.981	J	ng/l	1.93	0.217	1
Perfluorohexanesulfonic Acid (PFHxS)	0.436	J	ng/l	1.93	0.363	1
Perfluorooctanoic Acid (PFOA)	1.88	J	ng/l	1.93	0.228	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	1.93	1.28	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.93	0.664	1
Perfluorononanoic Acid (PFNA)	0.386	J	ng/l	1.93	0.301	1
Perfluorooctanesulfonic Acid (PFOS)	4.49		ng/l	1.93	0.486	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.93	0.293	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	1.93	1.17	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.93	0.625	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.93	0.251	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.93	0.946	1
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	1.93	0.560	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.93	0.776	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.93	0.359	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.93	0.316	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.93	0.239	1
PFOA/PFOS, Total	6.37	J	ng/l	1.93	0.228	1

Project Name:	JAMESTOWN CONTAINER	**Lab Number:**	L1928183
Project Number:	N30001001	**Report Date:**	07/15/19

SAMPLE RESULTS

Lab ID:	L1928183-07	Date Collected:	06/26/19 11:10
Client ID:	ESI-1-062619	Date Received:	06/27/19
Sample Location:	14 DEMING DRIVE	Field Prep:	Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	82		2-156
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	107		16-173
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	97		31-159
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	72		21-145
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	74		30-139
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	97		47-153
Perfluoro[13C8]Octanoic Acid (M8PFOA)	82		36-149
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	97		1-244
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	89		34-146
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	93		42-146
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	69		38-144
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	72		7-170
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	42		1-181
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	59		40-144
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	18		1-87
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	31		23-146
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	41		24-161
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	42		33-143

Project Name: JAMESTOWN CONTAINER **Lab Number:** L1928183

Project Number: N30001001 **Report Date:** 07/15/19

SAMPLE RESULTS

Lab ID: L1928183-10
Client ID: ESI-4-062619
Sample Location: 14 DEMING DRIVE

Date Collected: 06/26/19 13:00
Date Received: 06/27/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 07/02/19 17:15
Analyst: MA

Extraction Method: EPA 3510C
Extraction Date: 07/02/19 08:39

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	ND		ng/l	150	33.9	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	51		15-110

Project Name: JAMESTOWN CONTAINER
Lab Number: L1928183
Project Number: N30001001
Report Date: 07/15/19

SAMPLE RESULTS

Lab ID:	L1928183-10	Date Collected:	06/26/19 13:00
Client ID:	ESI-4-062619	Date Received:	06/27/19
Sample Location:	14 DEMING DRIVE	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Water	Extraction Method:	EPA 537
Analytical Method:	122,537(M)	Extraction Date:	07/10/19 12:00
Analytical Date:	07/12/19 08:56		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	3.26		ng/l	1.92	0.391	1
Perfluoropentanoic Acid (PFPeA)	1.71	J	ng/l	1.92	0.379	1
Perfluorobutanesulfonic Acid (PFBS)	1.07	J	ng/l	1.92	0.228	1
Perfluorohexanoic Acid (PFHxA)	1.02	J	ng/l	1.92	0.314	1
Perfluoroheptanoic Acid (PFHpA)	1.15	J	ng/l	1.92	0.216	1
Perfluorohexanesulfonic Acid (PFHxS)	1.03	J	ng/l	1.92	0.360	1
Perfluorooctanoic Acid (PFOA)	1.72	J	ng/l	1.92	0.226	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	1.92	1.28	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.92	0.659	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.92	0.299	1
Perfluorooctanesulfonic Acid (PFOS)	1.79	J	ng/l	1.92	0.483	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.92	0.291	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	1.92	1.16	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.92	0.621	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.92	0.249	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.92	0.939	1
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	1.92	0.556	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.92	0.770	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.92	0.356	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.92	0.313	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.92	0.238	1
PFOA/PFOS, Total	3.51	J	ng/l	1.92	0.226	1

Project Name: JAMESTOWN CONTAINER **Lab Number:** L1928183
Project Number: N30001001 **Report Date:** 07/15/19

SAMPLE RESULTS

Lab ID:	L1928183-10	Date Collected:	06/26/19 13:00
Client ID:	ESI-4-062619	Date Received:	06/27/19
Sample Location:	14 DEMING DRIVE	Field Prep:	Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	63		2-156
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	81		16-173
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	83		31-159
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	56		21-145
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	59		30-139
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	82		47-153
Perfluoro[13C8]Octanoic Acid (M8PFOA)	67		36-149
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	78		1-244
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	77		34-146
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	80		42-146
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	66		38-144
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	68		7-170
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	51		1-181
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	65		40-144
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	14		1-87
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	39		23-146
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	60		24-161
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	62		33-143

Project Name: JAMESTOWN CONTAINER
Lab Number: L1928183
Project Number: N30001001
Report Date: 07/15/19

SAMPLE RESULTS

Lab ID: L1928183-13
Client ID: DUP-ESI4-062619
Sample Location: 14 DEMING DRIVE
Date Collected: 06/26/19 13:00
Date Received: 06/27/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 07/02/19 17:44
Analyst: MA
Extraction Method: EPA 3510C
Extraction Date: 07/02/19 08:39

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	ND		ng/l	139	31.4	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	45		15-110

Project Name: JAMESTOWN CONTAINER **Lab Number:** L1928183
Project Number: N30001001 **Report Date:** 07/15/19

SAMPLE RESULTS

Lab ID: L1928183-13
Client ID: DUP-ESI4-062619
Sample Location: 14 DEMING DRIVE
Date Collected: 06/26/19 13:00
Date Received: 06/27/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 122,537(M)
Analytical Date: 07/12/19 09:13
Analyst: JW
Extraction Method: EPA 537
Extraction Date: 07/10/19 12:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	3.32		ng/l	1.84	0.376	1
Perfluoropentanoic Acid (PFPeA)	1.57	J	ng/l	1.84	0.365	1
Perfluorobutanesulfonic Acid (PFBS)	1.11	J	ng/l	1.84	0.220	1
Perfluorohexanoic Acid (PFHxA)	0.945	J	ng/l	1.84	0.302	1
Perfluoroheptanoic Acid (PFHpA)	1.05	J	ng/l	1.84	0.208	1
Perfluorohexanesulfonic Acid (PFHxS)	0.808	J	ng/l	1.84	0.347	1
Perfluorooctanoic Acid (PFOA)	1.73	J	ng/l	1.84	0.218	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	1.84	1.23	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.84	0.635	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.84	0.288	1
Perfluorooctanesulfonic Acid (PFOS)	1.79	J	ng/l	1.84	0.465	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.84	0.280	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	1.84	1.12	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.84	0.598	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.84	0.240	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.84	0.904	1
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	1.84	0.535	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.84	0.742	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.84	0.343	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.84	0.302	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.84	0.229	1
PFOA/PFOS, Total	3.52	J	ng/l	1.84	0.218	1

Project Name: JAMESTOWN CONTAINER **Lab Number:** L1928183

Project Number: N30001001 **Report Date:** 07/15/19

SAMPLE RESULTS

Lab ID:	L1928183-13	Date Collected:	06/26/19 13:00
Client ID:	DUP-ESI4-062619	Date Received:	06/27/19
Sample Location:	14 DEMING DRIVE	Field Prep:	Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	68		2-156
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	87		16-173
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	86		31-159
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	60		21-145
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	64		30-139
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	87		47-153
Perfluoro[13C8]Octanoic Acid (M8PFOA)	72		36-149
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	80		1-244
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	82		34-146
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	86		42-146
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	72		38-144
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	88		7-170
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	53		1-181
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	74		40-144
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	11		1-87
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	38		23-146
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	66		24-161
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	70		33-143

Project Name:	JAMESTOWN CONTAINER	**Lab Number:**	L1928183
Project Number:	N30001001	**Report Date:**	07/15/19

SAMPLE RESULTS

Lab ID:	L1928183-14	Date Collected:	06/26/19 16:00
Client ID:	EQUIPMENT BLANK-062619	Date Received:	06/27/19
Sample Location:	14 DEMING DRIVE	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8270D-SIM	Extraction Date:	07/02/19 08:39
Analytical Date:	07/02/19 18:14		
Analyst:	MA		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	ND		ng/l	139	31.4	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	49		15-110

Project Name: JAMESTOWN CONTAINER **Lab Number:** L1928183

Project Number: N30001001 **Report Date:** 07/15/19

SAMPLE RESULTS

Lab ID:	L1928183-14	Date Collected:	06/26/19 16:00
Client ID:	EQUIPMENT BLANK-062619	Date Received:	06/27/19
Sample Location:	14 DEMING DRIVE	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Water	Extraction Method:	EPA 537
Analytical Method:	122,537(M)	Extraction Date:	07/10/19 12:00
Analytical Date:	07/12/19 09:29		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/l	1.99	0.406	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	1.99	0.394	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.99	0.237	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.99	0.327	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.99	0.224	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.99	0.374	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.99	0.235	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	1.99	1.33	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.99	0.685	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.99	0.311	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.99	0.502	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.99	0.303	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	1.99	1.21	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.99	0.645	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.99	0.259	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.99	0.976	1
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	1.99	0.578	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.99	0.801	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.99	0.370	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.99	0.326	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.99	0.247	1
PFOA/PFOS, Total	ND		ng/l	1.99	0.235	1

Project Name: JAMESTOWN CONTAINER **Lab Number:** L1928183

Project Number: N30001001 **Report Date:** 07/15/19

SAMPLE RESULTS

Lab ID:	L1928183-14	Date Collected:	06/26/19 16:00
Client ID:	EQUIPMENT BLANK-062619	Date Received:	06/27/19
Sample Location:	14 DEMING DRIVE	Field Prep:	Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	66		2-156
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	86		16-173
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	78		31-159
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	58		21-145
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	62		30-139
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	88		47-153
Perfluoro[13C8]Octanoic Acid (M8PFOA)	76		36-149
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	84		1-244
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	78		34-146
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	81		42-146
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	71		38-144
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	93		7-170
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	68		1-181
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	72		40-144
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	11		1-87
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	55		23-146
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	68		24-161
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	69		33-143

Project Name:	JAMESTOWN CONTAINER	**Lab Number:**	L1928183
Project Number:	N30001001	**Report Date:**	07/15/19

SAMPLE RESULTS

Lab ID:	L1928183-15	Date Collected:	06/26/19 15:00
Client ID:	FIELD BLANK	Date Received:	06/27/19
Sample Location:	14 DEMING DRIVE	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Water	Extraction Method:	EPA 537
Analytical Method:	122,537(M)	Extraction Date:	07/10/19 12:00
Analytical Date:	07/12/19 09:46		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/l	2.02	0.411	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	2.02	0.399	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.02	0.240	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	2.02	0.331	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.02	0.227	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.02	0.379	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.02	0.238	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	2.02	1.34	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	2.02	0.694	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.02	0.314	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.02	0.508	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.02	0.306	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	2.02	1.22	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.02	0.653	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.02	0.262	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	2.02	0.988	1
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	2.02	0.585	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.02	0.810	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.02	0.375	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.02	0.330	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.02	0.250	1
PFOA/PFOS, Total	ND		ng/l	2.02	0.238	1

Project Name:	JAMESTOWN CONTAINER	**Lab Number:**	L1928183
Project Number:	N30001001	**Report Date:**	07/15/19

SAMPLE RESULTS

Lab ID:	L1928183-15	Date Collected:	06/26/19 15:00
Client ID:	FIELD BLANK	Date Received:	06/27/19
Sample Location:	14 DEMING DRIVE	Field Prep:	Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	77		2-156
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	102		16-173
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	90		31-159
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	70		21-145
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	78		30-139
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	93		47-153
Perfluoro[13C8]Octanoic Acid (M8PFOA)	87		36-149
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	102		1-244
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	93		34-146
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	84		42-146
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	77		38-144
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	91		7-170
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	74		1-181
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	73		40-144
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	11		1-87
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	67		23-146
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	66		24-161
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	73		33-143

Project Name: JAMESTOWN CONTAINER
Project Number: N30001001

Lab Number: L1928183
Report Date: 07/15/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 07/02/19 13:40
Analyst: MA

Extraction Method: EPA 3510C
Extraction Date: 07/02/19 08:39

Parameter	Result	Qualifier	Units	RL	MDL
1,4 Dioxane by 8270D-SIM - Mansfield Lab for sample(s): 04,07,10,13-14 Batch: WG1255608-1					
1,4-Dioxane	ND		ng/l	150	33.9

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	48		15-110

Project Name: JAMESTOWN CONTAINER
Lab Number: L1928183
Project Number: N30001001
Report Date: 07/15/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 122,537(M)
Analytical Date: 07/11/19 06:29
Analyst: JW

Extraction Method: EPA 537
Extraction Date: 07/10/19 07:12

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 04 Batch: WG1257924-1					
Perfluorobutanoic Acid (PFBA)	ND		ng/l	2.00	0.408
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	2.00	0.396
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	0.238
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	2.00	0.328
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	0.225
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	0.376
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	0.236
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	2.00	1.33
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	2.00	0.688
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	0.312
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	0.504
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	0.304
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	2.00	1.21
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	0.648
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	0.260
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	2.00	0.980
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	2.00	0.580
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	0.804
Perfluorododecanoic Acid (PFDoA)	0.384	J	ng/l	2.00	0.372
Perfluorotridecanoic Acid (PFTrDA)	0.636	J	ng/l	2.00	0.327
Perfluorotetradecanoic Acid (PFTA)	0.692	J	ng/l	2.00	0.248
PFOA/PFOS, Total	ND		ng/l	2.00	0.236

Project Name: JAMESTOWN CONTAINER **Lab Number:** L1928183
Project Number: N30001001 **Report Date:** 07/15/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 122,537(M)
Analytical Date: 07/11/19 06:29
Analyst: JW

Extraction Method: EPA 537
Extraction Date: 07/10/19 07:12

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 04 Batch: WG1257924-1					

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	81		2-156
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	91		16-173
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	83		31-159
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	73		21-145
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	74		30-139
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	83		47-153
Perfluoro[13C8]Octanoic Acid (M8PFOA)	78		36-149
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	79		1-244
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	82		34-146
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	72		42-146
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	70		38-144
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	85		7-170
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	63		1-181
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	76		40-144
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	26		1-87
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	58		23-146
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	70		24-161
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	70		33-143

Project Name: JAMESTOWN CONTAINER **Lab Number:** L1928183
Project Number: N30001001 **Report Date:** 07/15/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 122,537(M)
Analytical Date: 07/12/19 02:52
Analyst: JW

Extraction Method: EPA 537
Extraction Date: 07/10/19 12:00

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 07,10,13-15 Batch: WG1257926-1					
Perfluorobutanoic Acid (PFBA)	ND		ng/l	2.00	0.408
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	2.00	0.396
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	0.238
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	2.00	0.328
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	0.225
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	0.376
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	0.236
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	2.00	1.33
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	2.00	0.688
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	0.312
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	0.504
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	0.304
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	2.00	1.21
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	0.648
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	0.260
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	2.00	0.980
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	2.00	0.580
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	0.804
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	0.372
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	0.327
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	0.248
PFOA/PFOS, Total	ND		ng/l	2.00	0.236

Project Name: JAMESTOWN CONTAINER　　**Lab Number:** L1928183
Project Number: N30001001　　**Report Date:** 07/15/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 122,537(M)
Analytical Date: 07/12/19 02:52
Analyst: JW

Extraction Method: EPA 537
Extraction Date: 07/10/19 12:00

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 07,10,13-15 Batch: WG1257926-1					

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	96		2-156
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	108		16-173
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	99		31-159
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	83		21-145
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	89		30-139
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	98		47-153
Perfluoro[13C8]Octanoic Acid (M8PFOA)	91		36-149
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	77		1-244
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	100		34-146
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	96		42-146
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	87		38-144
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	82		7-170
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	71		1-181
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	90		40-144
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	22		1-87
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	59		23-146
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	82		24-161
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	69		33-143

Lab Control Sample Analysis
Batch Quality Control

Project Name: JAMESTOWN CONTAINER **Lab Number:** L1928183
Project Number: N30001001 **Report Date:** 07/15/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
1,4 Dioxane by 8270D-SIM - Mansfield Lab Associated sample(s): 04,07,10,13-14 Batch: WG1255608-2 WG1255608-3								
1,4-Dioxane	101		98		40-140	3		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,4-Dioxane-d8	46		49		15-110

Lab Control Sample Analysis
Batch Quality Control

Project Name: JAMESTOWN CONTAINER **Lab Number:** L1928183
Project Number: N30001001 **Report Date:** 07/15/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 04 Batch: WG1257924-2 WG1257924-3								
Perfluorobutanoic Acid (PFBA)	112		106		67-148	6		30
Perfluoropentanoic Acid (PFPeA)	119		113		63-161	5		30
Perfluorobutanesulfonic Acid (PFBS)	120		109		65-157	10		30
Perfluorohexanoic Acid (PFHxA)	122		118		69-168	3		30
Perfluoroheptanoic Acid (PFHpA)	110		107		58-159	3		30
Perfluorohexanesulfonic Acid (PFHxS)	130		116		69-177	11		30
Perfluorooctanoic Acid (PFOA)	117		112		63-159	4		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	119		116		49-187	3		30
Perfluoroheptanesulfonic Acid (PFHpS)	121		113		61-179	7		30
Perfluorononanoic Acid (PFNA)	122		116		68-171	5		30
Perfluorooctanesulfonic Acid (PFOS)	107		100		52-151	7		30
Perfluorodecanoic Acid (PFDA)	126		120		63-171	5		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	114		113		56-173	1		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	120		114		60-166	5		30
Perfluoroundecanoic Acid (PFUnA)	104		99		60-153	5		30
Perfluorodecanesulfonic Acid (PFDS)	119		112		38-156	6		30
Perfluorooctanesulfonamide (FOSA)	107		106		46-170	1		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	112		118		45-170	5		30
Perfluorododecanoic Acid (PFDoA)	112		110		67-153	2		30
Perfluorotridecanoic Acid (PFTrDA)	114		110		48-158	4		30
Perfluorotetradecanoic Acid (PFTA)	128		123		59-182	4		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: JAMESTOWN CONTAINER **Lab Number:** L1928183

Project Number: N30001001 **Report Date:** 07/15/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 04 Batch: WG1257924-2 WG1257924-3

Surrogate (Extracted Internal Standard)	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	85		84		2-156
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	93		93		16-173
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	85		98		31-159
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	81		76		21-145
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	82		79		30-139
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	82		98		47-153
Perfluoro[13C8]Octanoic Acid (M8PFOA)	85		82		36-149
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	87		104		1-244
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	90		87		34-146
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	77		94		42-146
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	73		76		38-144
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	103		106		7-170
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	62		69		1-181
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	74		82		40-144
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	28		25		1-87
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	65		64		23-146
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	71		76		24-161
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	73		73		33-143

Lab Control Sample Analysis
Batch Quality Control

Project Name: JAMESTOWN CONTAINER | **Lab Number:** L1928183
Project Number: N30001001 | **Report Date:** 07/15/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 07,10,13-15 Batch: WG1257926-2 WG1257926-3								
Perfluorobutanoic Acid (PFBA)	96		96		67-148	0		30
Perfluoropentanoic Acid (PFPeA)	101		100		63-161	1		30
Perfluorobutanesulfonic Acid (PFBS)	97		96		65-157	1		30
Perfluorohexanoic Acid (PFHxA)	108		106		69-168	2		30
Perfluoroheptanoic Acid (PFHpA)	97		96		58-159	1		30
Perfluorohexanesulfonic Acid (PFHxS)	101		107		69-177	6		30
Perfluorooctanoic Acid (PFOA)	103		102		63-159	1		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	115		107		49-187	7		30
Perfluoroheptanesulfonic Acid (PFHpS)	109		107		61-179	2		30
Perfluorononanoic Acid (PFNA)	104		103		68-171	1		30
Perfluorooctanesulfonic Acid (PFOS)	92		84		52-151	9		30
Perfluorodecanoic Acid (PFDA)	107		108		63-171	1		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	108		106		56-173	2		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	98		100		60-166	2		30
Perfluoroundecanoic Acid (PFUnA)	92		93		60-153	1		30
Perfluorodecanesulfonic Acid (PFDS)	106		100		38-156	6		30
Perfluorooctanesulfonamide (FOSA)	93		91		46-170	2		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	88		95		45-170	8		30
Perfluorododecanoic Acid (PFDoA)	97		96		67-153	1		30
Perfluorotridecanoic Acid (PFTrDA)	103		103		48-158	0		30
Perfluorotetradecanoic Acid (PFTA)	110		108		59-182	2		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: JAMESTOWN CONTAINER **Lab Number:** L1928183
Project Number: N30001001 **Report Date:** 07/15/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 07,10,13-15 Batch: WG1257926-2 WG1257926-3								

Surrogate (Extracted Internal Standard)	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	93		95		2-156
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	105		105		16-173
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	95		95		31-159
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	84		86		21-145
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	88		91		30-139
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	99		96		47-153
Perfluoro[13C8]Octanoic Acid (M8PFOA)	91		93		36-149
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	72		79		1-244
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	97		99		34-146
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	86		95		42-146
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	83		87		38-144
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	80		88		7-170
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	69		66		1-181
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	85		91		40-144
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	28		32		1-87
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	67		65		23-146
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	80		87		24-161
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	82		88		33-143

Matrix Spike Analysis
Batch Quality Control

Project Name:	JAMESTOWN CONTAINER	**Lab Number:**	L1928183
Project Number:	N30001001	**Report Date:**	07/15/19

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
1,4 Dioxane by 8270D-SIM - Mansfield Lab Associated sample(s): 04,07,10,13-14 QC Batch ID: WG1255608-4 WG1255608-5 QC Sample: L1928183-04 Client ID: ESI-3-062619												
1,4-Dioxane	ND	5000	4970	99		5010	100		40-140	1		30

Surrogate	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
1,4-Dioxane-d8	50		47		15-110

Matrix Spike Analysis
Batch Quality Control

Project Name: JAMESTOWN CONTAINER **Lab Number:** L1928183
Project Number: N30001001 **Report Date:** 07/15/19

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 04 QC Batch ID: WG1257924-4 WG1257924-5 QC Sample: L1928183-04 Client ID: ESI-3-062619												
Perfluorobutanoic Acid (PFBA)	3.16	37.6	38.8	95		39.6	102		67-148	2		30
Perfluoropentanoic Acid (PFPeA)	0.817J	37.6	37.4	100		38.5	108		63-161	3		30
Perfluorobutanesulfonic Acid (PFBS)	1.06J	37.6	36.2	96		37.2	104		65-157	3		30
Perfluorohexanoic Acid (PFHxA)	0.664J	37.6	40.4	107		41.3	116		69-168	2		30
Perfluoroheptanoic Acid (PFHpA)	0.653J	37.6	37.0	98		37.9	106		58-159	2		30
Perfluorohexanesulfonic Acid (PFHxS)	1.12J	37.6	40.7	108		42.7	120		69-177	5		30
Perfluorooctanoic Acid (PFOA)	2.29	37.6	39.6	100		41.2	110		63-159	4		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	37.6	40.7	108		46.6	130		49-187	14		30
Perfluoroheptanesulfonic Acid (PFHpS)	ND	37.6	38.8	103		40.9	115		61-179	5		30
Perfluorononanoic Acid (PFNA)	ND	37.6	38.7	103		38.8	109		68-171	0		30
Perfluorooctanesulfonic Acid (PFOS)	1.49J	37.6	34.5	92		34.7	97		52-151	1		30
Perfluorodecanoic Acid (PFDA)	ND	37.6	40.1	107		38.4	108		63-171	4		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	37.6	39.2	104		38.4	108		56-173	2		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	37.6	34.3	91		36.1	101		60-166	5		30
Perfluoroundecanoic Acid (PFUnA)	0.466J	37.6	36.3	97		33.5	94		60-153	8		30
Perfluorodecanesulfonic Acid (PFDS)	ND	37.6	39.7	106		35.7	100		38-156	11		30
Perfluorooctanesulfonamide (FOSA)	ND	37.6	37.2	99		35.6	100		46-170	4		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	37.6	31.9	85		32.5	91		45-170	2		30
Perfluorododecanoic Acid (PFDoA)	0.526J	37.6	38.3	102		36.2	101		67-153	6		30
Perfluorotridecanoic Acid (PFTrDA)	0.436J	37.6	41.0	109		39.0	109		48-158	5		30
Perfluorotetradecanoic Acid (PFTA)	0.444J	37.6	43.6	116		41.2	115		59-182	6		30

Matrix Spike Analysis
Batch Quality Control

Project Name: JAMESTOWN CONTAINER
Project Number: N30001001
Lab Number: L1928183
Report Date: 07/15/19

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab   Associated sample(s): 04   QC Batch ID: WG1257924-4 WG1257924-5   QC Sample: L1928183-04
Client ID: ESI-3-062619

Surrogate (Extracted Internal Standard)	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	84		79		7-170
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	85		78		1-244
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	50		44		23-146
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	50		45		1-181
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	67		64		40-144
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	64		62		38-144
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	64		59		21-145
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	62		57		30-139
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	86		78		47-153
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	63		60		24-161
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	70		66		33-143
Perfluoro[13C4]Butanoic Acid (MPFBA)	69		65		2-156
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	84		78		16-173
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	16		14		1-87
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	78		75		42-146
Perfluoro[13C8]Octanoic Acid (M8PFOA)	70		65		36-149
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	72		69		34-146
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	89		84		31-159

Project Name: JAMESTOWN CONTAINER
Project Number: N30001001

Lab Number: L1928183
Report Date: 07/15/19

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1928183-01A	Vial HCl preserved	A	NA		3.0	Y	Absent		NYTCL-8260-R2(14)
L1928183-01B	Vial HCl preserved	A	NA		3.0	Y	Absent		NYTCL-8260-R2(14)
L1928183-01C	Vial HCl preserved	A	NA		3.0	Y	Absent		NYTCL-8260-R2(14)
L1928183-02A	Vial HCl preserved	A	NA		3.0	Y	Absent		NYTCL-8260-R2(14)
L1928183-02B	Vial HCl preserved	A	NA		3.0	Y	Absent		NYTCL-8260-R2(14)
L1928183-02C	Vial HCl preserved	A	NA		3.0	Y	Absent		NYTCL-8260-R2(14)
L1928183-03A	Vial HCl preserved	A	NA		3.0	Y	Absent		NYTCL-8260-R2(14)
L1928183-03B	Vial HCl preserved	A	NA		3.0	Y	Absent		NYTCL-8260-R2(14)
L1928183-03C	Vial HCl preserved	A	NA		3.0	Y	Absent		NYTCL-8260-R2(14)
L1928183-04A	Vial HCl preserved	A	NA		3.0	Y	Absent		NYTCL-8260-R2(14)
L1928183-04B	Vial HCl preserved	A	NA		3.0	Y	Absent		NYTCL-8260-R2(14)
L1928183-04C	Vial HCl preserved	A	NA		3.0	Y	Absent		NYTCL-8260-R2(14)
L1928183-04D	Amber 250ml unpreserved	A	7	7	3.0	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L1928183-04D1	Amber 250ml unpreserved	A	7	7	3.0	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L1928183-04D2	Amber 250ml unpreserved	A	7	7	3.0	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L1928183-04E	Amber 250ml unpreserved	A	7	7	3.0	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L1928183-04E1	Amber 250ml unpreserved	A	7	7	3.0	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L1928183-04E2	Amber 250ml unpreserved	A	7	7	3.0	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L1928183-04F	Plastic 250ml Trizma preserved	B	NA		2.5	Y	Absent		A2-NY-537-ISOTOPE(14)
L1928183-04F1	Plastic 250ml Trizma preserved	B	NA		2.5	Y	Absent		A2-NY-537-ISOTOPE(14)
L1928183-04F2	Plastic 250ml Trizma preserved	B	NA		2.5	Y	Absent		A2-NY-537-ISOTOPE(14)
L1928183-04G	Plastic 250ml Trizma preserved	B	NA		2.5	Y	Absent		A2-NY-537-ISOTOPE(14)

*Values in parentheses indicate holding time in days

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1928183-04G1	Plastic 250ml Trizma preserved	B	NA		2.5	Y	Absent		A2-NY-537-ISOTOPE(14)
L1928183-04G2	Plastic 250ml Trizma preserved	B	NA		2.5	Y	Absent		A2-NY-537-ISOTOPE(14)
L1928183-05A	Vial HCl preserved	A	NA		3.0	Y	Absent		NYTCL-8260-R2(14)
L1928183-05A1	Vial HCl preserved	A	NA		3.0	Y	Absent		NYTCL-8260-R2(14)
L1928183-05A2	Vial HCl preserved	A	NA		3.0	Y	Absent		NYTCL-8260-R2(14)
L1928183-05B	Vial HCl preserved	A	NA		3.0	Y	Absent		NYTCL-8260-R2(14)
L1928183-05B1	Vial HCl preserved	A	NA		3.0	Y	Absent		NYTCL-8260-R2(14)
L1928183-05B2	Vial HCl preserved	A	NA		3.0	Y	Absent		NYTCL-8260-R2(14)
L1928183-05C	Vial HCl preserved	A	NA		3.0	Y	Absent		NYTCL-8260-R2(14)
L1928183-05C1	Vial HCl preserved	A	NA		3.0	Y	Absent		NYTCL-8260-R2(14)
L1928183-05C2	Vial HCl preserved	A	NA		3.0	Y	Absent		NYTCL-8260-R2(14)
L1928183-06A	Vial HCl preserved	A	NA		3.0	Y	Absent		NYTCL-8260-R2(14)
L1928183-06B	Vial HCl preserved	A	NA		3.0	Y	Absent		NYTCL-8260-R2(14)
L1928183-06C	Vial HCl preserved	A	NA		3.0	Y	Absent		NYTCL-8260-R2(14)
L1928183-07A	Vial HCl preserved	A	NA		3.0	Y	Absent		NYTCL-8260-R2(14)
L1928183-07B	Vial HCl preserved	A	NA		3.0	Y	Absent		NYTCL-8260-R2(14)
L1928183-07C	Vial HCl preserved	A	NA		3.0	Y	Absent		NYTCL-8260-R2(14)
L1928183-07D	Amber 250ml unpreserved	A	7	7	3.0	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L1928183-07E	Amber 250ml unpreserved	A	7	7	3.0	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L1928183-07F	Plastic 250ml Trizma preserved	B	NA		2.5	Y	Absent		A2-NY-537-ISOTOPE(14)
L1928183-07G	Plastic 250ml Trizma preserved	B	NA		2.5	Y	Absent		A2-NY-537-ISOTOPE(14)
L1928183-08A	Vial HCl preserved	A	NA		3.0	Y	Absent		NYTCL-8260-R2(14)
L1928183-08B	Vial HCl preserved	A	NA		3.0	Y	Absent		NYTCL-8260-R2(14)
L1928183-08C	Vial HCl preserved	A	NA		3.0	Y	Absent		NYTCL-8260-R2(14)
L1928183-09A	Vial HCl preserved	A	NA		3.0	Y	Absent		NYTCL-8260-R2(14)
L1928183-09B	Vial HCl preserved	A	NA		3.0	Y	Absent		NYTCL-8260-R2(14)
L1928183-09C	Vial HCl preserved	A	NA		3.0	Y	Absent		NYTCL-8260-R2(14)
L1928183-10D	Amber 250ml unpreserved	A	7	7	3.0	Y	Absent		A2-1,4-DIOXANE-SIM(7)

*Values in parentheses indicate holding time in days

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1928183-10E	Amber 250ml unpreserved	A	7	7	3.0	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L1928183-10F	Plastic 250ml Trizma preserved	B	NA		2.5	Y	Absent		A2-NY-537-ISOTOPE(14)
L1928183-10G	Plastic 250ml Trizma preserved	B	NA		2.5	Y	Absent		A2-NY-537-ISOTOPE(14)
L1928183-11A	Vial HCl preserved	A	NA		3.0	Y	Absent		NYTCL-8260-R2(14)
L1928183-11B	Vial HCl preserved	A	NA		3.0	Y	Absent		NYTCL-8260-R2(14)
L1928183-11C	Vial HCl preserved	A	NA		3.0	Y	Absent		NYTCL-8260-R2(14)
L1928183-12A	Vial HCl preserved	A	NA		3.0	Y	Absent		NYTCL-8260-R2(14)
L1928183-12B	Vial HCl preserved	A	NA		3.0	Y	Absent		NYTCL-8260-R2(14)
L1928183-12C	Vial HCl preserved	A	NA		3.0	Y	Absent		NYTCL-8260-R2(14)
L1928183-13D	Amber 250ml unpreserved	A	7	7	3.0	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L1928183-13E	Amber 250ml unpreserved	A	7	7	3.0	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L1928183-13F	Plastic 250ml Trizma preserved	B	NA		2.5	Y	Absent		A2-NY-537-ISOTOPE(14)
L1928183-13G	Plastic 250ml Trizma preserved	B	NA		2.5	Y	Absent		A2-NY-537-ISOTOPE(14)
L1928183-14D	Amber 250ml unpreserved	A	7	7	3.0	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L1928183-14E	Amber 250ml unpreserved	A	7	7	3.0	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L1928183-14F	Plastic 250ml Trizma preserved	B	NA		2.5	Y	Absent		A2-NY-537-ISOTOPE(14)
L1928183-14G	Plastic 250ml Trizma preserved	B	NA		2.5	Y	Absent		A2-NY-537-ISOTOPE(14)
L1928183-15F	Plastic 250ml Trizma preserved	B	NA		2.5	Y	Absent		A2-NY-537-ISOTOPE(14)
L1928183-16A	Vial HCl preserved	A	NA		3.0	Y	Absent		NYTCL-8260-R2(14)
L1928183-16B	Vial HCl preserved	A	NA		3.0	Y	Absent		NYTCL-8260-R2(14)

*Values in parentheses indicate holding time in days

Project Name: JAMESTOWN CONTAINER **Lab Number:** L1928183
Project Number: N30001001 **Report Date:** 07/15/19

GLOSSARY

Acronyms

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

Footnotes

Report Format: DU Report with 'J' Qualifiers

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

Terms

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

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

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

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

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

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

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the 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 reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

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

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

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

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

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

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

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

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

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

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

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

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

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

Report Format: DU Report with 'J' Qualifiers

REFERENCES

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

122 Determination of Selected Perfluorintated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS). EPA Method 537, EPA/600/R-08/092. Version 1.1, September 2009.

LIMITATION OF LIABILITIES

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

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

Certification Information

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

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

EPA 6860: SCM: Perchlorate

SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

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

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

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, 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: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.**

Mansfield Facility:

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

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

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

ALPHA ANALYTICAL

NEW YORK CHAIN OF CUSTODY

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page 1 of 2

Date Rec'd in Lab 6/28/19

ALPHA Job # L1928183

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Project Information
Project Name: JAMESTOWN CONTAINER
Project Location: 14 DEMING DRIVE
Project # N30001 001
(Use Project name as Project #) ☐
Project Manager: CODY MARTIN
ALPHAQuote #:

Turn-Around Time
Standard ☒ Due Date:
Rush (only if pre approved) ☐ # of Days:

Client Information
Client: C&S ENGINEERS
Address: 141 ELM ST.
Phone: (716)-955-3020
Fax:
Email: RBacker@CSCOS.com

Deliverables
☐ ASP-A ☒ ASP-B
☒ EQuIS (1 File) ☐ EQuIS (4 File)
☐ Other

Billing Information
☒ Same as Client Info
PO # N30001 001

Regulatory Requirement
☒ NY TOGS ☒ NY Part 375
☐ AWQ Standards ☐ NY CP-51
☐ NY Restricted Use ☐ Other
☐ NY Unrestricted Use
☐ NYC Sewer Discharge

Disposal Site Information
Please identify below location of applicable disposal facilities.
Disposal Facility:
☐ NJ ☒ NY
☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Please specify Metals or TAL.

ANALYSIS

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	8260 VOC	PFAS/PFAS	1-4 Dioxane						Sample Specific Comments	Total Bottle
28183-01	ESI-10-062519	6/25/19	11:55	GW	RB	X									3
02	ESI-11-062519	6/25/19	1:45	GW	RB	X									3
03	ESI-12-062519	6/25/19	2:30	GW	RB	X									3
04	ESI-3-062419	6/24/19	10:00	GW	RB	X	X	X							7
05	MS-PW-1-062419	6/24/19	10:33	GW	RB	X									3
↓	MSD-PW-1-062419	6/24/19	10:33	GW	RB	X									3
	PW-1-062419	6/24/19	10:33	GW	RB	X									3
06	Dup-ESI-1-062419	6/24/19	11:10	GW	RB	X									3
07	ESI-1-062419	6/24/19	11:10	GW	RB	X	X	X							7
08	ESI-13R-062419	6/24/19	11:45	GW	RB	X									3
	Container Type					V	P	A							
	Preservative					B	O	A							

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	6/27 10:06	J. Donum AAL	6/27/19 10:06
J. Donum AAL	6/27/19 10:50	[signature]	6/28/19 03:10

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)

Form No: 01-25 HC (rev. 30-Sept-2013)

NEW YORK CHAIN OF CUSTODY

ALPHA ANALYTICAL

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page 2 of 2

Date Rec'd in Lab: 6/28/19

ALPHA Job #: L1928183

Project Information

Project Name: JAMESTOWN CONTAINER
Project Location: 14 DEMING DRIVE
Project #: N30001 001
(Use Project name as Project #) ☐
Project Manager: CODY MARTIN
ALPHAQuote #:

Client Information

Client: C&S ENGINEERS
Address: 141 ELM ST.
Phone: (716)-955-3020
Fax:
Email: rbeckert@cscos.com

Turn-Around Time

Standard ☑ Due Date:
Rush (only if pre approved) ☐ # of Days:

Deliverables

☐ ASP-A ☒ ASP-B
☑ EQuIS (1 File) ☐ EQuIS (4 File)
☐ Other

Billing Information

☑ Same as Client Info
PO # N30 001 001

Regulatory Requirement

☑ NY TOGS ☒ NY Part 375
☐ AWQ Standards ☐ NY CP-51
☐ NY Restricted Use ☐ Other
☐ NY Unrestricted Use
☐ NYC Sewer Discharge

Disposal Site Information

Please identify below location of applicable disposal facilities.
Disposal Facility:
☐ NJ ☑ NY
☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Please specify Metals or TAL.

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	8260 VOC	PFOS/PFAS	1-4 DIOXANE							Sample Specific Comments	Total Bottles
28183-09	ESI-6-062419	6/24/19	12:20	GW	RB	X										3
10	ESI-4-062419	6/24/19	1:00	GW	RB		X	X								4
11	RW-3R-062419	6/24/19	1:35	GW	RB	X										3
12	ESI-2-062419	6/24/19	2:20	GW	RB	X										3
04	MS-ESI-3-062419	6/24/19	10:00	GW	RB		X	X								4
04	MSD-ESI-3-062419	6/24/19	10:00	GW	RB		X	X								4
13	DUP-ESI4-062419	6/24/19	1:00	GW	RB		X	X								4
14	Equipment BLANK-062419	6/24/19	4:00	GW	RB		X	X								4
15	FIELD BLANK	6/24/19	3:00	GW	RB		X									2
16	TRIP BLANK	6/24/19	3:00	GW	RB	X										2

	8260 VOC	PFOS/PFAS	1-4 DIOXANE
Container Type	V	P	A
Preservative	B	D	A

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Relinquished By:	Date/Time	Received By:	Date/Time
R. Beckert	6/27 10:20	J. Hoover AAL	6/27/19 10:20
J. Hoover AAL	6/27/19 10:50	[signature]	6/28/19 09:40

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)

Form No: 01-25 HC (rev. 30-Sept-2013)

DATA USABILITY SUMMARY REPORT (DUSR)

Site: Jamestown Container
Jamestown, NY
Project # N30001.001

SDGs: L1928183

16 Water Samples

Prepared for:

C&S Companies
141 Elm Street, Suite 100
Buffalo, NY 14203
Attention: Cody Martin

January 2020

EDU Environmental Data Usability 10028 Deer Park Dr. Dansville, NY 14437 585.991.9156

Table of Contents

Tables

REVIEWER'S NARRATIVE
C & S Companies – SDG L1928183

The data associated with this Sample Delivery Group (SDGs), analyzed by ALPHA Analytical Westborough, MA have been reviewed in accordance with assessment criteria provided by the New York State Department of Environmental Conservation following the review procedures provided in the USEPA Functional Guidelines for evaluating organic and inorganic data.

All analytical results reported by the laboratory are considered valid and acceptable except results that have been qualified as rejected, "R". Results qualified as estimated "J", or as non-detects, "U", are considered usable for the purpose of evaluating water and/or soil quality. However, these qualifiers indicate that the accuracy and/or precision of the analytical result is questionable. A summary of all data that have been qualified and the reasons for qualification are provided in the following data usability summary report (DUSR).

Two facts should be noted by all data users. First, the "R" qualifier means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the analyte is present or not. Values qualified with an "R" should not appear on the final data tables because they cannot be relied upon, even as the last resort. Second, no analyte concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data, but any value potentially contains error.

Reviewer's Signature: Michael K. Perry   Date: 1/29/20
Michael K. Perry
Chemist

1.0 SUMMARY

SITE:	Jamestown Container 14 Deming Drive Jamestown, NY 14701
SAMPLING DATE:	June 25 and 26, 2019
SAMPLE TYPE:	16 water samples
LABORATORY:	ALPHA Analytical Westborough, MA
SDG No.:	L1928183

2.0 INTRODUCTION

This data usability summary report (DUSR) was prepared in accordance with guidance provided by the New York State Department of Environmental Conservation (NYSDEC). The DUSR is based on a review and evaluation of the laboratory analytical data package. Specifically, the NYSDEC guidance recommends review and evaluation of the following elements of the data package:

- Completeness of the data package as defined under the requirements of the NYSDEC Analytical Services Protocols (ASP) Category B or the United States Environmental Protection Agency (USEPA) Contract Laboratory Program (CLP) deliverables,
- Compliance with established analyte holding times,
- Adherence to quality control (QC) limits and specifications for blanks, instrument tuning and calibration, surrogate recoveries, spike recoveries, laboratory duplicate analyses, and other QC criteria,
- Adherence to established analytical protocols,
- Conformance of data summary sheets with raw analytical data, and
- Use of correct data qualifiers.

Data deficiencies, analytical protocol deviations, and quality control problems identified using the review criteria above and their effect on the analytical results are discussed in this report.

3.0 SAMPLE AND ANALYSIS SUMMARY

The data package consists of analytical results for sixteen water samples collected on June 25 and 26, 2019. These samples were analyzed for Volatile Organic Compounds, 1,4-Dioxane, and PFAAs.

All laboratory analyses were performed by ALPHA Analytical, Westborough, MA and analyzed as SDG L1928183. The analytical results were provided in NYSDEC ASP Category B format, which includes all raw analytical data and laboratory QC data.

4.0 GUIDANCE DOCUMENTS AND DATA REVIEW CRITERIA

The guidance documents used for reviewing laboratory quality control (QC) data and assigning data qualifiers (flags) to analytical results are listed in Table 4-1. The QC limits established in the documents applicable to this data review were used to assess the quality of the analytical results. In some cases, however, QC limits established internally by the laboratory were taken into account to determine data quality.

The QC criteria considered for assessing the usability of the reported analytical results provided for each analyte type (i.e. VOCs, SVOCs, metals, etc.) are listed in Table 4-2. These criteria may vary with the analytical method utilized by the laboratory. These criteria comply with the guidance recommended in Section 2.0 above.

5.0 DATA VALIDATION QUALIFIERS

The letter qualifiers (flags) used to define data usability are described briefly below. These letters are assigned by the data validator to analytical results having questionable accuracy and/or precision as determined by reviewing the laboratory QC data associated with the analytical results.

TABLE 4-1

DATA VALIDATION GUIDANCE DOCUMENTS

Analyte Type	Validation Guidance
VOCs	USEPA, 2008, Validating Volatile Organic Compounds By Gas Chromatography/Mass Spectrometry; SW-846 Method 8260B; SOP # HW-24, Rev. 2. USEPA, 2008, Statement of Work for Organic Analysis of Low/Medium Concentration of Volatile Organic Compounds SOM01.2; SOP HW-33, Rev. 2.
SVOCs	USEPA, 2007, Statement of Work for Organic Analysis of Low/Medium Concentration of Semivolatile Organic Compounds SOM01.2; SOP HW-35, Rev. 1.
Pesticides/PCBs	USEPA, 2006, CLP Organics Data Review and Preliminary Review (CLP/SOW OLMO 4.3); SOP # HW-6, Rev. 14, Part C.
Metals	USEPA, 2006, Validation of Metals for the Contract Laboratory Program (CLP) based on SOW ILMO 5.3 (SOP Revision 13), SOP # HW-2, Rev. 13.
Gen Chemistry	NYSDEC, 2005, Analytical Services Protocols (ASP)
VOCs (Ambient air)	USEPA, 2006, Validating Air Samples, Volatile Organic Analysis of Ambient Air in Canister by Method TO-15; SOP # HW-31, Rev. 4.
Perfluoroalkyl Substances (PFASs)	USEPA, 2018, Data Review and Validation Guidelines for Perfluoroalkyl Substances (PFASs) Analyzed Using EPA Method 537

TABLE 4-2

QUALITY CONTROL CRITERIA USED FOR VALIDATING LABORATORY ANALYTICAL DATA

VOCs	SVOCs	Pesticides/PCBs	Metals	Gen Chemistry	Method TO-15
Completeness of Pkg Sample Preservation Holding Time System Monitoring Compounds Lab Control Sample Matrix Spikes Blanks Instrument Tuning Internal Standards Initial Calibration Continuing Calibration Lab Qualifiers Field Duplicate	Completeness of Pkg Sample Preservation Holding Time Surrogate Recoveries Lab Control Sample Matrix Spikes Blanks Instrument Tuning Internal Standards Initial Calibration Continuing Calibration Lab Qualifiers Field Duplicate	Completeness of Pkg Sample Preservation Holding Time Surrogate Recoveries Matrix Spikes Blanks Instrument Calibration & Verification Analyte ID Lab Qualifiers Field Duplicate	Completeness of Pkg Sample Preservation Holding Time Initial/Continuing Calibration CRDL Standards Blanks Interference Check Sample Spike Recoveries Lab Duplicate Lab Control Sample ICP Serial Dilutions Lab Qualifiers Field Duplicate	Completeness of Pkg Sample Preservation Holding Times Calibration Lab Control Samples Blanks Spike Recoveries Lab Duplicates	Completeness of Pkg Sample Preservation Holding Time Canister Certification Lab Control Sample Instrument Tuning Blanks Initial Calibration & System Performance Daily Calibration Field Duplicate

PFASs
Completeness of Pkg Sample Preservation Holding Time Instr Performance Check Initial Calibration Continuing Calibration Blanks Surrogates Lab Fortified Blank Matrix Spikes Internal Standards

The laboratory may also use various letters and symbols to flag analytical results generated when QC limits were exceeded. The meanings of these flags may differ from those used by the independent data validator. Those used by the laboratory are provided with the analytical results.

NOTE: The assignment of data qualifiers by the data reviewer (validator) to laboratory analytical results should not necessarily be interpreted by the data user as a measure of laboratory ability or proficiency. Rather, the qualifiers are intended to provide a measure of data accuracy and precision to the data user, which, for example, may provide a level of confidence in determining whether or not standards or cleanup objectives have been met.

U The analyte was analyzed for but was not detected at or above the sample quantitation limit.

J The analyte was positively identified; the associated numerical value is the *approximate* concentration of the analyte in the sample. (The magnitude of any ± value associated with the result is not determined by data validation).

UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is *approximate* and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R The sample result is rejected (i.e., is unusable) due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification".

JN The analyte is considered to be "presumptively present." The associated numerical value represents its *approximate* concentration.

The validated analytical results are attached to this report. Validation qualifiers (flags) are indicated using red ink. Data sheets having qualified data are signed and dated by the data reviewer.

6.0 RESULTS OF THE DATA REVIEW

The results of the data review are summarized in Tables 6-1 through 6-3. The tables list the samples where QC criteria were found to exceed acceptable limits and the actions taken to qualify the associated analytical results.

7.0 TOTAL USABLE DATA

For SDG L1928183, sixteen samples were analyzed and results were reported for 827 analytes. Even though some results were flagged with a "J" as estimated, all results (100 %) are considered usable. See the summary table for the analyses that have been rejected and the associated QC reasons.

Table 6-1 **VOCs**

SAMPLES AFFECTED	ANALYTES	ACTION	QC VIOLATION	COMMENTS
PW-3R	Chloroethane	J detects	LCS > QC limit	No data was affected
PW-1	Naphthalene	J detects/ UJ non-detects	MS < QC limit	Data may be biased low
ESI-10 ESI-11 ESI-12 ESI-3	sec-Butlybenzene	J detects/ UJ non-detects	CCV outside QC limit	Data may be biased low
DUP-ESI-1 ESI-1 ESI-13R PW-3R ESI-2	Bromomethane	J detects/ UJ non-detects	CCV outside QC limit	Data may be biased low
ESI-6	Bromomethane Naphthalene	J detects/ UJ non-detects	CCV outside QC limit	Data may be biased low
PW-1	Bromoform trans-1,3-dichloropropene	J detects/ UJ non-detects	CCV outside QC limit	Data may be biased low
ESI-3 PW-1 DUP-ESI-1 ESI-1 ESI-13R PW-3R	Acetone	CRQL-U	Detected in the trip blank	Sample results changed to non-detects
ESI-10 ESI-6	Acetone	J detects	Detected in the trip blank	Data is estimated

Table 6-2 1,4-Dioxane

SAMPLES AFFECTED	ANALYTES	ACTION	QC VIOLATION	COMMENTS
none			none	

Table 6-3 PFAAs

SAMPLES AFFECTED	ANALYTES	ACTION	QC VIOLATION	COMMENTS
ES-3	PFDoA PFTrDA PFTA	CRQL-U	Detected in the method blank	Sample results changed to non-detects
ES-3	PFHxA PFDA PFUnAPFDoA PFTrDA PFTA	J detects	CCV > 150 %	No data was affected

ACRONYMS

BSP	Blank Spike
CCAL	Continuing Calibration
CCB	Continuing Calibration Blank
CCV	Continuing Calibration Verification
CRDL	Contract Required Detection Limit
CRQL	Contract Required Quantitation Limit
%D	Percent Difference
ICAL	Initial Calibration
ICB	Initial Calibration Blank
IS	Internal Standard
LCS	Laboratory Control Sample
MS/MSD	Matrix Spike/Matrix Spike Duplicate
QA	Quality Assurance
QC	Quality Control
%R	Percent recovery
RPD	Relative Percent Difference
RRF	Relative Response Factor
%RSD	Percent Relative Standard Deviation
TAL	Target Analyte List (metals)
TCL	Target Compound List (organics)

Appendix A

Validated Analytical Results

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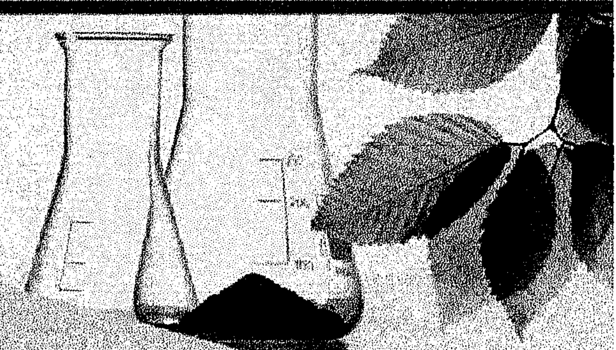

Alpha Analytical

Laboratory Code: 11148

SDG Number: L1928183

Case Narrative (continued)

Report Submission

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

Volatile Organics

L1928183-11D2: Headspace was noted in the sample container utilized for analysis.

L1928183-11: Differences were noted between the results of the analyses which have been attributed to vial discrepancies. Further re-analysis could not be performed due to the existing vials being compromised.

Perfluorinated Alkyl Acids by Isotope Dilution

WG1258087-7: The continuing calibration standard had the response for Perfluoroctanesulfonic Acid-Branched (br-PFOS) outside of acceptance criteria. The response for Perfluorooctanesulfonic Acid (PFOS) was within acceptance criteria; therefore, no further action was taken.

WG1258709-3: The continuing calibration standard had the response for PFHxA, PFDA, PFUnA, PFDoA, PFTrDA, and PFTA above the acceptance criteria for the method. The associated samples were non-detect to the RL for these target analytes; therefore, no further action was taken.

WG1258709-1: The continuing calibration standard had the response for Perfluoroctanesulfonic Acid-Branched (br-PFOS) outside of acceptance criteria. The response for Perfluorooctanesulfonic Acid (PFOS) was within acceptance criteria; therefore, no further action was taken.

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 Report Date: 07/15/19

Title: Technical Director/Representative

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1928183-01	ESI-10-062519	WATER	14 DEMING DRIVE	06/25/19 11:55	06/27/19
L1928183-02	ESI-11-062519	WATER	14 DEMING DRIVE	06/25/19 13:45	06/27/19
L1928183-03	ESI-12-062519	WATER	14 DEMING DRIVE	06/25/19 14:30	06/27/19
L1928183-04	ESI-3-062619	WATER	14 DEMING DRIVE	06/26/19 10:00	06/27/19
L1928183-05	PW-1-062619	WATER	14 DEMING DRIVE	06/26/19 10:33	06/27/19
L1928183-06	DUP-ESI-1-062619	WATER	14 DEMING DRIVE	06/26/19 11:10	06/27/19
L1928183-07	ESI-1-062619	WATER	14 DEMING DRIVE	06/26/19 11:10	06/27/19
L1928183-08	ESI-13R-062619	WATER	14 DEMING DRIVE	06/26/19 11:45	06/27/19
L1928183-09	ESI-6-062619	WATER	14 DEMING DRIVE	06/26/19 12:20	06/27/19
L1928183-10	ESI-4-062619	WATER	14 DEMING DRIVE	06/26/19 13:00	06/27/19
L1928183-11	PW-3R-062619	WATER	14 DEMING DRIVE	06/26/19 13:35	06/27/19
L1928183-12	ESI-2-062619	WATER	14 DEMING DRIVE	06/26/19 14:20	06/27/19
L1928183-13	DUP-ESI4-062619	WATER	14 DEMING DRIVE	06/26/19 13:00	06/27/19
L1928183-14	EQUIPMENT BLANK-062619	WATER	14 DEMING DRIVE	06/26/19 16:00	06/27/19
L1928183-15	FIELD BLANK	WATER	14 DEMING DRIVE	06/26/19 15:00	06/27/19
L1928183-16	TRIP BLANK	WATER	14 DEMING DRIVE	06/26/19 15:00	06/27/19

ALPHA ANALYTICAL

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

NEW YORK CHAIN OF CUSTODY

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Page 1 of 2

Date Rec'd in Lab: 6/28/19

ALPHA Job #: L1928183

Project Information
Project Name: JAMESTOWN CONTAINER
Project Location: 14 DEMING DRIVE
Project #: N30001 001
(Use Project name as Project #) ☐
Project Manager: CODY MARTIN
ALPHAQuote #:

Turn-Around Time
Standard ☒ Due Date:
Rush (only if pre approved) ☐ # of Days:

Client Information
Client: CES ENGINEERS
Address: 141 ELM ST.
Phone: (716)-955-3020
Fax:
Email: ZBeckett@CSCOS.com

Deliverables
☐ ASP-A ☒ ASP-B
☒ EQuIS (1 File) ☐ EQuIS (4 File)
☐ Other

Regulatory Requirement
☒ NY TOGS ☒ NY Part 375
☐ AWQ Standards ☐ NY CP-51
☐ NY Restricted Use ☐ Other
☐ NY Unrestricted Use
☐ NYC Sewer Discharge

Billing Information
☒ Same as Client Info
PO # N30001 001

Disposal Site Information
Please identify below location of applicable disposal facilities.
Disposal Facility:
☐ NJ ☒ NY
☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Please specify Metals or TAL.

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	8260 VOC	PFAS/PFNS	1-4 Dioxane	Sample Specific Comments	Total Bottles
28183-01	ESI-10-062519	6/25/19	11:55	GW	RB	X				3
02	ESI-11-062519	6/25/19	1:45	GW	RB	X				3
03	ESI-12-062519	6/25/19	2:30	GW	RB	X				3
04	ESI-3-062419	6/24/19	10:00	GW	RB	X	X	X		7
05	MS-PW-1-062419	6/24/19	10:33	GW	RB	X				3
↓	MSD-PW-1-062419	6/24/19	10:33	GW	RB	X				3
	PW-1-062419	6/24/19	10:33	GW	RB	X				3
06	Dup-ESI-1-062419	6/24/19	11:10	GW	RB	X				3
07	ESI-1-062419	6/24/19	11:10	GW	RB	X	X	X		7
08	ESI-13R-062419	6/24/19	11:45	GW	RB	X				3

	8260 VOC	PFAS/PFNS	1-4 Dioxane
Container Type	V	P	A
Preservative	B	O	A

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	6/27 1000	J. Doman AAL	6/27/19 1000
J. Doman AAL	6/27/19 1050	[signature]	6/28/19 0210

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)

Form No: 01-25 HC (rev. 30-Sept-2013)

ALPHA

NEW YORK CHAIN OF CUSTODY

Westborough, MA 01581, 8 Walkup Dr., TEL: 508-898-9220, FAX: 508-898-9193

Mansfield, MA 02048, 320 Forbes Blvd, TEL: 508-822-9300, FAX: 508-822-3288

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
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Page 2 of 2

Date Rec'd in Lab: 6/28/19

ALPHA Job #: L1928183

Project Information
Project Name: JAMESTOWN CONTAINER
Project Location: 14 DEMING DRIVE
Project #: N30001 001
(Use Project name as Project #) ☐
Project Manager: Cody Martin
ALPHAQuote #:

Turn-Around Time
Standard ☑ Due Date:
Rush (only if pre approved) ☐ # of Days:

Client Information
Client: C&S Engineers
Address: 141 Elm St.
Phone: 716-955-3020
Fax:
Email: ebeckert@cscos.com

Deliverables
☐ ASP-A ☒ ASP-B
☑ EQuIS (1 File) ☐ EQuIS (4 File)
☐ Other

Billing Information
☑ Same as Client Info
PO # N30 001 001

Regulatory Requirement
☑ NY TOGS ☒ NY Part 375
☐ AWQ Standards ☐ NY CP-51
☐ NY Restricted Use ☐ Other
☐ NY Unrestricted Use
☐ NYC Sewer Discharge

Disposal Site Information
Please identify below location of applicable disposal facilities.
Disposal Facility: ☐ NJ ☒ NY ☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Please specify Metals or TAL.

ANALYSIS

Sample Filtration: ☐ Done ☐ Lab to do
Preservation: ☐ Lab to do
(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	8260 VOC	PFOS/PFAS	1-4 Dioxane	Sample Specific Comments	Total Bottles
28183-09	ESI-6-062419	6/21/19	12:20	GW	RB	X				3
10	ESI-4-062419	6/26/19	1:00	GW	RB		X	X		4
11	RW-3R-062419	6/26/19	1:35	GW	RB	X				3
12	ESI-2-062619	6/26/19	2:20	GW	RB	X				3
04	MS-ESI-3-062419	6/24/19	10:00	GW	RB		X	X		4
04	MSD-ESI-3-062419	6/24/19	10:00	GW	RB		X	X		4
13	DUP-ESI4-062419	6/24/19	1:00	GW	RB		X	X		4
14	Equipment Blank-062419	6/11/19	4:00	GW	RB		X	X		4
15	Field Blank	6/26/19	[illegible]	GW	RB		X			2
16	Trip Blank	6/26/19	3:00	GW	RB	X				2

	8260 VOC	PFOS/PFAS	1-4 Dioxane
Container Type	V	P	A
Preservative	B	D	A

Preservative Code: A = None, B = HCl, C = HNO_3, D = H_2SO_4, E = NaOH, F = MeOH, G = $NaHSO_4$, H = $Na_2S_2O_3$, K/E = Zn Ac/NaOH, O = Other

Container Code: P = Plastic, A = Amber Glass, V = Vial, G = Glass, B = Bacteria Cup, C = Cube, O = Other, E = Encore, D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	6/27 10:00	[signature] AAL	6/27/19 10:00
[signature] AAL	6/27/19 10:50	[signature]	6/28/19 09:40

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)

Form No: 01-25 HC (rev. 30-Sept-2013)

Results Summary
Form 1
Volatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L1928183
Project Name	: JAMESTOWN CONTAINER	Project Number	: N30001001
Lab ID	: L1928183-01	Date Collected	: 06/25/19 11:55
Client ID	: ESI-10-062519	Date Received	: 06/27/19
Sample Location	: 14 DEMING DRIVE	Date Analyzed	: 07/05/19 10:27
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260C	Analyst	: KJD
Lab File ID	: V22190705A07	Instrument ID	: VOA122
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/L			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
75-09-2	Methylene chloride	ND	2.5	0.70	U
75-34-3	1,1-Dichloroethane	ND	2.5	0.70	U
67-66-3	Chloroform	ND	2.5	0.70	U
56-23-5	Carbon tetrachloride	ND	0.50	0.13	U
78-87-5	1,2-Dichloropropane	ND	1.0	0.14	U
124-48-1	Dibromochloromethane	ND	0.50	0.15	U
79-00-5	1,1,2-Trichloroethane	ND	1.5	0.50	U
127-18-4	Tetrachloroethene	0.22	0.50	0.18	J
108-90-7	Chlorobenzene	ND	2.5	0.70	U
75-69-4	Trichlorofluoromethane	ND	2.5	0.70	U
107-06-2	1,2-Dichloroethane	ND	0.50	0.13	U
71-55-6	1,1,1-Trichloroethane	ND	2.5	0.70	U
75-27-4	Bromodichloromethane	ND	0.50	0.19	U
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.16	U
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.14	U
75-25-2	Bromoform	ND	2.0	0.65	U
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.17	U
71-43-2	Benzene	ND	0.50	0.16	U
108-88-3	Toluene	ND	2.5	0.70	U
100-41-4	Ethylbenzene	ND	2.5	0.70	U
74-87-3	Chloromethane	ND	2.5	0.70	U
74-83-9	Bromomethane	ND	2.5	0.70	U
75-01-4	Vinyl chloride	ND	1.0	0.07	U
75-00-3	Chloroethane	ND	2.5	0.70	U
75-35-4	1,1-Dichloroethene	ND	0.50	0.17	U

Results Summary
Form 1
Volatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L1928183
Project Name	: JAMESTOWN CONTAINER	Project Number	: N30001001
Lab ID	: L1928183-01	Date Collected	: 06/25/19 11:55
Client ID	: ESI-10-062519	Date Received	: 06/27/19
Sample Location	: 14 DEMING DRIVE	Date Analyzed	: 07/05/19 10:27
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260C	Analyst	: KJD
Lab File ID	: V22190705A07	Instrument ID	: VOA122
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

CAS NO.	Parameter	Results (ug/L)	RL (ug/L)	MDL (ug/L)	Qualifier
156-60-5	trans-1,2-Dichloroethene	0.80	2.5	0.70	J
79-01-6	Trichloroethene	84	0.50	0.18	
95-50-1	1,2-Dichlorobenzene	ND	2.5	0.70	U
541-73-1	1,3-Dichlorobenzene	ND	2.5	0.70	U
106-46-7	1,4-Dichlorobenzene	ND	2.5	0.70	U
1634-04-4	Methyl tert butyl ether	ND	2.5	0.70	U
179601-23-1	p/m-Xylene	ND	2.5	0.70	U
95-47-6	o-Xylene	ND	2.5	0.70	U
156-59-2	cis-1,2-Dichloroethene	61	2.5	0.70	
100-42-5	Styrene	ND	2.5	0.70	U
75-71-8	Dichlorodifluoromethane	ND	5.0	1.0	U
67-64-1	Acetone	9.6 J	5.0	1.5	
75-15-0	Carbon disulfide	ND	5.0	1.0	U
78-93-3	2-Butanone	ND	5.0	1.9	U
108-10-1	4-Methyl-2-pentanone	ND	5.0	1.0	U
591-78-6	2-Hexanone	ND	5.0	1.0	U
106-93-4	1,2-Dibromoethane	ND	2.0	0.65	U
104-51-8	n-Butylbenzene	ND	2.5	0.70	U
135-98-8	sec-Butylbenzene	ND UJ	2.5	0.70	U
98-06-6	tert-Butylbenzene	ND	2.5	0.70	U
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.5	0.70	U
98-82-8	Isopropylbenzene	ND	2.5	0.70	U
99-87-6	p-Isopropyltoluene	ND	2.5	0.70	U
91-20-3	Naphthalene	ND	2.5	0.70	U
103-65-1	n-Propylbenzene	ND	2.5	0.70	U

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Results Summary
Form 1
Volatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L1928183
Project Name	: JAMESTOWN CONTAINER	Project Number	: N30001001
Lab ID	: L1928183-01	Date Collected	: 06/25/19 11:55
Client ID	: ESI-10-062519	Date Received	: 06/27/19
Sample Location	: 14 DEMING DRIVE	Date Analyzed	: 07/05/19 10:27
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260C	Analyst	: KJD
Lab File ID	: V22190705A07	Instrument ID	: VOA122
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

CAS NO.	Parameter	Results (ug/L)	RL (ug/L)	MDL (ug/L)	Qualifier
120-82-1	1,2,4-Trichlorobenzene	ND	2.5	0.70	U
108-67-8	1,3,5-Trimethylbenzene	ND	2.5	0.70	U
95-63-6	1,2,4-Trimethylbenzene	ND	2.5	0.70	U
79-20-9	Methyl Acetate	ND	2.0	0.23	U
110-82-7	Cyclohexane	ND	10	0.27	U
76-13-1	Freon-113	ND	2.5	0.70	U
108-87-2	Methyl cyclohexane	ND	10	0.40	U

Results Summary
Form 1
Volatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L1928183
Project Name	: JAMESTOWN CONTAINER	Project Number	: N30001001
Lab ID	: L1928183-02	Date Collected	: 06/25/19 13:45
Client ID	: ESI-11-062519	Date Received	: 06/27/19
Sample Location	: 14 DEMING DRIVE	Date Analyzed	: 07/05/19 10:55
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260C	Analyst	: KJD
Lab File ID	: V22190705A08	Instrument ID	: VOA122
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

CAS NO.	Parameter	Results (ug/L)	RL (ug/L)	MDL (ug/L)	Qualifier
75-09-2	Methylene chloride	ND	2.5	0.70	U
75-34-3	1,1-Dichloroethane	ND	2.5	0.70	U
67-66-3	Chloroform	ND	2.5	0.70	U
56-23-5	Carbon tetrachloride	ND	0.50	0.13	U
78-87-5	1,2-Dichloropropane	ND	1.0	0.14	U
124-48-1	Dibromochloromethane	ND	0.50	0.15	U
79-00-5	1,1,2-Trichloroethane	ND	1.5	0.50	U
127-18-4	Tetrachloroethene	ND	0.50	0.18	U
108-90-7	Chlorobenzene	ND	2.5	0.70	U
75-69-4	Trichlorofluoromethane	ND	2.5	0.70	U
107-06-2	1,2-Dichloroethane	ND	0.50	0.13	U
71-55-6	1,1,1-Trichloroethane	ND	2.5	0.70	U
75-27-4	Bromodichloromethane	ND	0.50	0.19	U
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.16	U
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.14	U
75-25-2	Bromoform	2.4	2.0	0.65	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.17	U
71-43-2	Benzene	ND	0.50	0.16	U
108-88-3	Toluene	ND	2.5	0.70	U
100-41-4	Ethylbenzene	ND	2.5	0.70	U
74-87-3	Chloromethane	ND	2.5	0.70	U
74-83-9	Bromomethane	ND	2.5	0.70	U
75-01-4	Vinyl chloride	ND	1.0	0.07	U
75-00-3	Chloroethane	ND	2.5	0.70	U
75-35-4	1,1-Dichloroethene	ND	0.50	0.17	U

ALPHA ANALYTICAL

Results Summary
Form 1
Volatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L1928183
Project Name	: JAMESTOWN CONTAINER	Project Number	: N30001001
Lab ID	: L1928183-02	Date Collected	: 06/25/19 13:45
Client ID	: ESI-11-062519	Date Received	: 06/27/19
Sample Location	: 14 DEMING DRIVE	Date Analyzed	: 07/05/19 10:55
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260C	Analyst	: KJD
Lab File ID	: V22190705A08	Instrument ID	: VOA122
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

CAS NO.	Parameter	Results (ug/L)	RL (ug/L)	MDL (ug/L)	Qualifier
156-60-5	trans-1,2-Dichloroethene	ND	2.5	0.70	U
79-01-6	Trichloroethene	ND	0.50	0.18	U
95-50-1	1,2-Dichlorobenzene	ND	2.5	0.70	U
541-73-1	1,3-Dichlorobenzene	ND	2.5	0.70	U
106-46-7	1,4-Dichlorobenzene	ND	2.5	0.70	U
1634-04-4	Methyl tert butyl ether	ND	2.5	0.70	U
179601-23-1	p/m-Xylene	ND	2.5	0.70	U
95-47-6	o-Xylene	ND	2.5	0.70	U
156-59-2	cis-1,2-Dichloroethene	ND	2.5	0.70	U
100-42-5	Styrene	ND	2.5	0.70	U
75-71-8	Dichlorodifluoromethane	ND	5.0	1.0	U
67-64-1	Acetone	24	5.0	1.5	
75-15-0	Carbon disulfide	ND	5.0	1.0	U
78-93-3	2-Butanone	ND	5.0	1.9	U
108-10-1	4-Methyl-2-pentanone	ND	5.0	1.0	U
591-78-6	2-Hexanone	ND	5.0	1.0	U
106-93-4	1,2-Dibromoethane	ND	2.0	0.65	U
104-51-8	n-Butylbenzene	ND	2.5	0.70	U
135-98-8	sec-Butylbenzene	ND UJ	2.5	0.70	U
98-06-6	tert-Butylbenzene	ND	2.5	0.70	U
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.5	0.70	U
98-82-8	Isopropylbenzene	ND	2.5	0.70	U
99-87-6	p-Isopropyltoluene	ND	2.5	0.70	U
91-20-3	Naphthalene	ND	2.5	0.70	U
103-65-1	n-Propylbenzene	ND	2.5	0.70	U

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Results Summary
Form 1
Volatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L1928183
Project Name	: JAMESTOWN CONTAINER	Project Number	: N30001001
Lab ID	: L1928183-02	Date Collected	: 06/25/19 13:45
Client ID	: ESI-11-062519	Date Received	: 06/27/19
Sample Location	: 14 DEMING DRIVE	Date Analyzed	: 07/05/19 10:55
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260C	Analyst	: KJD
Lab File ID	: V22190705A08	Instrument ID	: VOA122
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

CAS NO.	Parameter	ug/L Results	RL	MDL	Qualifier
120-82-1	1,2,4-Trichlorobenzene	ND	2.5	0.70	U
108-67-8	1,3,5-Trimethylbenzene	ND	2.5	0.70	U
95-63-6	1,2,4-Trimethylbenzene	ND	2.5	0.70	U
79-20-9	Methyl Acetate	ND	2.0	0.23	U
110-82-7	Cyclohexane	ND	10	0.27	U
76-13-1	Freon-113	ND	2.5	0.70	U
108-87-2	Methyl cyclohexane	ND	10	0.40	U

ALPHA ANALYTICAL

Results Summary
Form 1
Volatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L1928183
Project Name	: JAMESTOWN CONTAINER	Project Number	: N30001001
Lab ID	: L1928183-03	Date Collected	: 06/25/19 14:30
Client ID	: ESI-12-062519	Date Received	: 06/27/19
Sample Location	: 14 DEMING DRIVE	Date Analyzed	: 07/05/19 11:24
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260C	Analyst	: KJD
Lab File ID	: V22190705A09	Instrument ID	: VOA122
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

CAS NO.	Parameter	Results (ug/L)	RL (ug/L)	MDL (ug/L)	Qualifier
75-09-2	Methylene chloride	ND	2.5	0.70	U
75-34-3	1,1-Dichloroethane	ND	2.5	0.70	U
67-66-3	Chloroform	ND	2.5	0.70	U
56-23-5	Carbon tetrachloride	ND	0.50	0.13	U
78-87-5	1,2-Dichloropropane	ND	1.0	0.14	U
124-48-1	Dibromochloromethane	ND	0.50	0.15	U
79-00-5	1,1,2-Trichloroethane	ND	1.5	0.50	U
127-18-4	Tetrachloroethene	ND	0.50	0.18	U
108-90-7	Chlorobenzene	ND	2.5	0.70	U
75-69-4	Trichlorofluoromethane	ND	2.5	0.70	U
107-06-2	1,2-Dichloroethane	ND	0.50	0.13	U
71-55-6	1,1,1-Trichloroethane	ND	2.5	0.70	U
75-27-4	Bromodichloromethane	ND	0.50	0.19	U
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.16	U
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.14	U
75-25-2	Bromoform	2.8	2.0	0.65	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.17	U
71-43-2	Benzene	ND	0.50	0.16	U
108-88-3	Toluene	ND	2.5	0.70	U
100-41-4	Ethylbenzene	ND	2.5	0.70	U
74-87-3	Chloromethane	ND	2.5	0.70	U
74-83-9	Bromomethane	ND	2.5	0.70	U
75-01-4	Vinyl chloride	ND	1.0	0.07	U
75-00-3	Chloroethane	ND	2.5	0.70	U
75-35-4	1,1-Dichloroethene	ND	0.50	0.17	U

Results Summary
Form 1
Volatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L1928183
Project Name	: JAMESTOWN CONTAINER	Project Number	: N30001001
Lab ID	: L1928183-03	Date Collected	: 06/25/19 14:30
Client ID	: ESI-12-062519	Date Received	: 06/27/19
Sample Location	: 14 DEMING DRIVE	Date Analyzed	: 07/05/19 11:24
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260C	Analyst	: KJD
Lab File ID	: V22190705A09	Instrument ID	: VOA122
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

CAS NO.	Parameter	Results (ug/L)	RL (ug/L)	MDL (ug/L)	Qualifier
156-60-5	trans-1,2-Dichloroethene	ND	2.5	0.70	U
79-01-6	Trichloroethene	ND	0.50	0.18	U
95-50-1	1,2-Dichlorobenzene	ND	2.5	0.70	U
541-73-1	1,3-Dichlorobenzene	ND	2.5	0.70	U
106-46-7	1,4-Dichlorobenzene	ND	2.5	0.70	U
1634-04-4	Methyl tert butyl ether	ND	2.5	0.70	U
179601-23-1	p/m-Xylene	ND	2.5	0.70	U
95-47-6	o-Xylene	ND	2.5	0.70	U
156-59-2	cis-1,2-Dichloroethene	ND	2.5	0.70	U
100-42-5	Styrene	ND	2.5	0.70	U
75-71-8	Dichlorodifluoromethane	ND	5.0	1.0	U
67-64-1	Acetone	19	5.0	1.5	
75-15-0	Carbon disulfide	ND	5.0	1.0	U
78-93-3	2-Butanone	ND	5.0	1.9	U
108-10-1	4-Methyl-2-pentanone	ND	5.0	1.0	U
591-78-6	2-Hexanone	ND	5.0	1.0	U
106-93-4	1,2-Dibromoethane	ND	2.0	0.65	U
104-51-8	n-Butylbenzene	ND	2.5	0.70	U
135-98-8	sec-Butylbenzene	ND UJ	2.5	0.70	U
98-06-6	tert-Butylbenzene	ND	2.5	0.70	U
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.5	0.70	U
98-82-8	Isopropylbenzene	ND	2.5	0.70	U
99-87-6	p-Isopropyltoluene	ND	2.5	0.70	U
91-20-3	Naphthalene	ND	2.5	0.70	U
103-65-1	n-Propylbenzene	ND	2.5	0.70	U

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Results Summary
Form 1
Volatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L1928183
Project Name	: JAMESTOWN CONTAINER	Project Number	: N30001001
Lab ID	: L1928183-03	Date Collected	: 06/25/19 14:30
Client ID	: ESI-12-062519	Date Received	: 06/27/19
Sample Location	: 14 DEMING DRIVE	Date Analyzed	: 07/05/19 11:24
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260C	Analyst	: KJD
Lab File ID	: V22190705A09	Instrument ID	: VOA122
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

CAS NO.	Parameter	ug/L Results	ug/L RL	ug/L MDL	Qualifier
120-82-1	1,2,4-Trichlorobenzene	ND	2.5	0.70	U
108-67-8	1,3,5-Trimethylbenzene	ND	2.5	0.70	U
95-63-6	1,2,4-Trimethylbenzene	ND	2.5	0.70	U
79-20-9	Methyl Acetate	ND	2.0	0.23	U
110-82-7	Cyclohexane	ND	10	0.27	U
76-13-1	Freon-113	ND	2.5	0.70	U
108-87-2	Methyl cyclohexane	ND	10	0.40	U

ALPHA ANALYTICAL

Results Summary
Form 1
Volatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L1928183
Project Name	: JAMESTOWN CONTAINER	Project Number	: N30001001
Lab ID	: L1928183-04	Date Collected	: 06/26/19 10:00
Client ID	: ESI-3-062619	Date Received	: 06/27/19
Sample Location	: 14 DEMING DRIVE	Date Analyzed	: 07/05/19 11:52
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260C	Analyst	: KJD
Lab File ID	: V22190705A10	Instrument ID	: VOA122
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

CAS NO.	Parameter	ug/L Results	RL	MDL	Qualifier
75-09-2	Methylene chloride	ND	2.5	0.70	U
75-34-3	1,1-Dichloroethane	ND	2.5	0.70	U
67-66-3	Chloroform	ND	2.5	0.70	U
56-23-5	Carbon tetrachloride	ND	0.50	0.13	U
78-87-5	1,2-Dichloropropane	ND	1.0	0.14	U
124-48-1	Dibromochloromethane	ND	0.50	0.15	U
79-00-5	1,1,2-Trichloroethane	ND	1.5	0.50	U
127-18-4	Tetrachloroethene	ND	0.50	0.18	U
108-90-7	Chlorobenzene	ND	2.5	0.70	U
75-69-4	Trichlorofluoromethane	ND	2.5	0.70	U
107-06-2	1,2-Dichloroethane	ND	0.50	0.13	U
71-55-6	1,1,1-Trichloroethane	ND	2.5	0.70	U
75-27-4	Bromodichloromethane	ND	0.50	0.19	U
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.16	U
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.14	U
75-25-2	Bromoform	ND	2.0	0.65	U
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.17	U
71-43-2	Benzene	ND	0.50	0.16	U
108-88-3	Toluene	ND	2.5	0.70	U
100-41-4	Ethylbenzene	ND	2.5	0.70	U
74-87-3	Chloromethane	ND	2.5	0.70	U
74-83-9	Bromomethane	ND	2.5	0.70	U
75-01-4	Vinyl chloride	ND	1.0	0.07	U
75-00-3	Chloroethane	ND	2.5	0.70	U
75-35-4	1,1-Dichloroethene	ND	0.50	0.17	U

Results Summary
Form 1
Volatile Organics by GC/MS

Client	: C&S Companies		Lab Number	: L1928183
Project Name	: JAMESTOWN CONTAINER		Project Number	: N30001001
Lab ID	: L1928183-04		Date Collected	: 06/26/19 10:00
Client ID	: ESI-3-062619		Date Received	: 06/27/19
Sample Location	: 14 DEMING DRIVE		Date Analyzed	: 07/05/19 11:52
Sample Matrix	: WATER		Dilution Factor	: 1
Analytical Method	: 1,8260C		Analyst	: KJD
Lab File ID	: V22190705A10		Instrument ID	: VOA122
Sample Amount	: 10 ml		GC Column	: RTX-502.2
Level	: LOW		%Solids	: N/A
Extract Volume (MeOH)	: N/A		Injection Volume	: N/A

CAS NO.	Parameter	Results (ug/L)	RL (ug/L)	MDL (ug/L)	Qualifier
156-60-5	trans-1,2-Dichloroethene	ND	2.5	0.70	U
79-01-6	Trichloroethene	0.80	0.50	0.18	
95-50-1	1,2-Dichlorobenzene	ND	2.5	0.70	U
541-73-1	1,3-Dichlorobenzene	ND	2.5	0.70	U
106-46-7	1,4-Dichlorobenzene	ND	2.5	0.70	U
1634-04-4	Methyl tert butyl ether	ND	2.5	0.70	U
179601-23-1	p/m-Xylene	ND	2.5	0.70	U
95-47-6	o-Xylene	ND	2.5	0.70	U
156-59-2	cis-1,2-Dichloroethene	ND	2.5	0.70	U
100-42-5	Styrene	ND	2.5	0.70	U
75-71-8	Dichlorodifluoromethane	ND	5.0	1.0	U
67-64-1	Acetone	5.0 U ~~3.4~~	5.0	1.5	J
75-15-0	Carbon disulfide	ND	5.0	1.0	U
78-93-3	2-Butanone	ND	5.0	1.9	U
108-10-1	4-Methyl-2-pentanone	ND	5.0	1.0	U
591-78-6	2-Hexanone	ND	5.0	1.0	U
106-93-4	1,2-Dibromoethane	ND	2.0	0.65	U
104-51-8	n-Butylbenzene	ND	2.5	0.70	U
135-98-8	sec-Butylbenzene	ND UJ	2.5	0.70	U
98-06-6	tert-Butylbenzene	ND	2.5	0.70	U
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.5	0.70	U
98-82-8	Isopropylbenzene	ND	2.5	0.70	U
99-87-6	p-Isopropyltoluene	ND	2.5	0.70	U
91-20-3	Naphthalene	ND	2.5	0.70	U
103-65-1	n-Propylbenzene	ND	2.5	0.70	U

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Results Summary
Form 1
Volatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L1928183
Project Name	: JAMESTOWN CONTAINER	Project Number	: N30001001
Lab ID	: L1928183-04	Date Collected	: 06/26/19 10:00
Client ID	: ESI-3-062619	Date Received	: 06/27/19
Sample Location	: 14 DEMING DRIVE	Date Analyzed	: 07/05/19 11:52
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260C	Analyst	: KJD
Lab File ID	: V22190705A10	Instrument ID	: VOA122
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

CAS NO.	Parameter	ug/L Results	RL	MDL	Qualifier
120-82-1	1,2,4-Trichlorobenzene	ND	2.5	0.70	U
108-67-8	1,3,5-Trimethylbenzene	ND	2.5	0.70	U
95-63-6	1,2,4-Trimethylbenzene	ND	2.5	0.70	U
79-20-9	Methyl Acetate	ND	2.0	0.23	U
110-82-7	Cyclohexane	ND	10	0.27	U
76-13-1	Freon-113	ND	2.5	0.70	U
108-87-2	Methyl cyclohexane	ND	10	0.40	U

Results Summary
Form 1
Volatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L1928183
Project Name	: JAMESTOWN CONTAINER	Project Number	: N30001001
Lab ID	: L1928183-05	Date Collected	: 06/26/19 10:33
Client ID	: PW-1-062619	Date Received	: 06/27/19
Sample Location	: 14 DEMING DRIVE	Date Analyzed	: 07/09/19 20:11
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260C	Analyst	: NLK
Lab File ID	: V05190709N07	Instrument ID	: VOA105
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

CAS NO.	Parameter	Results (ug/L)	RL (ug/L)	MDL (ug/L)	Qualifier
75-09-2	Methylene chloride	ND	2.5	0.70	U
75-34-3	1,1-Dichloroethane	ND	2.5	0.70	U
67-66-3	Chloroform	ND	2.5	0.70	U
56-23-5	Carbon tetrachloride	ND	0.50	0.13	U
78-87-5	1,2-Dichloropropane	ND	1.0	0.14	U
124-48-1	Dibromochloromethane	ND	0.50	0.15	U
79-00-5	1,1,2-Trichloroethane	ND	1.5	0.50	U
127-18-4	Tetrachloroethene	ND	0.50	0.18	U
108-90-7	Chlorobenzene	ND	2.5	0.70	U
75-69-4	Trichlorofluoromethane	ND	2.5	0.70	U
107-06-2	1,2-Dichloroethane	ND	0.50	0.13	U
71-55-6	1,1,1-Trichloroethane	ND	2.5	0.70	U
75-27-4	Bromodichloromethane	ND	0.50	0.19	U
10061-02-6	trans-1,3-Dichloropropene	ND UJ	0.50	0.16	U
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.14	U
75-25-2	Bromoform	ND UJ	2.0	0.65	U
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.17	U
71-43-2	Benzene	ND	0.50	0.16	U
108-88-3	Toluene	ND	2.5	0.70	U
100-41-4	Ethylbenzene	ND	2.5	0.70	U
74-87-3	Chloromethane	ND	2.5	0.70	U
74-83-9	Bromomethane	ND	2.5	0.70	U
75-01-4	Vinyl chloride	ND	1.0	0.07	U
75-00-3	Chloroethane	ND	2.5	0.70	U
75-35-4	1,1-Dichloroethene	ND	0.50	0.17	U

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Results Summary
Form 1
Volatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L1928183
Project Name	: JAMESTOWN CONTAINER	Project Number	: N30001001
Lab ID	: L1928183-05	Date Collected	: 06/26/19 10:33
Client ID	: PW-1-062619	Date Received	: 06/27/19
Sample Location	: 14 DEMING DRIVE	Date Analyzed	: 07/09/19 20:11
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260C	Analyst	: NLK
Lab File ID	: V05190709N07	Instrument ID	: VOA105
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

CAS NO.	Parameter	Results (ug/L)	RL (ug/L)	MDL (ug/L)	Qualifier
156-60-5	trans-1,2-Dichloroethene	ND	2.5	0.70	U
79-01-6	Trichloroethene	1.8	0.50	0.18	
95-50-1	1,2-Dichlorobenzene	ND	2.5	0.70	U
541-73-1	1,3-Dichlorobenzene	ND	2.5	0.70	U
106-46-7	1,4-Dichlorobenzene	ND	2.5	0.70	U
1634-04-4	Methyl tert butyl ether	ND	2.5	0.70	U
179601-23-1	p/m-Xylene	ND	2.5	0.70	U
95-47-6	o-Xylene	ND	2.5	0.70	U
156-59-2	cis-1,2-Dichloroethene	ND	2.5	0.70	U
100-42-5	Styrene	ND	2.5	0.70	U
75-71-8	Dichlorodifluoromethane	ND	5.0	1.0	U
67-64-1	Acetone	5.0 U ~~2.8~~	5.0	1.5	J
75-15-0	Carbon disulfide	ND	5.0	1.0	U
78-93-3	2-Butanone	ND	5.0	1.9	U
108-10-1	4-Methyl-2-pentanone	ND	5.0	1.0	U
591-78-6	2-Hexanone	ND	5.0	1.0	U
106-93-4	1,2-Dibromoethane	ND	2.0	0.65	U
104-51-8	n-Butylbenzene	ND	2.5	0.70	U
135-98-8	sec-Butylbenzene	ND	2.5	0.70	U
98-06-6	tert-Butylbenzene	ND	2.5	0.70	U
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.5	0.70	U
98-82-8	Isopropylbenzene	ND	2.5	0.70	U
99-87-6	p-Isopropyltoluene	ND	2.5	0.70	U
91-20-3	Naphthalene	ND UJ	2.5	0.70	U
103-65-1	n-Propylbenzene	ND	2.5	0.70	U

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Results Summary
Form 1
Volatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L1928183
Project Name	: JAMESTOWN CONTAINER	Project Number	: N30001001
Lab ID	: L1928183-05	Date Collected	: 06/26/19 10:33
Client ID	: PW-1-062619	Date Received	: 06/27/19
Sample Location	: 14 DEMING DRIVE	Date Analyzed	: 07/09/19 20:11
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260C	Analyst	: NLK
Lab File ID	: V05190709N07	Instrument ID	: VOA105
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

CAS NO.	Parameter	ug/L Results	RL	MDL	Qualifier
120-82-1	1,2,4-Trichlorobenzene	ND	2.5	0.70	U
108-67-8	1,3,5-Trimethylbenzene	ND	2.5	0.70	U
95-63-6	1,2,4-Trimethylbenzene	ND	2.5	0.70	U
79-20-9	Methyl Acetate	ND	2.0	0.23	U
110-82-7	Cyclohexane	ND	10	0.27	U
76-13-1	Freon-113	ND	2.5	0.70	U
108-87-2	Methyl cyclohexane	ND	10	0.40	U

Results Summary
Form 1
Volatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L1928183
Project Name	: JAMESTOWN CONTAINER	Project Number	: N30001001
Lab ID	: L1928183-06	Date Collected	: 06/26/19 11:10
Client ID	: DUP-ESI-1-062619	Date Received	: 06/27/19
Sample Location	: 14 DEMING DRIVE	Date Analyzed	: 07/08/19 22:04
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260C	Analyst	: NLK
Lab File ID	: V05190708N10	Instrument ID	: VOA105
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/L			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
75-09-2	Methylene chloride	ND	2.5	0.70	U
75-34-3	1,1-Dichloroethane	ND	2.5	0.70	U
67-66-3	Chloroform	ND	2.5	0.70	U
56-23-5	Carbon tetrachloride	ND	0.50	0.13	U
78-87-5	1,2-Dichloropropane	ND	1.0	0.14	U
124-48-1	Dibromochloromethane	ND	0.50	0.15	U
79-00-5	1,1,2-Trichloroethane	ND	1.5	0.50	U
127-18-4	Tetrachloroethene	ND	0.50	0.18	U
108-90-7	Chlorobenzene	ND	2.5	0.70	U
75-69-4	Trichlorofluoromethane	ND	2.5	0.70	U
107-06-2	1,2-Dichloroethane	ND	0.50	0.13	U
71-55-6	1,1,1-Trichloroethane	ND	2.5	0.70	U
75-27-4	Bromodichloromethane	ND	0.50	0.19	U
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.16	U
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.14	U
75-25-2	Bromoform	ND	2.0	0.65	U
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.17	U
71-43-2	Benzene	ND	0.50	0.16	U
108-88-3	Toluene	ND	2.5	0.70	U
100-41-4	Ethylbenzene	ND	2.5	0.70	U
74-87-3	Chloromethane	ND	2.5	0.70	U
74-83-9	Bromomethane	ND UJ	2.5	0.70	U
75-01-4	Vinyl chloride	ND	1.0	0.07	U
75-00-3	Chloroethane	ND	2.5	0.70	U
75-35-4	1,1-Dichloroethene	ND	0.50	0.17	U

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Results Summary
Form 1
Volatile Organics by GC/MS

Client	: C&S Companies		Lab Number	: L1928183
Project Name	: JAMESTOWN CONTAINER		Project Number	: N30001001
Lab ID	: L1928183-06		Date Collected	: 06/26/19 11:10
Client ID	: DUP-ESI-1-062619		Date Received	: 06/27/19
Sample Location	: 14 DEMING DRIVE		Date Analyzed	: 07/08/19 22:04
Sample Matrix	: WATER		Dilution Factor	: 1
Analytical Method	: 1,8260C		Analyst	: NLK
Lab File ID	: V05190708N10		Instrument ID	: VOA105
Sample Amount	: 10 ml		GC Column	: RTX-502.2
Level	: LOW		%Solids	: N/A
Extract Volume (MeOH)	: N/A		Injection Volume	: N/A

CAS NO.	Parameter	ug/L Results	RL	MDL	Qualifier
156-60-5	trans-1,2-Dichloroethene	ND	2.5	0.70	U
79-01-6	Trichloroethene	10	0.50	0.18	
95-50-1	1,2-Dichlorobenzene	ND	2.5	0.70	U
541-73-1	1,3-Dichlorobenzene	ND	2.5	0.70	U
106-46-7	1,4-Dichlorobenzene	ND	2.5	0.70	U
1634-04-4	Methyl tert butyl ether	ND	2.5	0.70	U
179601-23-1	p/m-Xylene	ND	2.5	0.70	U
95-47-6	o-Xylene	ND	2.5	0.70	U
156-59-2	cis-1,2-Dichloroethene	0.83	2.5	0.70	J
100-42-5	Styrene	ND	2.5	0.70	U
75-71-8	Dichlorodifluoromethane	ND	5.0	1.0	U
67-64-1	Acetone	5.0 U ~~3.2~~	5.0	1.5	J
75-15-0	Carbon disulfide	ND	5.0	1.0	U
78-93-3	2-Butanone	ND	5.0	1.9	U
108-10-1	4-Methyl-2-pentanone	ND	5.0	1.0	U
591-78-6	2-Hexanone	ND	5.0	1.0	U
106-93-4	1,2-Dibromoethane	ND	2.0	0.65	U
104-51-8	n-Butylbenzene	ND	2.5	0.70	U
135-98-8	sec-Butylbenzene	ND	2.5	0.70	U
98-06-6	tert-Butylbenzene	ND	2.5	0.70	U
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.5	0.70	U
98-82-8	Isopropylbenzene	ND	2.5	0.70	U
99-87-6	p-Isopropyltoluene	ND	2.5	0.70	U
91-20-3	Naphthalene	ND	2.5	0.70	U
103-65-1	n-Propylbenzene	ND	2.5	0.70	U

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Results Summary
Form 1
Volatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L1928183
Project Name	: JAMESTOWN CONTAINER	Project Number	: N30001001
Lab ID	: L1928183-06	Date Collected	: 06/26/19 11:10
Client ID	: DUP-ESI-1-062619	Date Received	: 06/27/19
Sample Location	: 14 DEMING DRIVE	Date Analyzed	: 07/08/19 22:04
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260C	Analyst	: NLK
Lab File ID	: V05190708N10	Instrument ID	: VOA105
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

CAS NO.	Parameter	ug/L Results	ug/L RL	ug/L MDL	Qualifier
120-82-1	1,2,4-Trichlorobenzene	ND	2.5	0.70	U
108-67-8	1,3,5-Trimethylbenzene	ND	2.5	0.70	U
95-63-6	1,2,4-Trimethylbenzene	ND	2.5	0.70	U
79-20-9	Methyl Acetate	ND	2.0	0.23	U
110-82-7	Cyclohexane	ND	10	0.27	U
76-13-1	Freon-113	ND	2.5	0.70	U
108-87-2	Methyl cyclohexane	ND	10	0.40	U

Results Summary
Form 1
Volatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L1928183
Project Name	: JAMESTOWN CONTAINER	Project Number	: N30001001
Lab ID	: L1928183-07	Date Collected	: 06/26/19 11:10
Client ID	: ESI-1-062619	Date Received	: 06/27/19
Sample Location	: 14 DEMING DRIVE	Date Analyzed	: 07/08/19 22:29
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260C	Analyst	: NLK
Lab File ID	: V05190708N11	Instrument ID	: VOA105
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

CAS NO.	Parameter	Results (ug/L)	RL (ug/L)	MDL (ug/L)	Qualifier
75-09-2	Methylene chloride	ND	2.5	0.70	U
75-34-3	1,1-Dichloroethane	ND	2.5	0.70	U
67-66-3	Chloroform	ND	2.5	0.70	U
56-23-5	Carbon tetrachloride	ND	0.50	0.13	U
78-87-5	1,2-Dichloropropane	ND	1.0	0.14	U
124-48-1	Dibromochloromethane	ND	0.50	0.15	U
79-00-5	1,1,2-Trichloroethane	ND	1.5	0.50	U
127-18-4	Tetrachloroethene	ND	0.50	0.18	U
108-90-7	Chlorobenzene	ND	2.5	0.70	U
75-69-4	Trichlorofluoromethane	ND	2.5	0.70	U
107-06-2	1,2-Dichloroethane	ND	0.50	0.13	U
71-55-6	1,1,1-Trichloroethane	ND	2.5	0.70	U
75-27-4	Bromodichloromethane	ND	0.50	0.19	U
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.16	U
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.14	U
75-25-2	Bromoform	ND	2.0	0.65	U
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.17	U
71-43-2	Benzene	ND	0.50	0.16	U
108-88-3	Toluene	ND	2.5	0.70	U
100-41-4	Ethylbenzene	ND	2.5	0.70	U
74-87-3	Chloromethane	ND	2.5	0.70	U
74-83-9	Bromomethane	ND UJ	2.5	0.70	U
75-01-4	Vinyl chloride	ND	1.0	0.07	U
75-00-3	Chloroethane	ND	2.5	0.70	U
75-35-4	1,1-Dichloroethene	ND	0.50	0.17	U

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Results Summary
Form 1
Volatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L1928183
Project Name	: JAMESTOWN CONTAINER	Project Number	: N30001001
Lab ID	: L1928183-07	Date Collected	: 06/26/19 11:10
Client ID	: ESI-1-062619	Date Received	: 06/27/19
Sample Location	: 14 DEMING DRIVE	Date Analyzed	: 07/08/19 22:29
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260C	Analyst	: NLK
Lab File ID	: V05190708N11	Instrument ID	: VOA105
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/L			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
156-60-5	trans-1,2-Dichloroethene	ND	2.5	0.70	U
79-01-6	Trichloroethene	10	0.50	0.18	
95-50-1	1,2-Dichlorobenzene	ND	2.5	0.70	U
541-73-1	1,3-Dichlorobenzene	ND	2.5	0.70	U
106-46-7	1,4-Dichlorobenzene	ND	2.5	0.70	U
1634-04-4	Methyl tert butyl ether	ND	2.5	0.70	U
179601-23-1	p/m-Xylene	ND	2.5	0.70	U
95-47-6	o-Xylene	ND	2.5	0.70	U
156-59-2	cis-1,2-Dichloroethene	0.73	2.5	0.70	J
100-42-5	Styrene	ND	2.5	0.70	U
75-71-8	Dichlorodifluoromethane	ND	5.0	1.0	U
67-64-1	Acetone	5.0 U ~~2.2~~	5.0	1.5	J
75-15-0	Carbon disulfide	ND	5.0	1.0	U
78-93-3	2-Butanone	ND	5.0	1.9	U
108-10-1	4-Methyl-2-pentanone	ND	5.0	1.0	U
591-78-6	2-Hexanone	ND	5.0	1.0	U
106-93-4	1,2-Dibromoethane	ND	2.0	0.65	U
104-51-8	n-Butylbenzene	ND	2.5	0.70	U
135-98-8	sec-Butylbenzene	ND	2.5	0.70	U
98-06-6	tert-Butylbenzene	ND	2.5	0.70	U
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.5	0.70	U
98-82-8	Isopropylbenzene	ND	2.5	0.70	U
99-87-6	p-Isopropyltoluene	ND	2.5	0.70	U
91-20-3	Naphthalene	ND	2.5	0.70	U
103-65-1	n-Propylbenzene	ND	2.5	0.70	U

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Results Summary
Form 1
Volatile Organics by GC/MS

Client	: C&S Companies	**Lab Number**	: L1928183
Project Name	: JAMESTOWN CONTAINER	**Project Number**	: N30001001
Lab ID	: L1928183-07	**Date Collected**	: 06/26/19 11:10
Client ID	: ESI-1-062619	**Date Received**	: 06/27/19
Sample Location	: 14 DEMING DRIVE	**Date Analyzed**	: 07/08/19 22:29
Sample Matrix	: WATER	**Dilution Factor**	: 1
Analytical Method	: 1,8260C	**Analyst**	: NLK
Lab File ID	: V05190708N11	**Instrument ID**	: VOA105
Sample Amount	: 10 ml	**GC Column**	: RTX-502.2
Level	: LOW	**%Solids**	: N/A
Extract Volume (MeOH)	: N/A	**Injection Volume**	: N/A

CAS NO.	Parameter	ug/L Results	ug/L RL	ug/L MDL	Qualifier
120-82-1	1,2,4-Trichlorobenzene	ND	2.5	0.70	U
108-67-8	1,3,5-Trimethylbenzene	ND	2.5	0.70	U
95-63-6	1,2,4-Trimethylbenzene	ND	2.5	0.70	U
79-20-9	Methyl Acetate	ND	2.0	0.23	U
110-82-7	Cyclohexane	ND	10	0.27	U
76-13-1	Freon-113	ND	2.5	0.70	U
108-87-2	Methyl cyclohexane	ND	10	0.40	U

Results Summary
Form 1
Volatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L1928183
Project Name	: JAMESTOWN CONTAINER	Project Number	: N30001001
Lab ID	: L1928183-08	Date Collected	: 06/26/19 11:45
Client ID	: ESI-13R-062619	Date Received	: 06/27/19
Sample Location	: 14 DEMING DRIVE	Date Analyzed	: 07/08/19 22:54
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260C	Analyst	: NLK
Lab File ID	: V05190708N12	Instrument ID	: VOA105
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

CAS NO.	Parameter	Results (ug/L)	RL (ug/L)	MDL (ug/L)	Qualifier
75-09-2	Methylene chloride	ND	2.5	0.70	U
75-34-3	1,1-Dichloroethane	ND	2.5	0.70	U
67-66-3	Chloroform	ND	2.5	0.70	U
56-23-5	Carbon tetrachloride	ND	0.50	0.13	U
78-87-5	1,2-Dichloropropane	ND	1.0	0.14	U
124-48-1	Dibromochloromethane	ND	0.50	0.15	U
79-00-5	1,1,2-Trichloroethane	ND	1.5	0.50	U
127-18-4	Tetrachloroethene	ND	0.50	0.18	U
108-90-7	Chlorobenzene	ND	2.5	0.70	U
75-69-4	Trichlorofluoromethane	ND	2.5	0.70	U
107-06-2	1,2-Dichloroethane	ND	0.50	0.13	U
71-55-6	1,1,1-Trichloroethane	ND	2.5	0.70	U
75-27-4	Bromodichloromethane	ND	0.50	0.19	U
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.16	U
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.14	U
75-25-2	Bromoform	ND	2.0	0.65	U
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.17	U
71-43-2	Benzene	ND	0.50	0.16	U
108-88-3	Toluene	ND	2.5	0.70	U
100-41-4	Ethylbenzene	ND	2.5	0.70	U
74-87-3	Chloromethane	ND	2.5	0.70	U
74-83-9	Bromomethane	ND UJ	2.5	0.70	U
75-01-4	Vinyl chloride	ND	1.0	0.07	U
75-00-3	Chloroethane	ND	2.5	0.70	U
75-35-4	1,1-Dichloroethene	ND	0.50	0.17	U

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Results Summary
Form 1
Volatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L1928183
Project Name	: JAMESTOWN CONTAINER	Project Number	: N30001001
Lab ID	: L1928183-08	Date Collected	: 06/26/19 11:45
Client ID	: ESI-13R-062619	Date Received	: 06/27/19
Sample Location	: 14 DEMING DRIVE	Date Analyzed	: 07/08/19 22:54
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260C	Analyst	: NLK
Lab File ID	: V05190708N12	Instrument ID	: VOA105
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

CAS NO.	Parameter	Results (ug/L)	RL (ug/L)	MDL (ug/L)	Qualifier
156-60-5	trans-1,2-Dichloroethene	ND	2.5	0.70	U
79-01-6	Trichloroethene	18	0.50	0.18	
95-50-1	1,2-Dichlorobenzene	ND	2.5	0.70	U
541-73-1	1,3-Dichlorobenzene	ND	2.5	0.70	U
106-46-7	1,4-Dichlorobenzene	ND	2.5	0.70	U
1634-04-4	Methyl tert butyl ether	ND	2.5	0.70	U
179601-23-1	p/m-Xylene	ND	2.5	0.70	U
95-47-6	o-Xylene	ND	2.5	0.70	U
156-59-2	cis-1,2-Dichloroethene	1.0	2.5	0.70	J
100-42-5	Styrene	ND	2.5	0.70	U
75-71-8	Dichlorodifluoromethane	ND	5.0	1.0	U
67-64-1	Acetone	5.0U ~~2.4~~	5.0	1.5	J
75-15-0	Carbon disulfide	ND	5.0	1.0	U
78-93-3	2-Butanone	ND	5.0	1.9	U
108-10-1	4-Methyl-2-pentanone	ND	5.0	1.0	U
591-78-6	2-Hexanone	ND	5.0	1.0	U
106-93-4	1,2-Dibromoethane	ND	2.0	0.65	U
104-51-8	n-Butylbenzene	ND	2.5	0.70	U
135-98-8	sec-Butylbenzene	ND	2.5	0.70	U
98-06-6	tert-Butylbenzene	ND	2.5	0.70	U
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.5	0.70	U
98-82-8	Isopropylbenzene	ND	2.5	0.70	U
99-87-6	p-Isopropyltoluene	ND	2.5	0.70	U
91-20-3	Naphthalene	ND	2.5	0.70	U
103-65-1	n-Propylbenzene	ND	2.5	0.70	U

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Results Summary
Form 1
Volatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L1928183
Project Name	: JAMESTOWN CONTAINER	Project Number	: N30001001
Lab ID	: L1928183-08	Date Collected	: 06/26/19 11:45
Client ID	: ESI-13R-062619	Date Received	: 06/27/19
Sample Location	: 14 DEMING DRIVE	Date Analyzed	: 07/08/19 22:54
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260C	Analyst	: NLK
Lab File ID	: V05190708N12	Instrument ID	: VOA105
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

CAS NO.	Parameter	Results (ug/L)	RL (ug/L)	MDL (ug/L)	Qualifier
120-82-1	1,2,4-Trichlorobenzene	ND	2.5	0.70	U
108-67-8	1,3,5-Trimethylbenzene	ND	2.5	0.70	U
95-63-6	1,2,4-Trimethylbenzene	ND	2.5	0.70	U
79-20-9	Methyl Acetate	ND	2.0	0.23	U
110-82-7	Cyclohexane	ND	10	0.27	U
76-13-1	Freon-113	ND	2.5	0.70	U
108-87-2	Methyl cyclohexane	ND	10	0.40	U

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Results Summary
Form 1
Volatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L1928183
Project Name	: JAMESTOWN CONTAINER	Project Number	: N30001001
Lab ID	: L1928183-09	Date Collected	: 06/26/19 12:20
Client ID	: ESI-6-062619	Date Received	: 06/27/19
Sample Location	: 14 DEMING DRIVE	Date Analyzed	: 07/09/19 23:44
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260C	Analyst	: NLK
Lab File ID	: V08190709N14	Instrument ID	: VOA108
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

CAS NO.	Parameter	Results (ug/L)	RL (ug/L)	MDL (ug/L)	Qualifier
75-09-2	Methylene chloride	ND	2.5	0.70	U
75-34-3	1,1-Dichloroethane	ND	2.5	0.70	U
67-66-3	Chloroform	ND	2.5	0.70	U
56-23-5	Carbon tetrachloride	ND	0.50	0.13	U
78-87-5	1,2-Dichloropropane	ND	1.0	0.14	U
124-48-1	Dibromochloromethane	ND	0.50	0.15	U
79-00-5	1,1,2-Trichloroethane	ND	1.5	0.50	U
127-18-4	Tetrachloroethene	1.6	0.50	0.18	
108-90-7	Chlorobenzene	ND	2.5	0.70	U
75-69-4	Trichlorofluoromethane	ND	2.5	0.70	U
107-06-2	1,2-Dichloroethane	ND	0.50	0.13	U
71-55-6	1,1,1-Trichloroethane	ND	2.5	0.70	U
75-27-4	Bromodichloromethane	ND	0.50	0.19	U
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.16	U
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.14	U
75-25-2	Bromoform	1.2	2.0	0.65	J
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.17	U
71-43-2	Benzene	ND	0.50	0.16	U
108-88-3	Toluene	ND	2.5	0.70	U
100-41-4	Ethylbenzene	ND	2.5	0.70	U
74-87-3	Chloromethane	0.86	2.5	0.70	J
74-83-9	Bromomethane	ND UJ	2.5	0.70	U
75-01-4	Vinyl chloride	ND	1.0	0.07	U
75-00-3	Chloroethane	ND	2.5	0.70	U
75-35-4	1,1-Dichloroethene	ND	0.50	0.17	U

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Results Summary
Form 1
Volatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L1928183
Project Name	: JAMESTOWN CONTAINER	Project Number	: N30001001
Lab ID	: L1928183-09	Date Collected	: 06/26/19 12:20
Client ID	: ESI-6-062619	Date Received	: 06/27/19
Sample Location	: 14 DEMING DRIVE	Date Analyzed	: 07/09/19 23:44
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260C	Analyst	: NLK
Lab File ID	: V08190709N14	Instrument ID	: VOA108
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

CAS NO.	Parameter	Results (ug/L)	RL (ug/L)	MDL (ug/L)	Qualifier
156-60-5	trans-1,2-Dichloroethene	1.2	2.5	0.70	J
79-01-6	Trichloroethene	200	0.50	0.18	E
95-50-1	1,2-Dichlorobenzene	ND	2.5	0.70	U
541-73-1	1,3-Dichlorobenzene	ND	2.5	0.70	U
106-46-7	1,4-Dichlorobenzene	ND	2.5	0.70	U
1634-04-4	Methyl tert butyl ether	ND	2.5	0.70	U
179601-23-1	p/m-Xylene	ND	2.5	0.70	U
95-47-6	o-Xylene	ND	2.5	0.70	U
156-59-2	cis-1,2-Dichloroethene	80	2.5	0.70	
100-42-5	Styrene	ND	2.5	0.70	U
75-71-8	Dichlorodifluoromethane	ND	5.0	1.0	U
67-64-1	Acetone	7.7 J	5.0	1.5	
75-15-0	Carbon disulfide	ND	5.0	1.0	U
78-93-3	2-Butanone	ND	5.0	1.9	U
108-10-1	4-Methyl-2-pentanone	ND	5.0	1.0	U
591-78-6	2-Hexanone	ND	5.0	1.0	U
106-93-4	1,2-Dibromoethane	ND	2.0	0.65	U
104-51-8	n-Butylbenzene	ND	2.5	0.70	U
135-98-8	sec-Butylbenzene	ND	2.5	0.70	U
98-06-6	tert-Butylbenzene	ND	2.5	0.70	U
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.5	0.70	U
98-82-8	Isopropylbenzene	ND	2.5	0.70	U
99-87-6	p-Isopropyltoluene	ND	2.5	0.70	U
91-20-3	Naphthalene	ND UJ	2.5	0.70	U
103-65-1	n-Propylbenzene	ND	2.5	0.70	U

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Results Summary
Form 1
Volatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L1928183
Project Name	: JAMESTOWN CONTAINER	Project Number	: N30001001
Lab ID	: L1928183-09	Date Collected	: 06/26/19 12:20
Client ID	: ESI-6-062619	Date Received	: 06/27/19
Sample Location	: 14 DEMING DRIVE	Date Analyzed	: 07/09/19 23:44
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260C	Analyst	: NLK
Lab File ID	: V08190709N14	Instrument ID	: VOA108
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/L			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
120-82-1	1,2,4-Trichlorobenzene	ND	2.5	0.70	U
108-67-8	1,3,5-Trimethylbenzene	ND	2.5	0.70	U
95-63-6	1,2,4-Trimethylbenzene	ND	2.5	0.70	U
79-20-9	Methyl Acetate	ND	2.0	0.23	U
110-82-7	Cyclohexane	ND	10	0.27	U
76-13-1	Freon-113	ND	2.5	0.70	U
108-87-2	Methyl cyclohexane	ND	10	0.40	U

Results Summary
Form 1
Volatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L1928183
Project Name	: JAMESTOWN CONTAINER	Project Number	: N30001001
Lab ID	: L1928183-11D	Date Collected	: 06/26/19 13:35
Client ID	: PW-3R-062619	Date Received	: 06/27/19
Sample Location	: 14 DEMING DRIVE	Date Analyzed	: 07/08/19 23:45
Sample Matrix	: WATER	Dilution Factor	: 10
Analytical Method	: 1,8260C	Analyst	: NLK
Lab File ID	: V05190708N14	Instrument ID	: VOA105
Sample Amount	: 1 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

CAS NO.	Parameter	Results (ug/L)	RL (ug/L)	MDL (ug/L)	Qualifier
75-09-2	Methylene chloride	ND	25	7.0	U
75-34-3	1,1-Dichloroethane	ND	25	7.0	U
67-66-3	Chloroform	ND	25	7.0	U
56-23-5	Carbon tetrachloride	ND	5.0	1.3	U
78-87-5	1,2-Dichloropropane	ND	10	1.4	U
124-48-1	Dibromochloromethane	ND	5.0	1.5	U
79-00-5	1,1,2-Trichloroethane	ND	15	5.0	U
127-18-4	Tetrachloroethene	ND	5.0	1.8	U
108-90-7	Chlorobenzene	ND	25	7.0	U
75-69-4	Trichlorofluoromethane	ND	25	7.0	U
107-06-2	1,2-Dichloroethane	ND	5.0	1.3	U
71-55-6	1,1,1-Trichloroethane	ND	25	7.0	U
75-27-4	Bromodichloromethane	ND	5.0	1.9	U
10061-02-6	trans-1,3-Dichloropropene	ND	5.0	1.6	U
10061-01-5	cis-1,3-Dichloropropene	ND	5.0	1.4	U
75-25-2	Bromoform	ND	20	6.5	U
79-34-5	1,1,2,2-Tetrachloroethane	ND	5.0	1.7	U
71-43-2	Benzene	ND	5.0	1.6	U
108-88-3	Toluene	7.3	25	7.0	J
100-41-4	Ethylbenzene	ND	25	7.0	U
74-87-3	Chloromethane	ND	25	7.0	U
74-83-9	Bromomethane	ND UJ	25	7.0	U
75-01-4	Vinyl chloride	2200	10	0.71	E
75-00-3	Chloroethane	ND	25	7.0	U
75-35-4	1,1-Dichloroethene	ND	5.0	1.7	U

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Results Summary
Form 1
Volatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L1928183
Project Name	: JAMESTOWN CONTAINER	Project Number	: N30001001
Lab ID	: L1928183-11D	Date Collected	: 06/26/19 13:35
Client ID	: PW-3R-062619	Date Received	: 06/27/19
Sample Location	: 14 DEMING DRIVE	Date Analyzed	: 07/08/19 23:45
Sample Matrix	: WATER	Dilution Factor	: 10
Analytical Method	: 1,8260C	Analyst	: NLK
Lab File ID	: V05190708N14	Instrument ID	: VOA105
Sample Amount	: 1 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

CAS NO.	Parameter	Results (ug/L)	RL (ug/L)	MDL (ug/L)	Qualifier
156-60-5	trans-1,2-Dichloroethene	20	25	7.0	J
79-01-6	Trichloroethene	ND	5.0	1.8	U
95-50-1	1,2-Dichlorobenzene	ND	25	7.0	U
541-73-1	1,3-Dichlorobenzene	ND	25	7.0	U
106-46-7	1,4-Dichlorobenzene	ND	25	7.0	U
1634-04-4	Methyl tert butyl ether	ND	25	7.0	U
179601-23-1	p/m-Xylene	ND	25	7.0	U
95-47-6	o-Xylene	ND	25	7.0	U
156-59-2	cis-1,2-Dichloroethene	1200	25	7.0	
100-42-5	Styrene	ND	25	7.0	U
75-71-8	Dichlorodifluoromethane	ND	50	10.	U
67-64-1	Acetone	50U ~~19~~	50	15.	J
75-15-0	Carbon disulfide	ND	50	10.	U
78-93-3	2-Butanone	ND	50	19.	U
108-10-1	4-Methyl-2-pentanone	ND	50	10.	U
591-78-6	2-Hexanone	ND	50	10.	U
106-93-4	1,2-Dibromoethane	ND	20	6.5	U
104-51-8	n-Butylbenzene	ND	25	7.0	U
135-98-8	sec-Butylbenzene	ND	25	7.0	U
98-06-6	tert-Butylbenzene	ND	25	7.0	U
96-12-8	1,2-Dibromo-3-chloropropane	ND	25	7.0	U
98-82-8	Isopropylbenzene	ND	25	7.0	U
99-87-6	p-Isopropyltoluene	ND	25	7.0	U
91-20-3	Naphthalene	ND	25	7.0	U
103-65-1	n-Propylbenzene	ND	25	7.0	U

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Results Summary
Form 1
Volatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L1928183
Project Name	: JAMESTOWN CONTAINER	Project Number	: N30001001
Lab ID	: L1928183-11D	Date Collected	: 06/26/19 13:35
Client ID	: PW-3R-062619	Date Received	: 06/27/19
Sample Location	: 14 DEMING DRIVE	Date Analyzed	: 07/08/19 23:45
Sample Matrix	: WATER	Dilution Factor	: 10
Analytical Method	: 1,8260C	Analyst	: NLK
Lab File ID	: V05190708N14	Instrument ID	: VOA105
Sample Amount	: 1 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/L			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
120-82-1	1,2,4-Trichlorobenzene	ND	25	7.0	U
108-67-8	1,3,5-Trimethylbenzene	ND	25	7.0	U
95-63-6	1,2,4-Trimethylbenzene	ND	25	7.0	U
79-20-9	Methyl Acetate	ND	20	2.3	U
110-82-7	Cyclohexane	ND	100	2.7	U
76-13-1	Freon-113	ND	25	7.0	U
108-87-2	Methyl cyclohexane	ND	100	4.0	U

Results Summary
Form 1
Volatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L1928183
Project Name	: JAMESTOWN CONTAINER	Project Number	: N30001001
Lab ID	: L1928183-12D	Date Collected	: 06/26/19 14:20
Client ID	: ESI-2-062619	Date Received	: 06/27/19
Sample Location	: 14 DEMING DRIVE	Date Analyzed	: 07/09/19 00:10
Sample Matrix	: WATER	Dilution Factor	: 10
Analytical Method	: 1,8260C	Analyst	: NLK
Lab File ID	: V05190708N15	Instrument ID	: VOA105
Sample Amount	: 1 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

CAS NO.	Parameter	ug/L Results	RL	MDL	Qualifier
75-09-2	Methylene chloride	ND	25	7.0	U
75-34-3	1,1-Dichloroethane	ND	25	7.0	U
67-66-3	Chloroform	ND	25	7.0	U
56-23-5	Carbon tetrachloride	ND	5.0	1.3	U
78-87-5	1,2-Dichloropropane	ND	10	1.4	U
124-48-1	Dibromochloromethane	ND	5.0	1.5	U
79-00-5	1,1,2-Trichloroethane	ND	15	5.0	U
127-18-4	Tetrachloroethene	ND	5.0	1.8	U
108-90-7	Chlorobenzene	ND	25	7.0	U
75-69-4	Trichlorofluoromethane	ND	25	7.0	U
107-06-2	1,2-Dichloroethane	ND	5.0	1.3	U
71-55-6	1,1,1-Trichloroethane	ND	25	7.0	U
75-27-4	Bromodichloromethane	ND	5.0	1.9	U
10061-02-6	trans-1,3-Dichloropropene	ND	5.0	1.6	U
10061-01-5	cis-1,3-Dichloropropene	ND	5.0	1.4	U
75-25-2	Bromoform	ND	20	6.5	U
79-34-5	1,1,2,2-Tetrachloroethane	ND	5.0	1.7	U
71-43-2	Benzene	ND	5.0	1.6	U
108-88-3	Toluene	ND	25	7.0	U
100-41-4	Ethylbenzene	ND	25	7.0	U
74-87-3	Chloromethane	ND	25	7.0	U
74-83-9	Bromomethane	ND UJ	25	7.0	U
75-01-4	Vinyl chloride	120	10	0.71	
75-00-3	Chloroethane	ND	25	7.0	U
75-35-4	1,1-Dichloroethene	3.7	5.0	1.7	J

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Results Summary
Form 1
Volatile Organics by GC/MS

Client	: C&S Companies		Lab Number	: L1928183
Project Name	: JAMESTOWN CONTAINER		Project Number	: N30001001
Lab ID	: L1928183-12D		Date Collected	: 06/26/19 14:20
Client ID	: ESI-2-062619		Date Received	: 06/27/19
Sample Location	: 14 DEMING DRIVE		Date Analyzed	: 07/09/19 00:10
Sample Matrix	: WATER		Dilution Factor	: 10
Analytical Method	: 1,8260C		Analyst	: NLK
Lab File ID	: V05190708N15		Instrument ID	: VOA105
Sample Amount	: 1 ml		GC Column	: RTX-502.2
Level	: LOW		%Solids	: N/A
Extract Volume (MeOH)	: N/A		Injection Volume	: N/A

CAS NO.	Parameter	Results (ug/L)	RL (ug/L)	MDL (ug/L)	Qualifier
156-60-5	trans-1,2-Dichloroethene	18	25	7.0	J
79-01-6	Trichloroethene	690	5.0	1.8	
95-50-1	1,2-Dichlorobenzene	ND	25	7.0	U
541-73-1	1,3-Dichlorobenzene	ND	25	7.0	U
106-46-7	1,4-Dichlorobenzene	ND	25	7.0	U
1634-04-4	Methyl tert butyl ether	ND	25	7.0	U
179601-23-1	p/m-Xylene	ND	25	7.0	U
95-47-6	o-Xylene	ND	25	7.0	U
156-59-2	cis-1,2-Dichloroethene	1400	25	7.0	
100-42-5	Styrene	ND	25	7.0	U
75-71-8	Dichlorodifluoromethane	ND	50	10.	U
67-64-1	Acetone	ND	50	15.	U
75-15-0	Carbon disulfide	ND	50	10.	U
78-93-3	2-Butanone	ND	50	19.	U
108-10-1	4-Methyl-2-pentanone	ND	50	10.	U
591-78-6	2-Hexanone	ND	50	10.	U
106-93-4	1,2-Dibromoethane	ND	20	6.5	U
104-51-8	n-Butylbenzene	ND	25	7.0	U
135-98-8	sec-Butylbenzene	ND	25	7.0	U
98-06-6	tert-Butylbenzene	ND	25	7.0	U
96-12-8	1,2-Dibromo-3-chloropropane	ND	25	7.0	U
98-82-8	Isopropylbenzene	ND	25	7.0	U
99-87-6	p-Isopropyltoluene	ND	25	7.0	U
91-20-3	Naphthalene	ND	25	7.0	U
103-65-1	n-Propylbenzene	ND	25	7.0	U

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Results Summary
Form 1
Volatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L1928183
Project Name	: JAMESTOWN CONTAINER	Project Number	: N30001001
Lab ID	: L1928183-12D	Date Collected	: 06/26/19 14:20
Client ID	: ESI-2-062619	Date Received	: 06/27/19
Sample Location	: 14 DEMING DRIVE	Date Analyzed	: 07/09/19 00:10
Sample Matrix	: WATER	Dilution Factor	: 10
Analytical Method	: 1,8260C	Analyst	: NLK
Lab File ID	: V05190708N15	Instrument ID	: VOA105
Sample Amount	: 1 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/L			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
120-82-1	1,2,4-Trichlorobenzene	ND	25	7.0	U
108-67-8	1,3,5-Trimethylbenzene	ND	25	7.0	U
95-63-6	1,2,4-Trimethylbenzene	ND	25	7.0	U
79-20-9	Methyl Acetate	ND	20	2.3	U
110-82-7	Cyclohexane	ND	100	2.7	U
76-13-1	Freon-113	ND	25	7.0	U
108-87-2	Methyl cyclohexane	ND	100	4.0	U

Results Summary
Form 1
Volatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L1928183
Project Name	: JAMESTOWN CONTAINER	Project Number	: N30001001
Lab ID	: L1928183-16	Date Collected	: 06/26/19 15:00
Client ID	: TRIP BLANK	Date Received	: 06/27/19
Sample Location	: 14 DEMING DRIVE	Date Analyzed	: 07/10/19 14:46
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260C	Analyst	: KJD
Lab File ID	: V22190710A15	Instrument ID	: VOA122
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

CAS NO.	Parameter	Results (ug/L)	RL (ug/L)	MDL (ug/L)	Qualifier
75-09-2	Methylene chloride	ND	2.5	0.70	U
75-34-3	1,1-Dichloroethane	ND	2.5	0.70	U
67-66-3	Chloroform	ND	2.5	0.70	U
56-23-5	Carbon tetrachloride	ND	0.50	0.13	U
78-87-5	1,2-Dichloropropane	ND	1.0	0.14	U
124-48-1	Dibromochloromethane	ND	0.50	0.15	U
79-00-5	1,1,2-Trichloroethane	ND	1.5	0.50	U
127-18-4	Tetrachloroethene	ND	0.50	0.18	U
108-90-7	Chlorobenzene	ND	2.5	0.70	U
75-69-4	Trichlorofluoromethane	ND	2.5	0.70	U
107-06-2	1,2-Dichloroethane	ND	0.50	0.13	U
71-55-6	1,1,1-Trichloroethane	ND	2.5	0.70	U
75-27-4	Bromodichloromethane	ND	0.50	0.19	U
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.16	U
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.14	U
75-25-2	Bromoform	ND	2.0	0.65	U
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.17	U
71-43-2	Benzene	ND	0.50	0.16	U
108-88-3	Toluene	ND	2.5	0.70	U
100-41-4	Ethylbenzene	ND	2.5	0.70	U
74-87-3	Chloromethane	ND	2.5	0.70	U
74-83-9	Bromomethane	ND	2.5	0.70	U
75-01-4	Vinyl chloride	ND	1.0	0.07	U
75-00-3	Chloroethane	ND	2.5	0.70	U
75-35-4	1,1-Dichloroethene	ND	0.50	0.17	U

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Results Summary
Form 1
Volatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L1928183
Project Name	: JAMESTOWN CONTAINER	Project Number	: N30001001
Lab ID	: L1928183-16	Date Collected	: 06/26/19 15:00
Client ID	: TRIP BLANK	Date Received	: 06/27/19
Sample Location	: 14 DEMING DRIVE	Date Analyzed	: 07/10/19 14:46
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260C	Analyst	: KJD
Lab File ID	: V22190710A15	Instrument ID	: VOA122
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

CAS NO.	Parameter	Results (ug/L)	RL (ug/L)	MDL (ug/L)	Qualifier
156-60-5	trans-1,2-Dichloroethene	ND	2.5	0.70	U
79-01-6	Trichloroethene	ND	0.50	0.18	U
95-50-1	1,2-Dichlorobenzene	ND	2.5	0.70	U
541-73-1	1,3-Dichlorobenzene	ND	2.5	0.70	U
106-46-7	1,4-Dichlorobenzene	ND	2.5	0.70	U
1634-04-4	Methyl tert butyl ether	ND	2.5	0.70	U
179601-23-1	p/m-Xylene	ND	2.5	0.70	U
95-47-6	o-Xylene	ND	2.5	0.70	U
156-59-2	cis-1,2-Dichloroethene	ND	2.5	0.70	U
100-42-5	Styrene	ND	2.5	0.70	U
75-71-8	Dichlorodifluoromethane	ND	5.0	1.0	U
67-64-1	Acetone	2.5	5.0	1.5	J
75-15-0	Carbon disulfide	ND	5.0	1.0	U
78-93-3	2-Butanone	ND	5.0	1.9	U
108-10-1	4-Methyl-2-pentanone	ND	5.0	1.0	U
591-78-6	2-Hexanone	ND	5.0	1.0	U
106-93-4	1,2-Dibromoethane	ND	2.0	0.65	U
104-51-8	n-Butylbenzene	ND	2.5	0.70	U
135-98-8	sec-Butylbenzene	ND	2.5	0.70	U
98-06-6	tert-Butylbenzene	ND	2.5	0.70	U
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.5	0.70	U
98-82-8	Isopropylbenzene	ND	2.5	0.70	U
99-87-6	p-Isopropyltoluene	ND	2.5	0.70	U
91-20-3	Naphthalene	ND	2.5	0.70	U
103-65-1	n-Propylbenzene	ND	2.5	0.70	U

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Results Summary
Form 1
Volatile Organics by GC/MS

Client	: C&S Companies	Lab Number	: L1928183
Project Name	: JAMESTOWN CONTAINER	Project Number	: N30001001
Lab ID	: L1928183-16	Date Collected	: 06/26/19 15:00
Client ID	: TRIP BLANK	Date Received	: 06/27/19
Sample Location	: 14 DEMING DRIVE	Date Analyzed	: 07/10/19 14:46
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260C	Analyst	: KJD
Lab File ID	: V22190710A15	Instrument ID	: VOA122
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

CAS NO.	Parameter	ug/L Results	RL	MDL	Qualifier
120-82-1	1,2,4-Trichlorobenzene	ND	2.5	0.70	U
108-67-8	1,3,5-Trimethylbenzene	ND	2.5	0.70	U
95-63-6	1,2,4-Trimethylbenzene	ND	2.5	0.70	U
79-20-9	Methyl Acetate	ND	2.0	0.23	U
110-82-7	Cyclohexane	ND	10	0.27	U
76-13-1	Freon-113	ND	2.5	0.70	U
108-87-2	Methyl cyclohexane	ND	10	0.40	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by Isotope Dilution

Client	: C&S Companies	Lab Number	: L1928183
Project Name	: JAMESTOWN CONTAINER	Project Number	: N30001001
Lab ID	: L1928183-04	Date Collected	: 06/26/19 10:00
Client ID	: ESI-3-062619	Date Received	: 06/27/19
Sample Location	: 14 DEMING DRIVE	Date Analyzed	: 07/11/19 21:21
Sample Matrix	: WATER	Date Extracted	: 07/10/19
Analytical Method	: 122,537(M)	Dilution Factor	: 1
Lab File ID	: I6121	Analyst	: JW
Sample Amount	: 268 g	Instrument ID	: LCMS02
Extraction Method	: EPA 537	GC Column	: Acquity UPLC BEH C18
Extract Volume	: 1000 uL	%Solids	: N/A
GPC Cleanup	: N	Injection Volume	: 3 uL

CAS NO.	Parameter	ng/l Results	RL	MDL	Qualifier
375-22-4	Perfluorobutanoic Acid (PFBA)	3.16	1.86	0.380	
2706-90-3	Perfluoropentanoic Acid (PFPeA)	0.817	1.86	0.369	J
375-73-5	Perfluorobutanesulfonic Acid (PFBS)	1.06	1.86	0.222	J
307-24-4	Perfluorohexanoic Acid (PFHxA)	0.664	1.86	0.306	J
375-85-9	Perfluoroheptanoic Acid (PFHpA)	0.653	1.86	0.210	J
355-46-4	Perfluorohexanesulfonic Acid (PFHxS)	1.12	1.86	0.351	J
335-67-1	Perfluorooctanoic Acid (PFOA)	2.29	1.86	0.220	
27619-97-2	1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	1.86	1.24	U
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND	1.86	0.642	U
375-95-1	Perfluorononanoic Acid (PFNA)	ND	1.86	0.291	U
1763-23-1	Perfluorooctanesulfonic Acid (PFOS)	1.49	1.86	0.470	J
335-76-2	Perfluorodecanoic Acid (PFDA)	ND	1.86	0.284	U
39108-34-4	1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	1.86	1.13	U
2355-31-9	N-Methyl Perfluorooctanesulfonamidoaceti c Acid (NMeFOSAA)	ND	1.86	0.604	U
2058-94-8	Perfluoroundecanoic Acid (PFUnA)	0.466	1.86	0.242	J
335-77-3	Perfluorodecanesulfonic Acid (PFDS)	ND	1.86	0.914	U
754-91-6	Perfluorooctanesulfonamide (FOSA)	ND	1.86	0.541	U
2991-50-6	N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	1.86	0.750	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by Isotope Dilution

Client	: C&S Companies	Lab Number	: L1928183
Project Name	: JAMESTOWN CONTAINER	Project Number	: N30001001
Lab ID	: L1928183-04	Date Collected	: 06/26/19 10:00
Client ID	: ESI-3-062619	Date Received	: 06/27/19
Sample Location	: 14 DEMING DRIVE	Date Analyzed	: 07/11/19 21:21
Sample Matrix	: WATER	Date Extracted	: 07/10/19
Analytical Method	: 122,537(M)	Dilution Factor	: 1
Lab File ID	: I6121	Analyst	: JW
Sample Amount	: 268 g	Instrument ID	: LCMS02
Extraction Method	: EPA 537	GC Column	: Acquity UPLC BEH C18
Extract Volume	: 1000 uL	%Solids	: N/A
GPC Cleanup	: N	Injection Volume	: 3 uL

		ng/l			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
307-55-1	Perfluorododecanoic Acid (PFDoA)	1.86U ~~0.526~~	1.86	0.347	J
72629-94-8	Perfluorotridecanoic Acid (PFTrDA)	1.86U ~~0.436~~	1.86	0.305	J
376-06-7	Perfluorotetradecanoic Acid (PFTA)	1.86U ~~0.444~~	1.86	0.231	J
NONE	PFOA/PFOS, Total	3.78	1.86	0.220	J

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Appendix B

Laboratory QC Documentation

Laboratory Control Sample Summary
Form 3
Volatiles

Client	: C&S Companies	Lab Number	: L1928183
Project Name	: JAMESTOWN CONTAINER	Project Number	: N30001001
Matrix	: WATER		
LCS Sample ID	: WG1258007-3 Analysis Date : 07/09/19 19:20	File ID	: V08190709N02
LCSD Sample ID	: WG1258007-4 Analysis Date : 07/09/19 19:42	File ID	: V08190709N03

Parameter	Laboratory Control Sample True (ug/l)	Found (ug/l)	%R	Laboratory Control Duplicate True (ug/l)	Found (ug/l)	%R	RPD	Recovery Limits	RPD Limit
Methylene chloride	10	10	100	10	10	100	0	70-130	20
1,1-Dichloroethane	10	9.9	99	10	9.9	99	0	70-130	20
Chloroform	10	10	100	10	10	100	0	70-130	20
Carbon tetrachloride	10	10	100	10	10	100	0	63-132	20
1,2-Dichloropropane	10	9.8	98	10	9.9	99	1	70-130	20
Dibromochloromethane	10	10	100	10	10	100	0	63-130	20
1,1,2-Trichloroethane	10	11	110	10	10	100	10	70-130	20
Tetrachloroethene	10	11	110	10	11	110	0	70-130	20
Chlorobenzene	10	9.9	99	10	9.9	99	0	75-130	20
Trichlorofluoromethane	10	12	120	10	12	120	0	62-150	20
1,2-Dichloroethane	10	10	100	10	10	100	0	70-130	20
1,1,1-Trichloroethane	10	9.8	98	10	10	100	2	67-130	20
Bromodichloromethane	10	10	100	10	10	100	0	67-130	20
trans-1,3-Dichloropropene	10	8.9	89	10	8.8	88	1	70-130	20
cis-1,3-Dichloropropene	10	8.9	89	10	9.0	90	1	70-130	20
Bromoform	10	11	110	10	11	110	0	54-136	20
1,1,2,2-Tetrachloroethane	10	10	100	10	10	100	0	67-130	20
Benzene	10	9.8	98	10	10	100	2	70-130	20
Toluene	10	9.7	97	10	9.8	98	1	70-130	20
Ethylbenzene	10	9.3	93	10	9.6	96	3	70-130	20
Chloromethane	10	9.7	97	10	9.5	95	2	64-130	20
Bromomethane	10	12	120	10	13	130	8	39-139	20
Vinyl chloride	10	10	100	10	10	100	0	55-140	20
Chloroethane	10	16	160 Q	10	17	170 Q	6	55-138	20
1,1-Dichloroethene	10	9.3	93	10	10	100	7	61-145	20
trans-1,2-Dichloroethene	10	8.8	88	10	9.5	95	8	70-130	20

Matrix Spike Sample Summary
Form 3
Volatiles

Client	: C&S Companies	Lab Number	: L1928183
Project Name	: JAMESTOWN CONTAINER	Project Number	: N30001001
Client Sample ID	: PW-1-062619	Matrix	: WATER
Lab Sample ID	: L1928183-05	Analysis Date	: 07/09/19 20:11
Matrix Spike	: WG1257954-6	MS Analysis Date	: 07/10/19 03:20
Matrix Spike Dup	: WG1257954-7	MSD Analysis Date	: 07/10/19 03:45

Parameter	Sample Conc. (ug/l)	Matrix Spike Sample Spike Added (ug/l)	Spike Conc. (ug/l)	%R	Matrix Spike Duplicate Spike Added (ug/l)	Spike Conc. (ug/l)	%R	RPD	Recovery Limits	RPD Limit
Vinyl chloride	ND	10	13	130	10	13	130	0	55-140	20
Chloroethane	ND	10	13	130	10	13	130	0	55-138	20
1,1-Dichloroethene	ND	10	13	130	10	13	130	0	61-145	20
trans-1,2-Dichloroethene	ND	10	12	120	10	13	130	8	70-130	20
Trichloroethene	1.8	10	13	112	10	14	122	7	70-130	20
1,2-Dichlorobenzene	ND	10	9.2	92	10	10	100	8	70-130	20
1,3-Dichlorobenzene	ND	10	9.2	92	10	9.9	99	7	70-130	20
1,4-Dichlorobenzene	ND	10	9.1	91	10	9.8	98	7	70-130	20
Methyl tert butyl ether	ND	10	11	110	10	11	110	0	63-130	20
p/m-Xylene	ND	20	20	100	20	22	110	10	70-130	20
o-Xylene	ND	20	20	100	20	22	110	10	70-130	20
cis-1,2-Dichloroethene	ND	10	12	120	10	12	120	0	70-130	20
Styrene	ND	20	20	100	20	22	110	10	70-130	20
Dichlorodifluoromethane	ND	10	12	120	10	13	130	8	36-147	20
Acetone	2.8J	10	12	120	10	11	110	9	58-148	20
Carbon disulfide	ND	10	12	120	10	13	130	8	51-130	20
2-Butanone	ND	10	8.5	85	10	9.4	94	10	63-138	20
4-Methyl-2-pentanone	ND	10	7.6	76	10	8.2	82	8	59-130	20
2-Hexanone	ND	10	6.8	68	10	7.4	74	8	57-130	20
1,2-Dibromoethane	ND	10	9.6	96	10	10	100	4	70-130	20
n-Butylbenzene	ND	10	8.9	89	10	9.9	99	11	53-136	20
sec-Butylbenzene	ND	10	9.3	93	10	10	100	7	70-130	20

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Matrix Spike Sample Summary
Form 3
Volatiles

Client	: C&S Companies	Lab Number	: L1928183
Project Name	: JAMESTOWN CONTAINER	Project Number	: N30001001
Client Sample ID	: PW-1-062619	Matrix	: WATER
Lab Sample ID	: L1928183-05	Analysis Date	: 07/09/19 20:11
Matrix Spike	: WG1257954-6	MS Analysis Date	: 07/10/19 03:20
Matrix Spike Dup	: WG1257954-7	MSD Analysis Date	: 07/10/19 03:45

		Matrix Spike Sample			Matrix Spike Duplicate					
Parameter	Sample Conc. (ug/l)	Spike Added (ug/l)	Spike Conc. (ug/l)	%R	Spike Added (ug/l)	Spike Conc. (ug/l)	%R	RPD	Recovery Limits	RPD Limit
Methylene chloride	ND	10	11	110	10	12	120	9	70-130	20
1,1-Dichloroethane	ND	10	12	120	10	12	120	0	70-130	20
Chloroform	ND	10	12	120	10	12	120	0	70-130	20
Carbon tetrachloride	ND	10	13	130	10	14	140 Q	7	63-132	20
1,2-Dichloropropane	ND	10	11	110	10	11	110	0	70-130	20
Dibromochloromethane	ND	10	9.6	96	10	10	100	4	63-130	20
1,1,2-Trichloroethane	ND	10	9.9	99	10	10	100	1	70-130	20
Tetrachloroethene	ND	10	11	110	10	11	110	0	70-130	20
Chlorobenzene	ND	10	9.9	99	10	10	100	1	75-130	20
Trichlorofluoromethane	ND	10	14	140	10	14	140	0	62-150	20
1,2-Dichloroethane	ND	10	11	110	10	12	120	9	70-130	20
1,1,1-Trichloroethane	ND	10	13	130	10	13	130	0	67-130	20
Bromodichloromethane	ND	10	11	110	10	12	120	9	67-130	20
trans-1,3-Dichloropropene	ND	10	7.8	78	10	8.4	84	7	70-130	20
cis-1,3-Dichloropropene	ND	10	9.0	90	10	9.8	98	9	70-130	20
Bromoform	ND	10	7.7	77	10	8.2	82	6	54-136	20
1,1,2,2-Tetrachloroethane	ND	10	8.5	85	10	9.0	90	6	67-130	20
Benzene	ND	10	12	120	10	12	120	0	70-130	20
Toluene	ND	10	10	100	10	10	100	0	70-130	20
Ethylbenzene	ND	10	9.9	99	10	11	110	11	70-130	20
Chloromethane	ND	10	12	120	10	12	120	0	64-130	20
Bromomethane	ND	10	5.5	55	10	7.5	75	31 Q	39-139	20

ALPHA ANALYTICAL

Matrix Spike Sample Summary
Form 3
Volatiles

Client	: C&S Companies	Lab Number	: L1928183
Project Name	: JAMESTOWN CONTAINER	Project Number	: N30001001
Client Sample ID	: PW-1-062619	Matrix	: WATER
Lab Sample ID	: L1928183-05	Analysis Date	: 07/09/19 20:11
Matrix Spike	: WG1257954-6	MS Analysis Date	: 07/10/19 03:20
Matrix Spike Dup	: WG1257954-7	MSD Analysis Date	: 07/10/19 03:45

		Matrix Spike Sample			Matrix Spike Duplicate					
Parameter	Sample Conc. (ug/l)	Spike Added (ug/l)	Spike Conc. (ug/l)	%R	Spike Added (ug/l)	Spike Conc. (ug/l)	%R	RPD	Recovery Limits	RPD Limit
tert-Butylbenzene	ND	10	9.5	95	10	10	100	5	70-130	20
1,2-Dibromo-3-chloropropane	ND	10	7.4	74	10	8.0	80	8	41-144	20
Isopropylbenzene	ND	10	9.5	95	10	10	100	5	70-130	20
p-Isopropyltoluene	ND	10	9.4	94	10	10	100	6	70-130	20
Naphthalene	ND	10	6.6	66 Q	10	8.1	81	20	70-130	20
n-Propylbenzene	ND	10	9.4	94	10	10	100	6	69-130	20
1,2,4-Trichlorobenzene	ND	10	8.5	85	10	9.7	97	13	70-130	20
1,3,5-Trimethylbenzene	ND	10	9.3	93	10	10	100	7	64-130	20
1,2,4-Trimethylbenzene	ND	10	9.3	93	10	10	100	7	70-130	20
Methyl Acetate	ND	10	8.8	88	10	9.4	94	7	70-130	20
Cyclohexane	ND	10	12	120	10	13	130	8	70-130	20
Freon-113	ND	10	13	130	10	13	130	0	70-130	20
Methyl cyclohexane	ND	10	12	120	10	12	120	0	70-130	20

Calibration Verification Summary
Form 7
Volatiles

Client	: C&S Companies	**Lab Number**	: L1928183
Project Name	: JAMESTOWN CONTAINER	**Project Number**	: N30001001
Instrument ID	: VOA122	**Calibration Date**	: 07/05/19 07:39
Lab File ID	: V22190705A01	**Init. Calib. Date(s)**	: 06/11/19 06/11/19
Sample No	: WG1257156-2	**Init. Calib. Times**	: 12:03 16:14
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,2-Dichloropropane	0.226	0.239	-	-5.8	20	107	-.01
2-Chloroethyl vinyl ether	0.054	0.018*	-	66.7*	20	29	-.01 Ht
Bromodichloromethane	0.399	0.405	-	-1.5	20	103	-.02
1,4-Dioxane	0.00083	0.00165*	-	-98.8*	20	238	-.02 Ht
cis-1,3-Dichloropropene	0.407	0.366	-	10.1	20	91	0
Chlorobenzene-d5	1	1	-	0	20	112	0
Toluene-d8	1.362	1.349	-	1	20	111	-.02
Toluene	0.838	0.862	-	-2.9	20	110	0
4-Methyl-2-pentanone	0.063	0.059*	-	6.3	20	103	0
Tetrachloroethene	0.405	0.415	-	-2.5	20	105	0
trans-1,3-Dichloropropene	0.505	0.52	-	-3	20	111	0
Ethyl methacrylate	0.281	0.28	-	0.4	20	111	0
1,1,2-Trichloroethane	0.192	0.201	-	-4.7	20	111	0
Chlorodibromomethane	0.325	0.318	-	2.2	20	109	0
1,3-Dichloropropane	0.42	0.445	-	-6	20	113	0
1,2-Dibromoethane	0.229	0.237	-	-3.5	20	111	0
2-Hexanone	0.1	0.094*	-	6	20	106	0
Chlorobenzene	0.892	0.91	-	-2	20	110	-.02
Ethylbenzene	1.702	1.739	-	-2.2	20	107	0
1,1,1,2-Tetrachloroethane	0.348	0.342	-	1.7	20	104	0
p/m Xylene	0.62	0.624	-	-0.6	20	105	0
o Xylene	0.583	0.586	-	-0.5	20	107	-.02
Styrene	0.971	0.949	-	2.3	20	106	-.02
1,4-Dichlorobenzene-d4	1	1	-	0	20	112	0
Bromoform	0.416	0.389	-	6.5	20	103	0
Isopropylbenzene	3.217	3.267	-	-1.6	20	105	-.02
4-Bromofluorobenzene	1.037	1.042	-	-0.5	20	115	0
Bromobenzene	0.73	0.715	-	2.1	20	104	0
n-Propylbenzene	3.791	3.803	-	-0.3	20	104	0
1,4-Dichlorobutane	0.747	0.678	-	9.2	20	97	0
1,1,2,2-Tetrachloroethane	0.453	0.472	-	-4.2	20	116	0
4-Ethyltoluene	2.961	3.059	-	-3.3	20	106	0
2-Chlorotoluene	2.199	2.263	-	-2.9	20	107	-.01
1,3,5-Trimethylbenzene	2.683	2.661	-	0.8	20	101	0
1,2,3-Trichloropropane	0.435	0.437	-	-0.5	20	108	0
trans-1,4-Dichloro-2-buten	0.138	0.109	-	21*	20	89	0 Ht
4-Chlorotoluene	2.382	2.354	-	1.2	20	105	0
tert-Butylbenzene	2.242	2.169	-	3.3	20	99	0
1,2,4-Trimethylbenzene	2.654	2.635	-	0.7	20	101	0
sec-Butylbenzene	2.342	1.732	-	26*	20	81	0
p-Isopropyltoluene	2.687	2.683	-	0.1	20	104	0
1,3-Dichlorobenzene	1.384	1.381	-	0.2	20	105	0
1,4-Dichlorobenzene	1.387	1.322	-	4.7	20	103	0

* Value outside of QC limits.

ALPHA ANALYTICAL

Calibration Verification Summary
Form 7
Volatiles

Client	: C&S Companies			
Project Name	: JAMESTOWN CONTAINER	Lab Number	: L1928183	
Instrument ID	: VOA105	Project Number	: N30001001	
Lab File ID	: V05190708N02	Calibration Date	: 07/08/19 18:42	
Sample No	: WG1257506-2	Init. Calib. Date(s)	: 06/27/19	06/27/19
Channel	:	Init. Calib. Times	: 14:04	17:51

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	106	0
Dichlorodifluoromethane	0.213	0.219	-	-2.8	20	104	0
Chloromethane	0.29	0.282	-	2.8	20	101	0
Vinyl chloride	0.253	0.27	-	-6.7	20	108	0
Bromomethane	0.135	0.096*	-	28.9*	20	76	0
Chloroethane	0.152	0.149	-	2	20	102	0
Trichlorofluoromethane	0.34	0.348	-	-2.4	20	102	0
Ethyl ether	0.084	0.093	-	-10.7	20	110	0
1,1-Dichloroethene	0.189	0.209	-	-10.6	20	113	0
Carbon disulfide	0.583	0.613	-	-5.1	20	113	0
Freon-113	0.191	0.221	-	-15.7	20	118	0
Acrolein	0.022	0.023*	-	-4.5	20	110	0
Methylene chloride	0.223	0.237	-	-6.3	20	110	0
Acetone	0.038	0.037*	-	2.6	20	98	0
trans-1,2-Dichloroethene	0.215	0.233	-	-8.4	20	114	0
Methyl acetate	0.095	0.097*	-	-2.1	20	98	0
Methyl tert-butyl ether	0.408	0.458	-	-12.3	20	115	0
tert-Butyl alcohol	0.00902	0.00978*	-	-8.4	20	118	.01
Diisopropyl ether	0.771	0.781	-	-1.3	20	101	0
1,1-Dichloroethane	0.467	0.472	-	-1.1	20	104	0
Halothane	0.156	0.169	-	-8.3	20	113	0
Acrylonitrile	0.043	0.048*	-	-11.6	20	109	0
Ethyl tert-butyl ether	0.582	0.633	-	-8.8	20	110	0
Vinyl acetate	0.422	0.441	-	-4.5	20	103	0
cis-1,2-Dichloroethene	0.233	0.254	-	-9	20	113	0
2,2-Dichloropropane	0.317	0.351	-	-10.7	20	115	0
Bromochloromethane	0.094	0.107	-	-13.8	20	113	0
Cyclohexane	0.402	0.455	-	-13.2	20	113	0
Chloroform	0.423	0.435	-	-2.8	20	105	0
Carbon tetrachloride	0.304	0.325	-	-6.9	20	105	0
Tetrahydrofuran	0.04	0.039*	-	2.5	20	100	0
Dibromofluoromethane	0.268	0.27	-	-0.7	20	105	0
1,1,1-Trichloroethane	0.381	0.396	-	-3.9	20	105	0
2-Butanone	0.06	0.055*	-	8.3	20	95	0
1,1-Dichloropropene	0.312	0.332	-	-6.4	20	110	0
Benzene	0.862	0.941	-	-9.2	20	109	0
tert-Amyl methyl ether	0.409	0.46	-	-12.5	20	117	0
1,2-Dichloroethane-d4	0.347	0.325	-	6.3	20	92	.01
1,2-Dichloroethane	0.31	0.304	-	1.9	20	96	0
Methyl cyclohexane	0.354	0.416	-	-17.5	20	122	0
Trichloroethene	0.243	0.245	-	-0.8	20	108	0
Dibromomethane	0.105	0.114	-	-8.6	20	109	0
1,2-Dichloropropane	0.232	0.242	-	-4.3	20	108	0

* Value outside of QC limits.

ALPHA ANALYTICAL

Calibration Verification Summary
Form 7
Volatiles

Client	: C&S Companies	Lab Number	: L1928183
Project Name	: JAMESTOWN CONTAINER	Project Number	: N30001001
Instrument ID	: VOA105	Calibration Date	: 07/09/19 18:05
Lab File ID	: V05190709N02	Init. Calib. Date(s)	: 06/27/19 06/27/19
Sample No	: WG1257954-2	Init. Calib. Times	: 14:04 17:51
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	98	0
Dichlorodifluoromethane	0.213	0.197	-	7.5	20	87	0
Chloromethane	0.29	0.264	-	9	20	87	0
Vinyl chloride	0.253	0.252	-	0.4	20	93	0
Bromomethane	0.135	0.07*	-	48.1*	20	52	0
Chloroethane	0.152	0.145	-	4.6	20	92	0
Trichlorofluoromethane	0.34	0.323	-	5	20	88	0
Ethyl ether	0.084	0.09	-	-7.1	20	98	0
1,1-Dichloroethene	0.189	0.194	-	-2.6	20	98	0
Carbon disulfide	0.583	0.574	-	1.5	20	98	0
Freon-113	0.191	0.198	-	-3.7	20	98	0
Iodomethane	10	7.75	-	22.5*	20	207	0 nt
Acrolein	0.022	0.021*	-	4.5	20	93	0
Methylene chloride	0.223	0.228	-	-2.2	20	99	0
Acetone	0.038	0.038*	-	0	20	93	0
trans-1,2-Dichloroethene	0.215	0.219	-	-1.9	20	99	0
Methyl acetate	0.095	0.091*	-	4.2	20	85	0
Methyl tert-butyl ether	0.408	0.435	-	-6.6	20	101	0
tert-Butyl alcohol	0.00902	0.00922*	-	-2.2	20	103	0
Diisopropyl ether	0.771	0.747	-	3.1	20	90	0
1,1-Dichloroethane	0.467	0.451	-	3.4	20	92	0
Halothane	0.156	0.158	-	-1.3	20	98	0
Acrylonitrile	0.043	0.043*	-	0	20	90	0
Ethyl tert-butyl ether	0.582	0.604	-	-3.8	20	98	0
Vinyl acetate	0.422	0.408	-	3.3	20	88	0
cis-1,2-Dichloroethene	0.233	0.244	-	-4.7	20	100	0
2,2-Dichloropropane	0.317	0.318	-	-0.3	20	96	0
Bromochloromethane	0.094	0.105	-	-11.7	20	103	0
Cyclohexane	0.402	0.403	-	-0.2	20	93	0
Chloroform	0.423	0.415	-	1.9	20	93	0
Ethyl acetate	10	8.35	-	16.5	20	82	0
Carbon tetrachloride	0.304	0.301	-	1	20	90	0
Tetrahydrofuran	0.04	0.038*	-	5	20	90	0
Dibromofluoromethane	0.268	0.272	-	-1.5	20	98	0
1,1,1-Trichloroethane	0.381	0.373	-	2.1	20	92	0
2-Butanone	0.06	0.052*	-	13.3	20	84	0
1,1-Dichloropropene	0.312	0.307	-	1.6	20	94	0
Benzene	0.862	0.893	-	-3.6	20	96	0
tert-Amyl methyl ether	0.409	0.441	-	-7.8	20	103	0
1,2-Dichloroethane-d4	0.347	0.329	-	5.2	20	86	0
1,2-Dichloroethane	0.31	0.297	-	4.2	20	87	0
Methyl cyclohexane	0.354	0.372	-	-5.1	20	102	0
Trichloroethene	0.243	0.23	-	5.3	20	94	0

* Value outside of QC limits.

ALPHA ANALYTICAL

Calibration Verification Summary
Form 7
Volatiles

Client	: C&S Companies	Lab Number	: L1928183
Project Name	: JAMESTOWN CONTAINER	Project Number	: N30001001
Instrument ID	: VOA105	Calibration Date	: 07/09/19 18:05
Lab File ID	: V05190709N02	Init. Calib. Date(s)	: 06/27/19 06/27/19
Sample No	: WG1257954-2	Init. Calib. Times	: 14:04 17:51
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Dibromomethane	0.105	0.107	-	-1.9	20	95	0
1,2-Dichloropropane	0.232	0.232	-	0	20	96	0
2-Chloroethyl vinyl ether	0.093	0.047*	-	49.5*	20	50	0 NT
Bromodichloromethane	0.29	0.272	-	6.2	20	90	0
1,4-Dioxane	0.00099	0.00115*	-	-16.2	20	104	0
cis-1,3-Dichloropropene	10	9.238	-	7.6	20	97	0
Chlorobenzene-d5	1	1	-	0	20	108	0
Toluene-d8	1.379	1.315	-	4.6	20	103	0
Toluene	0.753	0.692	-	8.1	20	98	0
4-Methyl-2-pentanone	0.058	0.052*	-	10.3	20	100	0
Tetrachloroethene	0.317	0.304	-	4.1	20	102	0
trans-1,3-Dichloropropene	10	7.803	-	22*	20	93	0
Ethyl methacrylate	0.233	0.209	-	10.3	20	101	0
1,1,2-Trichloroethane	0.165	0.161	-	2.4	20	98	0
Chlorodibromomethane	0.232	0.214	-	7.8	20	99	0
1,3-Dichloropropane	0.362	0.337	-	6.9	20	96	0
1,2-Dibromoethane	0.181	0.174	-	3.9	20	99	0
2-Hexanone	0.103	0.082*	-	20.4*	20	92	0 < 40
Chlorobenzene	0.786	0.744	-	5.3	20	101	0
Ethylbenzene	1.477	1.345	-	8.9	20	95	0
1,1,1,2-Tetrachloroethane	0.268	0.249	-	7.1	20	98	0
p/m Xylene	0.529	0.51	-	3.6	20	99	0
o Xylene	0.486	0.476	-	2.1	20	100	0
Styrene	0.778	0.767	-	1.4	20	99	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	112	.01
Bromoform	10	7.651	-	23.5*	20	100	0
Isopropylbenzene	2.612	2.387	-	8.6	20	96	0
4-Bromofluorobenzene	1.016	0.978	-	3.7	20	107	0
Bromobenzene	0.614	0.567	-	7.7	20	103	0
n-Propylbenzene	3.158	2.841	-	10	20	94	.01
1,4-Dichlorobutane	0.697	0.599	-	14.1	20	90	0
1,1,2,2-Tetrachloroethane	0.369	0.334	-	9.5	20	96	0
4-Ethyltoluene	2.492	2.281	-	8.5	20	97	0
2-Chlorotoluene	1.959	1.856	-	5.3	20	103	0
1,3,5-Trimethylbenzene	2.216	1.999	-	9.8	20	97	0
1,2,3-Trichloropropane	0.347	0.333	-	4	20	102	0
trans-1,4-Dichloro-2-buten	0.09	0.044*	-	51.1*	20	62	.01 NT
4-Chlorotoluene	1.979	1.76	-	11.1	20	96	0
tert-Butylbenzene	1.821	1.658	-	9	20	96	0
1,2,4-Trimethylbenzene	2.14	1.966	-	8.1	20	97	0
sec-Butylbenzene	2.489	2.253	-	9.5	20	96	0
p-Isopropyltoluene	2.187	2.023	-	7.5	20	97	0
1,3-Dichlorobenzene	1.141	1.047	-	8.2	20	101	0

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: C&S Companies		Lab Number	: L1928183
Project Name	: JAMESTOWN CONTAINER		Project Number	: N30001001
Instrument ID	: VOA108		Calibration Date	: 07/09/19 19:20
Lab File ID	: V08190709N02		Init. Calib. Date(s)	: 05/22/19 05/22/19
Sample No	: WG1258007-2		Init. Calib. Times	: 20:17 23:34
Channel	:			

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)	
Fluorobenzene	1	1	-	0	20	69	0	
Dichlorodifluoromethane	0.174	0.161	-	7.5	20	60	0	
Chloromethane	0.194	0.189	-	2.6	20	63	0	
Vinyl chloride	0.22	0.232	-	-5.5	20	65	0	
Bromomethane	0.156	0.195	-	-25*	20	93	0	
Chloroethane	0.15	0.24	-	-60*	20	104	0	
Trichlorofluoromethane	0.357	0.436	-	-22.1*	20	81	0	<40
Ethyl ether	0.103	0.112	-	-8.7	20	71	0	
1,1-Dichloroethene	0.18	0.167	-	7.2	20	59	0	
Carbon disulfide	0.579	0.59	-	-1.9	20	66	0	
Freon-113	0.185	0.188	-	-1.6	20	66	0	
Acrolein	0.025	0.029*	-	-16	20	87	0	
Methylene chloride	0.221	0.227	-	-2.7	20	68	0	
Acetone	0.037	0.043*	-	-16.2	20	79	0	
trans-1,2-Dichloroethene	0.213	0.188	-	11.7	20	60	0	
Methyl acetate	0.093	0.09*	-	3.2	20	69	0	
Methyl tert-butyl ether	0.529	0.462	-	12.7	20	59	0	
tert-Butyl alcohol	0.013	0.015*	-	-15.4	20	84	0	
Diisopropyl ether	0.578	0.454	-	21.5*	20	52	0	NT
1,1-Dichloroethane	0.372	0.368	-	1.1	20	65	0	
Halothane	0.16	0.148	-	7.5	20	64	0	
Acrylonitrile	0.052	0.052	-	0	20	70	0	
Ethyl tert-butyl ether	0.607	0.512	-	15.7	20	57	0	
Vinyl acetate	0.372	0.315	-	15.3	20	61	0	
cis-1,2-Dichloroethene	0.232	0.217	-	6.5	20	61	0	
2,2-Dichloropropane	0.297	0.253	-	14.8	20	58	0	
Bromochloromethane	0.11	0.107	-	2.7	20	65	0	
Cyclohexane	0.326	0.275	-	15.6	20	57	0	
Chloroform	0.403	0.406	-	-0.7	20	66	0	
Ethyl acetate	10	5.561	-	44.4*	20	35	0	NT
Carbon tetrachloride	0.268	0.268	-	0	20	63	0	
Tetrahydrofuran	0.038	0.031*	-	18.4	20	61	0	
Dibromofluoromethane	0.248	0.268	-	-8.1	20	74	0	
1,1,1-Trichloroethane	0.342	0.337	-	1.5	20	66	0	
2-Butanone	0.06	0.054*	-	10	20	74	0	
1,1-Dichloropropene	0.291	0.263	-	9.6	20	59	0	
Benzene	0.865	0.853	-	1.4	20	63	0	
tert-Amyl methyl ether	0.591	0.481	-	18.6	20	54	0	
1,2-Dichloroethane-d4	0.279	0.301	-	-7.9	20	74	0	
1,2-Dichloroethane	0.304	0.315	-	-3.6	20	70	0	
Methyl cyclohexane	0.372	0.324	-	12.9	20	56	0	
Trichloroethene	0.228	0.218	-	4.4	20	65	0	
Dibromomethane	0.138	0.144	-	-4.3	20	67	0	

* Value outside of QC limits.

ALPHA ANALYTICAL

Calibration Verification Summary
Form 7
Volatiles

Client	: C&S Companies	Lab Number	: L1928183	
Project Name	: JAMESTOWN CONTAINER	Project Number	: N30001001	
Instrument ID	: VOA108	Calibration Date	: 07/09/19 19:20	
Lab File ID	: V08190709N02	Init. Calib. Date(s)	: 05/22/19	05/22/19
Sample No	: WG1258007-2	Init. Calib. Times	: 20:17	23:34
Channel	:			

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,4-Dichlorobenzene	1.473	1.404	-	4.7	20	69	0
p-Diethylbenzene	1.552	1.356	-	12.6	20	61	0
n-Butylbenzene	2.493	2.453	-	1.6	20	68	0
1,2-Dichlorobenzene	1.378	1.343	-	2.5	20	70	0
1,2,4,5-Tetramethylbenzene	2.486	1.959	-	21.2*	20	55	0 NT
1,2-Dibromo-3-chloropropan	0.094	0.1	-	-6.4	20	79	0
1,3,5-Trichlorobenzene	1.105	1.077	-	2.5	20	69	0
Hexachlorobutadiene	0.495	0.488	-	1.4	20	68	0
1,2,4-Trichlorobenzene	1.053	0.94	-	10.7	20	65	0
Naphthalene	2.116	1.654	-	21.8*	20	56	0
1,2,3-Trichlorobenzene	0.967	0.877	-	9.3	20	66	0

* Value outside of QC limits.

Results Summary
Form 1
Perfluorinated Alkyl Acids by Isotope Dilution

Client	: C&S Companies	Lab Number	: L1928183
Project Name	: JAMESTOWN CONTAINER	Project Number	: N30001001
Lab ID	: WG1257924-1	Date Collected	: NA
Client ID	: WG1257924-1BLANK	Date Received	: NA
Sample Location	:	Date Analyzed	: 07/11/19 06:29
Sample Matrix	: WATER	Date Extracted	: 07/10/19
Analytical Method	: 122,537(M)	Dilution Factor	: 1
Lab File ID	: I6069	Analyst	: JW
Sample Amount	: 250 g	Instrument ID	: LCMS02
Extraction Method	: EPA 537	GC Column	: Acquity UPLC BEH C18
Extract Volume	: 1000 uL	%Solids	: N/A
GPC Cleanup	: N	Injection Volume	: 3 uL

CAS NO.	Parameter	Results (ng/l)	RL (ng/l)	MDL (ng/l)	Qualifier
375-22-4	Perfluorobutanoic Acid (PFBA)	ND	2.00	0.408	U
2706-90-3	Perfluoropentanoic Acid (PFPeA)	ND	2.00	0.396	U
375-73-5	Perfluorobutanesulfonic Acid (PFBS)	ND	2.00	0.238	U
307-24-4	Perfluorohexanoic Acid (PFHxA)	ND	2.00	0.328	U
375-85-9	Perfluoroheptanoic Acid (PFHpA)	ND	2.00	0.225	U
355-46-4	Perfluorohexanesulfonic Acid (PFHxS)	ND	2.00	0.376	U
335-67-1	Perfluorooctanoic Acid (PFOA)	ND	2.00	0.236	U
27619-97-2	1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	2.00	1.33	U
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND	2.00	0.688	U
375-95-1	Perfluorononanoic Acid (PFNA)	ND	2.00	0.312	U
1763-23-1	Perfluorooctanesulfonic Acid (PFOS)	ND	2.00	0.504	U
335-76-2	Perfluorodecanoic Acid (PFDA)	ND	2.00	0.304	U
39108-34-4	1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	2.00	1.21	U
2355-31-9	N-Methyl Perfluorooctanesulfonamidoaceti c Acid (NMeFOSAA)	ND	2.00	0.648	U
2058-94-8	Perfluoroundecanoic Acid (PFUnA)	ND	2.00	0.260	U
335-77-3	Perfluorodecanesulfonic Acid (PFDS)	ND	2.00	0.980	U
754-91-6	Perfluorooctanesulfonamide (FOSA)	ND	2.00	0.580	U
2991-50-6	N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	2.00	0.804	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by Isotope Dilution

Client	: C&S Companies	Lab Number	: L1928183
Project Name	: JAMESTOWN CONTAINER	Project Number	: N30001001
Lab ID	: WG1257924-1	Date Collected	: NA
Client ID	: WG1257924-1BLANK	Date Received	: NA
Sample Location	:	Date Analyzed	: 07/11/19 06:29
Sample Matrix	: WATER	Date Extracted	: 07/10/19
Analytical Method	: 122,537(M)	Dilution Factor	: 1
Lab File ID	: I6069	Analyst	: JW
Sample Amount	: 250 g	Instrument ID	: LCMS02
Extraction Method	: EPA 537	GC Column	: Acquity UPLC BEH C18
Extract Volume	: 1000 uL	%Solids	: N/A
GPC Cleanup	: N	Injection Volume	: 3 uL

		ng/l			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
307-55-1	Perfluorododecanoic Acid (PFDoA)	0.384	2.00	0.372	J
72629-94-8	Perfluorotridecanoic Acid (PFTrDA)	0.636	2.00	0.327	J
376-06-7	Perfluorotetradecanoic Acid (PFTA)	0.692	2.00	0.248	J
NONE	PFOA/PFOS, Total	ND	2.00	0.236	U

Calibration Verification Summary
Form 7
Semivolatiles

Client	: C&S Companies	Lab Number	: L1928183
Project Name	: JAMESTOWN CONTAINER	Project Number	: N30001001
Instrument ID	: LCMS02	Calibration Date	: 07/11/19 23:17
Lab File ID	: I6128	Init. Calib. Date(s)	: 07/01/19 07/01/19
Sample No	: WG1258709-3	Init. Calib. Times	: 17:57 19:53
Channel	:		

Compound	Concentration (ng/ml)	True Value (ng/ml)	% Recovery	QC Limits
Perfluorobutanoic Acid (PFBA)	0.469	0.500	93.7	50-150
Perfluoropentanoic Acid (PFPeA)	0.633	0.500	126.6	50-150
Perfluorobutanesulfonic Acid (PFBS)	0.396	0.440	89.6	50-150
Perfluorohexanoic Acid (PFHxA)	0.771	0.500	154.3*	50-150
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	0.470	0.470	100.5	50-150
Perfluoropentanesulfonic Acid (PFPeS)	0.333	0.470	70.8	50-150
Perfluoroheptanoic Acid (PFHpA)	0.490	0.500	98.1	50-150
Perfluorohexanesulfonic Acid-Branched (br-PFHxS)	0.045	0.090	52.9	50-150
Perfluorohexanesulfonic Acid-Linear (L-PFHxS)	0.276	0.370	74.7	50-150
Perfluorohexanesulfonic Acid (PFHxS)	0.321	0.460	-	50-150
Perfluorooctanoic Acid-Branched (br-PFOA)				
Perfluorooctanoic Acid-Linear (L-PFOA)	0.592	0.500	118.5	50-150
Perfluorooctanoic Acid (PFOA)	0.592	0.500	-	50-150
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	0.410	0.480	86.4	50-150
Perfluoroheptanesulfonic Acid (PFHpS)	0.392	0.480	82.5	50-150
Perfluorononanoic Acid (PFNA)	0.745	0.500	149.1	50-150
Perfluorooctanesulfonic Acid-Branched (br-PFOS)	0.062	0.100	61.6	50-150
Perfluorooctanesulfonic Acid-Linear (L-PFOS)	0.267	0.370	73.3	50-150
Perfluorooctanesulfonic Acid (PFOS)	0.329	0.460	-	50-150
Perfluorodecanoic Acid (PFDA)	1.114	0.500	222.7*	50-150
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	0.360	0.480	74.9	50-150
Perfluorononanesulfonic Acid (PFNS)	0.405	0.480	84.3	50-150
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	0.298	0.500	59.7	50-150
Perfluoroundecanoic Acid (PFUnA)	1.055	0.500	211.1*	50-150
Perfluorodecanesulfonic Acid (PFDS)	0.372	0.480	77.2	50-150
Perfluorooctanesulfonamide (FOSA)	0.407	0.500	81.4	50-150
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	0.467	0.500	93.4	50-150
Perfluorododecanoic Acid (PFDoA)	1.025	0.500	205*	50-150
Perfluorotridecanoic Acid (PFTrDA)	0.995	0.500	198.9*	50-150
Perfluorotetradecanoic Acid (PFTA)	0.997	0.500	199.4*	50-150
Perfluoro[13C4]Butanoic Acid (MPFBA)	9.461	10.000	94.6	50-150
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	10.310	10.000	103.1	50-150
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	8.813	10.000	88.1	50-150
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	6.804	10.000	68	50-150
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	8.871	10.000	88.7	50-150
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	9.235	10.000	92.3	50-150
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	9.470	10.000	94.7	50-150
Perfluoro[13C8]Octanoic Acid (M8PFOA)	9.430	10.000	94.3	50-150
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	7.205	10.000	72	50-150
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	10.055	10.000	100.6	50-150
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	9.156	10.000	91.6	50-150
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	9.336	10.000	93.4	50-150
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	7.650	10.000	76.5	50-150

* Value outside of QC limits.

Appendix C

Validator Qualifications

KENNETH R. APPLIN
Geochemist/Data Validator

Ph.D., Geochemistry and Mineralogy, The Pennsylvania State University

M.S., Geochemistry and Mineralogy, The Pennsylvania State University

B.A., Geological Sciences, SUNY at Geneseo, NY

Dr. Applin has over 35 years of experience working with the geochemistry of natural waters. His prior experience includes working as an Assistant Professor of Geology at the University of Missouri-Columbia and as Chief Hydrogeologist and Geochemist with a leading engineering firm in Rochester, NY. In 1993, he established KR Applin and Associates, a small consulting business that focuses on the geochemistry of natural waters, especially as applied to problems involving the contamination of groundwater and surface water.

Dr. Applin is also an experienced analytical data validator and has provided data validation services since 1994 to a variety of clients performing brownfield cleanup projects, hazardous waste remediation, groundwater monitoring at solid waste facilities, and other projects requiring third-party data validation. Dr. Applin has several years of hands-on experience with the laboratory analysis of natural waters and has successfully completed the USEPA Region II certification courses for performing inorganic and organic analytical data validation.

MICHAEL K. PERRY
Chemist/Data Validator

B.S. Chemistry, Georgia State University, Atlanta, GA

A.A.S., Chemical Technology, Alfred State College, Alfred, NY

Mr. Perry has over 30 years of experience in the analytical laboratory business. During his early career, he spent several years as a laboratory analyst performing the analysis of soil, water, and air samples for inorganic and organic chemical parameters. During his last 20 years in the environmental laboratory business, he managed and directed two major analytical laboratories in Rochester, NY. His management responsibilities included oversight of the daily operations of the lab, staff training and supervision, the selection, purchase, and maintenance of analytical instruments, the introduction of new laboratory methods, analytical quality assurance and quality control, data acquisition and management, and other business-related activities.

Mr. Perry has an extensive working knowledge of the methods and procedures used for sampling and analyzing both inorganic and organic analytes in soil, water, and air. He is an accomplished laboratory chemist and is familiar with the analytical methods and procedures established under the USEPA Contract Laboratory Protocols (CLP), the NYSDEC Analytical Services Protocols (ASP), and the NYSDOH Environmental Laboratory Approval Program (ELAP).

APPENDIX B
GROUNDWATER USE CERTIFICATION

Jamestown Container Realty Inc.
14 Deming Drive
Falconer, NY 14733

November 26, 2019

Re: Site Name:	Dowcraft, South Dow Street
Site No:	907020
Site Address:	65 South Dow Street, Falconer, NY 14733

To Whom it May Concern,

This confirms that the above referenced property is owned by Jamestown Container Realty Inc. As the property owner, Jamestown Container Realty Inc. herby certifies that it is not using any ground water drawn from the property.

If you need anything further, please advise.

Sincerely,

Joseph R Palmeri

Joseph R. Palmeri
Vice President / COO

APPENDIX C

INSTITUTIONAL AND ENGINEERING CONTROLS CERTIFICATION FORM

Enclosure 2
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Site Management Periodic Review Report Notice
Institutional and Engineering Controls Certification Form

Site Details **Box 1**

Site No. 907020

Site Name Dowcraft, South Dow Street

Site Address: 65 South Dow Street Zip Code: 14733
City/Town: Falconer
County: Chautauqua
Site Acreage: 2.200

Reporting Period: October 31, 2018 to October 31, 2019

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

Box 2

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

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

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

_______________________________________ ____________
Signature of Owner, Remedial Party or Designated Representative Date

SITE NO. 907020 **Box 3**

Description of Institutional Controls

Parcel	Owner	Institutional Control
104-12-2	Bruce Janowski, Jamestown Container Real	Ground Water Use Restriction Landuse Restriction Monitoring Plan O&M Plan

Box 4

Description of Engineering Controls

None Required

Not Applicable/No EC's

Box 5

Periodic Review Report (PRR) Certification Statements

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

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

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

YES	NO
☒	☐

2. If this site has an IC/EC Plan (or equivalent as required in the Decision Document), for each Institutional or Engineering control listed in Boxes 3 and/or 4, I certify by checking "YES" below that all of the following statements are true:

   (a) the Institutional Control and/or Engineering Control(s) employed at this site is unchanged since the date that the Control was put in-place, or was last approved by the Department;

   (b) nothing has occurred that would impair the ability of such Control, to protect public health and the environment;

   (c) access to the site will continue to be provided to the Department, to evaluate the remedy, including access to evaluate the continued maintenance of this Control;

   (d) nothing has occurred that would constitute a violation or failure to comply with the Site Management Plan for this Control; and

   (e) if a financial assurance mechanism is required by the oversight document for the site, the mechanism remains valid and sufficient for its intended purpose established in the document.

YES	NO
☒	☐

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

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

____________________________________ ________________

Signature of Owner, Remedial Party or Designated Representative   Date

IC CERTIFICATIONS
SITE NO. 907020

Box 6

SITE OWNER OR DESIGNATED REPRESENTATIVE SIGNATURE

I certify that all information and statements in Boxes 1,2, and 3 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I Cody Martin at C&S Engineers Inc., 141 Elm St. Buffalo, NY
print name print business address

am certifying as Designated Representative (Owner or Remedial Party)

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

Signature of Owner, Remedial Party, or Designated Representative Rendering Certification

11/27/19
Date

APPENDIX D
OPERATION, MAINTENANCE AND MONITORING WORK PLAN

C&S Companies
141 Elm Street
Suite 100
Buffalo, NY 14203
p: (716) 847-1630
f: (716) 847-1454
www.cscos.com

June 26, 2018

David Szymanski
Department of Environmental Conservation
Division of Environmental Remediation
270 Michigan Avenue
Buffalo, New York 14203

Re: Emerging Contaminant Groundwater Sampling Work Plan
Former Dowcraft Facility, Falconer, New York
Site No. 907020

Mr. Szymanski:

This letter outlines the emerging contaminant sampling program that will be conducted by C&S Engineers (C&S) at the former Dowcraft facility in Falconer, New York.

On June 12, 2018 the NYSDEC, notified the Remedial Party that one round of groundwater sampling for 1,4-dioxane and perfluorooctanic acid (PFOA) and perfluorooctane sulfonate (PFOS) is required. To fulfill this request, C&S will collect three groundwater samples from the existing monitoring wells located at the Site. The groundwater characterization program includes the following:

- No new monitoring wells will need to be installed.
- Sampling will take place during the next annual round of groundwater sampling (Spring 2019) conducted for the Operation, Maintenance and Monitoring Work Plan.
- C&S will purge an appropriate amount of groundwater from the wells prior to sampling in order to develop the wells and to facilitate the collection of representative groundwater samples.
- Samples will be collected using the PFOA/PFOS protocols described in the June 12, 2018 NYSDEC notification.
- C&S will collect the groundwater samples using dedicated, disposable bailers or low-flow sampling techniques via the pouring of the groundwater directly into pre-cleaned bottles supplied by the laboratory.
- Collect 1 equipment blank, 1 field duplicate and 1 MS/MSD.
- C&S will submit groundwater samples under standard chain-of-custody procedures for the following:
    - 1,4-Dioxane using EPA Method 8270 SIM
    - PFOA/PFOS using EPA Method 537 for NYSDEC full PFAS Target Analyte List
- Lab analysis reports will be submitted to the NYSDEC within 5 days of receipt.
- A third party contractor will evaluate all lab data and prepare a Data Usability Summary Report (DUSR).

- Following the receipt of the DUSR, all lab data will be uploaded into the NYSDEC EQuIS database.

Should you have any questions regarding this work plan or the information contained herein, please feel free to contact me at (716) 847-1630.

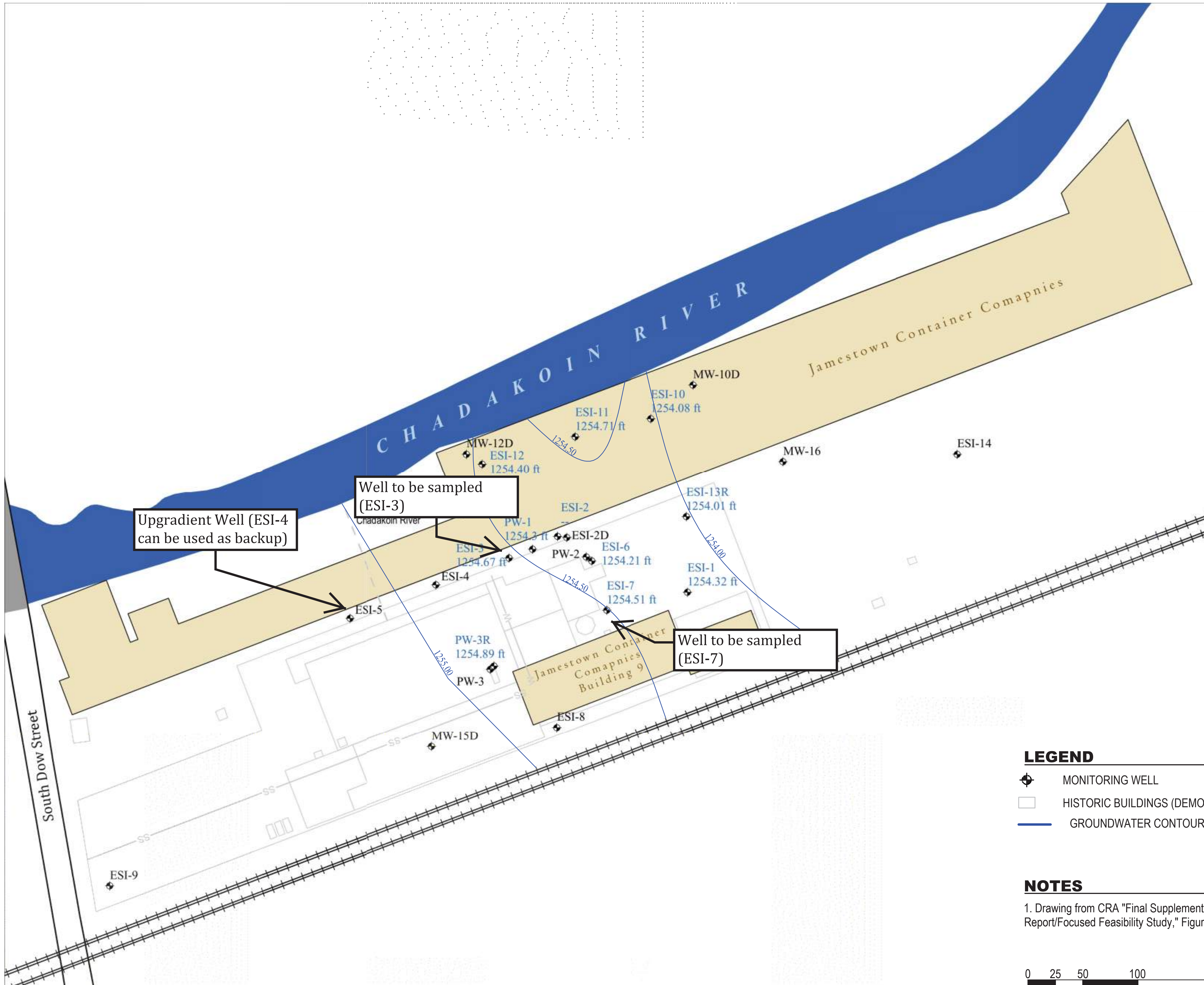
Sincerely,

C&S ENGINEERS, INC.

Cody Martin
Project Environmental Scientist

Daniel E. Riker, P.G.
Department Manager – Environmental Services

F:\PROJECT\N30 - JAMESTOWN CONTAINER\N30001001 - JAMESTOWN CONTAINER\CORRESPONDENCE\EMERGING CONTAMINANT WORK PLAN.DOCX



LEGEND

MONITORING WELL

HISTORIC BUILDINGS (DEMOLISHED)

GROUNDWATER CONTOURS (FEET)

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

C&S COMPANIES®

C&S Engineers, Inc.
141 Elm Street
Buffalo, New York 14203
Phone: 716-847-1630
Fax: 716-847-1454
www.cscos.com

N

FORMER DOWCRAFT FACILITY GROUNDWATER REMEDIATION

FALCONER, NEW YORK

MARK	DATE	DESCRIPTION

REVISIONS

PROJECT NO:	N30.001.001
DATE:	JUNE 19, 2017
DRAWN BY:	C. MARTIN
DESIGNED BY:	C. MARTIN
CHECKED BY:	D. RIKER

JUNE 2017
GROUNDWATER
ELEVATIONS

f:\Project\n30 - jamestown container\n30001001 - jamestown container\environmental\CADD-GIS\Sheet Files\FIGURE X APRIL 2016 GROUNDWATER ELEVATIONS.dwg

OPERATION, MAINTENANCE AND MONITORING WORK PLAN

FOR

FORMER DOWCRAFT SITE
FALCONER, NEW YORK

Prepared by:

C&S ENGINEERS, INC.
141 ELM STREET, SUITE 100
BUFFALO, NEW YORK 14203

MARCH 2018

TABLE OF CONTENTS

FIGURES

APPENDICES

ACRONYM LIST

OM&M Plan	Operation, Monitoring and Maintenance Plan
JCC	Jamestown Container Company
TCE	Trichloroethene
IRM	Interim Remedial Measure
ROD	Record of Decision
CRA	Conestoga-Rovers & Associates
COC	Contaminants of Concern
DNAPL	Dense Non-aqueous Phase Liquid
BGS	Below Ground Surface
NYSDOH	New York State Department of Health
SSDS	Sub-slab Depressurization System
HASP	Health and Safety Plan
MS/MSD	Matrix Spike / Matrix Spike Duplicate
U.S. EPA	United States Environmental Protection Agency

1 INTRODUCTION

C&S Engineers, Inc. (C&S) has prepared this Operation, Maintenance and Monitoring (OM&M) Plan on behalf of Jamestown Container Companies (JCC) for the former Dowcraft facility (the Site).

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. 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.

Injections were conducted on December 1 through 9, 2014. Two methods were implemented in treating the contaminated groundwater. The first method included the injection of a solution of 4,024.12 pounds 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 JCC building.

The fifth 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.

2 SUMMARY OF ENVIRONMENTAL CONDITIONS

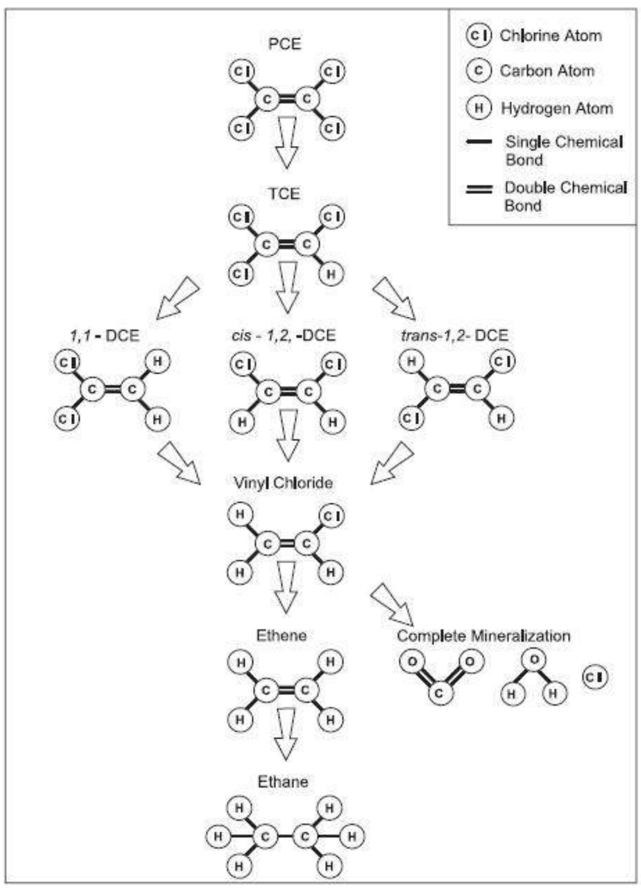
1.2 Contaminants of Concern

Chlorinated solvents, primarily, trichloroethene 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:



1.3 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.

1.4 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 OBJECTIVES, SCOPE AND RATIONALE

The objectives of the scope of work described in this Work Plan are to monitor the natual attenuation of the groundwater contamination and periodically inspect the operation of two soil vapor mitigation systems over five years.

3.1 Groundwater Contamination

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;
- Prevent or mitigate, to the maximum extent practicable, the migration of contaminated groundwater to off-site areas;
- Restore on-Site groundwater in the sand and gravel unit to the maximum extent practicable which will not result in exceedances of applicable standards, criteria and guidance; and

- Monitor the groundwater in a manner to verify the effectiveness of the remedial actions.

Two IRMs have been conducted at the Site. The first IRM involved the operation of a groundwater pump & treat system between 1994 and 1999. The second IRM consisted of CRA conducting nine injection treatments between May 2000 and July 2006, totaling 21,500 pounds of potassium permanganate and one injection of soy lactate have been completed and have dramatically reduced the concentrations of COCs in groundwater in the area of the former TCE degreaser pit. C&S conducted one injection in December 2014, totaling 4,024.12 pounds of potassium permanganate, and installed a potassium permanganate treatment fence. These efforts have further reduced COC concentrations.

C&S has reviewed the criteria outlined by the EPA on evaluating the potential for natural attenuation on sites contaminated with chlorinated solvents. Based on groundwater quality results from past groundwater monitoring events, C&S believes that natural attenuation via anaerobic biodegradation could effectively degrade the remaining COCs in the on-site groundwater.

C&S proposes the next remedial action for the Site consist of monitored natural attenuation for five years in addition to existing institutional controls to prohibit the use of impacted Site groundwater. The sections below outline the sampling plan, maintenance/monitoring protocols and reporting for the natural attenuation monitoring.

3.2 Soil Vapor Contamination

On November 2, 2015, Centek Laboratories performed the SVI sampling with the assistance of JCC maintenance staff. A total of nine sub-slab samples and nine indoor air samples installed within two buildings. Sub-slab air samples indicate that TCE contaminated soil vapor has impacted the subsurface underneath both of the buildings. After review of the SVI study, the New York State Department of Health (NYSDOH) required the installation of a mitigation system address soil vapor concerns.

Two separate sub-slab depressurization systems (SSDS) were designed and recently installed to mitigate the migration or potential migration of subsurface vapors into the building interiors. As stated in the Sub-Slab Depressurization System Work Plan (provided in **Appendix A**) C&S proposes to monitor the SSDS for five years.

April 2017, Jamestown Container Companies – 65 South DOW St., Falconer, NY 14733 Construction Completion Report for SSD System – Building 9, prepared by Mitigation Tech Vapor Intrusion Specialists.

The building was assessed by confirmatory sub-slab air communication testing at the job start to refine data obtained from the preliminary building assessment. The system, comprised of two fans, suction cavities, and other SSD system components, was constructed on March 21 through 27, 2017. Vacuum and air flow measurements were performed continuously during construction to ensure design integrity.

As-built sketches of the system are provided in Appendix C.

October 2017, Jamestown Container Companies – 65 South DOW St., Falconer, NY 14733 Construction Completion Report for SSD System – Building 5 & 6, prepared by Mitigation Tech Vapor Intrusion Specialists.

This document presented a construction report, performance evaluation, O&M recommendations, and certification of effectiveness for the SSDS and Crawlspace Ventilation System (CVS) installed by Mitigation Tech. Following a Design/Build SSD construction plan that was modified based on continuing assessment performed during construction, five single suction point SSD systems were installed using principles and equipment typically used for soil vapor intrusion mitigation in buildings in compliance with the NYSDOH document, "Guidance for Evaluation Soil Vapor Intrusion in the State of New York, October 2006."

The building was assessed by extensive sub-slab air communication testing at job start to refine data obtained from the preliminary building assessment. Due to a system of sub-slab structural arches and crisscrossing grade beams, sub-slab spaces were either inaccessible or difficult to access. In the case of Building 5, extensive backfilling has occurred such that the soil is present immediately below the floor in the central and northernmost portions of the foundation. The southernmost portion is an open crawlspace with a dirt floor. Mitigation Tech determined that active ventilation of the southernmost sub-slab compartment bounded by buildings 4 and 6A would constitute a zone of defense to intercept soil vapor migrating from the south which would also create some limited depressurization north of the first grade beam. In the case of Building 6, the sub-space is in essence a crawlspace so ventilation was determined the most appropriate strategy to divert vapors from the building interior.

The system, comprised of five independent fan systems, suction cavities, and other SSD system components, was constructed on August 4 through 7, 2017. Vacuum and air flow measurements were performed continuously during construction to ensure design integrity.

As-built sketches of the system are provided in Appendix C.

4 REMEDIAL ACTION MONITORING AND REPORTING

The Remedial Action Monitoring Program will consist of monitoring of Site groundwater on annual basis and the performance of the SSDS on a weekly/annual. The data collected will be used to evaluate the performance of the remedial action and to meet the monitoring requirements.

The following subsections present the details of the monitoring program including specific sample collection, sample analyses, and reporting tasks.

4.1 Groundwater Monitoring Program

A groundwater monitoring program has been designed to provide the data necessary to demonstrate the effectiveness of natural attenuation

4.1.1 Monitoring Well Network

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 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 and sampled 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.

4.1.2 Groundwater Monitoring

To characterize groundwater conditions at the Site, 11 existing monitoring wells will be sampled annually. The groundwater samples will be analyzed for Target Compound List (TCL) VOCs. The locations of the monitoring wells to be sampled are shown in **Figure 2**.

Groundwater sampling will be conducted using low-flow purging and sampling techniques. Before purging the well, water levels will be measured using an electric water level sounder capable of measuring to the 0.01-foot accuracy. Peristaltic or bladder pumps using manufacturer-specified tubing will be used for purging and sampling groundwater. Calibration, purging and sampling procedures will be performed as specified by the USEPA[1] for low-flow sampling. Decontamination will be conducted after each well is sampled to reduce the likelihood of cross contamination. Calibration times, purging volumes, water levels and field measurements will be recorded in a field log.

Purge fluids will be treated with activated carbon prior to being allowed to infiltrate the ground surface of the Site.

4.1.3 Well Inspection and Maintenance

All on-site wells will be inspected annually in conjunction with a groundwater monitoring event. Wells will be inspected for structural damage to the well cap seal, protective pad, and visible portion of the well casing. The presence and condition of J-plugs and locks also will be noted. In addition, the open depth of the well will be sounded. Deficiencies in or damages to the wells will be corrected or repaired as necessary.

The well inspection and maintenance program will continue until the remedial action (including monitoring) is complete. Once the project has been completed, all wells will be decommissioned following CP-43: Groundwater Monitoring Well Decommissioning Policy.

4.2 Sub-slab Depressurization System Components

4.2.1 Building 9 System

- Two sidewall mounted fans connected by manifold piping to vapor extraction points.
- Suction Points: The suction points consists of a 5” core boring into the slab through which 1- 2 cubic feet of sub-slab material has been removed. Mechanically suspended 3” SCH 40 PVC pipe has been inserted into the boring and sealed with urethane sealant.

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

- Riser Piping: The riser piping consists of 3” SCH 40 PVC pipe that follows a route from the extraction point to a 4” trunk line, then to the exterior mounted vacuum fan. Weatherproof flashing or sealant has been applied to all penetrations.

- Exhaust Fans: Exhaust fans has been field selected for specific performance properties. Models: 1) Festa Radon Technologies “Force” producing 4.5 wci at 55 CFM, at 300 watts; 2) RADONAWAY RP-265, producing 2.0 wci at 50 CFM, at 120 watts. Fans have an exterior disconnect switch. Fans are mounted with rubber Fernco couplings, for simplified replacement. No air intakes are present within 10’ of the exhaust points.

- Instrumentation and Control: There is no centralized instrumentation or control for the SSDS. The fans can be switched either from the adjacent positioned disconnect or at the marked breakers #36 and #42 on the panel box centrally located on the east wall. The exhaust fan systems are equipped with a vacuum indicator mounted in a visible location on a riser pipe per the attached schematic. The indicator consists of an oil filled U-tube style manometer. The indicator can be inspected by observing the level of colored fluid. The indicator is designed primarily to give a simple visual check that vacuum is present in the riser pipe, specifically by observation that the fluid levels on each side of the indicator are not even. Indicator is marked at level observed on March 27, 2017.

- Sealing measures: Polyurethane sealants have been applied to control joints, floor cracks and slab penetrations to enhance the barrier between sub-slab and ambient air and improve the efficiency of the SSD System. Smoke testing has been employed to guide sealing operations. Materials used include Sika Sikaflex 1c-SL self leveling sealant.

4.2.2 Building 5 and 6 System

- Five sidewall mounted fans connected to vapor extraction points.

- Suction Points: The suction points consists of a 10” core boring into the slab directly to crawlspace voids. Mechanically suspended 8” SCH 40 PVC pipe has been inserted into the boring and sealed with urethane sealant.

- Riser Piping: The riser piping consists of 8” SCH 40 PVC pipe that follows a route from the extraction point to the exterior mounted vacuum fan.

- Exhaust Fans: Exhaust fans were field selected for specific performance properties. Model: RADONAWAY RP-380 producing 5.0 wci at 350 CFM, at 140 watts. Fans have an exterior disconnect switch. Fans are mounted with rubber Fernco couplings, for simplified replacement.

- Instrumentation and Control: There is no centralized instrumentation or control for the SSDS. The fans can be switched either from the adjacent positioned disconnect or at the marked breakers on the panel box centrally located. The exhaust fan systems are equipped with a vacuum indicator mounted in a visible location near the riser pipe per the attached schematic. The indicator consists of a dial style manometer, Dwyer Model 5001 or oil filled U-tube. The indicator can be inspected by observing the position of the dial needle or oil level. The indicator is designed primarily to give a simple visual check that vacuum is present in the riser pipe. Indicator is marked at level observed on August 4, 2017.

- Sealing measures: Polyurethane sealants have been applied to control joints, floor cracks and slab. Smoke testing has been employed to guide sealing operations. Materials used include Sika Sikaflex 1c-SL self leveling sealant.

4.3 Sub-slab Depressurization System Operation

By design, other than the fans and electrical system, the SSDS has relatively few components that could fail and affect operation. The system fans are designed by the manufacturer for a long operational lifespan. At the end of this lifespan, the fan should be replaced, as necessary, with an equivalent or better performance unit. In the event of failure of the SSDS electrical components (breakers, switches, etc.), the component should be repaired or replaced by a licensed electrical contractor. Where necessary, the subcontractor that installed the system (Mitigation Tech) could be contacted to discuss the problem. In the event the subcontractor is not able to assist in fixing the problem, a licensed subcontractor should be contacted to correct the problem and return the SSDS to normal operation. Other SSDS contacts are provided in Section 4.5. A summary of the operation requirements provided in Mitigation Tech's Construction Completion Report is provided below.

- The fans should be kept in continuous operation.
- Reset: Fans restart automatically in event of power loss.
- In the event of unusual fan noise, failure to start, physical damage, or repeated circuit breaker trip, turn fan off and call for service.
- Regularly inspect system oil filled U-tube type manometers to verify that value, indicated by a mark on the gauge, has not changed significantly from the position of the mark. Gauge is inspected by observing the level of colored fluid.
- Normal system operation requires unchanged structural conditions. Report any changes in structure, HVAC systems, slab conditions, etc., so that the change can be evaluated for impact on the SSD System.
- Ensure that a periodic inspection is performed

4.4 Soil Vapor Monitoring Program

4.4.1 Weekly Monitoring

Weekly monitoring will be conducted as follows:

- Inspect fan vacuum indicator to verify that value, indicated by a mark on the gauge, has not changed significantly from the position of the mark. Gauge is inspected by observing the level of colored fluid.
- Record the observed measurement for each fan vacuum indicator on form labeled "SSD System Vacuum Gauge Record". Store all forms in the facility maintenance office.
- Inspect visible components of SSD system for degraded condition.

4.4.2 Annual Inspection

Annual inspection will be conducted as follows:

- Conduct a visual inspection of the complete system (e.g., vent fans, piping, warning devices, labeling).
- Inspect all components for condition and proper operation.
- Identify and repair any leaks in accordance with Sections 4.3.1(a) and 4.3.4(a) of the NYS DOH VI Guidance (i.e.; with the systems running, use smoke sticks to check for leaks through concrete cracks, floor joints and at the suction points; any leaks will be resealed until smoke is no longer observed flowing through the opening).
- Inspect the exhaust or discharge point of each exhaust fan to verify that no air intakes have been located within 10 feet.
- Conduct pressure field extension testing to ensure that the system is maintaining a vacuum beneath the entire slab. Perform a differential pressure reading at least one vacuum test point.
- Interview appropriate building occupants seeking comments and observations regarding the operation of the system.
- Confirm that the circuit breakers controlling the circuits on which the soil vapor vent fans operate are labeled "Soil Vapor System."

4.5 Contact Information

The following is a list of contacts for use regarding the SSDS operation, maintenance and monitoring:

<u>Environmental Consultant</u>
C&S Engineers, Inc.
Cody Martin
141 Elm Street
Buffalo NY, 14203
(716) 955-3021

<u>SSDS Installation Contractor</u>
Mitigation Tech
Nicholas Mouganis
55 Shumway Road
Brockport, NY 14420
(585) 637-7430

4.6 Sampling Methods, Analytical Procedures and Documentation

4.6.1 Sampling Methods

Sampling procedures will be conducted in accordance with the NYSDEC *Sampling Guidelines and Protocols Manual*. Collection of representative samples will include the following procedures:

- Ensuring that the sample taken is representative of the material being sampled;
- Using proper sampling, handling and preservation techniques;
- Properly identifying the collected samples and documenting their collection in field records;
- Maintaining chain-of-custody; and
- Properly preserving samples after collection.

Water Sampling

Groundwater sampling will be conducted in accordance with USEPA guidance for low-flow purging and sampling, as described in **Section 4**.

Water samples will be collected in 40 ml vial and immediately placed on ice. The water will be analyzed for VOC on a standard turnaround time.

In addition to collecting VOC samples for laboratory analysis, groundwater chemistry will be continuously monitored during sample collection. Groundwater chemistry will be monitored for the following:

- pH;
- Turbidity;
- Oxidation Reduction Potential;
- Specific Conductance;
- Dissolved Oxygen; and
- Temperature

QA/QC Sampling

Table 4-1 summarizes the sampling program described in the sections above. Additionally, Quality Assurance/Quality Control (QA/QC) samples will be collected, and the following describes the minimum number of groundwater QA/QC samples.

- Trip blank – 1 per shipment
- Blind Duplicate – 1 per monitoring event
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) – 1 MS / 1 MSD per monitoring event

Table 4-1: Summary of Estimated Sampling

Sample Type	*Matrix*	*Estimated Samples* (*one sample event*)	*Estimated Samples* (*total – 5 years*)	*Purpose*
Groundwater	Water	11	55	Characterization
Duplicate Groundwater	Water	1	5	QA/QC (VOC Only)
MS/MSD –Aq.	Water	1/1	5/5	QA/QC (VOC Only)
	Total	**14**	**70**	

4.6.2 Analytical Procedures

Laboratory Analysis

Laboratory analysis will be conducted by a third-party laboratory that is accredited by the NYSDOH Environmental Laboratory Accreditation Program (ELAP). Laboratory analytical methods will include the most current NYSDEC Analytical Services Protocol (ASP).

Groundwater samples sent to a certified laboratory will be analyzed in accordance with EPA SW-846 methodology for Target Compound List for Volatile Organic Compounds (USEPA Method 8260) and Chloride (USEPA Method 9251).

4.6.3 Documentation

Custody Procedures

As outlined in NYSDEC *Sampling Guidelines and Protocols*, a sample is in custody under the following conditions:

- It is in your actual possession;
- It is in your view after being in your physical possession;
- It was in your possession and then you locked or sealed it up to prevent tampering; or
- It is in a secure area.

The environmental professional will maintain all chain-of-custody documents that will be completed for all samples that will leave the Site to be tested in the laboratory.

5 HEALTH AND SAFETY

A Health and Safety Plan (HASP) was prepared that details procedures for maintaining safe working conditions and minimizing the potential for exposure to hazardous material. The HASP is provided in **Appendix B**.

6 REPORTING

Monitoring Reports will be submitted to NYSDEC annually. The Monitoring Reports will include:

- Analytical results and appropriate QA/QC data
- Hydraulic monitoring data
- An evaluation of the effectiveness of the Remedial Action
- Recommendations for program revisions, if appropriate

An Annual Periodic Review Report will also be submitted and will include:

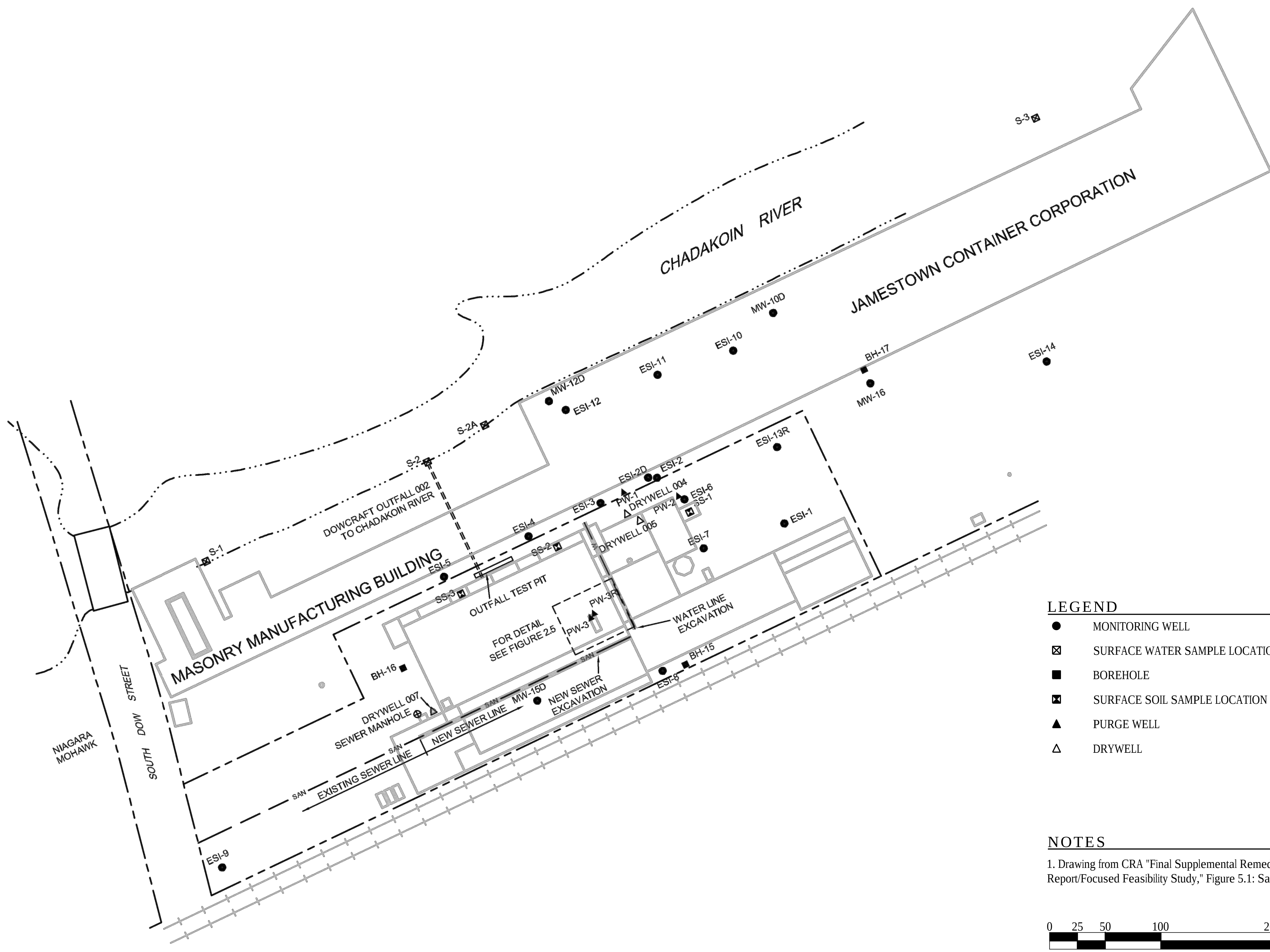
- Monitoring Plan Compliance Report
- An evaluation of the performance, effectiveness and protectiveness of the Remedial Action
- Institutional and Engineering Controls Compliance Report
- Operation and Maintenance Compliance Report
- Recommendations for program revisions, if appropriate

7 SCHEDULE

The schedule for Site work is as follows:

- Initiating Groundwater Sampling Event:
  - Within 30 days of NYSDEC approval of this Work Plan.
- Groundwater Monitoring:
  - Annually for five years.
  - After five years, JCC, C&S and the NYSDEC will discuss the status of the OM&M Plan.
- Reporting:
  - Periodic Review / Monitoring Report will be submitted annually starting 15 months after approval of the Work Plan.

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

C&S COMPANIES®

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Buffalo, New York 14203
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Fax: 716-847-1454
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-N-

FORMER DOWCRAFT FACILITY
GROUNDWATER REMEDIATION

FALCONER, NEW YORK

MARK	DATE	DESCRIPTION

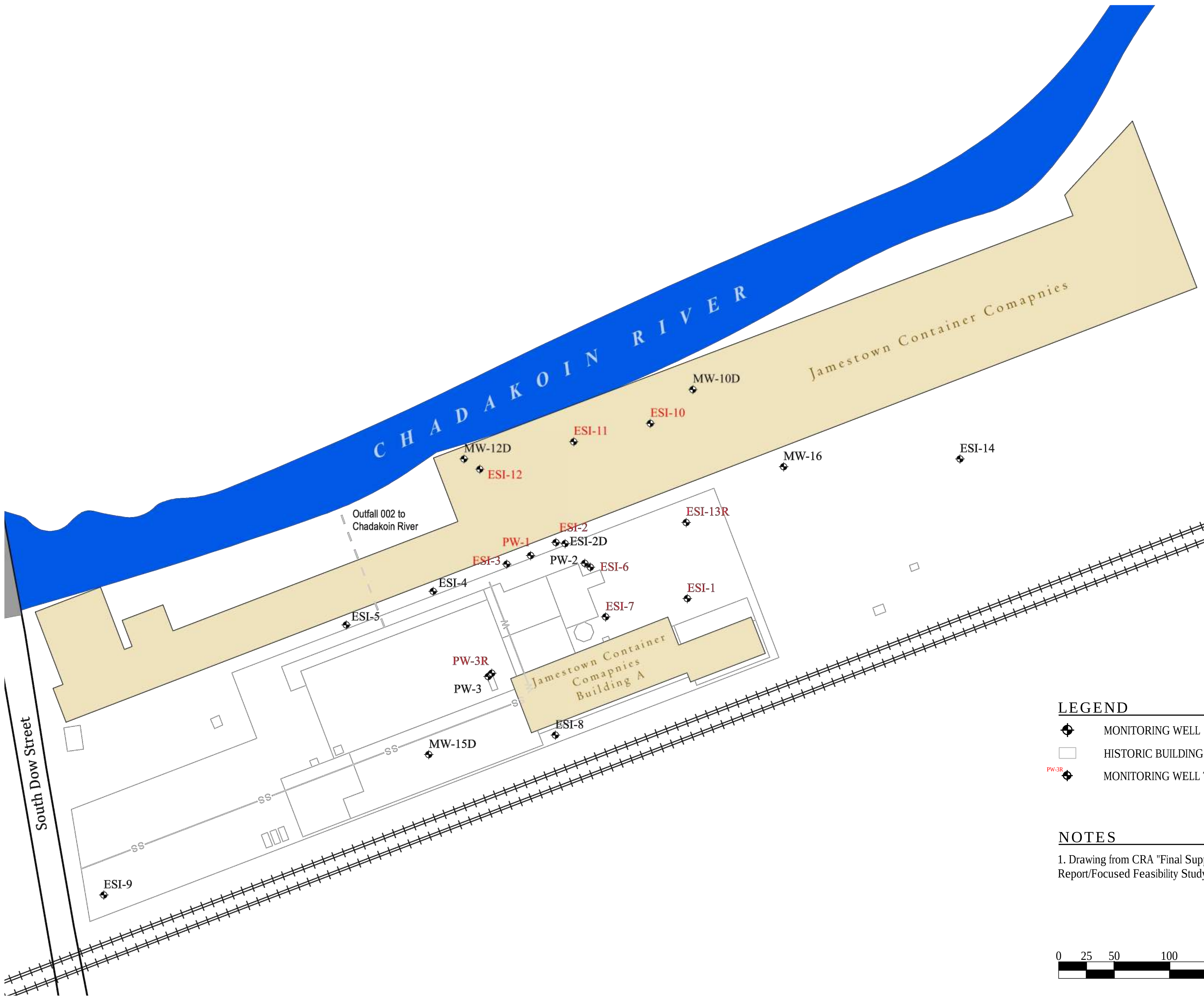
REVISIONS

PROJECT NO:	N30.001.001
DATE:	MAY 28, 2015
DRAWN BY:	C. MARTIN
DESIGNED BY:	C. MARTIN
CHECKED BY:	M. COLMERAUER

HISTORIC AND EXISTING SITE FEATURES

FIGURE 1

f:\Project\n30 - jamestown container\n3000101 - jamestown container\environmental\CADD-GIS\Sheet Files\FIGURE 1 HISTORIC AND EXISTING SITE FEATURES.dwg



LEGEND

- MONITORING WELL
- HISTORIC BUILDINGS (DEMOLISHED)
- PW-3R MONITORING WELL TO BE SAMPLED

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:	MAY 28, 2015
DRAWN BY:	C. MARTIN
DESIGNED BY:	C. MARTIN
CHECKED BY:	M. COLMERAUER

GROUNDWATER MONITORING

FIGURE 2

f:\Project\n30 - jamestown container\n30001001 - jamestown container\environmental\CADD-GIS\Sheet Files\FIGURE 2 GROUNDWATER MONITORING.dwg

APPENDICES

APPENDIX A

Sub-Slab Depressurization System Work Plans

C&S Companies
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Buffalo, NY 14203
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January 12, 2017

David Szymanski
Department of Environmental Conservation
Division of Environmental Remediation
270 Michigan Avenue
Buffalo, New York 14203

Re: *Soil Vapor Mitigation System Work Plan*
Former Dowcraft Facility, Falconer, New York

Mr. Szymanski:

C&S Engineers (C&S) is providing New York State Department of Environmental Conservation (NYSDEC) a work plan for the installation of a sub-slab depressurization system by Mitigation Tech with C&S oversight at former Dowcraft Facility in Falconer, New York.

I. PROJECT UNDERSTANDING

The Former 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. The Jamestown Container Company currently owns the Dowcraft site. The JCC primary manufacturing building is situated on the northern portion of the Site, adjacent to the Chadakoin River and a smaller structure (Building 9) is located on the southern portion of the Site.

Based on the presence of the VOC plume proximal to or under the site building(s), the NYSDOH requested the performance of a Soil Vapor Intrusion (SVI) study to evaluate potential impacts to indoor air quality. On November 2, 2015, Centek Laboratories performed the SVI sampling with the assistance of JCC maintenance staff. A total of nine sub-slab samples (SS-1 to SS-9) and nine indoor air samples (IA-1 to IA-9) were installed within the main building and Building #9. Sub-slab air samples indicate that TCE contaminated soil vapor has impacted the subsurface underneath the main JCC Buildings #5, #6 and #9. After review of the SVI study, the New York State Department of Health (NYSDOH) requires the installation of a mitigation system address soil vapor concerns.

II. SCOPE OF WORK

This document presents a Work Plan that consists of the installation and operation of a sub-slab depressurization system (SSDS) that is designed to mitigate the migration or potential migration of sub surface vapors into the building interiors. The subject area is the foundation footprint of Buildings #5, #6 and #9 of Jamestown Container Companies – 65 South Dow St., Falconer, NY 14733. The SSDS is intended to protect the occupants of the subject area and is not intended to remove or diminish the source of the contamination. After start-up, demonstration of SSDS effectiveness will be confirmed and thereafter, a program of periodic maintenance and monitoring will be proposed.

III. OBJECTIVES

This work plan was developed by Mitigation Tech in general accordance with the NYS DOH document, “Guidance for Evaluating Soil Vapor Intrusion in the State of New York, October 2006”. The performance objective of the SSDS is to create and maintain a minimum negative pressure differential of .002 inches of water column (wci) below certain concrete slabs which function as boundaries between subject area sub-slab space and occupied interior space. In the case of Building #9, this includes the entire building footprint. In the cases of Buildings #5 and #6, several complicating factors (see sec 3.2 below) are present and a specific area of vacuum influence is not defined as part of this proposal. Rather, reasonably scaled soil vapor intrusion mitigation systems are proposed that would furnish substantial depressurization and ventilation focused along the interior southern walls of #5 & #6. This would constitute a line of defense to intercept soil vapor migrating from the south. The exact northern boundary of the pressure extension field cannot be predicted prior to construction except by elaborate simulation, expensive enough as to suggest construction of a partial system as an alternative.

We therefore recommend a partial approach to function like a permanent pilot study, the effect of which could be ascertained by interim testing. If further post-construction mitigation is desired, additional measures at additional expense would further extend the pressure field. We would specify these measures exactly based on information obtained during the first phase. We have proposed this strategy because it provides a reasonable response to the degree of known contamination and may well be sufficient by itself. In the event testing shows that additional measures are required, such measures would be incremental to work already performed and therefore no work done under the first phase would be inappropriate or wasteful.

IV. WORK PLAN DESIGN AND SPECIFICATIONS

Work descriptions are based on certain assumptions identified herein and are subject to modification based on further field observations and measurements before and during construction. In the interest of achieving efficiency of design, this Work Plan is presented on a “Design/Build” basis which allows for adjustment to quantity, type and placement of system components. Adjustments are informed by analysis of data continuously obtained during construction.

A. Pre-design Communication Testing and Cost Factors

The enclosed system configuration is informed by a general building assessment and sub-slab air communication testing performed August 19, 2016 deemed necessary to determine the most efficient system configuration. Included were interviews of key site personnel and document review, although no foundation plans were available. The test procedure included drilling into the concrete at likely suction cavity locations and applying a vacuum to simulate operation of an SSDS fan. Small diameter test holes were established to measure vacuum influence. The enclosed design is a result of weighing key elements (fan type, suction point location, pipe diameter, etc.) against the cost of different construction techniques and materials.

Also included was assessment of the confined space beneath buildings #5 and #6. There is a network of tunnel like structures supporting the floor, some backfilled and some with open voids. In some cases, the voids taper down to less than a foot. Standing water, large scale debris and other obstacles to work are present. The effect of these structures is to create a dense grid of grade beams that effectively restrict airflow due to compartmentalization. As a consequence, comprehensive depressurization would involve either a very dense network of suction cavities or trenching in the main floor of the building.

A further complicating factor is the continuous operation of Cyclone type rooftop vacuum systems. These systems collect scraps of cardboard generated during production and are always running during plant operation. They create a vacuum in the building by generating air flow exhaust on the order of 5000 CFM. These systems introduce high rate of building air exchange and also potentially interfere with the operation of sub slab depressurization systems.

B. Scope of Work

The Scope of Work is to furnish and install multi-point active sub-slab depressurization systems consisting of high performance exhaust blower and suction cavity network, combined with sealing of slab openings. The Scope of Work for Building #9 is based on the minimum construction necessary to achieve the design objective of creating a minimum .002 wci pressure differential at all areas of the sub-slab. The Scope of Work for Building #5 and #6 is to create sub-slab depressurization or ventilation in the southern section of the buildings. At conclusion, documentation will be provided showing the pressure field extension values. The system configuration is subject to change based on field observations made during construction.

Furnish and Install:

Building 9

- (1) OBAR GBR 76 or 89 high performance radial blower [or as indicated by field testing], roof mount or sidewall mount on south side, to provide sub-slab depressurization via 4" schedule 40 PVC trunk line to conduct soil vapor from riser pipes to exhaust fan roof exhaust, with penetration through main roof deck; with mounting frame and rubber connector fittings.
- (6) Suction points, with risers surface mounted at alternating columns on south wall, 3" Schedule 40 PVC pipe; add suction cavities where necessary to achieve minimum performance objective.

Building 5

- (1) OBAR GBR 76 or 89 high performance radial blower [or as indicated by field testing], roof mount or sidewall mount on south side, to provide sub-slab depressurization via 4" schedule 40 PVC trunk line to conduct soil vapor from riser pipes to exhaust fan roof exhaust, with penetration through main roof deck; with mounting frame and rubber connector fittings.
- (8) Suction points, with risers surface mounted on south wall, 3" Schedule 40 PVC pipe.

Building 6

- (1) OBAR GBR 76 or 89 high performance radial blower [or as indicated by field testing], roof mount or sidewall mount on south side, to provide sub-slab depressurization via 4" schedule 40 PVC trunk line to conduct soil vapor from riser pipes to exhaust fan roof exhaust, with penetration through main roof deck; with mounting frame and rubber connector fittings
- (5) Suction points, with risers surface mounted on south wall or at office partitions, 3" Schedule 40 PVC pipe

Common Elements

- Continuous building assessment and sub-slab vacuum measurement to optimize design
- Pre-construction consultation to obtain approval for component placements
- All interior pipe SCH 40 PVC with appropriate metal hangers, riser clamps, and additional accessories to properly attach components directly to structural members; sloped as required; routing to avoid interference with other building systems
- Fire stop devices and other fire code compliance measures
- Suction cavities to consist of approximately 1 cu. ft. excavated material in sub-slab, with urethane seal; access hole to suction cavity by 5"core drill or hand drill; trenching around footers where required, with concrete restoration

- Proportioning valves for suction risers where required
- All exhaust points minimum 10’ from any air intakes
- Exterior-interior penetrations shall have appropriate sealing systems
- Mobilization and Demobilization per work shift, with daily temporary restorations and basic dust control measures
- Exterior switch and Sealtight and/or MC conduit from fan housing to nearest electrical panel; extra cost if panel has insufficient capacity; final panel hookup by others at other’s expense
- Vacuum indicator, (1) oil filled U-tube manometer or dial type Magnehelic vacuum gauge; and audible low pressure alarm at location TBD
- Urethane sealant at slab joints, accessible cracks and penetrations; backer where necessary
- Horizontal pipe at highest practicable height, with metal bracketing, sloped as required, with valves or restrictor plates as required
- Consult with occupant to minimize disruption to operations and provide access to work areas
- Additional SSDS components necessary to achieve performance objective
- At completion, perform backdraft testing, label components and provide system description and operating instructions
- At completion, measure pressure differentials and document
- Consult with client representatives to develop operation, maintenance and periodic inspection plan
- Two-year warranty; labor, installed components and sub-slab depressurization to objective (or greater)

C. Post Installation Pressure Field Extension Testing

A digital micromanometer will be used to measure pressure differentials and values will be recorded on a floor plan. All test holes will be repaired with urethane caulk (MSDS available) applied over a closed cell backer rod. Smoke tubes will be used to identify floor cracks and other openings to the sub-slab that could “short circuit” the pressure field. Backdrafting testing will be performed.

D. IRM Construction Completion Report

At conclusion of construction, a Construction Completion Report (CCR) will be submitted. This report will include an as-built sketch or an overlay of client furnished building drawings, showing SSDS locations and components. The CCR will include measurements of created sub-slab to ambient air static pressure differentials, detailed descriptions of SSDS components, and post-installation sampling results.

An Operations, Maintenance, and Monitoring (OM&M) Plan will be submitted with the CCR. The OM&M Plan will be provided to the owner and occupants to facilitate their understanding of the system's operation, maintenance and monitoring.

E. Maintenance and Monitoring

Future maintenance and monitoring will be proposed to verify system effectiveness by inspection procedures and via differential pressure measurements. The monitoring will be performed annually until a less-frequent monitoring frequency is approved. In addition, non-routine maintenance may be conducted should it appear that the SSDS has reduced its effectiveness due to malfunction, renovation, or other unplanned circumstance.

V. SCHEDULE

Installation of the soil vapor system can begin immediately once the NYSDOH approves the work plan. Installation will take 45 – 60 days to complete.

Should you have any questions regarding this work plan or the information contained herein, please feel free to contact me at (716) 847-1630.

Sincerely,

C&S ENGINEERS, INC.

Cody A. Martin

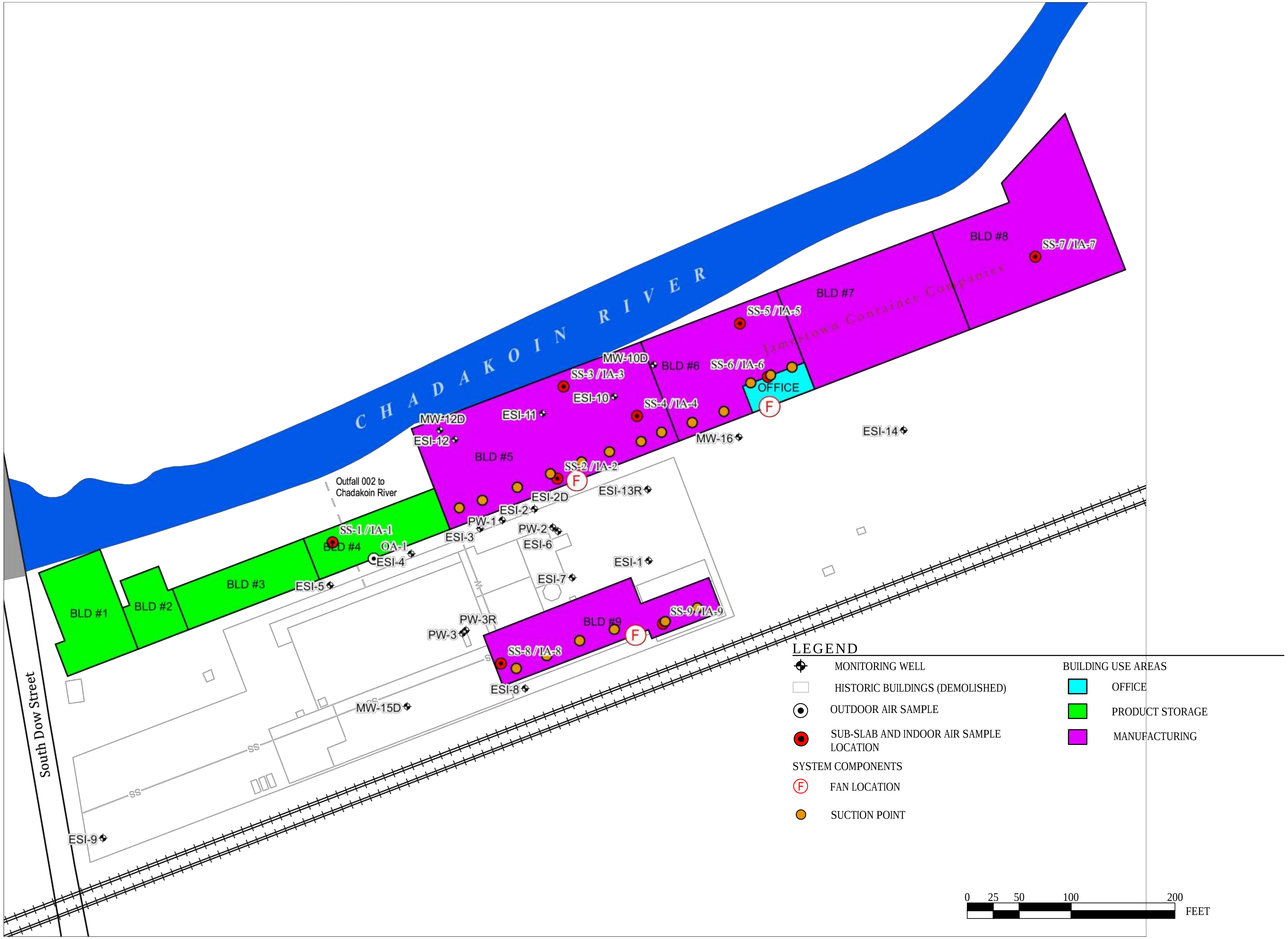
Cody Martin
Environmental Scientist

Daniel E. Riker

Daniel E. Riker, P.G.
Managing Geologist

Enclosed: Sub-slab Depressurization System Map

F:\PROJECT\N30 - JAMESTOWN CONTAINER\N30001001 - JAMESTOWN CONTAINER\CORRESPONDENCE\SOIL VAPOR MITIGATION SYSTEM WORK Plan.docx



C&S COMPANIES®

C&S Engineers, Inc.
141 Elm Street,
Buffalo, New York 14203
Phone: 716-847-1630
Fax: 716-847-1454
www.cscos.com

-N-

FORMER DOWCRAFT FACILITY
SOIL VAPOR REMEDIATION

FALCONER, NEW YORK

MARK	DATE	DESCRIPTION

REVISIONS

PROJECT NO:	N30.001.001
DATE:	NOVEMBER 9, 2016
DRAWN BY:	C. MARTIN
DESIGNED BY:	C. MARTIN
CHECKED BY:	D. RIKER

SUB-SLAB DEPRESSURIZATION SYSTEM MAP

FIGURE 1

F:\Project\N30 - Jamestown Container\N30001001 - Jamestown Container\Environmental\CADD-GIS\Sheet Files\FIGURE 1 SUB-SLAB DEPRESSURIZATION SYSTEM.dwg

C&S Companies
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April 6, 2017

David Szymanski
Department of Environmental Conservation
Division of Environmental Remediation
270 Michigan Avenue
Buffalo, New York 14203

Re: *Building 5 and 6 Revised Soil Vapor Mitigation System Work Plan*
Former Dowcraft Facility, Falconer, New York

Mr. Szymanski:

C&S Engineers (C&S) and Mitigation Tech offer an alternative approach to mitigating soil vapor impacts on Buildings 5 and 6 at the Jamestown Container Company (JCC) facility in Falconer, New York. On February 8, 2017 the New York State Department of Environmental Conservation (NYSDEC) approving C&S's work plan for the installation of sub-slab depressurization systems (SSDS) in Buildings 5, 6 and 9. On March 24, 2017, the SSDS for Building 9 was installed according to the approved work plan.

Buildings 5 and 6 are a particular challenge for installing the approved SSDS due to multiple factors that were presented to the NYSDEC and the New York State Department of Health (NYSDOH) during their site visit on March 28, 2017. These factors include the following:

- The high rate of air exchange within the building from the continuous operation of the Cyclone rooftop vacuum systems;
- Confined spaces underneath the majority of the floor within the building that are either open or partially backfilled with large debris; and
- Network of tunnel-like structures or arches supporting the floor.

Due to these constraining factors associated with the construction and use of Buildings 5 and 6, the SSDS designs within these buildings have been continually re-evaluated by Mitigation Tech to achieve reasonable performance goals for mitigating soil vapor impacts.

As discussed on March 28th, C&S and Mitigation Tech propose to mitigate soil vapor beneath the sub-slab of Buildings 5 and 6 using targeted SSDS in areas not impeded by sub-slab obstacles and the installation of a crawl space ventilation system in areas with sub-slab obstacles. The size and location of the SSDS will be determined in the field through sub-slab air communication testing prior to installation. The crawl space ventilation system (CVS) consists of two high air flow blowers located on the perimeter of Building 6. A detailed description of this revised system, developed by Mitigation Tech, for Buildings 5 and 6 is attached to this letter.

We request that NYSDEC and NYSDOH review the attached revised work plan for Buildings 5 and 6. As requested by the NYSDOH for the previously approved work plan, indoor air analytical sampling will be conducted after the SSDS / CVS is operational. These samples will assess the systems' impact on indoor air quality. A total of 9 indoor air locations and one outdoor air location will be sampled to evaluate indoor air quality. Future indoor air monitoring events will use the same locations to collect samples during the operation of the SSDS / CVS.

Should you have any questions regarding this work plan or the information contained herein, please feel free to contact me at (716) 847-1630.

Sincerely,

C&S ENGINEERS, INC.

Cody Martin
Environmental Scientist

Daniel E. Riker, P.G.
Managing Geologist

Enclosed: Mitigation Tech Revised Work Plan

F:\PROJECT\N30 - JAMESTOWN CONTAINER\N30001001 - JAMESTOWN CONTAINER\CORRESPONDENCE\BUILDING 5 AND 6 REVISED Soil Vapor Mitigation Work Plan.docx

April 5, 2017

Mr. Cody Martin
Project Manager
C & S Companies
141 Elm Street, Suite 100
Buffalo, NY 14203
Via email: Cody Martin <cmartin@cscos.com>

Re: Jamestown Container Companies – 65 South Dow St., Falconer, NY 14733
Revised Work Plan

Dear Mr. Martin,

Based additional building investigation and on our recent meeting with representatives of NYS DEC, we submit the following revised work plan:

1.0 Introduction

Soil vapor containing chlorinated volatile organic compounds has been detected at or near this site. This document presents a Work Plan that consists of the installation and operation of both a sub-slab depressurization system (SSDS) and a Crawlspace Ventilation System (CVS) that are designed to mitigate the migration or potential migration of sub surface vapors into the building interiors. The subject area is the foundation footprint of Buildings #5 and #6 of Jamestown Container Companies – 65 South Dow St., Falconer, NY 14733. The SSDS and CVS are intended to protect the occupants of the subject area and are not intended to remove or diminish the source of the contamination. After start-up, system effectiveness will be assessed and thereafter, a program of periodic maintenance and monitoring will be proposed. It is expected that oversight of construction, confirmation of effectiveness and post mitigation air sampling will be provided by *C & S Companies* under separate contract and at additional expense.

2.0 Objectives

This work plan was developed in general accordance with the NYS DOH document, "Guidance for Evaluating Soil Vapor Intrusion in the State of New York, October 2006". The performance objective of the SSDS is to create and maintain a minimum negative pressure differential of .002 inches of water column (wci) below the southernmost concrete slab sections of Building #5, which function as boundaries between subject area sub-slab space and occupied interior space. The performance objective of the CVS is to create continuous air exchange with outside air in the Building #6 crawlspace beneath the ground level concrete slab.

Both building #5 and #6 are characterized mostly by systems of sub-slab structural arches and grade beams crisscrossing in a north to south and east to west pattern.

In the case of Building #5, extensive backfilling has occurred over time, mostly via concrete patch, so that soil is present immediately below the surface. Four east to west grade beams define five compartments. A reasonably scaled soil vapor intrusion mitigation system is proposed that would furnish depressurization in the southernmost sub-slab compartment bounded by Buildings # 4 and #6.

This would constitute a line of defense to intercept soil vapor migrating from the south. Some limited depressurization may be created north of the first grade beam. The exact northern boundary of the pressure extension field cannot be predicted prior to construction of the proposed system.

In the case of Building #6, several complicating factors (see sec 3.2 below) are present and the construction of an SSDS is judged to be impracticable. We judge that most of the sub-space of Building #6 is in essence a crawlspace and that ventilation is the most appropriate strategy to divert vapors from the building interior. A portion of Building #6 that includes the office area does not have a crawlspace, and SSDS is proposed for that area.

Therefore this proposal advocates a mixed and balanced soil vapor intrusion mitigation strategy, wherein measures most likely to yield good outcomes efficiently are applied first. If desired, additional measures at additional expense would further mitigate vapor intrusion. We would specify these measures exactly based on information obtained during the first phase. We have proposed this strategy because it provides a reasonable response to the degree of known contamination and may well be sufficient by itself. In the event testing shows that additional measures are required, such measures would be incremental to work already performed and therefore no work done under this proposed phase would be inappropriate or wasteful.

3.0 Work Plan Design and Specifications

3.1 Overview

Work descriptions are based on certain assumptions identified herein and are subject to modification based on further field observations and measurements before and during construction. In the interest of achieving efficiency of design, this Work Plan is presented on a "Design/Build" basis which allows for adjustment to quantity, type and placement of system components. Adjustments are informed by analysis of data continuously obtained during construction.

3.2 Pre-design Communication Testing

The enclosed system configuration is informed by a general building assessment and sub-slab air communication testing performed August 19, 2016 and subsequently, deemed necessary to determine the most efficient system configuration. Included were interviews of key site personnel, document and historical photograph review, although no foundation plans were available. The test procedure (Building #5) included drilling into the concrete at likely suction cavity locations and applying a vacuum to simulate operation of an SSDS fan. Small diameter test holes were established to measure vacuum influence. The enclosed design is a result of weighing key elements (fan type, suction point location, pipe diameter, etc.) against the cost of different construction techniques and materials.

Also included was assessment of the confined space beneath a small portion of Building #5 and Building #6. There is a network of tunnel like structures supporting the floor, some partially backfilled and some with open voids. In some cases, the voids taper down to less than a foot. Standing water, silt, large scale debris and other obstacles to work are present. The floor of this space was observed to be difficult to access and in many cases degraded. As a consequence, depressurization of the sub-slab of the confined space is judged to be impracticable.

Another factor is the continuous operation of *Cyclone* type rooftop vacuum systems. These systems collect scraps of cardboard generated during production and are always running during plant operation. They create a vacuum in the building by generating air flow exhaust on the order of 5000 CFM. These systems introduce high rate of building air exchange and also potentially interfere with the operation of sub-slab depressurization systems. Compensation for this effect includes establishment and maintenance of secure boundaries between ambient and sub-slab air.

3.3 Scope of Work

The Scope of Work is to furnish and install 1) a multi-point active sub-slab depressurization system in Building #5 and a crawl space ventilation system in Building #6. At conclusion, documentation will be provided showing the pressure field extension or air exchange values. The system configuration is subject to change based on field observations made during construction.

Furnish and Install:

- **Building 5 - east to west space defined by south perimeter wall and southernmost east to west interior footer**
- (1) OBAR GBR 76 or 89 high performance radial blower [or as indicated by field testing], roof mount or sidewall mount on south side, to provide sub-slab depressurization via 4" schedule 40 PVC trunk line to conduct soil vapor from riser pipes to exhaust fan roof exhaust; with mounting frame and rubber connector fittings
- (5-6) Suction points, with risers surface mounted on south wall, 3" Schedule 40 PVC pipe
- **Building 6 - (includes influence at Building #5 sump room)**
- (2) RADONAWAY RP-380 high air flow blowers [or as indicated by field testing], roof mount or sidewall mount, to provide sub-slab ventilation via 8" schedule 40 PVC; to conduct soil vapor from riser pipes to exhaust fan roof exhaust, with penetration through main roof deck; with rubber connector fittings
- Sub floor ducting
- Evaluate and repair as necessary, north side foundation vents and openings
- **Building 6 - (includes portion office area not over crawl space)**
- (1) RADONAWAY HS-5000 blower [or as indicated by field testing], roof mount or sidewall mount on south side, to provide sub-slab depressurization via 3" schedule 40 PVC trunk line to conduct soil vapor from riser pipes to exhaust fan roof exhaust; with mounting frame and rubber connector fittings
- (2-3) Suction points, with risers surface mounted on south wall, 3" Schedule 40 PVC pipe
- **Common Elements:**
- Continuous building assessment and sub-slab vacuum measurement to optimize design and meet stated objectives
- Pre-construction consultation to obtain approval for component placements
- All interior pipe SCH 40 PVC with appropriate metal hangers, riser clamps, and additional accessories to properly attach components directly to structural members; sloped as required; routing to avoid interference with other building systems
- Fire stop devices and other fire code compliance measures
- Suction cavities to consist of approximately 1 cu. ft. excavated material in sub-slab, with urethane seal; access hole to suction cavity by 5"core drill or hand drill; trenching around footers where required, with concrete restoration
- Proportioning valves for suction risers where required
- All exhaust points minimum 10' from any air intakes
- Exterior-interior penetrations shall have appropriate sealing systems
- Mobilization and Demobilization per work shift, with daily temporary restorations and basic dust control measures
- Exterior switch and *Sealtight* and/or MC conduit from fan housing to nearest electrical panel; extra cost if panel has insufficient capacity; final panel hookup by others at other's expense

- Vacuum indicator, (1) per system
- Urethane sealant at slab joints, accessible cracks and penetrations; backer where necessary
- Horizontal pipe at highest practicable height , with metal bracketing, sloped as required, with valves or restrictor plates as required
- Consult with occupant to minimize disruption to operations and provide access to work areas
- At completion, perform backdraft testing, label components and provide system description and operating instructions
- At completion, measure and document pressure differentials and airflow volumes
- Consult with client representatives to develop operation, maintenance and periodic inspection plan
- Two year warranty; labor, installed components and sub-slab depressurization to objective (or greater)

3.4 Post Installation Pressure Field Extension Testing

A digital micromanometer will be used to measure pressure differentials and values will be recorded on a floor plan. All test holes will be repaired with urethane caulk (MSDS available) applied over a closed cell backer rod. Smoke tubes will be used to identify floor cracks and other openings to the sub-slab that could "short circuit" the pressure field. Backdrafting testing will be performed.

3.5 General Work Plan Provisions

- Daily tailgate meeting for safety review
- HAZWOPER trained personnel to perform drilling operations
- PID or Particulate monitoring not included
- Level 4 PPE for on-site personnel
- Procedures to follow site specific HASP

3.6 IRM Construction Completion Report

At conclusion of construction, a Construction Completion Report (CCR) will be submitted. This report will include an as-built sketch or an overlay of client furnished building drawings, showing SSDS locations and components. The CCR will include measurements of created sub-slab to ambient air static pressure differentials, detailed descriptions of SSDS components, and post-installation sampling results.

An Operations, Maintenance, and Monitoring (OM&M) Plan will be submitted with the CCR. The OM&M Plan will be provided to the owner and occupants to facilitate their understanding of the system's operation, maintenance and monitoring. Future maintenance and monitoring will be proposed to verify system effectiveness by inspection procedures and measurements.

Thank you.

Nicholas E. Mouganis EPA listing # 15415-I; NEHA ID# 100722

55 SHUMWAY ROAD, BROCKPORT, NEW YORK, 14420 * OFFICE/FAX 585-637-7430

APPENDIX B
HEALTH AND SAFETY PLAN

Health and Safety Plan

Former Dowcraft Site
65 South Dow Street
Falconer, NY

Site ID # 9-07-020

Prepared by

C&S Engineers, Inc.
141 Elm Street, Suite 100
Buffalo, New York 14203

August 2017

TABLE OF CONTENTS

FIGURES

ATTACHMENTS

APPENDICES

SECTION 1 – GENERAL INFORMATION

The Health and Safety Plan (HASP) described in this document will address health and safety considerations for all those activities that personnel employed by C&S Engineers, Inc., may be engaged in during site investigation and remediation work at the Former Dowcraft Site located on 65 South Dow Street in Falconer, Chautauqua County, New York (Site). Figure 1 shows the approximate location of the Site. This HASP will be implemented by the Health and Safety Officer (HSO) during site work.

Compliance with this HASP is required of all C&S personnel who enter this Site. The content of the HASP may change or undergo revision based upon additional information made available to the health, safety, and training (H&S) committee, monitoring results or changes in the technical scope of work. Any changes proposed must be reviewed by the H&S committee.

Responsibilities

Project Manager……………………………………………………	Daniel Riker Phone: (716) 847-1630 Cell: (716) 572-5312
Site Health and Safety Officer…………………………...	Cody Martin Phone: (716) 847-1630 Cell: (716) 864-3752
Emergency Coordinator………………………………….	Cody Martin Phone: (716) 847-1630 Cell: (716) 864-3752
Health and Safety Manager………………………………	Cody Martin Phone: (716) 847-1630 Cell: (716) 864-3752

Emergency Phone Numbers

Emergency Medical Service..911

Police: Buffalo Police Department (NYPD) 911

Hospital: Buffalo General Hospital...(716) 859-5600

Fire: Buffalo Fire Department..911

National Response Center ....(800) 424-8802

Poison Control Center	(800) 222-1222
Center for Disease Control	(800) 311-3435
NYSDEC Region 9 (Buffalo, New York)	(716) 851-7220
C&S Engineers	(716) 847-1630
Site Superintendent	TBD
Project Field Office Trailer	(716) 847-1630

SECTION 2 - HEALTH AND SAFETY PERSONNEL

2.0 Health and Safety Personnel Designations

The following information briefly describes the health and safety designations and general responsibilities for this Site.

2.1 Project Manager (PM)

The PM is responsible for the overall project including the implementation of the HASP. Specifically, this includes allocating adequate manpower, equipment, and time resources to conduct Site activities safely.

2.2 Health and Safety Manager

- Has the overall responsibility for coordinating and reporting all health and safety activities and the health and safety of Site Workers.
- Must have completed, at a minimum, the OSHA 30-Hour Construction Safety Training, and either the 24-Hour training course for the Occasional Hazardous Waste Site Worker or the 40-Hour training course for the Hazardous Waste Operations Worker that meets OHSA 29 CFR 1910.
- Must have completed the 8-Hour Site supervisor/manager's course for supervisors and managers having responsibilities for hazardous waste Site operations and management.
- Directs and coordinates health and safety monitoring activities.
- Ensures that field teams utilize proper personal protective equipment (PPE).
- Conducts initial on-site specific training prior to Site Workers commencing work.

- Conducts and documents daily and periodic safety briefings.
- Ensures that field team members comply with this HASP.
- Immediately notifies the Construction Manager (CM) Project Manager and Superintendent of all accident/incidents.
- Determines upgrading or downgrading of PPE based on Site conditions and/or real time monitoring results.
- Ensures that monitoring instruments are calibrated daily or as the manufacturer's instructions determine.
- Reports to the CM Project Manager and Superintendent to provide summaries of field operations and progress.
- Submits and maintains all documentation required in this HASP and any other pertinent health and safety documentation.

2.3 Health and Safety Officer (HSO)

- Must be designated to the Health and Safety Manager by each Subcontractor as a Competent Person having, at a minimum, the OSHA 30-Hour Construction Safety Training
- Must schedule and attend a Pre-Construction Safety Meeting with the Health and Safety Manager to discuss the Subcontractor Safety Requirements and must attend the Weekly Subcontractor Coordination Meeting.
- Responsible for ensuring that their lower tier contractors comply with project safety requirements.
- Must make frequent and regular inspections of their work areas and activities and ensure hazards that are under their control are corrected immediately and all other hazards are reported to the Construction Manager's Project Manager and Health and Safety Manager.

- Must report all work related injuries, regardless of severity, to the Construction Manager's Project Manager and the Health and Safety Manager within 24 hours after they occur.

2.4 Emergency Coordinator

- The Emergency Coordinator or his on-site designee will, in coordination with Campus Square, LLC., implement the emergency response procedures whenever conditions at the Site warrant such action.

- The Emergency Coordinator or his on-site designee will be responsible for assuring the evacuation, emergency treatment, emergency transport of C&S personnel as necessary, and notification of emergency response units (refer to phone listing in the beginning of this HASP) and the appropriate management staff.

2.5 Site Workers

- Report any unsafe or potentially hazardous conditions to the Health and Safety Manager.

- Maintain knowledge of the information, instructions, and emergency response actions contained in the HASP.

- Comply with rules, regulations, and procedures as set forth in this HASP, including any revisions that are instituted.

- Prevent unauthorized personnel from entering work Site.

SECTION 3 - PERTINENT SITE INFORMATION

3.1 Site Location and General History

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. 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 the Site's location.

Site History and Suspect Recognized Environmental Conditions

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.

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.

Five out of the ten wells that were sampled contained groundwater that exceeded water quality standard for TCE (5 ug/L). Analytical results for TCE in these wells ranged from 7.37 ug/L to 431 ug/L. Other chlorinated compounds, including TCE daughter compounds (cis-1,2-dichloroethene, trans-1,2-dichloroethane and vinyl chloride) were detected in three of the ten wells. The highest concentration of cis-1,2-Dichloroethene was detected in PW-3R (1,990 ug/L). Vinyl chloride was detected in one well, PW-3R, at 861 ug/L.

SECTION 5 - TRAINING

5.1 Site-specific Training

Training will be provided that specifically addresses the activities, procedures, monitoring, and equipment for the Site operations prior to going on site. Training will include familiarization with Site and facility layout, known and potential hazards, and emergency services at the Site, and details all provisions contained within this HASP. This training will also allow Site Workers to clarify anything they do not understand and to reinforce their responsibilities regarding safety and operations for their particular activity.

5.2 Safety Briefings

C&S project personnel will be given briefings by the HSO on a daily or as needed basis to further assist Site Workers in conducting their activities safely. Pertinent information will be provided when new operations are to be conducted. Changes in work practices must be implemented due to new information made available, or if Site or environmental conditions change. Briefings will also be given to facilitate conformance with prescribed safety practices. When conformance with these practices is not occurring or if deficiencies are identified during safety audits, the project manager will be notified.

SECTION 6 - ZONES

Four types of Site activity zones are identified for the Brownfield investigation activities, including the Exclusion Zone, Contamination Reduction Zone, Remediation Zone and the Support Zone. Prior to commencement of field work a further definition of where these zones will be set up will be established.

6.1 Exclusion Zone

The area where the unexpected condition is discovered would be considered the Exclusion Zone (EZ). All excavation and handling of contaminated materials generated as a result of the discovery of an unexpected condition would take place within the EZ. This zone will be clearly delineated by hay bales, jersey barriers, and/or similar methods. Safety tape may be used as secondary delineation within the EZ. The zone delineation markings may be opened in areas for varying lengths of time to accommodate equipment operation or specific construction activities. The Site Safety Manager/Director may establish more than one EZ where different levels of protection may be employed or where different hazards exist. Site Workers will not be allowed in the EZ without:

- A buddy (co-worker);
- Appropriate PPE in accordance with OSHA regulations;

- Medical authorization; and
- Training certification in accordance with 29 CFR 1910.120.

6.2 Contamination Reduction Zone

A Contamination Reduction Zone (CRZ) will be established between the EZ and the property limits. The CRZ contains the Contamination Reduction Corridor (CRC) and provides an area for decontamination of Site equipment. The CRZ will be used for general Site entry and egress, in addition to access for heavy equipment and emergency support services. Site Workers will not be allowed in the CRZ without:

- A buddy (co-worker);
- Appropriate PPE in accordance with OSHA regulations;
- Medical authorization; and
- Training certification in accordance with 29 CFR 1910.120.

In addition, the CRZ will include a Site Worker Cleaning Area that will include a field wash station for Site Workers, equipment, and PPE to allow Site Workers to wash their hands, arms, neck, and face after exiting areas of grossly contaminated soil or hazardous materials. All Site Workers will be required to pass through the Site Worker Cleaning Area and wash their hands and remove any loose fill and soils from their clothing and boots prior to exiting the CRZ.

6.3 Remediation Zone

A Remediated Zone (RZ) will be established in portions of the Site where the remediation has been completed and only general construction work will be performed. Setup of the RZ will consist of implementing several measures designed to reduce the risk of workers' exposure and prevent non-trained workers from entering the non-remediated zone. Non-trained workers will work only in areas where the potential for exposure has been minimized by removal of all hazardous materials. The remediated zone will then be separated from the non-remediated zone by installing and maintaining temporary plywood or other construction fences along the boundary between the two zones. If potentially impacted material is uncovered in the RZ, all non-trained workers will be removed and the Site Safety Manager/Director will assess the potential risks. If, at any other time, the risk of exposure increases while non-trained workers are present in the RZ, the non-trained workers will be removed. At all times, when non- trained workers are present in the RZ, air monitoring for the presence of VOCs will be conducted in the RZ, as well as at the fence line of the non-remediated zone.

6.4 Support Zone

The Support Zone (SZ) will be an uncontaminated area that will be the field support area for the Site operations. The SZ will contain the temporary project trailers and provide for field team communications and staging for emergency response. Appropriate sanitary facilities and safety equipment will be located in this zone. Potentially contaminated equipment or materials are not allowed in this zone. The only exception will be appropriately packaged/decontaminated and labeled samples. Meteorological conditions will be observed and noted from this zone, as well as those factors pertinent to heat and cold.

SECTION 7 - PERSONAL PROTECTIVE EQUIPMENT

7.1 General

The level of protection to be worn by field personnel will be defined and controlled by the HSO. Depending upon the type and levels of material present or anticipated at the site, varying degrees of protective equipment will be needed. If the possible hazards are unknown, a reasonable level of protection will be taken until sampling and monitoring results can ascertain potential risks. The levels of protection listed below are based on USEPA Guidelines. A list of the appropriate clothing for each level is also provided.

Level A protection must be worn when a reasonable determination has been made that the highest available level of respiratory, skin, eye, and mucous membrane protection is needed. It should be noted that while Level A provides maximum available protection, it does not protect against all possible hazards. Consideration of the heat stress that can arise from wearing Level A protection should also enter into the decision making process. Level A protection includes:

- Open circuit, pressure-demand self-contained breathing apparatus (SCBA)
- Totally encapsulated chemical resistant suit
- Gloves, inner (surgical type)

- Gloves, outer, chemical protective
- Boots, chemical protective

Level B protection must be used when the highest level of respiratory protection is needed, but hazardous material exposure to the few unprotected areas of the body (e.g., the back of the neck) is unlikely. Level B protection includes:

- Open circuit, pressure-demand SCBA or pressure airline with escape air bottle
- Chemical protective clothing: Overalls and long sleeved jacket; disposal chemical resistant coveralls; coveralls; one or two piece chemical splash suit with hood
- Gloves, inner (surgical type)
- Gloves, outer, chemical protective
- Boots, chemical protective

Level C must be used when the required level of respiratory protection is known, or reasonably assumed to be, not greater than the level of protection afforded by air purifying respirators; and hazardous materials exposure to the few unprotected areas of the body (e.g.., the back of the neck) is unlikely. Level C protection includes:

- Full or half face air-purifying respirator
- Chemical protective clothing: Overalls and long-sleeve jacket; disposable chemical resistant coveralls; coveralls; one or two piece chemical splash suit
- Gloves, inner (surgical type)
- Gloves, outer, chemical protective
- Boots, chemical protective

Level D is the basic work uniform. It cannot be worn on any site where respiratory or skin hazards exist. Level D protection includes:

- Safety boots/shoes
- Safety glasses
- Hard hat with optional face shield

Note that the use of SCBA and airline equipment is contingent upon the user receiving special training in the proper use and maintenance of such equipment.

7.2 Personal Protective Equipment – Site Specific

Level D with some modification will be required when working in the work zone on this Site. In addition to the basic work uniform specified by Level D protection, Nitrile gloves will be required when contact with soil or ground water is likely. Hearing protection will be worn when power equipment is used to perform subsurface investigation work. An upgrade to a higher level (Level C) of protection may occur if determined necessary by the HSO.

SECTION 8 - MONITORING PROCEDURES

8.1 Monitoring During Site Operations

All Site environmental monitoring should be accompanied by periodic meteorological monitoring of appropriate climatic conditions.

8.1.1 Drilling Operations (Monitoring Well Installation and Subsurface Borings) and Test Pit Excavations

Monitoring will be performed by the HSO or drilling observer during the conduct of work. A photoionization detector (PID) equipped with a 10.0 eV lamp will be utilized to monitor for the presence of volatile organic vapors within the breathing zone, the borehole, and subsurface samples upon their retrieval. Drill cuttings and excavation spoils will also be monitored by use of the PID. The PID will be field checked for calibration accuracy three times per day (morning, lunch, and end of day. If subsurface conditions warrant, a combustible gas indicator (CGI) with oxygen alarm may also be used to monitor the borehole for the presence of combustible gases. Similar monitoring of fluids produced during well development will also be conducted.

8.1.2 Interim Remedial Measures

If future Interim Remedial Measures (IRM) occurs, monitoring will be performed during excavation and sampling operations when C&S personnel are within the work zone. Although historical information previously obtained at the Site indicates low level of volatile organic vapors and compounds, a photoionization detector (PID) will be used during subsurface activities. If an IRM is performed, the, the remedial contractor will be required to employ dust control practices during work.

8.2 Action Levels

If readings on the PID exceed 10 ppm for more than fifteen minutes consecutively, then personal protective equipment should be upgraded to Level C. The air purifying respirator used with Level C protective equipment must be equipped with organic vapor cartridges. If readings on the explosive gas meter are within a range of 10%-25% of the LEL then continuous monitoring will be implemented. Readings above 25% of the LEL indicate the potential for an explosive condition. Sources of ignition should be removed and the Site should be evacuated.

8.3 Personal Monitoring Procedures

Personal monitoring shall be performed as a contingency measure in the event that VOC concentrations are consistently above the 10 ppm action level as detected by the PID. If the concentration of VOCs is above this action level, then amendments to the HASP must be made before work can continue at the Site.

SECTION 9 - COMMUNICATIONS

A phone will be located on Site to be utilized by personnel conducting investigation and IRM efforts. Cell phones will be the primary means of communicating with emergency support services/facilities.

SECTION 10 - SAFETY CONSIDERATIONS FOR SITE OPERATIONS

10.1 General

Standard safe work practices that will be followed include:

- Do not climb over/under drums, or other obstacles.
- Do not enter the work zone alone.
- Practice contamination avoidance, on and off-site.
- Plan activities ahead of time, use caution when conducting concurrently running activities.
- No eating, drinking, chewing or smoking is permitted in work zones.
- Due to the unknown nature of waste placement at the Site, extreme caution should be practiced during excavation activities.
- Apply immediate first aid to any and all cuts, scratches, abrasions, etc.

- Be alert to your own physical condition. Watch your buddy for signs of fatigue, exposure, etc.
- A work/rest regimen will be initiated when ambient temperatures and protective clothing create a potential heat stress situation.
- No work will be conducted without adequate natural light or without appropriate supervision.
- Task safety briefings will be held prior to onset of task work.
- Ignition of flammable liquids within or through improvised heating devices (barrels, etc.) or space heaters is forbidden.
- Entry into areas of spaces where toxic or explosive concentrations of gases or dust may exist without proper equipment is prohibited.
- Any injury or unusual health effect must be reported to the Site health and safety officer.
- Prevent splashing or spilling of potentially contaminated materials.
- Use of contact lenses is prohibited while on site.
- Beards and other facial hair that would impair the effectiveness of respiratory protection are prohibited if respiratory protection is necessary.
- Field crew members should be familiar with the physical characteristics of investigations, including:
  - Wind direction in relation to potential sources
  - Accessibility to co-workers, equipment, and vehicles
  - Communication
  - Hot zones (areas of known or suspected contamination)
  - Site access
  - Nearest water sources
- The number of personnel and equipment in potentially contaminated areas should be minimized consistent with site operations.

10.2 Field Operations

10.2.1 Intrusive Operations

The HSO or designee will be present on-site during all intrusive work, e.g., drilling operations, excavations, trenching, and will provide monitoring to oversee that appropriate levels of protection and safety procedures are utilized by C&S Engineers, Inc., personnel. The use of salamanders or other equipment with an open flame is prohibited and the use of protective clothing, especially hard hats and boots, will be required during drilling or other heavy equipment operations.

10.2.2 Excavations and Excavation Trenching

Guidance relating to safe work practices for C&S employees regarding excavations and excavating/trenching operation is presented in Appendix A of this HASP.

SECTION 11 - DECONTAMINATION PROCEDURES

Decontamination involves physically removing contaminants and/or converting them chemically into innocuous substances. Only general guidance can be given on methods and techniques for decontamination. Decontamination procedures are designed to:

- Remove contaminant(s).
- Avoid spreading the contamination from the work zone.
- Avoid exposing unprotected personnel outside of the work zone to contaminants.

Contamination avoidance is the first and best method for preventing spread of contamination from a hazardous site. Each person involved in site operations must practice the basic methods of contamination avoidance listed below. Additional precautions may be required in the HASP.

- Know the limitations of all protective equipment being used.
- Do not enter a contaminated area unless it is necessary to carry out a specific objective.
- When in a contaminated area, avoid touching anything unnecessarily.
- Walk around pools of liquids, discolored areas, or any area that shows evidence of possible contamination.
- Walk upwind of contamination, if possible.
- Do not sit or lean against anything in a contaminated area. If you must kneel (e.g., to take samples), use a plastic ground sheet.
- If at all possible, do not set sampling equipment directly on contaminated areas. Place equipment on a protective cover such as a ground cloth.
- Use the proper tools necessary to safely conduct the work.

Specific methods that may reduce the chance of contamination are:

- Use of remote sampling techniques.
- Opening containers by non-manual means.
- Bagging monitoring instruments.

- Use of drum grapplers.
- Watering down dusty areas.

Equipment which will need to be decontaminated includes tools, monitoring equipment, and personal protective equipment. Items to be decontaminated will be brushed off, rinsed, and dropped into a plastic container supplied for that purpose. They will then be washed with a detergent solution and rinsed with clean water. Monitoring instruments may be wrapped in plastic bags prior to entering the field in order to reduce the potential for contamination. Instrumentation that is contaminated during field operations will be carefully wiped down. Heavy equipment, if utilized for operations where it may be contaminated, will have prescribed decontamination procedures to prevent contaminant materials from potentially leaving the Site. On-site contractors, such as drillers or backhoe operators, will be responsible for decontaminating all construction equipment prior to demobilization.

SECTION 12 – DISPOSAL PROCEDURES

All discarded materials, waste materials, or other objects shall be handled in such a way as to reduce or eliminate the potential for spreading contamination, creating a sanitary hazard, or causing litter to be left on-site. All potentially contaminated materials, e.g., clothing, gloves, etc., will be bagged or drummed as necessary and segregated for proper disposal. All contaminated waste materials shall be disposed of as required by the provisions included in the contract and consistent with regulatory provisions. All non-contaminated materials shall be collected and bagged for appropriate disposal. Investigation derived waste will be managed consistent with the work plan for this Site and DER-10 Technical Guidance for Site Investigation and Remediation dated May 2010.

SECTION 13 - EMERGENCY RESPONSE PROCEDURES

As a result of the hazards at the Site, and the conditions under which operations are conducted, there is the possibility of emergency situations. This section establishes procedures for the implementation of an emergency plan.

13.1 Emergency Coordinator

Emergency Coordinator: .... Cody Martin ....Work Phone: (716) 847-1630

The Emergency Coordinator or his on-site designee will, in concert with Campus Square LLC, implement the emergency response procedures whenever conditions at the Site warrant such action. The Emergency Coordinator or his on-site designee will be responsible for assuring the evacuation, emergency treatment, emergency transport of C&S personnel as necessary, and notification of emergency response units (refer to phone listing in the beginning of this HASP) and the appropriate management staff.

13.2 Evacuation

In the event of an emergency situation, such as fire, explosion, significant release of toxic gases, etc., all personnel will evacuate and assemble in a designated assembly area. The Emergency Coordinator or his on-site designee will have authority to contact outside services as required. Under no circumstances will incoming personnel or visitors be allowed to proceed into the area once the emergency signal has been given. The Emergency Coordinator or his on-site designee must see that access for emergency equipment is provided and that all ignition sources have been shut down once the emergency situation is established. Once the safety of all personnel is established, the Fire Department and other emergency response groups will be notified by telephone of the emergency.

13.3 Potential or Actual Fire or Explosion

Immediately evacuate the Site and notify local fire and police departments, and other appropriate emergency response groups, if LEL values are above 25% in the work zone or if an actual fire or explosion has taken place.

13.4 Environmental Incident (spread or release of contamination)

Control or stop the spread of contamination if possible. Notify the Emergency Coordinator and the Project Manager. Other appropriate response groups will be notified as appropriate.

13.5 Personnel Injury

Emergency first aid shall be applied on-site as necessary. Then, decontaminate (en route if necessary) and transport the individual to nearest medical facility if needed. The ambulance/rescue squad shall be contacted for transport as necessary in an emergency. The directions to the hospital are shown in Section 1 of this HASP and a map is shown in Attachment A.

13.6 Personnel Exposure

- *Skin Contact*: Use copious amounts of soap and water. Wash/rinse affected area thoroughly, and then provide appropriate medical attention. Eyes should be thoroughly rinsed with water for at least 15 minutes.
- *Inhalation*: Move to fresh air and/or, if necessary, decontaminate and transport to emergency medical facility.
- *Ingestion*: Decontaminate and transport to emergency medical facility.
- *Puncture Wound/Laceration*: Decontaminate, if possible, and transport to emergency medical facility.

13.7 Adverse Weather Conditions

In the event of adverse weather conditions, the HSO will determine if work can continue without sacrificing the health and safety of field workers.

13.8 Incident Investigation and Reporting

In the event of an incident, procedures discussed in the Medical Emergency/Incident Response Protocol, presented in Appendix B of this HASP, shall be followed.

SECTION 14 - COMMUNITY RELATIONS

14.1 Community Health and Safety Plan

14.1.1 Community Air Monitoring Plan

Efforts will be taken to complete field work in a manner which will minimize the creation of airborne dust or particulates. Under dry conditions, work areas may be wetted to control dust. During periods of extreme wind, intrusive field work may be halted until such time as the potential for creating airborne dust or particulate matter as a result of investigation activities is limited.

SECTION 15 - AUTHORIZATIONS

Personnel authorized to enter the Site while operations are being conducted must be approved by the HSO. Authorization will involve completion of appropriate training courses, medical examination requirements, and review and sign-off of this HASP. No C&S personnel should enter the work zone alone. Each site visitor should check in with the HSO or Project Manager prior to entering the work zones.

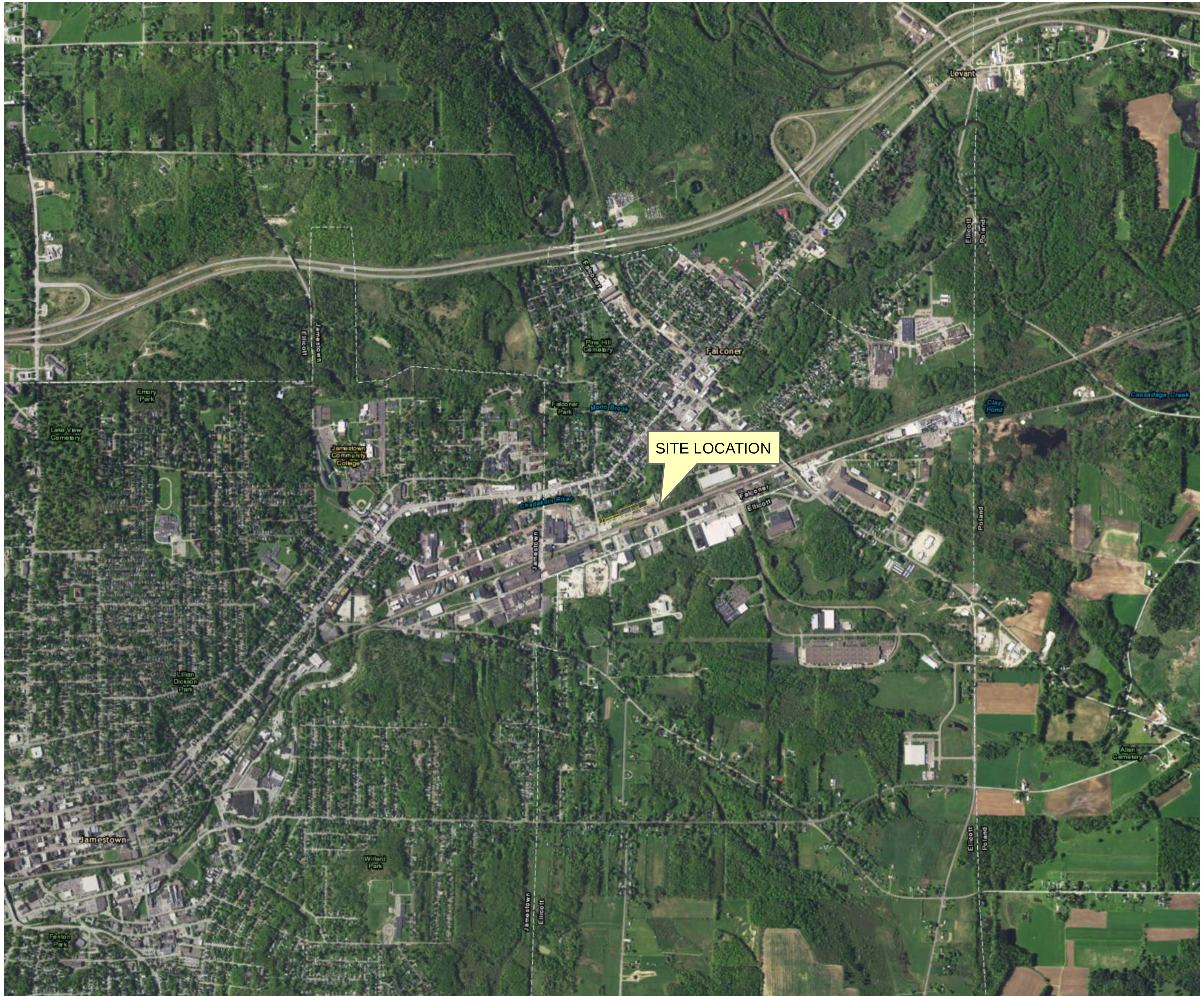
FIGURE 1

SITE LOCATION MAP

C&S ENGINEERS

1 2 3

C



B

A

0 1,000 2,000 4,000
Feet

1 2 3

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Buffalo, New York 14203
Phone: 716-847-1630
Fax: 716-847-1454
www.cscos.com

3

JAMESTOWN CONTAINER CORP

FALCONER, NEW YORK

MARK	DATE	DESCRIPTION

REVISIONS

PROJECT NO:	N30.001.001
DATE:	August 21, 2017
DRAWN BY:	C. Martin
DESIGNED BY:	C. Martin
CHECKED BY:	

SITE
LOCATION MAP

FIGURE 1

FIGURE 2

SITE AERIAL PHOTO

C&S ENGINEERS

Legend

- Existing Building
- Historic Buildings
- Groundwater Contours
- Rail Road

0 50 100 200 Feet

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DESIGNED BY:	C. Martin
CHECKED BY:	

NO ALTERATION PERMITTED HEREON EXCEPT AS PROVIDED UNDER SECTION 7209 SUBDIVISION 2 OF THE NEW YORK EDUCATION LAW

SITE LOCATION MAP

FIGURE 1

Path: F:\Project\N30 - Jamestown Container\N30001001 - Jamestown Container\Environmental\CADD-GIS\GIS\Projects\Untitled.mxd

ATTACHMENT A

MAP TO HOSPITAL

C&S
ENGINEERS

bing maps

A 65 S Dow St, Falconer, NY 14733
B Upmc Chautauqua Wca Hospital, 51 Glasgow Ave, Jamestown, NY 14701

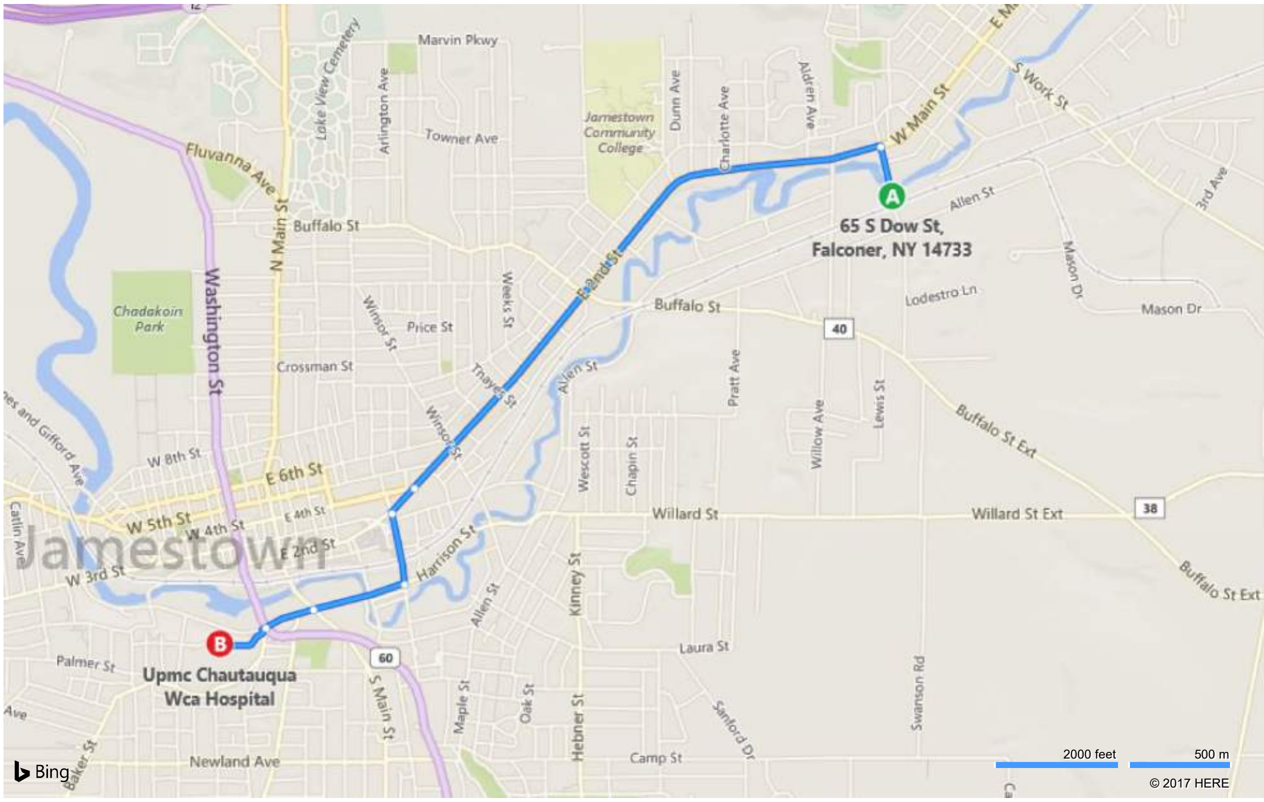
10 min, 3.0 mi
Light traffic (9 min without traffic)
Via RT-394

Type your route notes here

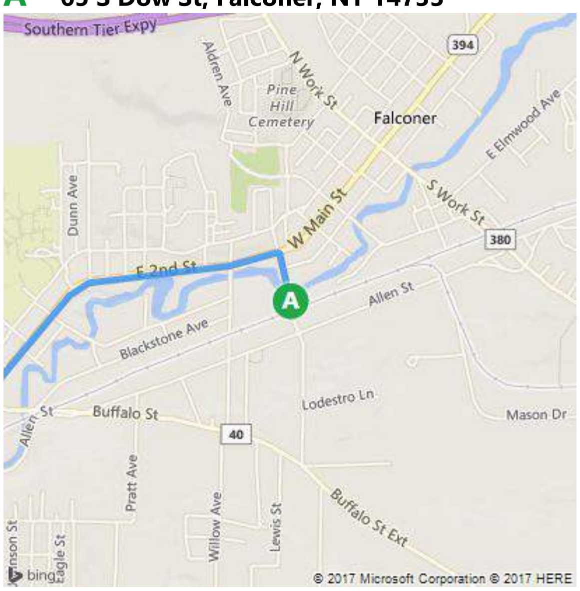
A 65 S Dow St, Falconer, NY 14733

↑	1.	Depart **S Dow St** toward W Everett St	0.2 mi
↰	2.	Turn **left** onto **RT-394 / W Main St** Pass 7-Eleven in 1.1 mi	1.9 mi
↑	3.	Keep **left** onto **E 2nd St** KFC on the corner	0.1 mi
↰	4.	Turn **left** onto **Foote Ave**	0.2 mi
↱	5.	Turn **right** onto **Harrison St**	0.3 mi
↑	6.	Road name changes to **W Harrison St**	0.2 mi
↑	7.	Keep **right** onto **Steele St**	72 ft
↰	8.	Turn **left** onto **Glasgow Ave**	0.2 mi
	9.	Arrive at **Glasgow Ave** on the left The last intersection is Steele St If you reach Culver St, you've gone too far	

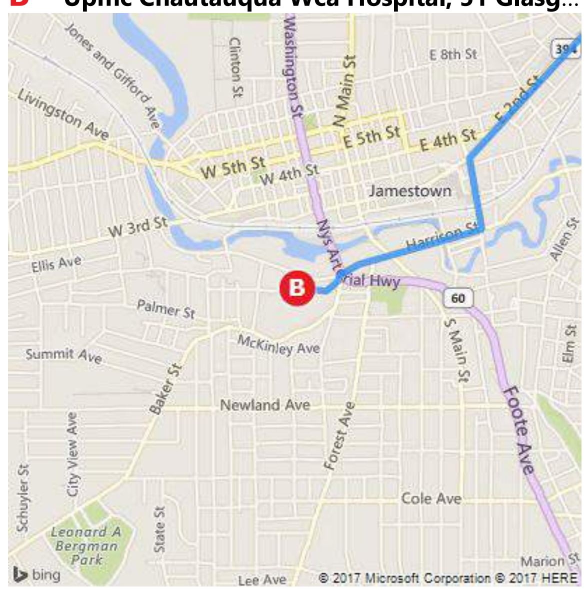
B Upmc Chautauqua Wca Hospital



A 65 S Dow St, Falconer, NY 14733



B Upmc Chautauqua Wca Hospital, 51 Glasg...



Appendix A

EXCAVATION/TRENCHING GUIDELINE

C&S ENGINEERS

C&S ENGINEERS, INC. HEALTH & SAFETY GUIDELINE #14
EXCAVATION/TRENCHING OPERATIONS

TABLE OF CONTENTS

C&S ENGINEERS, INC.
EXCAVATION/TRENCHING OPERATIONS

1.0 PURPOSE

To establish safe operating procedures for excavation/trenching operations at C&S work sites.

2.0 SCOPE

Applies to all C&S activity where excavation or trenching operations take place.

3.0 DEFINITIONS

Excavation — Any manmade cavity or depression in the earth's surface, including its sides, walls, or faces, formed by earth removal and producing unsupported earth conditions by reasons of the excavation.

Trench — A narrow excavation made below the surface of the ground. In general, the depth is greater than the width, but the width of a trench is not greater than 15 feet.

4.0 RESPONSIBILITY EMPLOYEES

Employees — All employees must understand and follow the procedures outlined in this guideline during all excavation and trenching operations.

Health and Safety Coordinator/Officer (HSC/HSO) - The HSC/HSO is responsible for ensuring that these procedures are implemented at each work site.

5.0 GUIDELINES

5.1 Hazards Associated With Excavation/Trenching

The principal hazards associated with excavation/trenching are:

- Suffocation, crushing, or other injury from falling material.
- Damage/failure of installed underground services and consequent hazards.
- Tripping, slipping, or falling.
- Possibility of explosive, flammable, toxic, or oxygen-deficient atmosphere in excavation.

5.2 Procedures Prior to Excavation

1. Underground Utilities

   - Determine the presence and location of any underground chemical or utility pipes, electrical, telephone, or instrument wire or cables.
   - If the local DigSafely NY is unable to locate private/domestic or plant utilities, then an independent utility locating service must be contacted and mobilized to the site.
   - Identify the location of underground services by stakes, markers or paint.
   - Arrange to de-energize or isolate underground services during excavation. If not possible, or if location is not definite, method of excavation shall be established to minimize hazards by such means as:

     a) Use of hand tools in area of underground services.
     b) Insulating personnel and equipment from possible electrical contact.
     c) Use of tools or equipment that will reduce possibility of damage to underground services and hazard to worker.

2. Identify Excavation Area — Areas to be excavated shall be identified and segregated by means of barricades, ropes, and/or signs to prevent access of unauthorized personnel and equipment. Suitable means shall be provided to make barriers visible at all times.
3. Surface Water Provide means of diverting surface water from excavation.
4. Shoring/Bracing — Shoring or bracing that may be required for installed equipment adjacent to the excavation shall be designed by a competent person.
5. Structural Ramps — Structural ramps that are used solely by employees as a means of access to or egress from the excavation shall be designed by a competent person.

5.3 Procedures For Doing The Excavation

1. **Determine the need for shoring/sloping** — the type of soil will establish the need for shoring, slope of the excavation, support systems, and equipment to be used. The soil condition may change as the excavation proceeds. Appendices A, B, C, D, E, and F of the OSHA Excavation Regulation, 29 CFR 1926 Subpart P, are to be used in defining shoring and sloping requirements.

2. **Mobile equipment** — For safe use of mobile industrial equipment in or near the excavation, the load carrying capacity of soil shall be established and suitable protection against collapse of soil provided by the use of mats, barricades, restricting the location of equipment, or shoring.

3. Excavated material (spoil) shall be stored at least two (2) feet from the edge of the excavation.

4. All trench (vertical sides) excavations greater than five (5) feet deep shall be shored.

5. The excavation shall be inspected daily for changes in conditions, including the presence of ground water, change in soil condition, or effects of weather such as rain or freeze. A safe means of continuing the work shall be established based on changes in condition. Typically test trench excavations made as part of an environmental subsurface nvestigation are made and backfilled the same day.

6. Appropriate monitoring for gas, toxic, or flammable materials will be conducted to establish the need for respiratory equipment, ventilation, or other measures required to continue the excavation safely.

7. Adequate means of dewatering the excavation shall be provided by the contractor as required.

8. A signal person shall be provided to direct powered equipment if working in the excavation with other personnel.

9. A signal person shall be provided when backfilling excavations to direct powered equipment working in the excavation with other personnel.

10. Warning vests will be worn when employees are exposed to public vehicular traffic.

11. Employees shall stand away from vehicles being loaded or unloaded, and shall not be permitted underneath loads handled by lifting or dragging equipment.

12. Emergency rescue equipment, such as breathing apparatus, a safety harness and line, or a basket stretcher, shall be readily available if hazardous atmospheric conditions exist or may be expected to develop. The specifics will be determined by the HSC/HSM.

13. Walkways or bridges with standard guardrail shall be provided where employees or equipment are required or permitted to cross over excavations.

5.4 Entering the Excavation

No C&S Engineers, Inc., employee shall enter an excavation which fails to meet the requirements of Section 5.3 of this guideline.

6.0 References

29 CFR 1926, Subpart P - Excavations

7.0 Attachments

29 CFR 1926 Subpart P - Appendices A, B, F

- **Part Number:** 1926
- **Part Title:** Safety and Health Regulations for Construction
- **Subpart:** P
- **Subpart Title:** Excavations
- **Standard Number:** 1926 Subpart P App A
- **Title:** Soil Classification

(a) Scope and application - (1) Scope. This appendix describes a method of classifying soil and rock deposits based on site and environmental conditions, and on the structure and composition of the earth deposits. The appendix contains definitions, sets for requirements, and describes acceptable visual and manual tests for use in classifying soils.

(2) Application. This appendix applies when a sloping or benching system is designed in accordance with the requirements set fo 1926.652(b)(2) as a method of protection for employees from cave-ins. This appendix also applies when timber shoring for exca designed as a method of protection from cave-ins in accordance with appendix C to subpart P of part 1926, and when aluminum shoring is designed in accordance with appendix D. This Appendix also applies if other protective systems are designed and selec from data prepared in accordance with the requirements set forth in 1926.652(c), and the use of the data is predicated on the us classification system set forth in this appendix.

(b) Definitions. The definitions and examples given below are based on, in whole or in part, the following; American Society for T Materials (ASTM) Standards D653-85 and D2488; The Unified Soils Classification System; The U.S. Department of Agriculture (US Textural Classification Scheme; and The National Bureau of Standards Report BSS-121.

"Cemented soil" means a soil in which the particles are held together by a chemical agent, such as calcium carbonate, such that a hand-size sample cannot be crushed into powder or individual soil particles by finger pressure.

"Cohesive soil" means clay (fine grained soil), or soil with a high clay content, which has cohesive strength. Cohesive soil does not crumble, can be excavated with vertical sideslopes, and is plastic when moist. Cohesive soil is hard to break up when dry, and exhibits significant cohesion when submerged. Cohesive soils include clayey silt, sandy clay, silty clay, clay and organic clay.

"Dry soil" means soil that does not exhibit visible signs of moisture content.

"Fissured" means a soil material that has a tendency to break along definite planes of fracture with little resistance, or a material that exhibits open cracks, such as tension cracks, in an exposed surface.

"Granular soil" means gravel, sand, or silt (coarse grained soil) with little or no clay content. Granular soil has no cohesive strength. Some moist granular soils exhibit apparent cohesion. Granular soil cannot be molded when moist and crumbles easily when dry.

"Layered system" means two or more distinctly different soil or rock types arranged in layers. Micaceous seams or weakened planes in rock or shale are considered layered.

"Moist soil" means a condition in which a soil looks and feels damp. Moist cohesive soil can easily be shaped into a ball and rolled into small diameter threads before crumbling. Moist granular soil that contains some cohesive material will exhibit signs of cohesion between particles.

"Plastic" means a property of a soil which allows the soil to be deformed or molded without cracking, or appreciable volume change.

"Saturated soil" means a soil in which the voids are filled with water. Saturation does not require flow. Saturation, or near saturation, is necessary for the proper use of instruments such as a pocket penetrometer or sheer vane.

"Soil classification system" means, for the purpose of this subpart, a method of categorizing soil and rock deposits in a hierarchy of Stable Rock, Type A, Type B, and Type C, in decreasing order of stability. The categories are determined based on an analysis of the properties and performance characteristics of the deposits and the characteristics of the deposits and the environmental conditions of exposure.

"Stable rock" means natural solid mineral matter that can be excavated with vertical sides and remain intact while exposed.

"Submerged soil" means soil which is underwater or is free seeping.

"Type A" means cohesive soils with an unconfined, compressive strength of 1.5 ton per square foot (tsf) (144 kPa) or greater. Examples of cohesive soils are: clay, silty clay, sandy clay, clay loam and, in some cases, silty clay loam and sandy clay loam. Cemented soils such as caliche and hardpan are also considered Type A. However, no soil is Type A if:

(i) The soil is fissured; or

(ii) The soil is subject to vibration from heavy traffic, pile driving, or similar effects; or

(iii) The soil has been previously disturbed; or

(iv) The soil is part of a sloped, layered system where the layers dip into the excavation on a slope of four horizontal to one vertical (4H:1V) or greater; or

(v) The material is subject to other factors that would require it to be classified as a less stable material.

"Type B" means:

(i) Cohesive soil with an unconfined compressive strength greater than 0.5 tsf (48 kPa) but less than 1.5 tsf (144 kPa); or

(ii) Granular cohesionless soils including: angular gravel (similar to crushed rock), silt, silt loam, sandy loam and, in some cases, silty clay loam and sandy clay loam.

(iii) Previously disturbed soils except those which would otherwise be classed as Type C soil.

(iv) Soil that meets the unconfined compressive strength or cementation requirements for Type A, but is fissured or subject to vibration; or

(v) Dry rock that is not stable; or

(vi) Material that is part of a sloped, layered system where the layers dip into the excavation on a slope less steep than four horizontal to one vertical (4H:1V), but only if the material would otherwise be classified as Type B.

"Type C" means:

(i) Cohesive soil with an unconfined compressive strength of 0.5 tsf (48 kPa) or less; or

(ii) Granular soils including gravel, sand, and loamy sand; or

(iii) Submerged soil or soil from which water is freely seeping; or

(iv) Submerged rock that is not stable, or

(v) Material in a sloped, layered system where the layers dip into the excavation or a slope of four horizontal to one vertical (4H:1V) or steeper.

"Unconfined compressive strength" means the load per unit area at which a soil will fail in compression. It can be determined by laboratory testing, or estimated in the field using a pocket penetrometer, by thumb penetration tests, and other methods.

"Wet soil" means soil that contains significantly more moisture than moist soil, but in such a range of values that cohesive material will slump or begin to flow when vibrated. Granular material that would exhibit cohesive properties when moist will lose those cohesive properties when wet.

(c) Requirements - (1) Classification of soil and rock deposits. Each soil and rock deposit shall be classified by a competent perso Rock, Type A, Type B, or Type C in accordance with the definitions set forth in paragraph (b) of this appendix.

(2) Basis of classification. The classification of the deposits shall be made based on the results of at least one visual and at least analysis. Such analyses shall be conducted by a competent person using tests described in paragraph (d) below, or in other reco methods of soil classification and testing such as those adopted by the American Society for Testing Materials, or the U.S. Depart Agriculture textural classification system.

(3) Visual and manual analyses. The visual and manual analyses, such as those noted as being acceptable in paragraph (d) of thi shall be designed and conducted to provide sufficient quantitative and qualitative information as may be necessary to identify pr properties, factors, and conditions affecting the classification of the deposits.

(4) Layered systems. In a layered system, the system shall be classified in accordance with its weakest layer. However, each laye classified individually where a more stable layer lies under a less stable layer.

(5) Reclassification. If, after classifying a deposit, the properties, factors, or conditions affecting its classification change in any w changes shall be evaluated by a competent person. The deposit shall be reclassified as necessary to reflect the changed circumst

(d) Acceptable visual and manual tests. - (1) Visual tests. Visual analysis is conducted to determine qualitative information regar excavation site in general, the soil adjacent to the excavation, the soil forming the sides of the open excavation, and the soil take samples from excavated material.

(i) Observe samples of soil that are excavated and soil in the sides of the excavation. Estimate the range of particle sizes and the amounts of the particle sizes. Soil that is primarily composed of fine-grained material material is cohesive material. Soil compose of coarse-grained sand or gravel is granular material.

(ii) Observe soil as it is excavated. Soil that remains in clumps when excavated is cohesive. Soil that breaks up easily and does n clumps is granular.

(iii) Observe the side of the opened excavation and the surface area adjacent to the excavation. Crack-like openings such as tens could indicate fissured material. If chunks of soil spall off a vertical side, the soil could be fissured. Small spalls are evidence of m ground and are indications of potentially hazardous situations.

(iv) Observe the area adjacent to the excavation and the excavation itself for evidence of existing utility and other underground s and to identify previously disturbed soil.

(v) Observed the opened side of the excavation to identify layered systems. Examine layered systems to identify if the layers slo the excavation. Estimate the degree of slope of the layers.

(vi) Observe the area adjacent to the excavation and the sides of the opened excavation for evidence of surface water, water see the sides of the excavation, or the location of the level of the water table.

(vii) Observe the area adjacent to the excavation and the area within the excavation for sources of vibration that may affect the the excavation face.

(2) Manual tests. Manual analysis of soil samples is conducted to determine quantitative as well as qualitative properties of soil a provide more information in order to classify soil properly.

(i) Plasticity. Mold a moist or wet sample of soil into a ball and attempt to roll it into threads as thin as 1/8-inch in diameter. Coh material can be successfully rolled into threads without crumbling. For example, if at least a two inch (50 mm) length of 1/8-inch be held on one end without tearing, the soil is cohesive.

(ii) Dry strength. If the soil is dry and crumbles on its own or with moderate pressure into individual grains or fine powder, it is g combination of gravel, sand, or silt). If the soil is dry and falls into clumps which break up into smaller clumps, but the smaller cl only be broken up with difficulty, it may be clay in any combination with gravel, sand or silt. If the dry soil breaks into clumps wh break up into small clumps and which can only be broken with difficulty, and there is no visual indication the soil is fissured, the considered unfissured.

(iii) Thumb penetration. The thumb penetration test can be used to estimate the unconfined compressive strength of cohesive so test is based on the thumb penetration test described in American Society for Testing and Materials (ASTM) Standard designatior "Standard Recommended Practice for Description of Soils (Visual - Manual Procedure).") Type A soils with an unconfined compres strength of 1.5 tsf can be readily indented by the thumb; however, they can be penetrated by the thumb only with very great eff soils with an unconfined compressive strength of 0.5 tsf can be easily penetrated several inches by the thumb, and can be molde finger pressure. This test should be conducted on an undisturbed soil sample, such as a large clump of spoil, as soon as practical excavation to keep to a minimum the effects of exposure to drying influences. If the excavation is later exposed to wetting influe flooding), the classification of the soil must be changed accordingly.

(iv) Other strength tests. Estimates of unconfined compressive strength of soils can also be obtained by use of a pocket penetron using a hand-operated shearvane.

(v) Drying test. The basic purpose of the drying test is to differentiate between cohesive material with fissures, unfissured cohesi and granular material. The procedure for the drying test involves drying a sample of soil that is approximately one inch thick (2.5 six inches (15.24 cm) in diameter until it is thoroughly dry:

(A) If the sample develops cracks as it dries, significant fissures are indicated.

(B) Samples that dry without cracking are to be broken by hand. If considerable force is necessary to break a sample, the soil ha cohesive material content. The soil can be classified as an unfissured cohesive material and the unconfined compressive strength determined.

(C) If a sample breaks easily by hand, it is either a fissured cohesive material or a granular material. To distinguish between the t pulverize the dried clumps of the sample by hand or by stepping on them. If the clumps do not pulverize easily, the material is cc fissures. If they pulverize easily into very small fragments, the material is granular.

Next Standard (1926 Subpart P App B)

Regulations (Standards - 29 CFR) - Table of Contents

• **Part Number:**	1926
• **Part Title:**	Safety and Health Regulations for Construction
• **Subpart:**	P
• **Subpart Title:**	Excavations
• **Standard Number:**	1926 Subpart P App B
• **Title:**	Sloping and Benching

(a) ***Scope and application***. This appendix contains specifications for sloping and benching when used as methods of protecting working in excavations from cave-ins. The requirements of this appendix apply when the design of sloping and benching protectiv is to be performed in accordance with the requirements set forth in § 1926.652(b)(2).

(b) ***Definitions***.

Actual slope means the slope to which an excavation face is excavated.

Distress means that the soil is in a condition where a cave-in is imminent or is likely to occur. Distress is evidenced by such phen the development of fissures in the face of or adjacent to an open excavation; the subsidence of the edge of an excavation; the slu material from the face or the bulging or heaving of material from the bottom of an excavation; the spalling of material from the fa excavation; and ravelling, i.e., small amounts of material such as pebbles or little clumps of material suddenly separating from the excavation and trickling or rolling down into the excavation.

Maximum allowable slope means the steepest incline of an excavation face that is acceptable for the most favorable site condi protection against cave-ins, and is expressed as the ratio of horizontal distance to vertical rise (H:V).

Short term exposure means a period of time less than or equal to 24 hours that an excavation is open.

(c) ***Requirements*** -- (1) ***Soil classification***. Soil and rock deposits shall be classified in accordance with appendix A to subpart I 1926.

(2) ***Maximum allowable slope***. The maximum allowable slope for a soil or rock deposit shall be determined from Table B-1 of tl appendix.

(3) ***Actual slope***. (i) The actual slope shall not be steeper than the maximum allowable slope.

(ii) The actual slope shall be less steep than the maximum allowable slope, when there are signs of distress. If that situation occur slope shall be cut back to an actual slope which is at least ½ horizontal to one vertical (½H:1V) less steep than the maximum allo slope.

(iii) When surcharge loads from stored material or equipment, operating equipment, or traffic are present, a competent person sh determine the degree to which the actual slope must be reduced below the maximum allowable slope, and shall assure that such achieved. Surcharge loads from adjacent structures shall be evaluated in accordance with § 1926.651(i).

(4) ***Configurations***. Configurations of sloping and benching systems shall be in accordance with Figure B-1.

TABLE B-1
MAXIMUM ALLOWABLE SLOPES

SOIL OR ROCK TYPE	MAXIMUM ALLOWABLE SLOPES (H:V)(1) FOR EXCAVATIONS LESS THAN 20 FEET DEEP(3)
STABLE ROCK	VERTICAL (90°)
TYPE A (2)	3/4:1 (53°)
TYPE B	1:1 (45°)
TYPE C	1 ½:1 (34°)

Footnote(1) Numbers shown in parentheses next to maximum allowable slopes are angles expressed in degrees from the horizontal. Angle: rounded off.

Footnote(2) A short-term maximum allowable slope of 1/2H:1V (63°) is allowed in excavations in Type A soil that are 12 feed (3.67 m) or l depth. Short-term maximum allowable slopes for excavations greater than 12 feet (3.67 m) in depth shall be 3/4H:1V (53°).

Footnote(3) Sloping or benching for excavations greater than 20 feet deep shall be designed by a registered professional engineer.

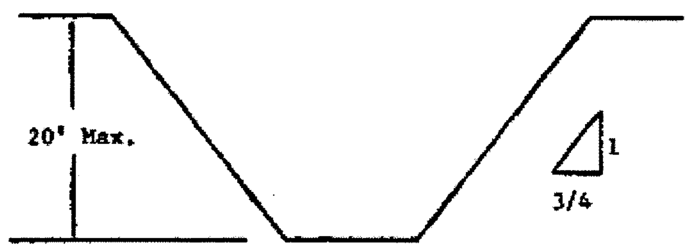
Figure B-1

Slope Configurations

(All slopes stated below are in the horizontal to vertical ratio)

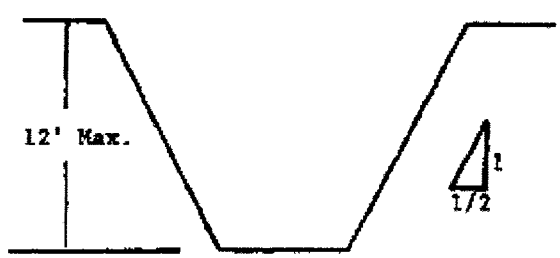
B-1.1 Excavations made in Type A soil.

1. All simple slope excavation 20 feet or less in depth shall have a maximum allowable slope of ¾:1.



SIMPLE SLOPE -- GENERAL

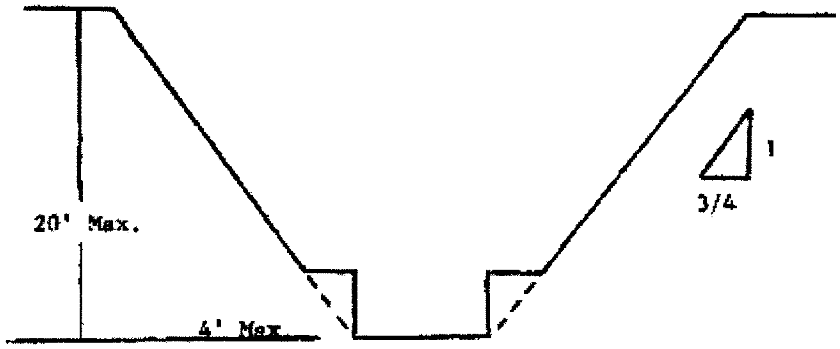
Exception: Simple slope excavations which are open 24 hours or less (short term) and which are 12 feet or less in depth shall have maximum allowable slope of ½:1.



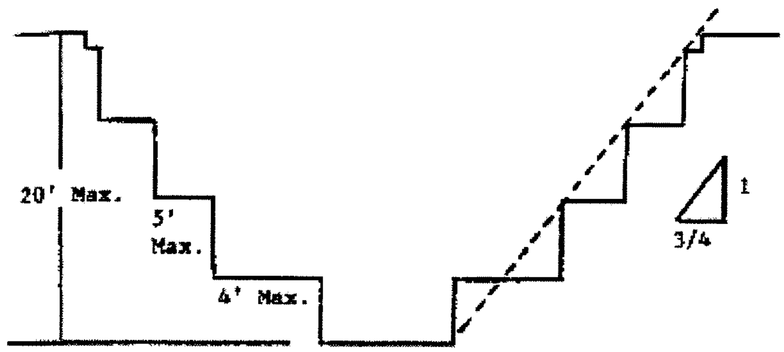
SIMPLE SLOPE -- SHORT TERM

2. All benched excavations 20 feet or less in depth shall have a maximum allowable slope of 3/4 to 1 and maximum bench dimens

follows:

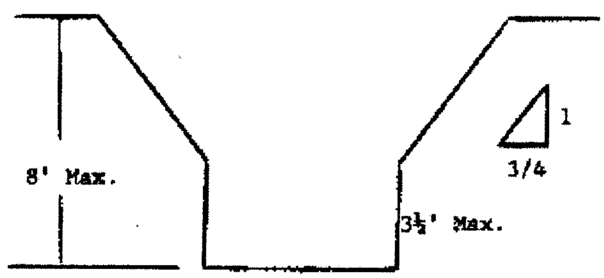


SIMPLE BENCH



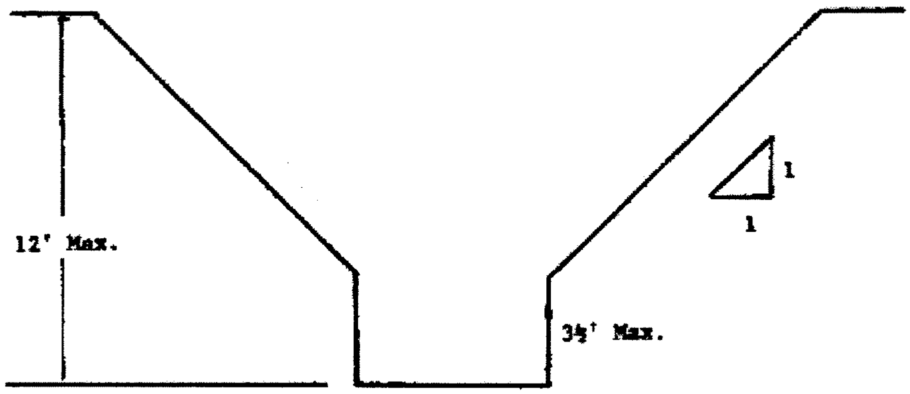
MULTIPLE BENCH

3. All excavations 8 feet or less in depth which have unsupported vertically sided lower portions shall have a maximum vertical sid feet.



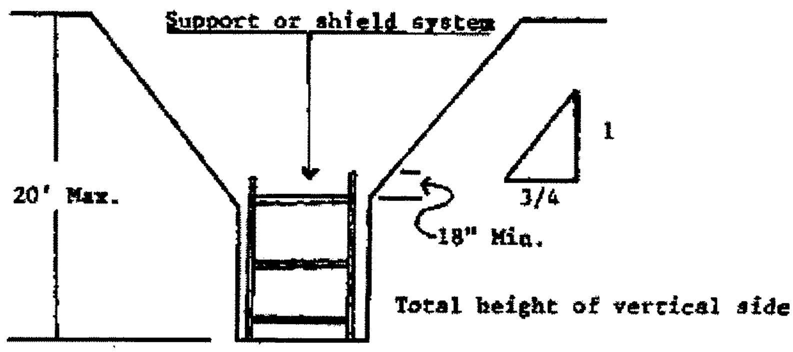
UNSUPPORTED VERTICALLY SIDED LOWER PORTION -- MAXIMUM 8 FEET IN DEPTH)

All excavations more than 8 feet but not more than 12 feet in depth with unsupported vertically sided lower portions shall have a r allowable slope of 1:1 and a maximum vertical side of 3½ feet.



UNSUPPORTED VERTICALLY SIDED LOWER PORTION -- MAXIMUM 12 FEET IN DEPTH)

All excavations 20 feet or less in depth which have vertically sided lower portions that are supported or shielded shall have a maxii allowable slope of ¾:1. The support or shield system must extend at least 18 inches above the top of the vertical side.

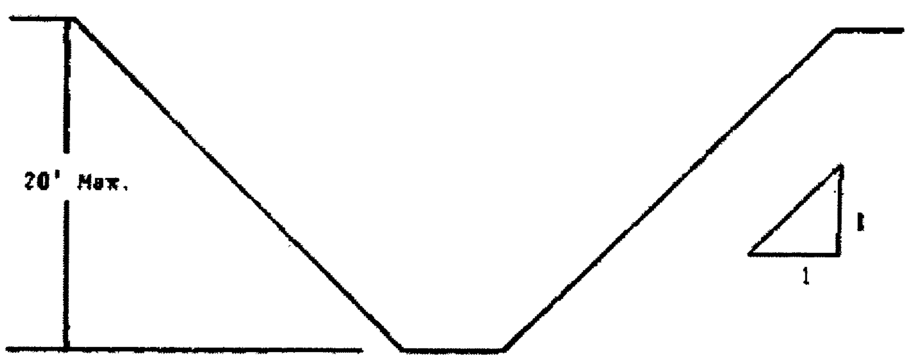


SUPPORTED OR SHIELDED VERTICALLY SIDED LOWER PORTION

4. All other simple slope, compound slope, and vertically sided lower portion excavations shall be in accordance with the other opt permitted under § 1926.652(b).

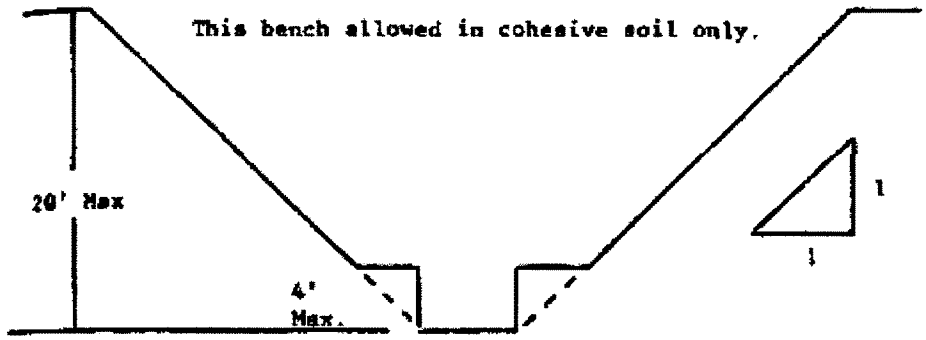
B-1.2 Excavations Made in Type B Soil

1. All simple slope excavations 20 feet or less in depth shall have a maximum allowable slope of 1:1.

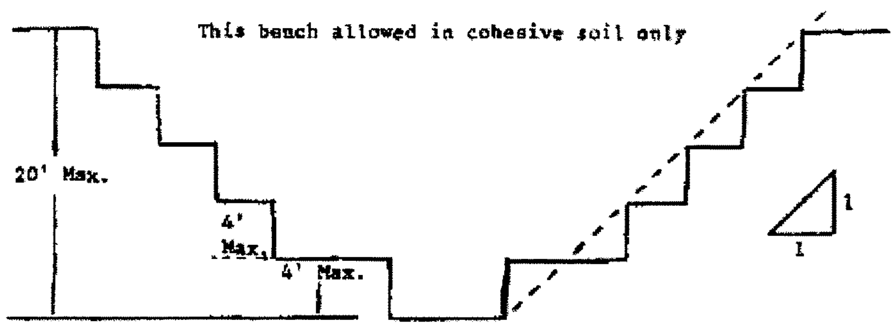


SIMPLE SLOPE

2. All benched excavations 20 feet or less in depth shall have a maximum allowable slope of 1:1 and maximum bench dimensions

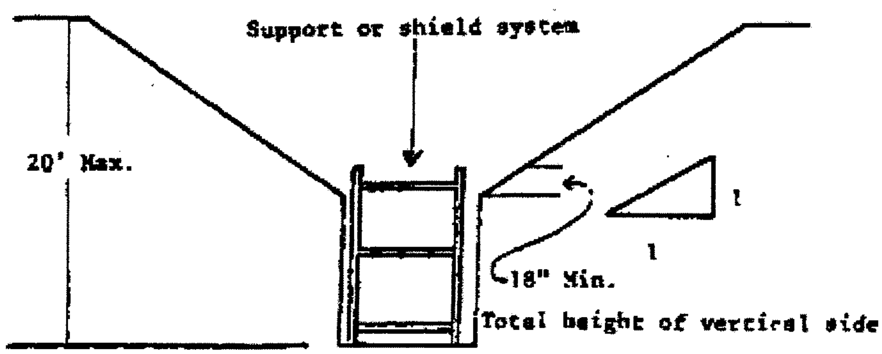


SINGLE BENCH



MULTIPLE BENCH

3. All excavations 20 feet or less in depth which have vertically sided lower portions shall be shielded or supported to a height at le
inches above the top of the vertical side. All such excavations shall have a maximum allowable slope of 1:1.

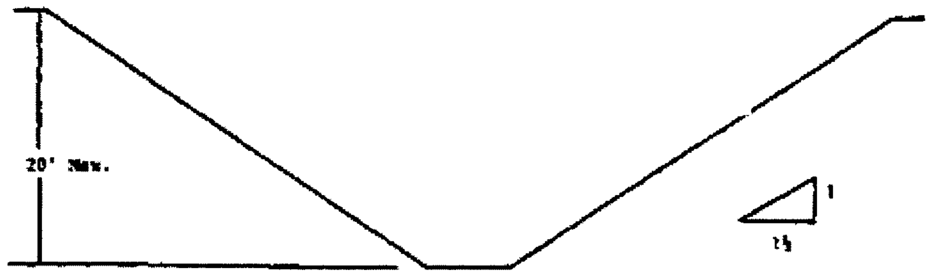


VERTICALLY SIDED LOWER PORTION

4. All other sloped excavations shall be in accordance with the other options permitted in § 1926.652(b).

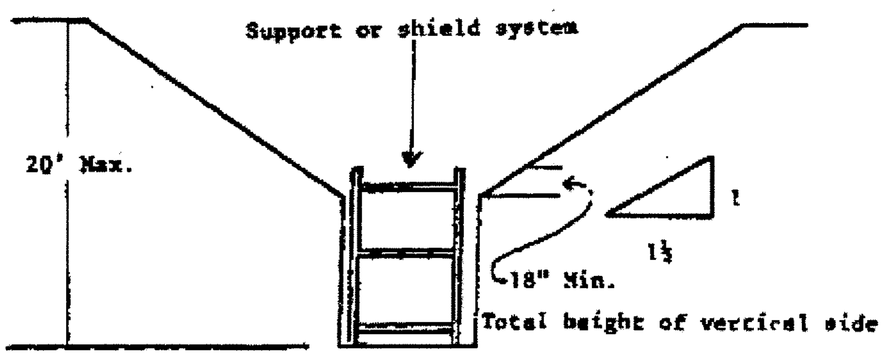
B-1.3 Excavations Made in Type C Soil

1. All simple slope excavations 20 feet or less in depth shall have a maximum allowable slope of 1½:1.



SIMPLE SLOPE

2. All excavations 20 feet or less in depth which have vertically sided lower portions shall be shielded or supported to a height at le
inches above the top of the vertical side. All such excavations shall have a maximum allowable slope of 1½:1.

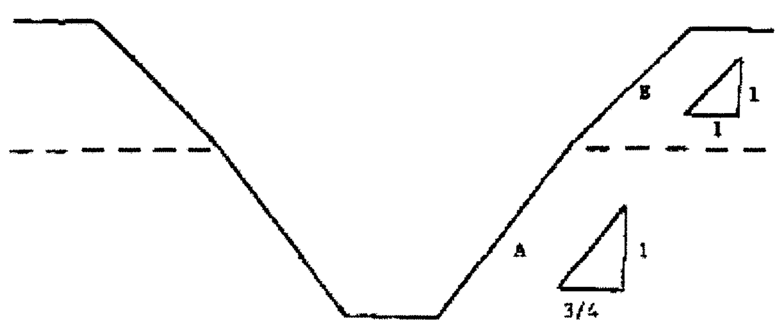


VERTICAL SIDED LOWER PORTION

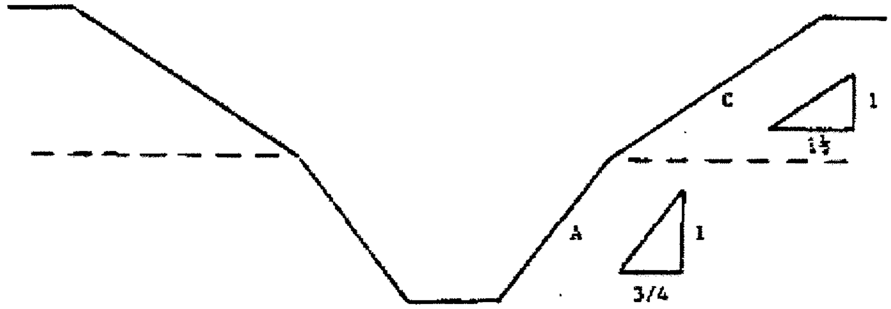
3. All other sloped excavations shall be in accordance with the other options permitted in § 1926.652(b).

B-1.4 Excavations Made in Layered Soils

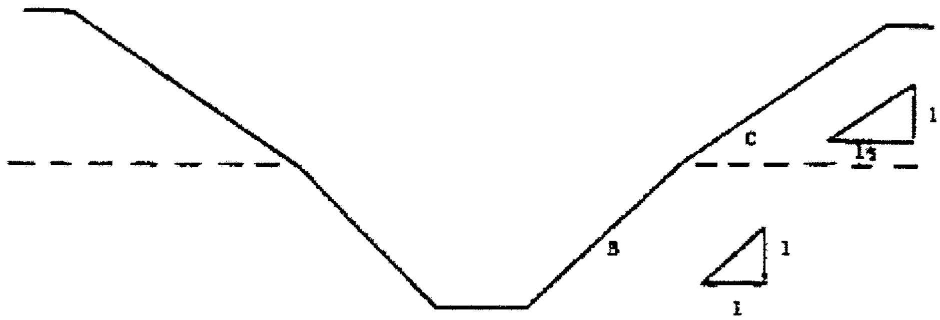
1. All excavations 20 feet or less in depth made in layered soils shall have a maximum allowable slope for each layer as set forth b



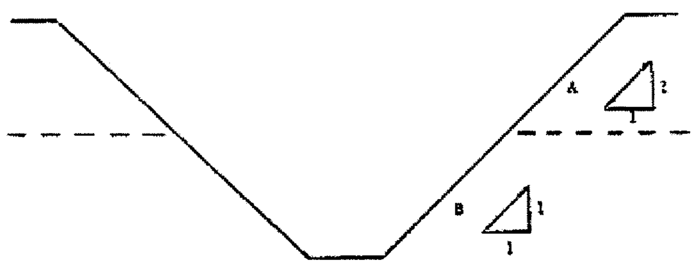
B OVER A



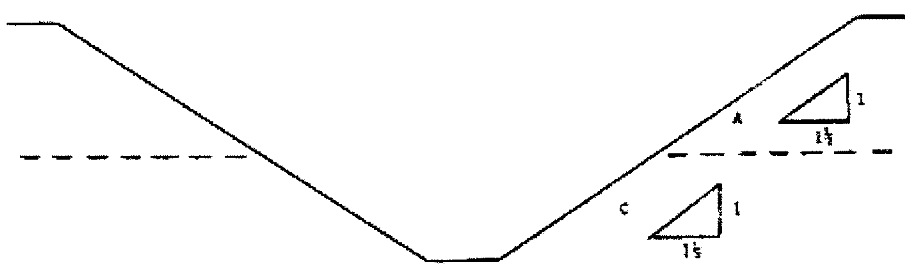
C OVER A



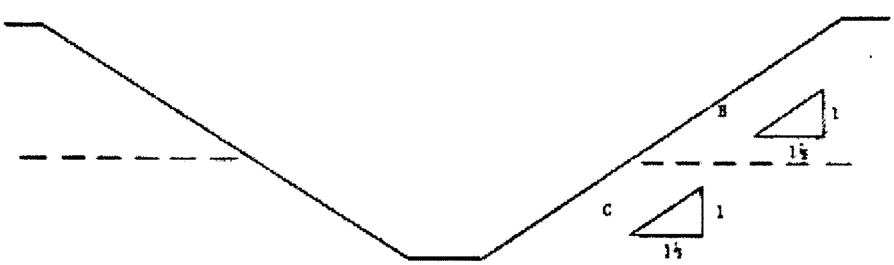
C OVER B



A OVER B



A OVER C



B OVER C

2. All other sloped excavations shall be in accordance with the other options permitted in § 1926.652(b).

Next Standard (1926 Subpart P App C)

Regulations (Standards - 29 CFR) - Table of Contents

- **Part Number:** 1926
- **Part Title:** Safety and Health Regulations for Construction
- **Subpart:** P
- **Subpart Title:** Excavations
- **Standard Number:** 1926 Subpart P App F
- **Title:** Selection of Protective Systems

The following figures are a graphic summary of the requirements contained in subpart P for excavations 20 feet or less in depth. Prc systems for use in excavations more than 20 feet in depth must be designed by a registered professional engineer in accordance wit 1926.652(b) and (c).

```
                         _____________________
                        |                     |
                        | Is the excavation more |
                        | than 5 feet in depth?  |
                        |_____________________|
                                   |
                                   |
 ____________________              |               _______________
|                    |    NO       |    YES       |                 |
| Is there potential |_____________|______________| Is the excavation |
|   for cave-in?     |                            |   entirely in     |
|____________________|                            |   stable rock?    |
       |                                          |_________________|
       |                                                   |
       |     NO        ______________________     YES      |
       |_____________|                        |____________|
       |             | Excavation may be made |            |
       |             |  with vertical sides.  |            |
       |             |________________________|            |
       |                                                   |
       |     YES       ______________________     NO       |
       |_____________|                        |____________|
                     |  Excavation must be    |
                     |  sloped, shored, or    |
                     |      shielded.         |
                     |________________________|
                                 |
        Sloping                  |      Shoring or shielding
       __________________________|__________________________
      | selected.                         selected.         |
      |                                                     |
 _____|_____                                          ______|______
|           |                                        |             |
| Go to Figure 2 |                                   | Go to Figure 3 |
|___________|                                        |_____________|
```

FIGURE 1 - PRELIMINARY DECISIONS

Sloping selected as the method of protection

Will soil classification be made in accordance with Sec. 1926.652(b)?

YES

Excavation must comply with one of the following three options:

Option 1:

Sec. 1926.652(b)(3) which requires Appendices A and B to be followed

Option 2:

Sec. 1926.652(b)(3) which requires other tabulated data (see definition to be followed.

Option 3:

Sec. 1926.652(b)(4) which requires the excavation to be designed by a registered professional engineer.

NO

Excavations must comply with Sec. 1926.652(b)(1) which requires a slope of 1 1/2 H:1V (34 deg.).

FIGURE 2 - SLOPING OPTIONS

Shoring or shielding selected as the method of protection.

Soil Classification is required when shoring or shielding is used. The excavation must comply with one of the following four options:

Option 1

Sec. 1926.652(c)(1) which requires Appendices A and C to be followed (e.g. timber shoring).

Option 2

Sec. 1926.652(c)(2) which requires manufacturers data to be followed (e.g. hydraulic shoring, trench jacks, air shores, shields).

Option 3

Sec. 1926.652(c)(3) which requires tabulated data (see definition) to be followed (e.g. any system as per the tabulated data).

Option 4

Sec. 1926.652(c)(4) which requires the excavation to be designed by a registered professional engineer (e.g. any designed system).

FIGURE 3 - SHORING AND SHIELDING OPTIONS

Next Standard (1926 Subpart Q)

Regulations (Standards - 29 CFR) - Table of Contents

Appendix B

GUIDANCE ON INCIDENT INVESTIGATION

AND REPORTING

C&S ENGINEERS

3. Following the treatment and care of the injured employee, the emergency coordinator or his on-site designee and the project manager will initiate the completion of the first injury report. The Health & Safety Manager will assist.

Project Manager

1. Upon notification of a personal injury or illness on the job site, will notify C & S Engineers, Inc, President and Corporate Legal and C&S Companies Health and Safety Manager.
2. Will report to the worksite to initiate the first injury report.
3. Will report to the treatment facility to check on the well being of the injured employee. The project manager will ensure that the treatment facility is aware that this is a workers compensation case.
4. Will assist the Health and Safety Manager in the analysis of the incident.

Health & Safety Manager

1. Upon notification of the personal injury will determined if it is necessary to report to the treatment facility or the accident site, depending on the nature of the injuries and the circumstances of the accident.
2. Will report to the worksite to begin a root cause analysis investigation of the accident. The investigation may include interview of witnesses, field crew , and project manager, the photographing of the scene, reconstruction of the accident scene, using test instruments and taking measurements. The Health and Safety Manager may draw diagrams from the information learned.
3. The Health and Safety Manager will work with the owner/client as necessary to investigate the accident.
4. The Health & Safety manager will ensure that the site is safe to resume work.
5. The Health & Safety Manager shall initiate the New York State Compensation form requirements (C-2) and forward a copy of the C-2 to the C & S Engineers, Inc. controller for transmittal to the Compensation Carrier within 8 hrs of notification of the incident or by the end of the next business day.
6. The Health and Safety manager, upon completion of the investigation, will provide the Project Manager with a written investigative report (copy to the President)
7. The accident will be reviewed at the next Project Managers meeting with the intent to prevent further or similar events on other projects.
8. The Health & Safety Manager will assess the incident to determine OSHA record ability and make record if necessary on the OSHA 300 form, within five working days.

Incident Response

1.0 PURPOSE

To prevent the occurrence of accidents on C&S Engineers, Inc., work sites and to establish a procedure for investigation and reporting of incidents occurring in, or related to C&S work activities.

2.0 SCOPE

Applies to all incidents related to C&S Engineers, Inc. work activities.

3.0 DEFINITIONS

Accident - An undesired event resulting in personal injury and/or property damage, and/or equipment failure.

Fatality - An injury or illness resulting in death of the individual.

Incident - Any occurrence which results in, or could potentially result in, the need for medical care or property damage. Such incidents shall include lost time accidents or illness, medical treatment cases, unplanned exposure to toxic materials or any other significant occurrence resulting in property damage or in "near misses."

Incidence Rate - the number of injuries, illnesses, or lost workdays related to a common exposure base of 100 full-time workers. The rate is calculated as:

N/EH x 200,000

N = number of injuries and illnesses or lost workday cases; EH = total hours worked by all associates during calendar year. 200,000 = base for 100 full-time equivalent workers (working 40 hours per week, 50 weeks per year).

Injury - An injury such as a cut, fracture, sprain, amputation, etc. which results from a work accident or from a single instantaneous event in the work environment.

Lost Workday Case - A lost workday case occurs when an injured or ill employee experiences days away from work beginning with the next scheduled work day. Lost workday cases do not occur unless the employee is effected beyond the day of injury or onset of illness.

Recordable Illness - An illness that results from the course of employment and must be entered on the OSHA 300 Log and Summary of Occupational Injuries and Illnesses. These illnesses require medical treatment and evaluation of work related injury. For example, dermatitis, bronchitis, irritation of eyes, nose, and throat can result from work and non-work related incidents.

Recordable Injury - An injury that results from the course of employment and must be entered on the OSHA 300 Log and Summary of Occupational Injuries and Illnesses. These injuries require medical treatment; may involve loss of consciousness; may result in restriction of work or motion or transfer to another job; or result in a fatality.

Near Miss - An incident which, if occurring at a different time or in a different personnel or equipment configuration, would have resulted in an incident.

4.0 RESPONSIBILITIES

Employees - It shall be the responsibility of all C&S Engineers, Inc. employees to report all incidents as soon as possible to the HSC, regardless of the severity.

Human Resources - has overall responsibility for maintaining accident/ incident reporting and investigations according to current regulations and recording injuries/ illness on the OSHA 300 log, and posting the OSHA 300 log.

Emergency Coordinator - It is the responsibility of the Emergency Coordinator to investigate and prepare an appropriate report of all accidents, illnesses, and incidents occurring on or related to C&S Engineers, Inc. work. The Emergency Coordinator shall complete Attachment A within 24 hours of the incident occurrence.

Health and Safety Manager (HSM) - It is the responsibility of the HSM to investigate and prepare an appropriate report of all lost time injuries and illnesses and significant incidents occurring on or related to C&S Companies. The HSM shall maintain the OSHA 300 form.

Project Managers (PM) - It shall be the PM's responsibility to promptly correct any deficiencies in personnel, training, actions, or any site or equipment deficiencies that were determined to cause or contribute to the incident investigated.

5.0 GUIDELINES

5.1 Incident Investigation

The Project Manager will immediately investigate the circumstances surrounding the incident and will make recommendations to prevent recurrence. The HSM shall be immediately notified by telephone if a serious accident/ incident occurs. The incident shall be evaluated to determine whether it is OSHA recordable. If the incident is determined to be OSHA 300 recordable, it shall be entered on the OSHA 300 form.

The Project Manager with assistance from the HSM must submit to the office an incident report form pertaining to any incident resulting in injury or property damage.

5.2 Incident Report

The completed incident report must be completed by the Project Manager within 12 hours of the incident and distributed to the HSM, and Human Resources. This form shall be maintained by Human Resources for at least five years for all OSHA recordable cases. This form serves as an equivalent to the OSHA 101 form.

5.3 Incident Follow-up Report

The Incident Follow-Up Report (Attachment B) shall be distributed with the Incident Report within one week of the incident. Delay in filing this report shall be explained in a brief memorandum.

5.4 Reporting of Fatalities or Multiple Hospitalization Accidents

Fatalities or accidents resulting in the hospitalization of three or more employees must be reported to OSHA verbally or in writing within 8 hours. The report must contain 1) circumstances surrounding the accident(s), 2) the number of fatalities, and 3) the extent of any injuries.

5.5 OSHA 300A Summary Form

Recordable cases must be entered on the log within six workdays of receipt of the information that a recordable case has occurred. The OSHA log must be kept updated to within 45 calendar days.

OSHA 300 forms must be updated during the 5 year retention period, if there is a change in the extent or outcome of an injury or illness which affects an entry on a log. If a change is necessary, the original entry should be lined out and a corrected entry made on that log. New entries should be made for previously unrecorded cases that are discovered or for cases that initially weren't recorded but were found to be recordable after the end of the year. Log totals should also be modified to reflect these changes.

5.5.1 Posting

The log must be summarized at the end of the calendar year and the summary must be posted from February 1 through May 31.

5.6 OSHA 300A

Facilities selected by the Bureau of Labor Statistics (BLS) to participate in surveys of occupational injuries and illnesses will receive the OSHA 300A. The data from the annual summary on the OSHA 300 log should be transferred to the OSHA 300A, other requested information provided and the form returned as instructed by the BLS.

5.7 Access to OSHA Records

All OSHA records (accident reporting forms and OSHA 300 logs) should be available for inspection and copying by authorized Federal and State government officials.

Employees, former employees, and their representatives must be given access for inspection and copying to only the log, OSHA No. 300, for the establishment in which the employee currently works or formerly worked.

6.0 REFERENCES

29 CFR Part 1904

7.0 ATTACHMENTS

Attachment A - Incident Investigation Form
Attachment B - Incident Follow-Up Report
Attachment C - Establishing Recordability

ATTACHMENT A

INCIDENT INVESTIGATION FORM

Accident investigation should include:

Location: ____

Time of Day: ____

Accident Type: ____

Victim:____

Nature of Injury:____

Released Injury:____

Hazardous Material:____

Unsafe Acts:____

Unsafe Conditions:____

Policies, Decisions:____

____

Personal Factors:____

____

Environmental Factors:____

____

____

ATTACHMENT B

Date ____

Foreman: ____

INCIDENT FOLLOW-UP REPORT

Date of Incident: ____

Site:____

Brief description of incident: ____

____

____

____

____

Outcome of incident: ____

____

____

____

Physician's recommendations: ____

____

____

____

Date the injured returned to work:_______________________________________

Project Manager Signature: ____

Date: ____

ATTACH ANY ADDITIONAL INFORMATION TO THIS FORM

ATTACHMENT C

ESTABLISHING RECORDABILITY

1. Deciding whether to record a case and how to classify the case.

Determine whether a fatality, injury or illness is recordable.

A fatality is recordable if:

- Results from employment

An injury is recordable if:

- Results from employment and
- It requires medical treatment beyond first aid or
- Results in restricted work activity or job transfer, or
- Results in lost work day or
- Results in loss of consciousness

An illness is recordable if:

- It results from employment

2. Definition of "Resulting from Employment"

Resulting from employment is when the injury or illness results from an event or exposure in the work environment. The work environment is primarily composed of: 1) The employer's premises, and 2) other locations where associates are engaged in work-related activities or are present as a condition of their employment.

The employer's premises include company rest rooms, hallways, cafeterias, sidewalks and parking lots. Injuries occurring in these places are generally considered work related.

The employer's premises EXCLUDES employer controlled ball fields, tennis courts, golf courses, parks, swimming pools, gyms, and other similar recreational facilities, used by associates on a voluntary basis for their own benefit, primarily during off work hours.

Ordinary and customary commute, is not generally considered work related.

Employees injured or taken ill while engaged in consuming food, as part of a normal break or activity is not considered work related. Employees injured or taken ill as the result of smoking, consuming illegal drugs, alcohol or applying make up are generally not considered work related. Employee injured by un authorized horseplay is generally not considered work related, however, an employee injured as a result of a fight or other workplace violence act, may be considered work related.

Associates who travel on company business are considered to be engaged in work related activities all the time they spend in the interest of the company. This includes travel to and from customer contacts, and entertaining or being entertained for purpose of promoting or discussing business. Incidents occurring during normal living activities (eating, sleeping, recreation) or if the associate deviates from a reasonably direct route of travel are not considered OSHA recordable.

3. Distinction between Medical Treatment and First Aid.

First aid is defined as any one-time treatment, and any follow up visit for the purpose of observation, of minor scratches, cuts, burns, splinters, etc., which do not ordinarily require medical care. Such one time treatment, and follow up visit for the purpose of observation, is considered first aid even though provided by a physician or registered professional personnel.

Medical Treatment (recordable)

a) They must be treated only by a physician or licensed medical personnel.

b) They impair bodily function (i.e. normal use of senses, limbs, etc.).

c) They result in damage to physical structure of a non superficial nature (fractures).

d) They involve complications requiring follow up medical treatment.

C&S ENGINEERS

APPENDIX C

SUB-SLAB DEPRESSURIZATION CONSTRUCTION COMPLETION REPORTS

mitigation tech *vapor intrusion specialists*

April 8, 2017

Mr. Cody Martin
Project Manager
C & S Companies
141 Elm Street, Suite 100
Buffalo, NY 14203
Via email: Cody Martin <cmartin@cscos.com>

Re: Jamestown Container Companies – 65 South Dow St., Falconer, NY 14733
Construction Completion Report for SSD System - Building 9

CONSTRUCTION COMPLETION REPORT

1. OVERVIEW

This document presents a construction report, performance evaluation, O&M advice and certification of effectiveness for the Sub-Slab Depressurization system (SSDS) installed by *Mitigation Tech* at 65 South Dow St., Falconer, NY 14733, Building 9, as commissioned March 27, 2017.

Following an SSD construction plan (dated October 18, 2016) informed by a general building assessment performed August 19, 2016, two multi-suction point SSD Systems were installed using principles and equipment typically used for soil vapor intrusion mitigation in buildings. The primary objective of implementing this preemptive measure was to mitigate potential intrusion of soil vapors. This would be achieved by maintaining a negative pressure of at least .002 water column inches (wci) below the slab relative to the air pressure above the slab. All work is in compliance with the NYS DOH document, "Guidance for Evaluating Soil Vapor Intrusion in the State of New York, October 2006".

2. BUILDING ASSESSMENT AND SYSTEM CONSTRUCTION

Confirmatory sub-slab air communication testing was performed at job start March 21, 2017 to refine data obtained from the preliminary building assessment. Work continued with an analysis of appropriate locations for fans, suction cavities and other SSD system components. It was determined that two fan systems were more practicable than a single fan system. Both for physical protection and minimum impact on active use areas, riser pipes were surface mounted near columns or perimeter walls; horizontal pipe was installed as close to ceiling and established raceways as possible. Work was coordinated with client to minimize disturbance of work areas, relocate obstacles and control dust. Vacuum and air flow measurements were performed continuously during construction to ensure integrity of design. Various fans were evaluated in place and in combination to determine the most effective configuration. At commissioning, all components inspected for condition and proper operation. Premises left in clean condition.

Key on site personnel were Aaron Hurysz and Robert Beck, both highly experienced soil vapor intrusion technicians. Weather conditions were favorable. Daily tailgate meetings were held to review the daily work objectives and relevant aspects of the Health & Safety Plan. No accidents or incidents occurred during the construction.

3. SUB-SLAB DEPRESSURIZATION SYSTEM GENERAL DESCRIPTION

3.1. Introduction. The SSDS is maintaining sub-slab vacuum at all subject areas. The system consists of (2) sidewall mounted fans connected by manifold piping to vapor extraction points. The system was constructed using principles and equipment typically used for radon mitigation in buildings as detailed in the United States Environmental Protection Agency (EPA) EPA 402-K-03-007 (May 2006), and the final NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York (October 2006). The SSDS was installed as a permanent, integral addition to the structure. The key components of the SSDS are described below and are shown on an as-built diagram labeled “Sub-Slab System Diagram.”

3.2. Suction Points. The suction points consists of a 5” core boring into the slab through which 1- 2 cubic feet of sub-slab material has been removed. Mechanically suspended 3” SCH 40 PVC pipe has been inserted into the boring and sealed with urethane sealant.

3.3. Riser Piping. The riser piping consists of 3” SCH 40 PVC pipe that follows a route from the extraction point to a 4” trunk line, then to the exterior mounted vacuum fan. Weatherproof flashing or sealant has been applied to all penetrations. Vent pipes were installed at a pitch that ensures that any rainwater or condensation within the pipes drains downward into the ground beneath the slab. Piping is independently supported, and not supported from existing building mechanical systems. Piping is labeled at each level as “Sub-Slab Vent”. Piping is connected using manufacturer’s approved methods.

3.4. Exhaust Fans. Exhaust fans has been field selected for specific performance properties. Models: 1) Festa Radon Technologies “Force” producing 4.5 wci at 55 CFM, at 300 watts; 2) RADONAWAY RP-265, producing 2.0 wci at 50 CFM, at 120 watts. Fans have an exterior disconnect switch. Fans are mounted with rubber Fernco couplings, for simplified replacement. No air intakes are present within 10’ of the exhaust points.

3.5. Instrumentation and Control. There is no centralized instrumentation or control for the SSDS. The fans can be switched either from the adjacent positioned disconnect or at the marked breakers #36 and #42 on the panel box centrally located on the east wall. The exhaust fan systems are equipped with a vacuum indicator mounted in a visible location on a riser pipe per the attached schematic. The indicator consists of an oil filled U-tube style manometer. The indicator can be inspected by observing the level of colored fluid. The indicator is designed primarily to give a simple visual check that vacuum is present in the riser pipe, specifically by observation that the fluid levels on each side of the indicator are not even. Indicator is marked at level observed on March 27, 2017.

3.6 Sealing measures. Polyurethane sealants have been applied to control joints, floor cracks and slab penetrations to enhance the barrier between sub-slab and ambient air and improve the efficiency of the SSD System. Smoke testing has been employed to guide sealing operations. Materials used include Sika Sikaflex 1c-SLself-leveling joint sealant and Sika1a Sealant.

3.7 Monitoring Points. Monitoring Points are indicated on the system diagram. These consist of ¾” drill points through the slab into which a digital micromanometer probe can be inserted. They are semi-permanently closed with backer and urethane sealant. These were established to aid in original system design and confirmatory testing, and in some cases are difficult to access. The primary future use would be in recertification of system effectiveness.

3.8 System Configuration (see attached schematic for component locations)

Basic Systems

- West System - FESTA RADON TECHNOLOGIES "Force" centrifugal blower, roof level sidewall exhaust; w/ (3) dedicated suction points, main plant, per attached schematic
- East System - RADONAWAY RP-265 centrifugal blower roof level sidewall exhaust; w/ (2) dedicated suction points, main plant, per attached schematic

Common Elements:

- Comprehensive diagnostics to optimize component type and placement
- Suction points as follows: connection via 3" Schedule 40 PVC pipe, to cavity in sub-slab, with urethane seal; access hole to suction cavity by 5"core drill; suction cavity to consists of approximately 1 cu. ft. excavated material in sub-slab
- Proportioning valves for suction risers where required
- All exhaust points minimum 10' from any air intakes
- Exterior switch and *Sealtight* and/or MC conduit from fan housing to building interior; connection to panel with EMT or MC conduit
- U-tube style vacuum indicator per system, on vertical pipe run
- Urethane sealant with closed cell backer at slab joints, accessible cracks and penetrations
- Horizontal pipe as high as practicable, with metal bracketing direct to structure, sloped as required, above drop ceiling where applicable
- (6) vacuum test points to verify pressure extension field
- At completion, perform backdraft testing, measure pressure differentials and document; label components and provide system description and operational instructions
- Consult with client to develop operation, maintenance and periodic inspection plan
- Two year warranty; labor, installed components and sub-slab depressurization to objective (or greater); warranty is transferable and assignable to future owners of the building.

3.9 PERFORMANCE EVALUATION

Measurement date – March 27, 2017 - In order to verify system effectiveness and as a performance evaluation, test points were established at various distances from the suction cavities suitable to verify that the sub-slab of the subject area was being depressurized at least to the objective. See schematic for point locations.

TP #	Value (neg wci)
1	.014
2	.023
3	.007
4	.014
5	.012
6	.014

East system vacuum gauge value –– 2.0 wci
West system vacuum gauge value –– 4.5 wci

4. SUB-SLAB DEPRESSURIZATION SYSTEM OPERATION

4.1. The fans should be kept in continuous operation. New York State Soil Vapor Intrusion Guidance (2006) specifies that operation, maintenance and monitoring of the SSD system should be included as part of site management.

4.2. Reset. Fans restart automatically in event of power loss.

4.3. In the event of unusual fan noise, failure to start, physical damage, or repeated circuit breaker trip, turn fan off and call for service. MITIGATION TECH – 800-637-9228

4.4. Regularly inspect system oil filled U-tube type manometers to verify that value, indicated by a mark on the gauge, has not changed significantly from the position of the mark. Gauge is inspected by observing the level of colored fluid.

4.5. Normal system operation requires unchanged structural conditions. Report any changes in structure, HVAC systems, slab conditions, etc., so that the change can be evaluated for impact on the SSD System. For service, call MITIGATION TECH at 800-637-9228

4.6. Ensure that a periodic inspection is performed

5. SSD SYSTEM PERFORMANCE MONITORING RECOMMENDATIONS

5.1. Monthly Monitoring

5.1.1. Inspect fan vacuum indicator to verify that value, indicated by a mark on the gauge, has not changed significantly from the position of the mark. Gauge is inspected by observing the level of colored fluid.

5.1.2. Record the observed measurement for each fan vacuum indicator on form labeled "SSD System Vacuum Gauge Record". Store all forms in the facility maintenance office.

5.1.3. Inspect visible components of SSD system for degraded condition.

5.1.4. For reporting, call MITIGATION TECH at 800-637-9228

5.2. Annual Inspection

5.2.1. Conduct a visual inspection of the complete System (e.g., vent fans, piping, warning devices, labeling)

5.2.2. Inspect all components for condition and proper operation;

5.2.3. Identify and repair any leaks in accordance with Sections 4.3.1(a) and 4.3.4(a) of the NYS DOH VI Guidance (i.e.; with the systems running, use smoke sticks to check for leaks through concrete cracks, floor joints and at the suction points; any leaks will be resealed until smoke is no longer observed flowing through the opening).

5.2.4. Inspect the exhaust or discharge point of each exhaust fan to verify that no air intakes have been located within 10 feet

5.2.5. Conduct pressure field extension testing (to ensure that the system is maintaining a vacuum beneath the entire slab). Perform a differential pressure reading at least one vacuum test point.

5.2.6. Interview appropriate building occupants seeking comments and observations regarding the operation of the System

5.2.7. Check to see that the circuit breakers controlling the circuits on which the soil vapor vent fans operate are labeled "Soil Vapor System"

5.3. Annual Certification of Effectiveness

5.3.1. Upon completion of the tasks outlined in section 5.2 above, the installing contractor should submit a Certification of Effectiveness document, stating that the SSD system continues to perform to the purpose for which it was designed.

6. SUB-SLAB DEPRESSURIZATION SYSTEM MAINTENANCE

6.1. Routine Maintenance

6.1.1. Perform procedures as specified in sections 5.2 and 5.3

6.1.2. There are no routine component replacement procedures; Replace components upon findings of damage or failure

6.2. Non-Routine Maintenance

6.2.1. Non-routine maintenance may also be appropriate during the operation of the mitigation system. Examples of such situations include the following:

6.2.2. It is determined through inspection or notification by others that the vacuum gauge indicates the mitigation system is not operating properly

6.2.3. the mitigation system becomes damaged

6.2.4. the building has undergone renovations that may reduce the effectiveness of the mitigation system.

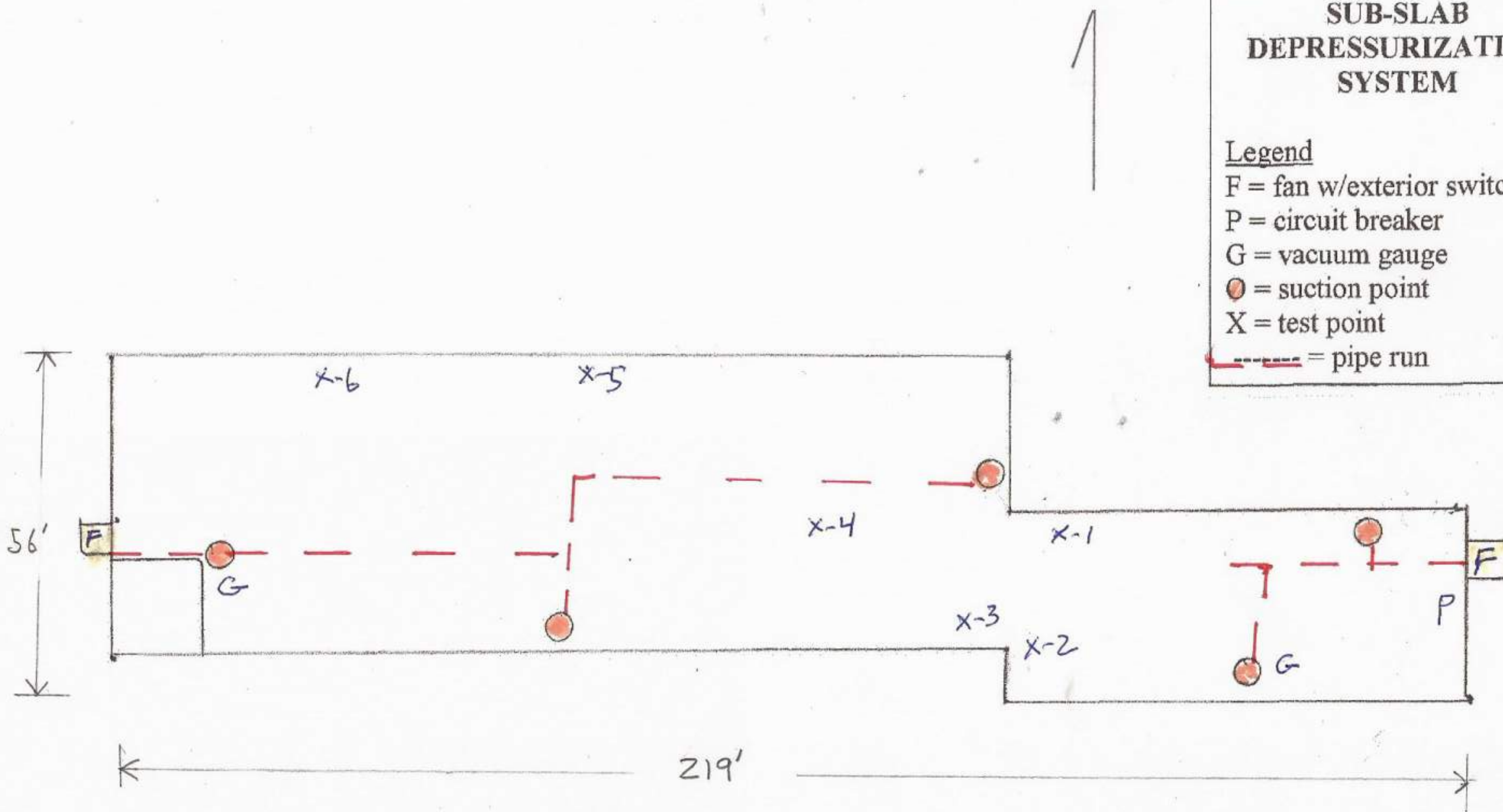
Certification

I hereby certify that the SSD Systems at this location are installed properly and are effective in achieving the above stated objective.

End of Report

Thank you

Nicholas E. Mouganis EPA listing # 15415-I; NEHA ID# 100722



SUB-SLAB DEPRESSURIZATION SYSTEM

Legend

F = fan w/exterior switch
P = circuit breaker
G = vacuum gauge
● = suction point
X = test point
- - - - = pipe run

Building #9 - SSDS

SUB-SLAB DEPRESSURIZATION SYSTEM DIAGRAM
Jamestown Container Companies – 65 South Dow St., Falconer, NY 14733
Installed by: Mitigation Tech, 55 Shumway Rd., Brockport, NY 14420
Date of Completion: March 27, 2017 Phone: 1-800-637-9228

mitigation tech *vapor intrusion specialists*

October 12, 2017

Mr. Cody Martin
Project Manager
C & S Companies
141 Elm Street, Suite 100
Buffalo, NY 14203
Via email: Cody Martin <cmartin@cscos.com>

Re: Jamestown Container Companies – 65 South Dow St., Falconer, NY 14733
Construction Completion Report for SSD System - Building 5 & 6

CONSTRUCTION COMPLETION REPORT

1. OVERVIEW

This document presents a construction report, performance evaluation, O&M advice and certification of effectiveness for the Sub-Slab Depressurization (SSDS) and Crawlspace Ventilation System (CVS) installed by *Mitigation Tech* at 65 South Dow St., Falconer, NY 14733, Buildings 5 & 6, as commissioned August 4, 2017.

Following a Design/Build SSD construction plan (dated April 4, 2017) and modified based on continuing assessments performed during construction, five single suction point SSD Systems were installed using principles and equipment typically used for soil vapor intrusion mitigation in buildings. The primary objective of implementing this preemptive measure was to mitigate potential intrusion of soil vapors. This would be achieved by maintaining a negative pressure of at least .002 water column inches (wci) below the slab relative to the air pressure above the slab, specifically in the sub-slab compartments in the southernmost sections of the buildings. All work is in compliance with the NYS DOH document, “Guidance for Evaluating Soil Vapor Intrusion in the State of New York, October 2006”.

2. BUILDING ASSESSMENT AND SYSTEM CONSTRUCTION

Extensive sub-slab air communication testing and building assessment was performed at job start to refine data obtained from the preliminary building assessment. Both building #5 and #6 are characterized by systems of sub-slab structural arches and grade beams crisscrossing in a north to south and east to west pattern. The sub-slab spaces are either inaccessible or difficult to access.

In the case of Building #5, extensive backfilling has occurred over time, mostly via concrete patch, so that soil is present immediately below the surface in the central and northernmost portions of the foundation. The southernmost section is an open crawlspace with a dirt floor, wet in many sections. Four east to west grade beams define five compartments. We determined that active ventilation of southernmost sub-slab compartment bounded by Buildings # 4 and #6A would constitute a zone of defense to intercept soil vapor migrating from the south. This would also create some limited depressurization north of the first grade beam. In the case of Building #6, the sub-space of is in essence a crawlspace and ventilation is the most appropriate strategy to divert vapors from the building interior.

It was determined that five independent fan systems were necessary and practicable for creating sufficient air flow and exchange. Work continued with an analysis of appropriate locations for fans, suction cavities and other SSD system components. Both for physical protection and minimum impact on active use areas, riser pipes were surface mounted on exterior walls. Work was coordinated with client to minimize disturbance of work areas, relocate obstacles and control dust. Vacuum and air flow measurements were performed continuously during construction to ensure integrity of design. Various fans were evaluated in place and in combination to determine the most effective configuration. At commissioning, all components inspected for condition and proper operation. Premises left in clean condition.

Key on site personnel were Aaron Hurysz and Robert Beck, both highly experienced soil vapor intrusion technicians. Weather conditions were favorable. Daily tailgate meetings were held to review the daily work objectives and relevant aspects of the Health & Safety Plan. No accidents or incidents occurred during the construction.

3. SUB-SLAB DEPRESSURIZATION SYSTEM GENERAL DESCRIPTION

3.1. Introduction. The SSDS/CVS is maintaining sub-slab vacuum at all subject areas. The system consists of (5) sidewall mounted fans connected to vapor extraction points. The system was constructed using principles and equipment typically used for radon mitigation in buildings as detailed in the United States Environmental Protection Agency (EPA) EPA 402-K-03-007 (May 2006), and the final NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York (October 2006). The SSDS was installed as a permanent, integral addition to the structure. The key components of the SSDS are described below and are shown on an as-built diagram labeled "Sub-Slab System Diagram."

3.2. Suction Points. The suction points consists of a 10" core boring into the slab directly to crawlspace voids. Mechanically suspended 8" SCH 40 PVC pipe has been inserted into the boring and sealed with urethane sealant.

3.3. Riser Piping. The riser piping consists of 8" SCH 40 PVC pipe that follows a route from the extraction point to the exterior mounted vacuum fan. Weatherproof flashing or sealant has been applied to all penetrations. Vent pipes were installed at a pitch that ensures that any rainwater or condensation within the pipes drains downward into the ground beneath the slab. Piping is independently supported, and not supported from existing building mechanical systems. Piping is labeled at each level as "Sub-Slab Vent". Piping is connected using manufacturer's approved methods.

3.4. Exhaust Fans. Exhaust fans has been field selected for specific performance properties. Model: RADONAWAY RP-380 producing 5.0 wci at 350 CFM, at 140 watts. Fans have an exterior disconnect switch. Fans are mounted with rubber Fernco couplings, for simplified replacement.

3.5. Instrumentation and Control. There is no centralized instrumentation or control for the SSDS. The fans can be switched either from the adjacent positioned disconnect or at the marked breakers on the panel box centrally located. (Labeled "P" on schematic) The exhaust fan systems are equipped with a vacuum indicator mounted in a visible location near the riser pipe per the attached schematic. The indicator consists of a dial style manometer, Dwyer Model 5001 or oil filled U-tube. The indicator can be inspected by observing the position of the dial needle or oil level. (Labeled "G" on schematic) The indicator is designed primarily to give a simple visual check that vacuum is present in the riser pipe. Indicator is marked at level observed on August 4, 2017.

3.6 Sealing measures. Polyurethane sealants have been applied to control joints, floor cracks and slab penetrations to enhance the barrier between sub-slab and ambient air and improve the efficiency of the SSD System.

Smoke testing has been employed to guide sealing operations. Materials used include Sika Sikaflex 1c-SLself-leveling joint sealant and Sika1a Sealant.

3.7 Monitoring Points. Monitoring Points are indicated on the system diagram. These consist of ¾" drill points through the slab into which a digital micromanometer probe can be inserted. They are semi-permanently closed with backer and urethane sealant. These were established to aid in original system design and confirmatory testing, and in some cases are difficult to access. The primary future use would be in recertification of system effectiveness.

3.8 System Configuration (see attached schematic for component locations)

Furnish and Install:

- Building 5 - east to west space defined by south perimeter wall and southernmost east to west interior footer - (2) RADONAWAY RP-380 high air flow blowers, sidewall mount, to provide sub-slab ventilation via 8" schedule 40 PVC; to conduct soil vapor from riser pipes to exhaust fan roof exhaust, with rubber connector fittings
- Building 6 - (includes influence at Building #5 sump room) - (3) RADONAWAY RP-380 high air flow blowers, sidewall mount, to provide sub-slab ventilation via 8" schedule 40 PVC; to conduct soil vapor from riser pipes to exhaust fan roof exhaust, with rubber connector fittings
- Evaluate and repair as necessary, foundation vents and openings (some left open to allow for controlled through ventilation)
- Continuous building assessment and sub-slab vacuum measurement to optimize design
- Pre-construction consultation to obtain approval for component placements
- All interior pipe SCH 40 PVC with appropriate metal hangers, riser clamps, and additional accessories to properly attach components directly to structural members; sloped as required; routing to avoid interference with other building systems
- Exterior switch and *Sealtight* and/or MC conduit from fan housing to nearest electrical panel; extra cost if panel has insufficient capacity; final panel hookup by others at other's expense
- (5) Magnahelic Series 5001 vacuum indicators
- Urethane sealant at slab joints, accessible cracks and penetrations; backer where necessary
- At completion, perform backdraft testing, label components and provide system description and operating instructions
- At completion, confirm pressure differentials
- Consult with client representatives to develop operation, maintenance and periodic inspection plan
- Two year warranty; labor, installed components and sub-slab depressurization to objective (or greater)

3.9 PERFORMANCE EVALUATION

Measurement date – August 7, 2017 - In order to verify system effectiveness and as a performance evaluation, test points were established at various distances from the suction cavities suitable to verify that the sub-slab of the subject area was being depressurized at least to the objective. See schematic for point locations. (Labeled "TP" on schematic) Downward movement of test smoke was observed at each location and in addition, negative pressure values of -.004 or better were observed.

4. **SUB-SLAB DEPRESSURIZATION SYSTEM OPERATION**

4.1. The fans should be kept in continuous operation. New York State Soil Vapor Intrusion Guidance (2006) specifies that operation, maintenance and monitoring of the SSD system should be included as part of site management.

4.2. Reset. Fans restart automatically in event of power loss.

4.3. In the event of unusual fan noise, failure to start, physical damage, or repeated circuit breaker trip, turn fan off and call for service. MITIGATION TECH – 800-637-9228

4.4. Regularly inspect system dial manometers to verify that value, indicated by a mark on the gauge, has not changed significantly from the position of the mark.

4.5. Normal system operation requires unchanged structural conditions. Report any changes in structure, HVAC systems, slab conditions, etc., so that the change can be evaluated for impact on the SSD System. For service, call MITIGATION TECH at 800-637-9228

4.6. Ensure that a periodic inspection is performed

5. SSD SYSTEM PERFORMANCE MONITORING RECOMMENDATIONS

5.1. Monthly Monitoring

5.1.1. Inspect fan vacuum indicator to verify that value, indicated by a mark on the gauge, has not changed significantly from the position of the mark.

5.1.2. Record the observed measurement for each fan vacuum indicator on form labeled “SSD System Vacuum Gauge Record”. Store all forms in the facility maintenance office.

5.1.3. Inspect visible components of SSD system for degraded condition.

5.1.4. For reporting, call MITIGATION TECH at 800-637-9228

5.2. Annual Inspection

5.2.1. Conduct a visual inspection of the complete System (e.g., vent fans, piping, warning devices, labeling)

5.2.2. Inspect all components for condition and proper operation;

5.2.3. Identify and repair any leaks in accordance with Sections 4.3.1(a) and 4.3.4(a) of the NYS DOH VI Guidance (i.e.; with the systems running, use smoke sticks to check for leaks through concrete cracks, floor joints and at the suction points; any leaks will be resealed until smoke is no longer observed flowing through the opening).

5.2.4. Inspect the exhaust or discharge point of each exhaust fan to verify that no air intakes have been located within 10 feet

5.2.5. Conduct pressure field extension testing (to ensure that the system is maintaining a vacuum beneath the entire slab). Perform a differential pressure reading at least one vacuum test point.

5.2.6. Interview appropriate building occupants seeking comments and observations regarding the operation of the System

5.2.7. Check to see that the circuit breakers controlling the circuits on which the soil vapor vent fans operate are labeled "Soil Vapor System"

5.3. Annual Certification of Effectiveness

5.3.1. Upon completion of the tasks outlined in section 5.2 above, the installing contractor should submit a Certification of Effectiveness document, stating that the SSD system continues to perform to the purpose for which it was designed.

6. SUB-SLAB DEPRESSURIZATION SYSTEM MAINTENANCE

6.1. Routine Maintenance

6.1.1. Perform procedures as specified in sections 5.2 and 5.3

6.1.2. There are no routine component replacement procedures; Replace components upon findings of damage or failure

6.2. Non-Routine Maintenance

6.2.1. Non-routine maintenance may also be appropriate during the operation of the mitigation system. Examples of such situations include the following:

6.2.2. It is determined through inspection or notification by others that the vacuum gauge indicates the mitigation system is not operating properly

6.2.3. the mitigation system becomes damaged

6.2.4. the building has undergone renovations that may reduce the effectiveness of the mitigation system.

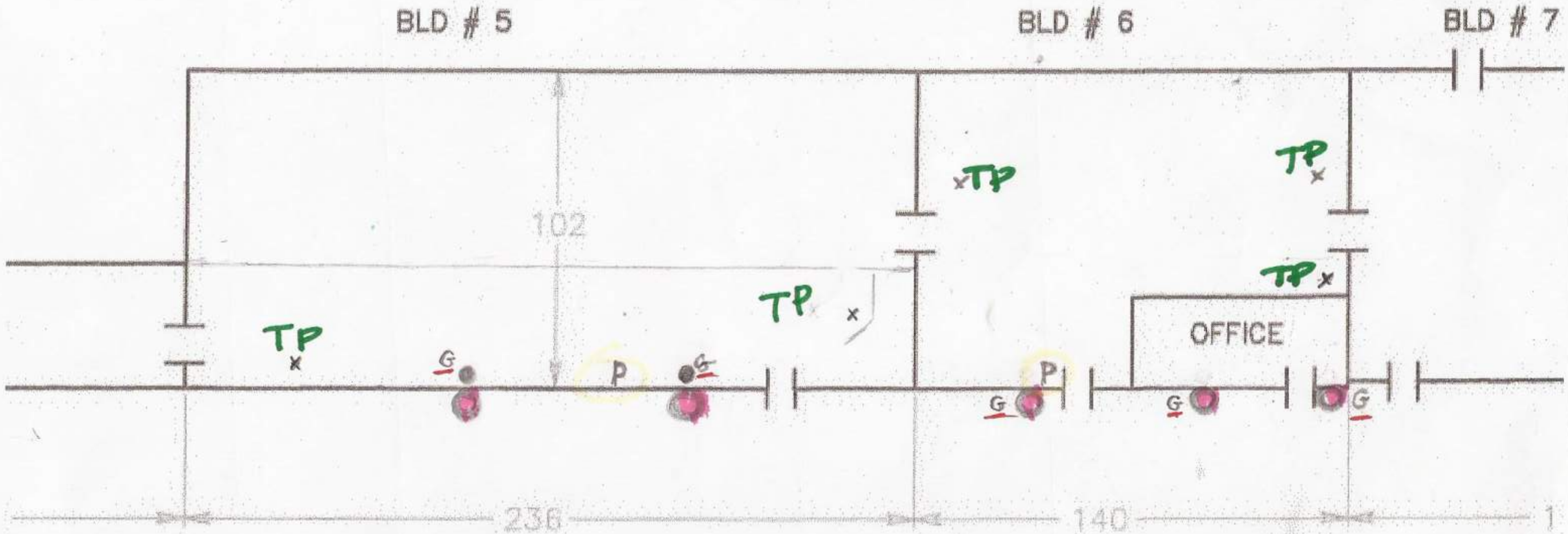
Certification

I hereby certify that the SSD Systems at this location are installed properly and are effective in achieving the above stated objective.

Thank you

Nicholas E. Mouganis EPA listing # 15415-I; NEHA ID# 100722

55 SHUMWAY ROAD, BROCKPORT, NEW YORK, 14420 * OFFICE/FAX 585-637-7430



SUB-SLAB DEPRESSURIZATION/VENTILATION SYSTEM DIAGRAM
Jamestown Container Companies – 65 South Dow St., Falconer, NY 14733
Buildings #5 & #6

Installed by: Mitigation Tech, 55 Shumway Rd., Brockport, NY 14420
Date of Completion: August 4, 2017

APPENDIX E
SSDS INSPECTION REPORTS

INSPECTION REPORT

November 29, 2019

Mr. Cody Martin
Project Manager
C & S Companies
141 Elm Street, Suite 100
Buffalo, NY 14203
Via email: Cody Martin <cmartin@cscos.com>

Re: Jamestown Container Companies – Building 9, 65 South Dow St., Falconer, NY
Inspection Report for Sub-slab Depressurization System

For work completed November 27, 2019

1. Conducted a visual inspection of the complete System (e.g., vent fan, piping, warning device, labeling on systems, etc.): **SATISFACTORY**
2. Conducted an inspection of all surfaces to which vacuum is applied: **SATISFACTORY**
3. Inspected all components for condition and proper operation: **SATISFACTORY**
4. Identify and repair any leaks: **NO LEAKS OBSERVED**
5. Inspect the exhaust or discharge point to verify that no air intakes have been located nearby: **NO AIR INTAKES WITHIN TEN FEET**
6. Conduct an airstream velocity measurement: **SATISFACTORY**
7. Conduct pressure field extension testing (to ensure that the system is maintaining a vacuum beneath the entire slab): **SATISFACTORY**
8. Interview an appropriate individual seeking comments and observations regarding the operation of the System: **SATISFACTORY**

I certify that this system is effectively maintaining sub-slab depressurization.

Nicholas E. Mouganis EPA listing # 15415-I; NEHA ID# 100722 ***mitigationtech.com

INSPECTION REPORT

November 29, 2019

Mr. Cody Martin
Project Manager
C & S Companies
141 Elm Street, Suite 100
Buffalo, NY 14203
Via email: Cody Martin <cmartin@cscos.com>

Re: Jamestown Container Companies – Buildings 5&6, 65 South Dow St., Falconer, NY
Inspection Report for Sub-slab Ventilation System

For work completed November 27, 2019

1. Conducted a visual inspection of the complete System (e.g., vent fan, piping, warning device, labeling on systems, etc.): **SATISFACTORY**
2. Conducted an inspection of all surfaces to which vacuum is applied: **SATISFACTORY**
3. Inspected all components for condition and proper operation: **SATISFACTORY**
4. Identify and repair any leaks: **NO LEAKS OBSERVED**
5. Inspect the exhaust or discharge points to verify that no air intakes have been located nearby: **NO AIR INTAKES WITHIN TEN FEET**
6. Conduct an airstream velocity measurement: **SATISFACTORY**
7. Conduct pressure field extension testing (to ensure that the system is maintaining a vacuum beneath the slab sections per CCR dated 10.17.17): **SATISFACTORY**
8. Interview an appropriate individual seeking comments and observations regarding the operation of the System: **SATISFACTORY**

I certify that this system is effectively maintaining sub-slab ventilation.

Nicholas E. Mouganis EPA listing # 15415-I; NEHA ID# 100722 ***mitigationtech.com